Dr. Siniša Grgić

Germany & Ireland

Bilateral Navigator
for Diplomats and Business Leaders

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Germany & Ireland

Bilateral Navigator
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Germany & Ireland Similarity:

68%

by Bilateral Similarity Index * (BSX)

* The Bilateral Similarity Index (BSX) was created by the Author specifically for the bilateral report series focusing on country-to-country comparisons. The BSX is a composite similarity measure derived from all 40 report section areas covered within ten main chapters. To calculate topic-specific similarities, the Author and his team utilized thousands of official country statistics and an extensive collection of dyadic (interactive) indices from public sources.

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H.E. Dr. Srgjan Kerim, President of the 62nd Session of the UN General Assembly

a distinguished diplomat, economist, and scholar, the Chairman of Bilateral Navigator's Board of Senior Counselors, Minister of Foreign Affairs of North Macedonia (2000–2001), and Special Envoy of the UN Secretary-General on Climate Change (2008–2009). He represented his country as Ambassador to Germany, Switzerland, and Liechtenstein, and as Permanent Representative to the United Nations. Dr. Kerim is a professor of international economics and the author of ten books on international politics and economics and over 100 scholarly papers. He received the Lifetime Achievement Award in Science and Education from the Parliament of North Macedonia in 2013.

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Preface

In more than three decades of diplomatic work, from Skopje to Berlin, from New York to Vienna, I have come to one enduring conviction: there are only two states of international affairs. The state of war and destruction, and the state of peace and cooperation. Everything we do in diplomacy, in global governance, in building trust between peoples, is an effort to move the world from the former to the latter.

Bilateral Navigator is one of the most extraordinary contributions to that effort I have encountered. By bringing together all 193 UN member states in a systematic, data-driven comparison across forty domains, this project does something unprecedented: it makes the full architecture of bilateral cooperation visible for the whole world. Not top down, as multilateral frameworks have traditionally been perceived, but bottom up, where relationships between two nations are lived, built, and sustained by real people every day.

At a time when multilateralism faces a crisis of confidence and collective action falters, bilateral cooperation offers a different path, one rooted not in abstract obligation but in concrete mutual understanding. Bilateral relations are the grassroots of every global structure. They are where trade is negotiated, cultural exchange begins, and a diplomat discovers more shared concerns than divisions. Ultimately, bilateral cooperation is about creating synergies which underpin multilateralism. If we are to build a new culture of international relations, it must begin here.

Germany and Ireland often appear as disparate poles of the European experience, one defined by its central continental reach and industrious heartbeat, the other by its singular Atlantic solitude and lyrical introspection. Yet when examined through the lens of this book, what emerges is not distance but a shared tenacity in the face of transformative struggle. Both nations navigated the twentieth century through arduous processes of reunification and peace, Germany by dismantling the physical and ideological walls of its division, and Ireland through the delicate, persistent diplomacy that brought a quiet end to decades of civil discord. While German economic life relies on the steady pulse of global trade and manufacturing, Ireland finds its current vigor in a modern, outward-looking innovation sector. They meet as architects of a common future built upon the lessons of their respective pasts.

To bring these two countries together in a single volume, to compare them honestly across forty dimensions, from geography and governance to trade, treaties, and cultural exchange, is an achievement without precedent. Nothing of this scale has been attempted before for any pair of nations, let alone for all possible combinations among the members of the United Nations. As J. William Fulbright once wrote: "*Educational exchange can turn nations into people, contributing as no other form of communication can to the humanizing of international relations*". This book is a tool for that humanizing: a way for the people of Germany and Ireland to see one another clearly and to find in that understanding the foundation for deeper cooperation.

I commend Ambassador Siniša Grgić and his team for the vision, the rigor, and the ambition of this project. It is fully compatible with the mission of the UN Charter, and it represents a genuine innovation in how nations can learn to think about one another: not through the lens of rivalry or indifference, but through the lens of shared possibility. The search for a better world begins here: between two flags, within these pages.

Dr. **Srgjan Kerim**
Chairman of Bilateral Navigator's
Board of Senior Counselors

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High-Level Support for Bilateral Navigator

Croatian Minister of Foreign and European Affiars, Dr. Gordan Grlić Radman, leads diplomatic support at the Croatian State Archives (November 2023) for Dr. Grgić' pioneering Bilateral Navigator series, praising it as "a unique application of information science that resonates with the needs of modern diplomacy and economy of the 21st century."

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Introduction

The Challenge of Modern Analysis

As we examine the ties between Germany and Ireland, we encounter a peculiar irony of our times: despite living in the most technologically advanced period in human history, we continue to view international relationships through surprisingly simple lenses. While artificial intelligence and big data transform industries, our analysis of global connections remains anchored in conventional wisdom and basic metrics. This gap between capability and practice leads us to ponder: What would it take to truly decode the complex matrix of modern international relationships?

Welcome to the Bilateral Navigator project—a pioneering endeavor that fundamentally reimagines how we study international relationships. This comprehensive initiative analyzes all possible connections between UN member states, examining 18,528 unique bilateral relationships through a lens enriched by ten times more data than the entire UN System has gathered. By investigating forty crucial aspects of each relationship, from economic cooperation to cultural symmetries, we're creating an unprecedented blueprint of global interconnections. This revolutionary approach transcends conventional analysis, revealing intricate patterns of international influence that German and Irish traditional methods cannot detect.

Conventional approaches to analyzing international relationships often fall short, fixating on a limited set of metrics: commerce statistics, population movements, and shared history. However, the true nature of bilateral connections extends far beyond these basic indicators. The subtle harmonies between nations—from their educational philosophies to their workforce characteristics, and even their culinary heritage—represent crucial yet frequently overlooked dimensions that can significantly shape the foundation for cross-cultural collaboration and mutual comprehension.

The shift from intuitive to evidence-based diplomatic analysis represents a watershed moment in global affairs. As we navigate an era where false narratives and personal biases can swiftly mold international opinions, the importance of factual, quantitative analysis becomes paramount. Through its comprehensive analytical framework, the Bilateral Navigator empowers decision-makers across diplomacy, business, and policy with robust, verifiable insights—replacing traditional presumptions with concrete data that captures every facet of international engagement.

A Systematic Framework

Our analytical framework comprises 40 essential parameters, organized across 10 distinct chapters, methodically documenting inter-state relationships. Starting with the geopolitical landscape, we explore the fundamental forces that govern national interactions. The analysis progresses naturally through economic partnerships, environmental collaboration,

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and social development initiatives, with each section contributing to a comprehensive understanding of bilateral dynamics.

Our methodology is anchored by the pioneering Bilateral Similarity Index (BSX), a sophisticated instrument for quantifying national compatibility. This innovative metric distills complex international relationships into comprehensible indicators while preserving vital nuances. Analysis across all 40 dimensions demonstrates that Germany and Ireland find their strongest connection in outbound professionals and inbound professionals (Business Networking Chapter), while revealing their most significant disparities in multilateral treaties (Diplomatic Cooperation Chapter) and skill sets (Innovation Nexus Chapter). These data-driven insights extend beyond conventional diplomatic understanding, offering valuable conversation material for any international engagement, from formal protocols to informal business discussions.

Each chapter serves a distinct purpose in understanding bilateral relations. The economic and business sections examine tangible interactions and opportunities, while chapters on innovation and human development explore potential for future collaboration. Diplomatic cooperation and political landscape chapters assess formal relationships, while sections on communication and shared passions examine the human connections that often drive meaningful international engagement.

Our systematic methodology converts theoretical concepts into actionable intelligence. Moving beyond traditional analysis's narrow focus on economic and political connections, this comprehensive framework

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Table 1. *Similarities between Germany and Ireland by book chapters and their sections.*

	Germany			Ireland		
Chapter 1: Geopolitical Context	Value	R1	Gap	Value	Year	Rank
Geography Similarity (%)	61.0	67	19	61.0		30
Demographics Similarity (%)	65.3	37	16	65.3		27
Transport Similarity (%)	66.3	33	25	66.3		25
Global Indicators Similarity (%)	83.1	6	2	83.1		3
Chapter 2: Economic Synergy						
Economic Similarity (%)	70.5	23	21	70.5		14
Trade Mix Similarity (%)	68.0	29	9	68.0		21
Finance & Investment Similarity (%)	63.7	31	11	63.7		28
Tourism Similarity (%)	72.1	17	5	72.1		10
Chapter 3: Green Partnership						
Agriculture & Resources Similarity (%)	58.8	57	57	58.8		36
Energy Use Similarity (%)	66.5	38	31	66.5		24
Environment Matters Similarity (%)	78.8	9	6	78.8		5
Climate Actions Similarity (%)	70.4	19	16	70.4		16

Table 1. *(Continued) Similarities between Germany and Ireland by book chapters and their sections.*

	Germany			Ireland		
Chapter 4: Human Empowerment	Value	R1	Gap	R2	Value	Year	Rank
Healthcare Indices Similarity (%)	**71.4**	20		10	**71.4**		11
Education Indices Similarity (%)	**70.8**	22		15	**70.8**		13
Social Justice Indices Similarity (%)	**73.5**	5		17	**73.5**		8
Gender Balance Similarity (%)	**70.4**	23		14	**70.4**		15
Chapter 5: Innovation Nexus							
High-Tech Similarity (%)	**60.2**	58		37	**60.2**		32
Shared Skills Similarity (%)	**60.8**	25		18	**60.8**		31
Study Abroad Mix Similarity (%)	**74.7**	17		11	**74.7**		7
Foreign Student Mix Similarity (%)	**73.0**	23		19	**73.0**		9
Chapter 6: Political Landscape							
Governance Similarity (%)	**80.1**	5		2	**80.1**		4
Historic Leadership Similarity (%)	**57.0**	56		91	**57.0**		37
State Visits Similarity (%)	**76.2**	9		2	**76.2**		6
Defense Similarity (%)	**67.5**	29		20	**67.5**		23
Chapter 7: Diplomatic Cooperation							
Diplomacy Network Similarity (%)	**63.4**	41		57	**63.4**		29
Treaty Adherence Similarity (%)	**54.1**	40		38	**54.1**		39
IGO Membership Similarity (%)	**68.8**	19		17	**68.8**		20
UNGA Voting Pattern Similarity (%)	**71.1**	25		18	**71.1**		12
Chapter 8: Business Networking							
Inbound Pro's Similarity (%)	**84.5**	4		2	**84.5**		2
Outbound Pro's Similarity (%)	**85.0**	5		2	**85.0**		1
Industry Similarity (%)	**67.8**	30		35	**67.8**		22
Business Traits Similarity (%)	**46.0**	103		130	**46.0**		40
Chapter 9: Communication & Media							
Telecom Similarity (%)	**69.4**	25		17	**69.4**		18
Social Media Use Similarity (%)	**56.4**	77		100	**56.4**		38
Media Coverage Similarity (%)	**70.3**	18		8	**70.3**		17
Shared Figures Similarity (%)	**65.7**	33		25	**65.7**		26
Chapter 10: Shared Passions							
Common Hobbies Similarity (%)	**59.2**	14		42	**59.2**		34
Cultural Legacy Similarity (%)	**69.3**	19		20	**69.3**		19
Sports Similarity (%)	**59.0**	71		78	**59.0**		35
Cuisine Similarity (%)	**59.4**	41		28	**59.4**		33

Note: In this table, the calculated similarities are constant since they derive from a non-directional network. However, three distinct rankings are presented: "R1" indicates the rank of the specific German-Irish similarity on Germany's list of most similar countries; "R2" shows the rank of that similarity on Ireland's equivalent list; and the "Rank" column indicates the internal ranking of German-Irish similarities within this table. For example, Germany and Ireland are most similar in Incoming Professionals Similarity with a 85% similarity and least in Business Pattern Similarity at 46%.

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Bilateral Navigator at TMA Diamond Jubilee

H.E. Dr. Siniša Grgić presents his Bilateral Navigator Project (BilateralNavigator.com) to the Thai and Asian business community at the 60th Anniversary celebration of the Thailand Management Association (TMA). It was a great honor and privilege to showcase this innovative digital platform during the magnificent event held at the prestigious Queen Sirikit National Convention Center in Bangkok.

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uncovers shared capabilities, aligned policy positions, and societal similarities that illuminate fresh collaborative possibilities. This deeper understanding equips decision-makers to craft more effective engagement strategies and identify promising partnership ventures.

Beyond Traditional Boundaries

This innovative methodology dismantles conventional barriers between academic publishing, diplomatic research, and strategic advisory services. While leading consultancies charge premium fees—often in the six figures—for comprehensive analyses of Germany-Ireland relations, our volume provides equally profound, if not more penetrating, insights at significantly lower costs. This transformation in accessing strategic international intelligence marks a revolutionary democratization of high-caliber diplomatic analysis.

This evolution represents a wider revolution in knowledge creation and distribution. Rather than adhering to the traditional "writer-in-the-middle" format, where a single author addresses a broad readership, this series embraces a "reader-in-the-middle" model. Each book synthesizes vast amounts of data, myriad personal experiences, and professional insights to cater directly to those with a vested interest in this bilateral

relationship. The final product is not just a book; it's a refined analytical resource, typically produced through the efforts of specialized consulting and research teams.

Business leaders gain in a single edition what traditionally required a spectrum of specialized reports: insights on market entry, workforce mobility, regulatory fit, and cultural affinity. Diplomats are offered a deep, holistic view into bilateral relations that would typically demand considerable resources and dedicated teams. Researchers and analysts receive a reservoir of reliable data and expertly distilled insights, sparing them the need for vast institutional support.

The appeal here isn't just about reducing costs; it's about reimagining access to high-level insights. By merging the depth of elite consulting with the convenience of a book, this model offers something refreshingly unique. Decision-makers—from those eyeing international expansions to those crafting strategic partnerships—now have insights previously reserved for organizations with large consulting budgets. This democratization of strategic intelligence empowers businesses and institutions of any size to engage confidently in international collaboration.

A New Chapter in Knowledge Creation

In the end, whether you are a German entrepreneur exploring Ireland's potential, a Irish policymaker gauging collaborative prospects with Germany, or someone captivated by the nuances between these nations, this book delivers a breakthrough. Offering a data-driven narrative for less than a business dinner, it provides insights that would traditionally require extensive consulting resources.

Step into the future of bilateral analysis, where the wisdom of many enlightens the decisions of the few, making international understanding richer and more accessible than ever. Data might paint the picture, but it's people who leave their mark on history. What part will you play in the evolving story between Germany and Ireland?

Dr. **Siniša Grgić**
Author

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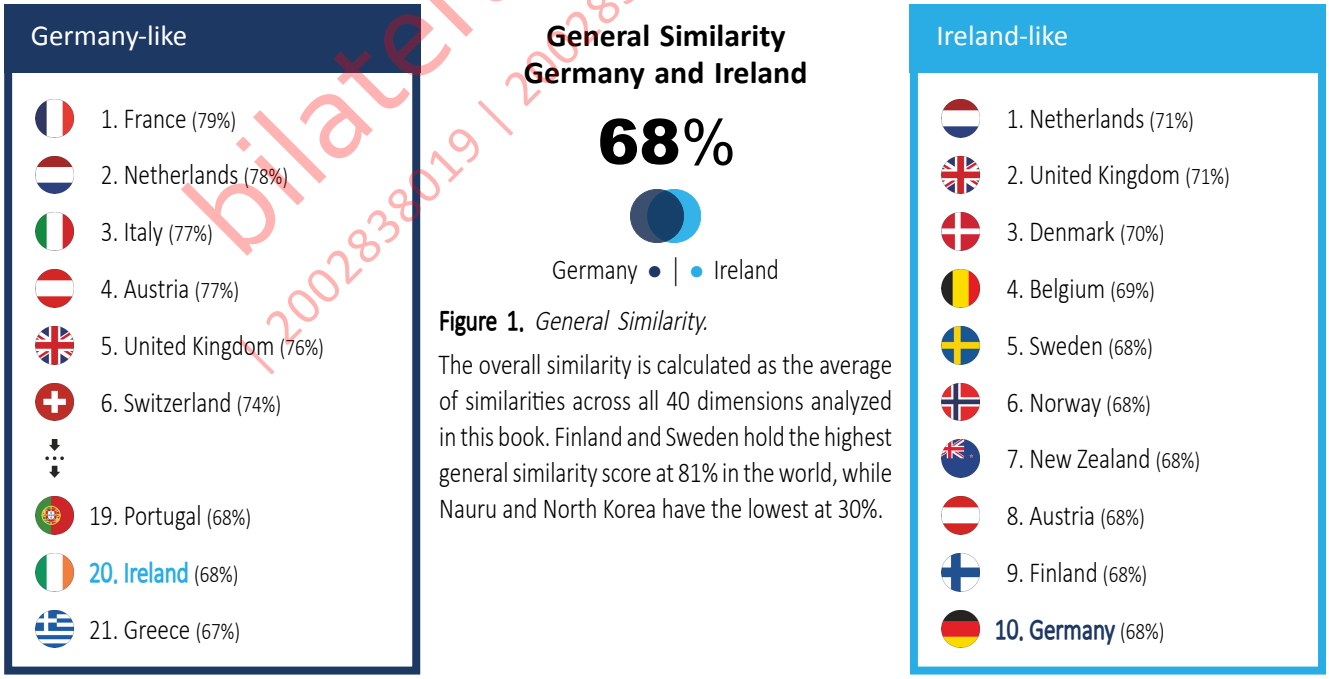


Figure 1. *General Similarity.*

The overall similarity is calculated as the average of similarities across all 40 dimensions analyzed in this book. Finland and Sweden hold the highest general similarity score at 81% in the world, while Nauru and North Korea have the lowest at 30%.



CHAPTER ONE

Externsteine Rock Formation in Teutoburg Forest, Germany

The Externsteine rock group rises dramatically amidst lush greenery, offering a glimpse into Germany's geological history. This natural landmark is a popular destination for visitors, showcasing the country's unique landscapes and cultural heritage.

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Geopolitical Context

CHAPTER **1** Geopolitical Context Page

Geographical Features 16

Territorial connections between Germany and Ireland amount to a 61% similarity, outpacing much of the global landscape. In a global comparison, Germany's best match is found in Türkiye, just as Ireland's is in the United Kingdom.

Population Profiles 22

Reflecting on demographic parallels, Germany and Ireland achieve a 65% similarity, outperforming a multitude of peers. Among countries, Germany is most akin to Czechia, and Ireland finds its reflection in France.

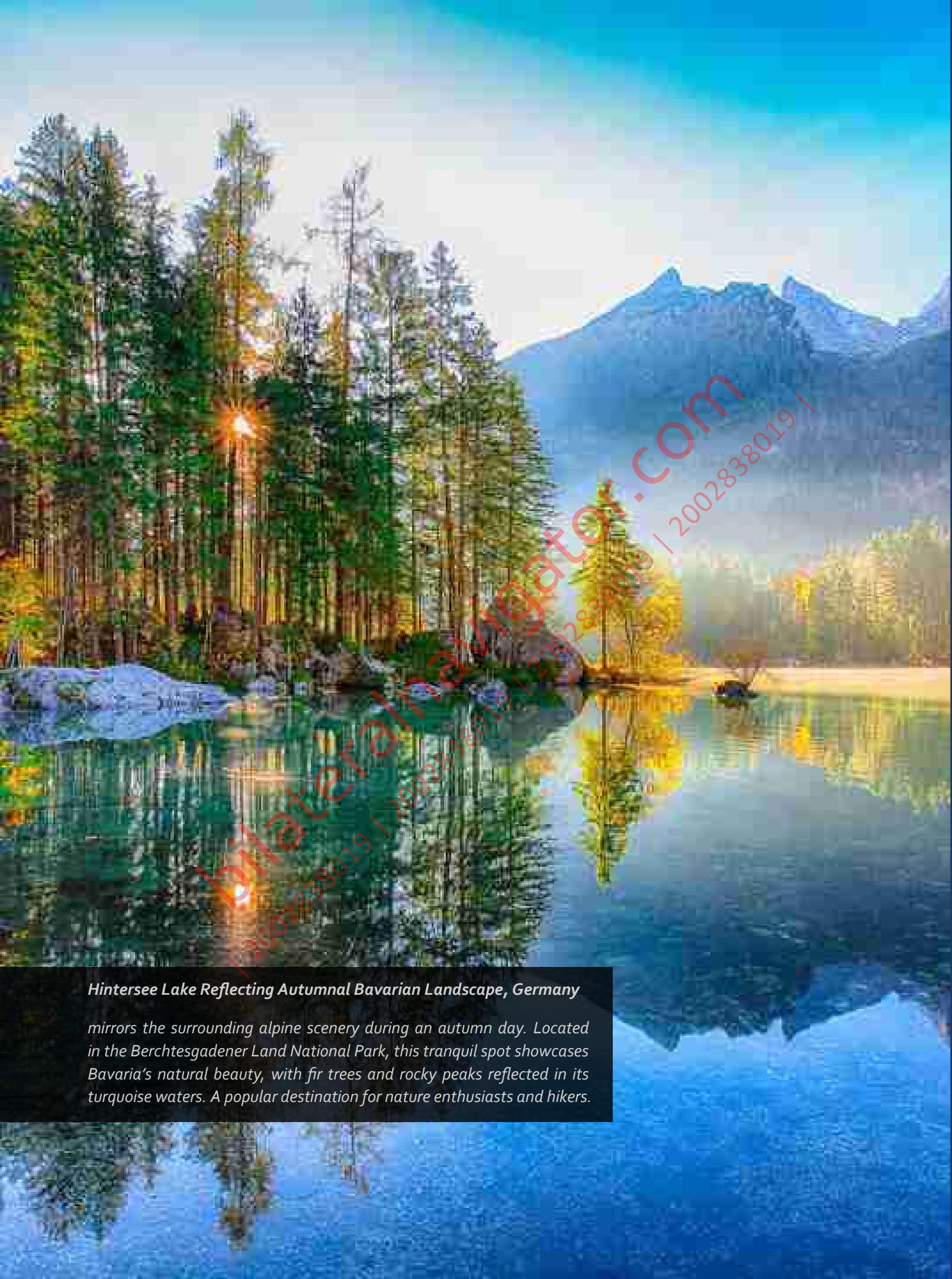
Transport Framework 29

Harnessing transport cohesion, Germany and Ireland share a notable 66% similarity, eclipsing many comparative relationships. Spanish features are closest to Germany, echoed by the deep ties between Ireland and Denmark.

Global Indicators 34

Through the lens of worldwide metrics, Germany and Ireland align closely, with a 83% similarity, denoting this as their third highest congruity among all chapters and topics. Canada closely matches the German profile, with Canada as the equivalent for Ireland.

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Hintersee Lake Reflecting Autumnal Bavarian Landscape, Germany

mirrors the surrounding alpine scenery during an autumn day. Located in the Berchtesgadener Land National Park, this tranquil spot showcases Bavaria's natural beauty, with fir trees and rocky peaks reflected in its turquoise waters. A popular destination for nature enthusiasts and hikers.

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Geographical Features

In this section, we explore geographical indicators that highlight the uniqueness of both Germany and Ireland, facilitating meaningful comparisons.

These indicators provide critical insights into the natural and human-made environments of countries. The total land area and extent of the Exclusive Economic Zone (EEZ) underscore spatial extent and maritime boundaries.

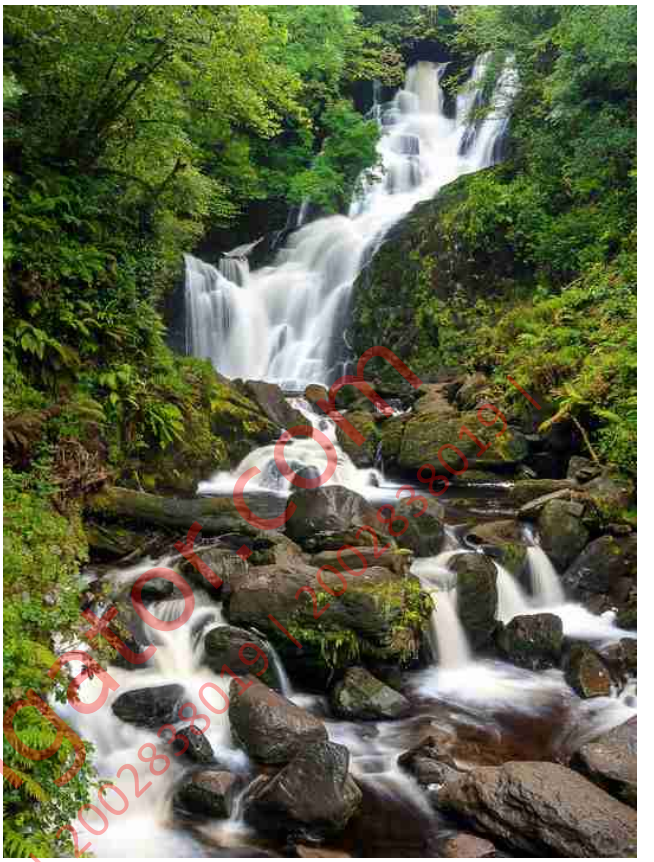
Urbanization levels indicate economic development and infrastructural capacities, while the proportion of urban areas at low elevations reveals vulnerabilities to sea-level rise. Coastline length and the number of islands are significant for understanding maritime character and logistical challenges.

Border lengths and the longest shared border highlight geopolitical and security considerations. Territorial compactness, measured by the Polsby-Popper score, reveals the efficiency of administrative management and transportation networks.

Climatic indicators such as average annual temperature, extremes of the hottest and coldest months, and average precipitation provide a picture of environmental conditions affecting agriculture, water resources, and human comfort. The number of sunny hours in the sunniest city influences solar energy potential and quality of life.

Freshwater resources, indicated by the density of lakes, rivers, and streams, and the volume of renewable internal freshwater resources, are vital for sustaining populations and ecosystems. Forest areas are key to understanding biodiversity and carbon sequestration capabilities.

Topographical features, such as the prevalence of mountains and hills, the highest point, and average home elevation, shape physical landscapes, cultural, and economic activities. The number of significant urban centers indicates population distribution and economic hubs.



Torc Waterfall in Killarney National Park, Ireland – The Torc Waterfall cascades through lush greenery in County Kerry's renowned national park. This natural gem highlights Ireland's rich biodiversity and commitment to environmental conservation, offering visitors a tranquil escape into the beauty of its landscapes.

Proximity indicators, such as the distance to the closest capital and capital-to-capital distances, reflect potential for diplomatic and economic interactions.

Data for these indicators are sourced from organizations like the Center for International Earth Science Information Network (CIESIN), the Food and Agriculture Organization (FAO), GeoNames, the World Bank Climate Change Knowledge Portal, and the CIA World Factbook, ensuring accuracy and reliability.

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Table 2. *Comparing Germany and Ireland by main geographical features.*

Basic Features	Germany Value	Germany Rank (World)	Gap	Ireland Rank	Ireland Value	Year	Source
Land area (km², ⇓)	349,390	63		119	68,890	2021	FAO
EEZ incl. territorial waters (km², ⇓)	57,485	115		58	418,911	2022	WDPA/A
Urban area (% of land area, ⇓)	10.6	22		97	1.8	2015	CIESIN1
Urban area less than 5 meters high (% urban area, ⇓)	2.3	120		81	5.9	2015	CIESIN
Coastline length (km, ⇓)	3,624	53		38	6,437	2022	WRI/WFB
Islands (number, ⇓)	262	54		39	506	2022	GEO
Land borders' length (km, ⇓)	3,694	55		140	490	2022	WFB
Longest border (km, ⇓): **Czechia | United Kingdom**	815	92		120	499	2022	WFB
Territorial Compactness (Polsby-Popper score, ⇓)	0.08	126		162	0.02	2020	WFB/A
Average annual temperature (°C, ⇓)	9.6	159		158	9.7	2022	CKP/WB
Coldest month (°C, ⇑)	-3.6	42		55	1.8	2022	CKP/WB
Hottest month (°C, ⇓)	21.7	154		185	17.2	2022	CKP/WB
Sunny hours (sunniest city; avg., ⇓): **Frankfurt | Dublin**	1,662	129		133	1,453	2022	MSRC
Average precipitation (mm/year, ⇓)	700	113		83	1,118	2021	FAO
Lakes, rivers, and streams (registered only, per km² of land, ⇓)	11,541	14		58	2,381	2022	GEO
Largest lake (km², ⇓): **Stettiner Haff (w/PL) | Lough Corrib**	900	61		98	176	2022	WFB
Longest rivers (km, ⇓): **Rhine | Shannon**	865	59		107	360	2022	WFB
Renewable internal freshwater resources (m³ per km² of land, ⇓)	107 B	55		78	49 B	2021	FAO1
Forest area (km², ⇓)	114,190	51		130	7,860	2021	FAO
Forest area (% of land area, ⇓)	32.7	93		146	11.4	2021	FAO
Mountains, over 300m high (per km² of land, ⇓)	18,757	1		58	736	2022	GEO
Hills, less than 300m high (per km² of land, ⇓)	2,261	28		61	696	2022	GEO
Highest point (m, ⇓): **Zugspitze | Carrauntoohil**	2,963	67		150	1,041	2022	GEO
Average home elevation (m, ⇓)	189	88		160	30	2022	GEO
Places with over 50,000 inhabitants (number, ⇓)	217	9		121	6	2022	GEO
Cities with over 100,000 inhabitants (number, ⇓)	94	13		118	3	2022	GEO
Closest capital distance (km, ⇑): **Praha (CZ) | London (GB)**	286	84		155	709	2022	GEO
Capital-to-capital (km, ⇑): **Berlin (DE) | Dublin (IE)**	2,178	40		17	2,178	2023	GEO

Note: Rankings represent each country's global rank and generally follow a descending order—listing countries from the highest to lowest rank. Exceptions include metrics like 'coldest month' and 'distances' (e.g., distance to the closest capital city), which follow an ascending order—ranging from closest to more distant. To avoid confusion, arrows indicate the order orientation: '⇓' signifies descending order and '⇑' indicates ascending order. In cases where multiple countries have same values for an indicator, GDP per capita is used as a tiebreaker.

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Geographical features shape the context within which countries interact. Examining these indicators reveals similarities and differences that define the unique relationship between Germany and Ireland.

Germany's Geographic Portrait

Germany's geography lays the foundation for its strategic importance in Europe and beyond. Posi-

tioned at the heart of Western Europe, Germany is bounded by nine neighboring countries, giving it a pivotal role as a bridge between Western and Eastern Europe. Its modest coastal exposure along the North and Baltic Seas supports an active maritime economy and trade, despite a relatively shorter exclusive economic zone. The German landscape is an intricate tapestry of diverse geographical features, from the flat expanses of the North European Plain in the north to the towering peaks of the Bavarian Alps in the south.

The country's climatic variation is as complex as its topography. Germany experiences a blend of marine and continental climates, with oceanic influences more pronounced in the northwest and continental characteristics dominating the eastern regions. This results in colder winters in the east and milder temperatures in the west, fostering diverse agricultural activities across the regions. The southern areas, particularly those bordering France, are known for their warm summers, making them ideal for viticulture along the famed German Wine Route.

Hydrology plays a significant role in shaping Germany's economic development. Its numerous rivers, such as the Rhine, Elbe, and Danube, serve as essential arteries for commerce and transport, facilitating Germany's position as a leading European economic powerhouse. The Rhine River, penetrating the industrial heartland, is particularly vital as it connects to major European ports, enhancing both international trade and domestic market integration.

Germany's abundant freshwater resources and extensive forest areas underscore its commitment to sustainable development and environmental conservation. The country's diverse ecosystems, from the picturesque Black Forest to the intricate network of lakes and rivers, support rich biodiversity. Such natural wealth not only strengthens Germany's ecological standing but also bolsters its tourism industry, drawing



Rakotz Bridge in Kromlau Park, Germany – known as Devil's Bridge, creates a perfect circle reflection in the park's waters during autumn. This picturesque site highlights Germany's enchanting landscapes and commitment to preserving its natural beauty for generations.

millions from around the globe to revel in its scenic landscapes.

These geographical facets not only define Germany's internal dynamics but also anchor its international relations. The terrain influences accessibility, dictating the flow of goods and cultural exchanges across borders. Germany's role in the EU and its historic ties with countries like the Czech Republic, with which it shares its longest border, are as much about political agreements as they are about the geographic landscape that underpins them. In essence, Germany's geography is an essential player in its ongoing narrative of progress and cooperation on the global stage.

Ireland's Physical Canvas

Ireland, often referred to as the ""Emerald Isle"" due to its lush landscapes, owes much of its verdant reputation to its geographical attributes and climate. Positioned in the North Atlantic Ocean, to the west of Great Britain, Ireland's strategic location has historically made it a bridge between Europe and the vast Atlantic beyond. The island's extensive exclusive economic zone sprawls far out into the ocean, underscoring its significance as a maritime nation. The moderate maritime climate, influenced by the North

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Ireland's Stunning Coastline

Nestled along the Atlantic Ocean, Ireland's coastline offers breathtaking vistas of rugged cliffs, emerald hills, and azure waters. With the interplay of dramatic skies and serene seas, it captures the essence of the country's natural beauty. This enchanting landscape invites travelers to explore its scenic paths and picturesque bays.

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Atlantic Current, features mild winters and cool summers, with an average annual temperature hovering around 9.7°C, which fosters a landscape of rolling green hills and fertile plains.

Despite its relatively modest land area, Ireland boasts a remarkable array of geographical features that define its character and economic pursuits. The country is largely known for its rivers, among which the Shannon is the longest, carving its way through the island's heartland. Additionally, Ireland's registered water bodies, including lakes like Lough Corrib, and an abundance of rivers per square kilometer, highlight its rich freshwater resources. The landscape is further punctuated by mountains, with the highest peak, Carrauntoohil, anchored in the renowned MacGillycuddy's Reeks, providing a natural allure that attracts hikers and adventurers globally. Yet, over half of the island consists of low-lying plains surrounding these rugged uplands, emphasizing a topographical diversity that supports both agricultural practices and urban development.

The impact of Ireland's geography extends to its economic activities, particularly in sectors like agriculture, fisheries, and tourism. The extensive coastline, with its series of inlets, peninsulas, and islands, not only provides rich marine resources but also contributes to the tourism industry's draw for nature lovers. This is further amplified by the scenic beauty of coastal landmarks and a relatively compact territorial form that offers easy access between ecological zones and urban centers. Ireland's forest cover, though limited, is steadily increasing due to reforestation efforts, which

contribute to biodiversity and carbon sequestration goals, aligning with broader environmental stewardship and sustainable development agendas.

Ireland's geographical position also enhances its role in international trade and relations. Its proximity to the United Kingdom, marked by a land border as well as a historic cultural and economic connection, positions it uniquely within European geopolitics, particularly in the post-Brexit context. Furthermore, its capital, Dublin, serves as a central hub for transatlantic and European commerce, benefiting from its closest physical link to London among major European capitals. This geographic linkage fosters a robust transport network, facilitating easy access to global markets and bolstering Ireland's reputation as a key player in technology, finance, and education sectors.

Ultimately, Ireland's geographical features forge a distinctive identity, harmonizing its natural beauty with strategic economic advantages. These features not only shape its domestic development strategies but also influence its external connections, highlighting the intrinsic linkage between geography and international affairs. As Ireland continues to navigate its position in the global landscape, these attributes will play an essential role in dictating its partnerships and policies on the world stage.

Mapping Germany & Ireland Together

When comparing Germany and Ireland within the scope of geographical features, we observe certain commonalities. Among the various indicators analyzed for both nations, the closest alignment is seen in average annual temperature, sunshine time, and coldest month temperature. Conversely, the most significant divergences appear in town count, city count, and land border length.

Germany and Ireland present a 61% territorial similarity, indicating more common ground than with numerous other countries. Germany finds its most compatible match in Türkiye, much like Ireland does with the United Kingdom. As illustrated in the final chart of this section, Ireland ranks sixty-seventh in Germany's standings, while Germany holds nineteenth position in Ireland's rankings.

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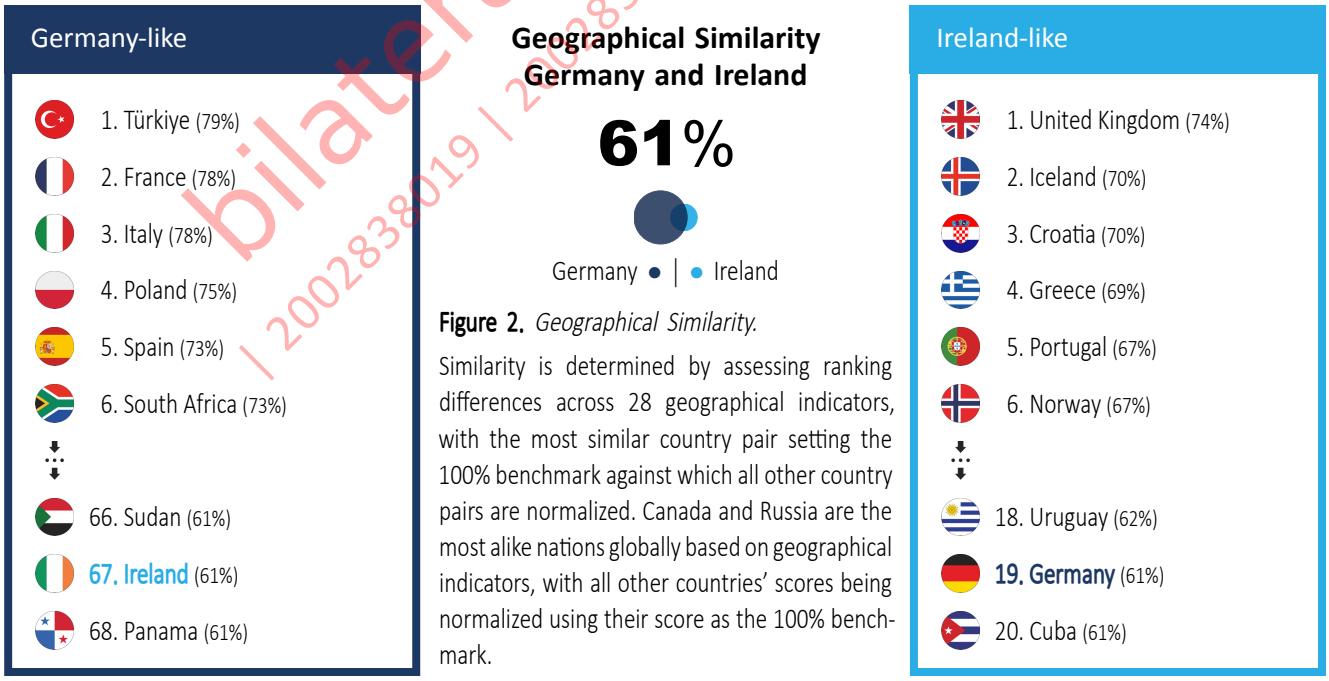


Figure 2. *Geographical Similarity.*

Similarity is determined by assessing ranking differences across 28 geographical indicators, with the most similar country pair setting the 100% benchmark against which all other country pairs are normalized. Canada and Russia are the most alike nations globally based on geographical indicators, with all other countries' scores being normalized using their score as the 100% benchmark.



St Patrick's Day Parade in Dublin, Ireland

Pipe bands march along O'Connell Street during the St Patrick's Day parade, celebrating Irish culture and traditions. Bagpipes and festive attire create a lively atmosphere, showcasing Ireland's vibrant community spirit and cultural pride on this iconic national holiday.

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Population Profiles

Understanding demographic profiles is crucial for analyzing the dynamics of bilateral relationships between Germany and Ireland. Demographic indicators offer insights into population structure, growth patterns, migration trends, and religious compositions, which collectively shape social and economic interactions. This section delves into selected demographic indicators that reveal the unique attributes and similarities between the two countries.

Demographic indicators provide a snapshot of both countries' population dynamics. Fertility rates, including total fertility and adolescent fertility rates, reflect reproductive behavior and potential population growth. Contraceptive prevalence among married women indicates family planning practices and their impact on fertility trends.

Migration and refugee statistics, such as net migration and international migrant stock, highlight population movements and their implications for labor markets and cultural integration. Violence-induced displacement and refugee numbers by country of asylum and origin provide insights into the humanitarian aspects of population dynamics, while data on stateless persons and the latest refugees from Ukraine emphasize ongoing geopolitical and social issues.

Population metrics, such as total population, median age, life expectancy, and population growth rates, are fundamental for understanding the size, age structure, and longevity of populations. Birth and death rates give a sense of natural population change, while urban population percentages and population density reflect settlement patterns and urbanization levels.

Age distribution, captured through the percentage of the population in different age groups (0-14, 15-64, and 65+), along with the age dependency ratio, illustrates the burden on the working-age population to support younger and older dependents.

Religious composition is another vital aspect of demographic profiling. The detailed breakdown of religious affiliations and religious groups provides a nuanced understanding of cultural and social diversity within and across nations.

The second table provides estimates of both countries' diaspora worldwide, highlighting the spread of people of their descent living abroad. These figures, sourced mainly from Wikipedia and other public domains, may lack complete accuracy but still offer valuable insights for comparing the international presence of these two populations.

The data for these indicators come from authoritative sources such as the United Nations Population Division, Eurostat, national statistical offices, the U.S. Census Bureau, the Food and Agriculture Organization, and the Internal Displacement Monitoring Centre. These sources ensure the reliability and accuracy of the information, which is critical for meaningful analysis.

By examining these demographic indicators, we gain a comprehensive view of the population characteristics that influence bilateral relations. This approach allows for an in-depth comparison of the demographic profiles of Germany and Ireland, highlighting both their unique attributes and commonalities, and thereby providing a robust foundation for understanding the socio-economic and cultural contexts in which these two countries interact.

Germans Today

Germany stands as a pivotal figure on the global stage, a nation whose demographic dynamics are reflective

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Table 3. *Demographics Features.*

	Germany				Ireland				
Population	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Population (number, ⇓)	84 M	19				120	5.3 M	2023	UN-PD1
Median age (years, ⇓)	47.8	3				51	37.8	2022	WFB
Life expectancy at birth, total (years, ⇓)	80.7	30				7	83.1	2022	UN-PD4
Population growth (annual %, ⇓)	0.8	118				21	2.6	2023	UN-PD5
Birth rate, crude (per 1,000 people, ⇓)	8.8	170				138	11.2	2022	UN-PD1
Death rate, crude (per 1,000 people, ⇓)	12.7	19				125	6.9	2022	UN-PD1
Urban population (% of population, ⇓)	77.8	53				92	64.5	2023	UN-PD9
Population density (people per km² of land area, ⇓)	238.1	38				112	73.1	2021	FAO5
Population ages 0-14 (% of population, ⇓)	14.0	181				129	19.2	2023	UN-PD
Population ages 15-64 (% of population, ⇓)	63.3	119				82	65.3	2023	UN-PD
Population ages 65 and above (% of population, ⇓)	22.7	8				51	15.5	2023	UN-PD
Age dependency ratio (% of working-age pop., ⇓)	58.1	75				112	53.1	2023	WB24
Fertility									
Fertility rate, total (births per woman, ⇓)	1.5	158				124	1.7	2022	UN-PD1
Adolescent fertility rate (births per 1,000 women, 15-19, ⇓)	7.2	162				173	5.9	2022	UN-PD8
Contraceptive prevalence, any (% of married women, 15-49, ⇓)	80.3	8				26	73.3	11/10	UN-PD2
Migration & Refugees									
Net migration (⇓)	155,751	7				30	9,999	2023	UN-PD
International migrant stock, total (⇓)	12 M	2				54	746,260	2015	UN-PD7
International migrant stock (% of population, ⇓)	14.9	33				28	15.9	2015	UN-PD6
Refugees by country of asylum (⇓)	2.6 M	4				44	113,902	2023	UNHCR
Refugees by country of origin (⇓)	209	128				170	13	23/22	UNHCR1
Latest refugees from Ukraine (number, ⇓)	1.1 M	3				16	77,721	2023	WFB
Stateless persons (number, ⇓)	28,941	20				92	7	2022	WFB
Religion									
Christian (%, ⇓)	51.0	116				56	83.9	20/16	WFB
Catholic (%, ⇓)	26.7	63				13	78.3	20/16	WFB
Roman Catholic (%, ⇓)	26.7	61				13	78.3	20/16	WFB
Protestant (%, ⇓)	24.3	50				89	2.7	20/16	WFB
Anglican (%, ⇓)						19	2.7	20/16	WFB
Muslim (%, ⇓)	3.5	92						20/16	WFB
Other (%, ⇓)	4.8	33						20/16	WFB
Non-religious (%, ⇓)	40.7	10				51	9.8	20/16	WFB
Unspecified (%, ⇓)						42	2.6	20/16	WFB

Note: The trend bars in the table illustrate changes in the indicator values over the past three years, with the final (rightmost) bar specifically reflecting the most recent data, compared to the two preceding years. The "Rank" column shows each country's global ranking in descending order, denoted by the "⇓" symbol. In cases where multiple countries have same values for an indicator, GDP per capita is used as a tiebreaker.

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of its complex history and critical geopolitical role. The population, now over 84 million, bestows upon Germany the title of the most populous country in the European Union. This magnitude of human density, concentrated heavily in urban areas like Berlin and the Ruhr region, underscores the nation's industrial might and cultural vibrancy. The urbanization rate, nearing the 80% mark, highlights a society deeply enmeshed in modernity yet faced with the challenges of sprawling cities and evolving social infrastructure. As cities burgeon, they serve as cradles of innovation, drawing in talent from across the globe and contributing to Germany's formidable economy.

Despite its robust population, Germany is an aging nation, with a median age nearing 48 years, which ranks among the oldest in the world. This demographic trait presents both challenges and opportunities. An aging population places demands on healthcare and social services, yet it also encapsulates a wealth of experience and knowledge capital that can be leveraged for innovation. The higher age dependency ratio further shines a light on this demographic shift, indicating a growing reliance on the working-age population to support both younger and older generations. These dynamics create a pressing impetus for policy frameworks designed to sustain economic productivity while fostering inclusivity across different age groups.

Germany's demographic tapestry is also interwoven with diverse migration flows. It hosts a significant international migrant stock, second only to the United States, emphasizing its pulling power as a global destination for both skilled workers and people in search of asylum. The country's openness is mirrored in its substantial diaspora worldwide, particularly in the Americas and Europe, which forms a vast network of cultural and economic connections. This intercontinental diaspora bolsters Germany's international influence, facilitating trade, cultural exchange, and bilateral cooperation.



Oktoberfest in Munich – Every year, the Bavarian city of Munich transforms into a vibrant celebration of German culture during Oktoberfest. Revelers dressed in traditional lederhosen and dirndls gather in bustling tents, raising their steins in joyful toasts. This iconic festival is a lively showcase of camaraderie, rich heritage, and festive spirit.

Recent migration trends, marked by the influx of refugees, notably from regions like Ukraine, highlight Germany's role as a refuge and a place of new beginnings. With recent figures indicating over a million Ukrainian refugees, Germany's ability to integrate these populations while managing its resources is emblematic of its strategic and humanitarian commitments. The diverse religious and cultural backgrounds of these populations contribute to the rich mosaic of German society, presenting both a testament to its multicultural ethos and a challenge to harmonize differing life perspectives.

Overall, Germany's demographic profile is a fundamental element of its strategic strength. The balanced interplay between a dense, urban population and a globally connected diaspora has positioned Germany as a leader in innovation and a fulcrum in international affairs. While the country's aging demographic poses sustainability questions, its vibrant and diverse

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Corpus Christi Procession in Benediktbeuern, Germany

Participants in traditional Bavarian attire celebrate the Corpus Christi procession, a significant religious and cultural event. This annual ceremony reflects Germany's deep-rooted traditions and the vibrant community spirit of its population.

Table 4. *Diaspora – Germans and Irish Living Abroad.*

Germans and Irish Living Abroad	Germany Value	Germany Rank (World)	Gap	Ireland Rank	Ireland Value	Year	Source
in Argentina (⇊)	500,000	7	● ●	5	1.0 M	2023	WKDIA
in Australia (⇊)	1.0 M	4	● ●	3	7.0 M	2023	WKDIA
in Austria (⇊)	233,000	11				2023	WKDIA
in Brazil (⇊)	5.0 M	2				2023	WKDIA
in Canada (⇊)	3.3 M	3	● ●	4	4.5 M	2023	WKDIA
in Chile (⇊)				6	120,000	2023	WKDIA
in Hungary (⇊)	250,000	10				2023	WKDIA
in Italy (⇊)	211,000	12				2023	WKDIA
in Kazakhstan (⇊)	900,000	5				2023	WKDIA
in Mexico (⇊)	90,000	18	● ●	8	10,000	2023	WKDIA
in Russia (⇊)	840,000	6				2023	WKDIA
in Switzerland (⇊)	357,000	8				2023	WKDIA
in United Kingdom (⇊)	310,000	9	● ●	2	14 M	2023	WKDIA
in United States (⇊)	43 M	1	● ●	1	33 M	2023	WKDIA
in Uruguay (⇊)				7	120,000	2023	WKDIA

Note: The initial row in the table highlights the presence of each country's diaspora in the other country; specifically, it shows Germans residing in Ireland and Irish residing in Germany. Rankings in this table are displayed in descending order, as indicated by the symbol '⇊', and range from the highest to the lowest value within each country (unlike other tables, these are NOT global rankings). In instances where multiple countries have identical values for an indicator, GDP per capita is used as a tiebreaker.

cultural and economic landscape offers a platform for potential growth and deepened global partnerships. In an increasingly interconnected world, Germany's demographic characteristics not only define its internal dynamics but also shape its outward engagements and roles on the global stage.

People of Ireland

Ireland's population, shaped by a rich tapestry of history and migration, stands out as a country of both continuity and change. With a modest population nearing five million, Ireland ranks lower in global population scales but compensates with a vibrant demographic profile. Its population is relatively young, with a median age in the late thirties, poised to support a dynamic workforce. Life expectancy is among the highest globally, reflecting robust healthcare and living conditions likely to impact workforce sustainability and economic productivity positively.

Ireland's population growth, steady yet not overwhelming, suggests a balanced demographic transition. Its birth and death rates have maintained a consistent trajectory, indicative of stability. The country's modest fertility rate aligns with broader European trends while also underscoring gender-conscious policies. Such metrics point towards a sustainable demographic future, relying less on natural increase and more on strategic immigration to augment its labor force and foster social diversity. Urbanization trends reflect a majority urban population, inferring concentrated economic activities and governmental services in cities, which acts as a magnet for innovation and international business.

Migration plays a pivotal role in Ireland's demographic story. The nation has transformed into an attractive destination for migrants, enriching its cultural mosaic. With a noticeable proportion of the population composed of international migrants, Ireland benefits

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from a diversity that fuels its educational and cultural sectors. This influx has led to a counterpart movement where the Irish diaspora, most notably in countries like the United States and the United Kingdom, acts as cultural ambassadors, fostering bilateral connections vital for international trade and diplomacy.

The international movement is reciprocal, as seen in Ireland's substantial acceptance of refugees, bolstering its image as a compassionate global partner. This openness to human mobility enhances Ireland's diplomatic relations and its societal fabric, aligning with its historical penchant for emigration and reshaping its future in an interconnected world. Strategic migration policies not only address demographic imbalances but harness the creative potential inherent in a globally connected populace.

Religiously, Ireland remains predominantly Catholic, yet the demographic shift shows an increasingly diverse religious landscape. This diversity reflects broader societal changes, reshaping Ireland's cultural identity and its soft power influence globally. With the legacy of the Irish language and a growing non-religious population, these layers add complexity to Ireland's identity, influencing its educational frameworks and international cultural engagements. In essence, Ireland's demographic features form a unique matrix of stability and growth, shaping its strategic importance on the world stage and reinforcing its role as a pivotal European economic and cultural hub.

Germans & Irish Through Numbers

When analyzing German and Irish demographic indicators, we can identify a range of similarities. The two nations are most closely aligned in diaspora in the United States, Canada, and Australia, while their most significant differences occur in diaspora in Brazil, Kazakhstan, and Russia.

The demographic correlation between Germans and Irish are marked at 66%, surpassing a significant portion of the global scene. Germans' data echo in Czechs, as Irish's do in French. This is further illustrated in the concluding chart, where Irish are ranked thirty-sixth in the Germans' rankings, while Germans are seventeenth in the Irish' listings.

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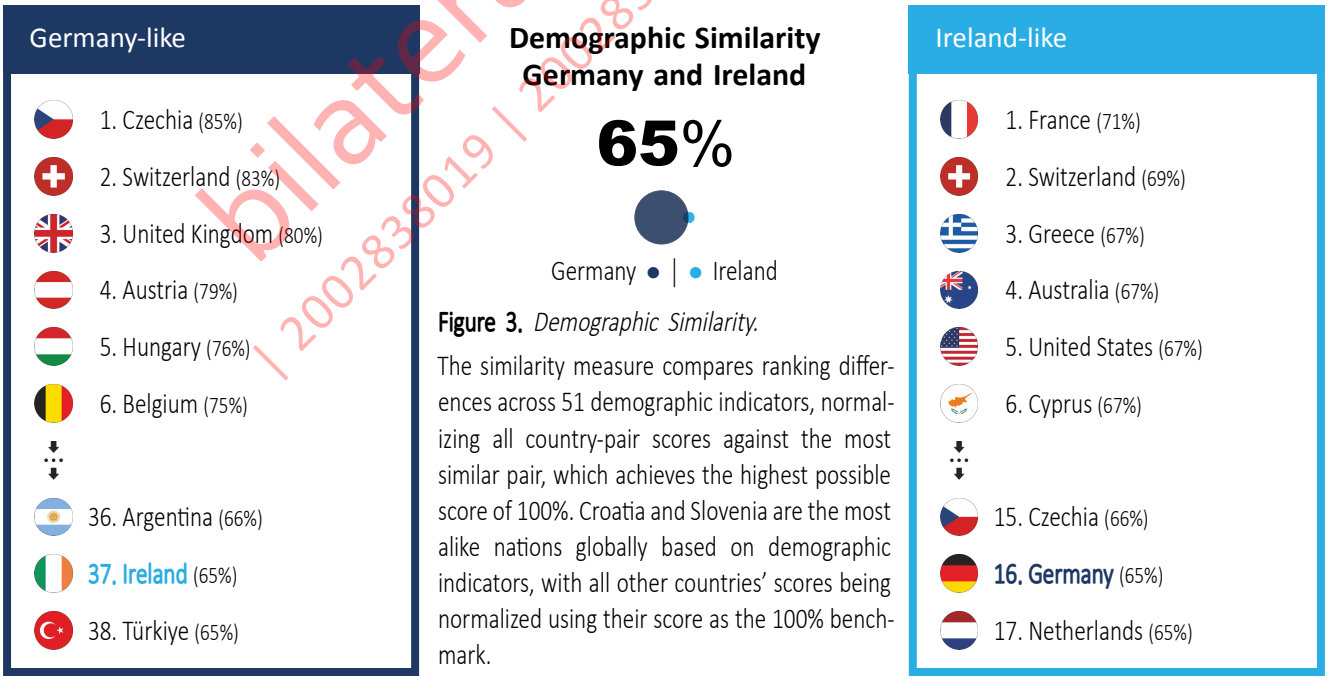


Figure 3. *Demographic Similarity.*

The similarity measure compares ranking differences across 51 demographic indicators, normalizing all country-pair scores against the most similar pair, which achieves the highest possible score of 100%. Croatia and Slovenia are the most alike nations globally based on demographic indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

Transport Framework

Transport infrastructure is key to understanding bilateral relationships, impacting economic activities, mobility, and connectivity. This section examines various transport indicators for Germany and Ireland.

Air transportation metrics include the number of airports, passengers carried, freight volume, and registered carrier departures, reflecting capacity for international and domestic flights.

Land transportation covers railway length and usage, expressways, roadways, vehicle density, and pipeline lengths, showing infrastructure development and connectivity.

Water transportation assesses major seaports, ferry ports, LNG terminals, waterways, river ports, merchant fleet size, container traffic, and shipping connectivity, highlighting maritime transport's role.

Performance indicators focus on transport investment, logistics performance, infrastructure quality, logistics services, and road traffic injury rates, measuring efficiency, effectiveness, and safety.

Data sources include the International Union of Railways (UIC), International Civil Aviation Organization (ICAO), World Bank, and World Health Organization (WHO), ensuring reliable analysis.

Examining these indicators provides insights into the transport frameworks of Germany and Ireland, revealing similarities and differences influencing their bilateral relationship.



Yellow Metro Train Approaching Schlesisches Tor Station, Germany – A yellow metro train navigates elevated tracks near Schlesisches Tor station in the city's vibrant urban landscape. Berlin's efficient public transport system connects communities and fosters mobility. The iconic U-Bahn network is integral to the city's infrastructure and daily life.



Irish Rail Train in Galway – An Irish Rail train travels through the countryside under a dramatic blue sky. This commuter service reflects Ireland's advancements in transport infrastructure, connecting communities and fostering economic growth.

How Do Germans Move?

Germany stands as a formidable player on the global stage largely due to its robust transportation network, a testimony to both engineering prowess and strategic planning. The country's infrastructure is a well-oiled machine powered by a combination of its expansive roadways and sophisticated rail system. The Autobahn, with its historic significance and extensive reach, offers an almost unfettered driving experience unparalleled elsewhere. Stretching through the heart of Europe, this network forms a dense web tying together regional and international corridors, under-

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Table 5. *Transport Framework.*

	Germany				Ireland				
Air Transportation	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Large airports (runways over 3,047 m, ⇓)	14	14				101	1	2021	WFB
Medium-size airports (runways 2,438 to 3,047 m, ⇓)	49	5				126	1	2021	WFB
Airports (total number, incl. unpaved runways, ⇓)	539	12				104	40	2021	WFB
Air transport, passengers carried (⇓)	33 M	13				5	74 M	2021	ICAO
Air transport, freight (million ton-km, ⇓)	11,533.0	6				56	86.4	2021	ICAO
Air transport, registered carrier departures worldwide (⇓)	368,400	13				9	493,773	2021	ICAO
Water Transportation									
Major seaports (number, ⇓)						76	2	2021	WFB
Ferry ports (number, ⇓)	37	6				33	3	2023	TRGDE
Oil terminals (number, ⇓)	1	13						2021	WFB
LNG terminals (number, ⇓)	1	29						2021	WFB
Waterways (total route in km, ⇓)	7,467	20				73	956	12/10	WFB
River ports (number, ⇓)	4	4				12	2	2021	WFB
Merchant marine (total number of vessels, ⇓)	599	35				82	96	2021	WFB
Container port traffic (TEU: 20 foot equivalent units, ⇓)	14 M	12				59	1.2 M	2022	UNCTAD
Liner shipping connectivity index (max. in 2004 = 100, ⇓)	85.1	10				84	12.4	2021	UNCTAD4
Land Transportation									
Railways (total route in km, ⇓)	33,401	6				71	1,650	2021	UIC1
Railways, passengers carried (million passenger per km, ⇓)	58,822	7				51	870	20/21	UIC
Railways, goods transported (million ton per km, ⇓)	123,067	9				104	70	2021	UIC2
Expressways (km, ⇓)	12,996	7				16	2,717	17/18	WFB
Expressways (% of all roadways, ⇓)	2.1	20				12	2.7	17/18	WFB
Roadways (total route in km, ⇓)	625,000	13				47	99,830	17/18	WFB
Total number of motor vehicles (per capita, ⇓)	0.6280	24				40	0.5350	2020	MSRCS
Gas pipelines (km, ⇓)	26,985	8				55	2,427	13/17	WFB
Oil pipelines (km, ⇓)	6,879	20						2013	WFB
Performance									
Logistics performance index (1=low to 5=high, ⇓)	4.1	6				25	3.6	2022	WB11
Quality of trade & transport infrastructure (1=low to 5=high, ⇓)	4.3	3				37	3.5	2022	WB11
Competence and quality of logistics serv. (1=low to 5=high, ⇓)	4.2	6				31	3.6	2022	WB11
Road traffic injury mortality (per 100,000 people, ⇓)	3.8	174				178	3.1	2019	WHO-GHO

Note: Tables in this book commonly follow a descending order for global rankings, transitioning from highest to lowest values, identified by the "⇓" symbol. In the trend bars, the third and final bar distinctly represents the latest data, analyzed in relation to the two prior years' data.

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scoring Germany's pivotal role in connecting Western Europe to the Eastern blocs. Concurrently, its railways, spanning over thirty-three thousand kilometers, efficiently support both commuters and goods, although recent trends indicate a slight pivot towards increased bus usage due to expanded intercity options.

Germany's aviation sector complements its terrestrial prowess, with numerous airports facilitating both national and international transit. With fourteen large airports catering to significant global routes and collaborations, Germany strategically positions itself as a key player in European air logistics. Although recent years have shown fluctuations in passenger traffic, the freight capacity remains substantial, reinforcing Germany's role as a crucial hub in the international transport of goods. The country's savvy adaptation to changing dynamics in global air traffic ensures that it remains competitive and capable of meeting future demands.

Maritime transport, often a silent giant in Germany's economic narrative, continues to play a significant role. Despite having fewer river ports compared to other trading powerhouses, Germany maximizes efficiency through a concentrated cluster of strategic ferry ports and its impressive liner shipping connectivity. This setup propels the flow of goods, particularly through major ports like Hamburg, which stand as vital conduits for international trade. This interconnected maritime network not only fuels Germany's economy but also strengthens its ties with neighboring countries and beyond.

Underlying these transportation avenues are the pipelines—a network invisible to the casual observer yet vital to Germany's energy logistics. The extensive system of gas and oil pipelines supports not just domestic consumption but also serves as a crucial link in the broader European context. Furthermore, the integration of modern logistics services and infrastructure quality reflects Germany's high-ranking performance in global logistics, a beacon of its coherent and forward-thinking approach to infrastructure development.



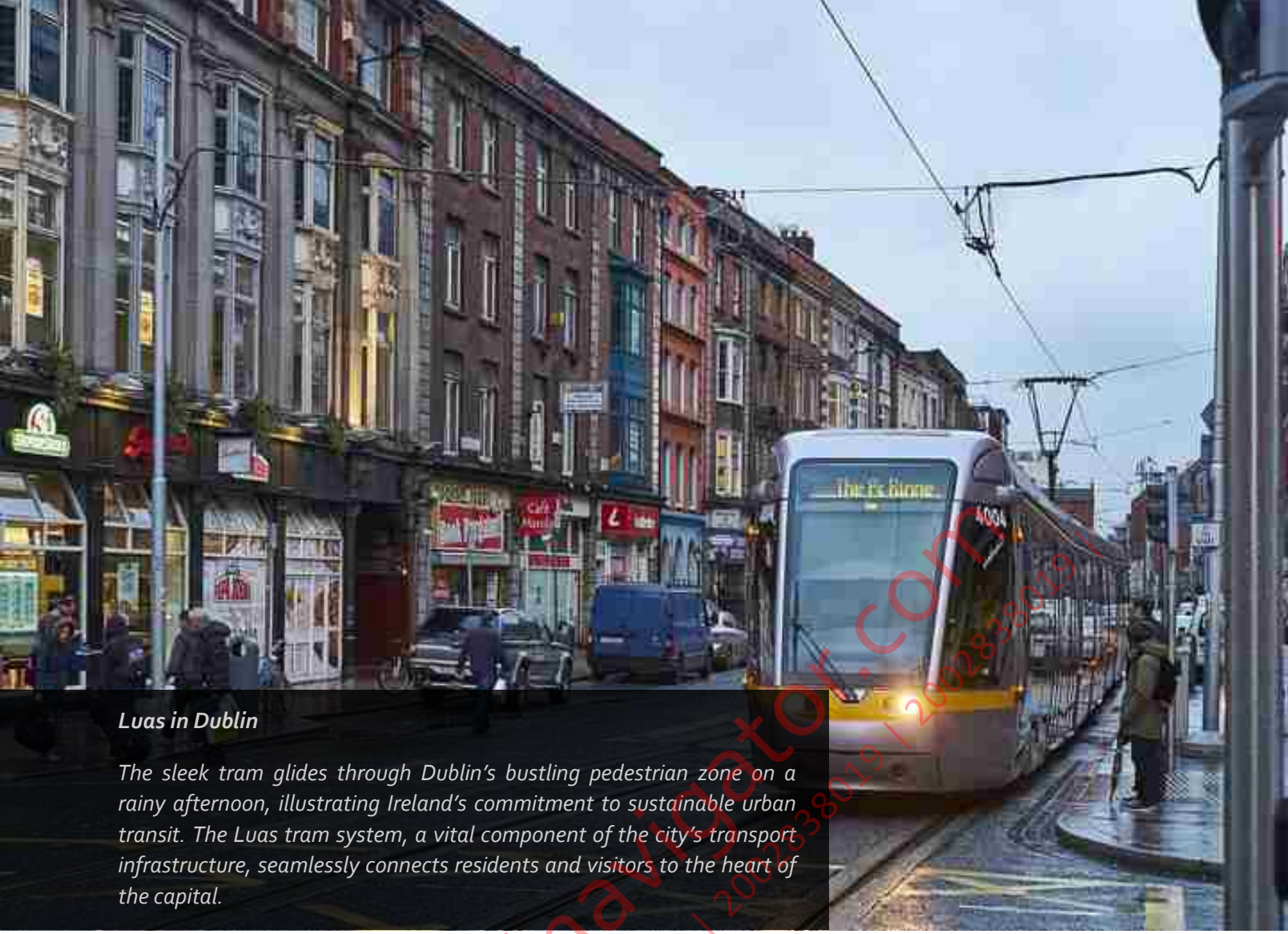
Autobahn Near Biebelried – Germany's highway network, epitomized by the Autobahn near Biebelried, embodies efficient design and unrestricted speed, symbolizing national engineering prowess. This vital transport artery facilitates seamless regional connectivity and economic activity, reflecting Germany's commitment to infrastructure excellence within the broader geopolitical landscape.

At the intersection of these transportation systems lies Germany's influence on regional integration and international accessibility. The seamless integration and maintenance of diverse transport modalities foster not only internal cohesion but also global connectivity. As these networks expand and adapt to emerging technological advances and environmental considerations, Germany continues to fortify its role as a bridge within Europe and between continents, further cementing its status as a linchpin in international relations and economic strategies.

Where Do Ireland's Roads Lead?

As an island nation perched at the edge of Europe, Ireland's transport framework serves as a crucial nexus for both internal cohesion and international connectivity. With its moderate-sized network of expressways and roadways, Ireland ensures solid ground connections between its cities, such as Dublin, Cork, and

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Luas in Dublin

The sleek tram glides through Dublin's bustling pedestrian zone on a rainy afternoon, illustrating Ireland's commitment to sustainable urban transit. The Luas tram system, a vital component of the city's transport infrastructure, seamlessly connects residents and visitors to the heart of the capital.

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Galway, and its picturesque rural landscapes. The road infrastructure is complemented by an extensive bus network that serves both urban centers and rural areas, underscoring the country's commitment to accessibility. Despite its limited size, the road network efficiently supports a robust flow of goods and commuters, fostering regional integration. Furthermore, a relatively low rate of road traffic injury mortality reflects a commendable focus on safety, contributing to the country's logistical reliability and quality of life.

The rail system, while not as developed as those in larger European nations, plays a pivotal role in sustained passenger transportation across its approximately 1,650 kilometers of railway routes. While the transport of goods by rail has shown only modest efficiency, the consistent movement of passengers signals a steady public reliance on rail connectivity. However, there is room for growth, particularly in enhancing rail freight capabilities, which could serve to bolster trade facilitation and ease logistic burdens on other modes of transport.

Ireland's air transport infrastructure stands as a vital gateway to the wider world, with Dublin Airport ranking among the top European hubs for passenger traffic and flights. Despite the country having only one large and one medium-sized airport, the volume of registered carrier departures is impressive, propelling Ireland's status as an accessible international destination. The dynamics of passenger flows and air freight efficiency underline the importance of air travel in sup-

porting not just tourism but also business operations linked to Ireland's global economic engagements.

The maritime sector, though modest with just a few major and ferry ports, is integral to Ireland's identity as a trading nation. The container port traffic indicates a significant role in global commerce, despite the size of its merchant marine fleet. Strategically, the country's ports serve as critical junctures between the Atlantic Ocean and mainland Europe, enhancing Ireland's liner shipping connectivity. This maritime framework encourages seamless export-import activities and consolidates Ireland's position within the global supply chain, offering potential growth in attracting more transshipment traffic and enhancing regional maritime links.

Overall, Ireland's strategic integration of multiple transport modes within its logistical framework not only supports internal development but also elevates its stature on the international stage. From airports facilitating a gateway to Europe and beyond, to seaports acting as commerce conduits, the transport infrastructure underscores Ireland's ambition and capability as a pivotal global partner. Such infrastructure influences Ireland's bilateral relations by fostering economic partnerships and enhancing its strategic importance as a robust trading and logistic hub in the global arena.

German & Irish Crossing Paths

Analyzing the German and Irish approaches within transport framework, we find a range of areas of overlap. The closest matches across the indicators for both countries are seen in flight departures, road deaths, and river ports, whereas the greatest disparities exist in oil terminals, pipelines, and LNG terminals.

Germany and Ireland present a 66% transport similarity, indicating more common ground than with numerous other countries. In a global comparison, Germany's best match is found in Spain, just as Ireland's is in Denmark. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is thirty-third, while the German position is twenty-fourth in Irish listings.

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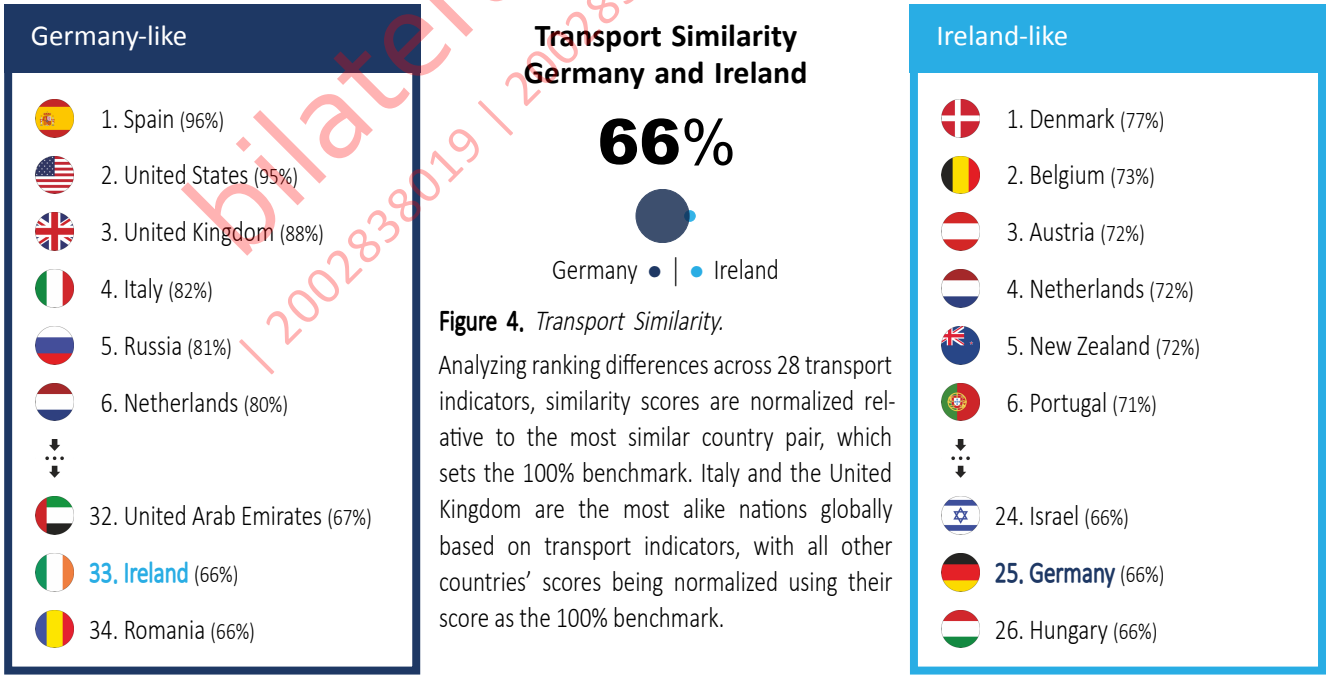


Figure 4. *Transport Similarity.*

Analyzing ranking differences across 28 transport indicators, similarity scores are normalized relative to the most similar country pair, which sets the 100% benchmark. Italy and the United Kingdom are the most alike nations globally based on transport indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

Global Indicators

Understanding global indicators is essential for analyzing the broader context of bilateral relationships. These indicators provide a comprehensive view of a country's development, contributions to the global community, and the state of liberties and rights. This section examines a range of global indicators to highlight the unique attributes and performance of Germany and Ireland.

Indicators related to development, such as the Human Development Index and various input and output indices (institutions, human capital, infrastructure, market sophistication, business sophistication, knowledge and technology, and creative outputs), offer insights into the overall progress and innovation capacity of a country. These measures reflect how well a country is developing its resources and creating an environment conducive to growth and creativity.

Global contributions are another critical area of focus. The Good Country Index ranks countries based on their contributions to global issues like science and technology, culture, international peace and security, world order, climate and the planet, prosperity and equality, and health and well-being. These indicators highlight how each country participates in and impacts global challenges and cooperation.

Liberties and rights indicators provide a snapshot of the social and political environment within each country. Measures of civil liberties, corruption perceptions, economic freedom, happiness, political rights, press freedom, property rights, and overall prosperity illustrate the quality of life and governance. These factors are crucial for understanding the internal dynamics that can affect international relations and bilateral engagements.

The data for these indicators come from respected sources such as Freedom House, the Property Rights Alliance, Reporters Without Borders, The Good Country Index, The Heritage Foundation, The Legatum Centre for National Prosperity, The World Intellectual Property Organization, Transparency International, the United Nations Development Programme, and the World Happiness Report. These sources ensure the reliability and accuracy of the information, providing a solid foundation for analysis.

By examining these global indicators, we gain a deeper understanding of the developmental, contributory, and rights-based aspects of Germany and Ireland. This comprehensive approach allows for a nuanced comparison, revealing both similarities and differences that define the unique relationship between these countries.

Where Does Germany Stand Globally?

Germany stands as a prominent figure on the global stage, epitomizing a blend of resilience, innovation, and influence that extends well beyond its borders. Anchored by a robust Human Development Index, Germany ranks among the top ten nations worldwide, a testament to its commitment to enhancing the quality of life for its citizens. This achievement is closely aligned with its strengths in human capital and research, where it has secured a leading position. Such a high ranking underscores Germany's strategic investment in education and research infrastructure, fostering an environment that nurtures talent and drives technological advancements. The presence of strong educational institutions and research entities feeds into a cycle of innovation that not only propels Germany forward but also positions it as a pivotal contributor to global scientific and technological progress.

Germany's market and business sophistication, well-noted in international indices, highlights a dynamic

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economic landscape that supports entrepreneurship and industrial excellence. However, the recent fluctuations in these indexes suggest a transitional phase, possibly reflecting broader economic shifts and an adaptive stance to accompany technological transformations and market demands. This adaptability is mirrored in Germany's mixed performance in global rankings of its economic freedom and corruption perceptions, where a decline suggests areas for policy refinement and enhanced governance.

In domains of civil liberties and political rights, Germany maintains a commendable standard, providing its citizens with a landscape characterized by free expression and democratic engagement. Nonetheless, the country's press freedom metrics indicate challenges that need addressing, reflecting the global pressures faced by media outlets. These domestic freedoms mirror Germany's broader commitment to international peace and security, with the country's contributions to global stability being recognized, despite areas that require continued focus and innovation.

The Good Country Index showcases Germany as a nation that makes significant positive contributions across multiple dimensions on the international stage. Its exemplary performance in health and well-being is a distinguished feature, setting a precedent that ideally influences its partners worldwide. The country's efforts in supporting global prosperity and equality also highlight a dedication to inclusive development, bolstered by its commitment to environmental stewardship and climate action.

At the heart of Germany's international relations is an intricate balance of cultural significance and diplomatic prowess, firmly embedded within the framework of its global contributions. As Germany continues to navigate the evolving geopolitical landscape, its strategic importance endures, fostering partnerships that are informed not only by its economic and technological capabilities but also by its values and principled contributions to world order. These elements collectively form a cohesive picture of a nation poised to shape and engage with an interconnected and interdependent world.

How Does Ireland Measure Up?

In the ever-evolving tapestry of global affairs, Ireland emerges as a nation whose foundational strengths and strategic foresight shape its unique geopolitical identity. With its impressive performance on the Human Development Index, positioned among the world's top echelon, Ireland underscores its commitment to fostering an environment of well-being and opportunity for its citizens. This, coupled with a nearly perfect record in civil liberties and political rights, positions the country as a bastion of democratic values and societal progress, forging a strong national character on the international stage.

The dynamic interplay between Ireland's institutional robustness and its business sophistication reveals a dual narrative of stability and innovation. While the country boasts substantial institutional frameworks and an open, free-market economy marked by economic freedom, the fluctuations in its infrastructural and market sophistication inputs indicate areas for agile policy responses. This complex landscape presents Ireland as not just a stable economy but a fertile ground for business innovation, capable of accommodating shifts in the global economic climate with dexterity.

In the realm of creative and technological outputs, Ireland stands at the crossroads of potential and challenge. Although its knowledge and technology outputs have seen a dip, the nation's investment in human capital and research is on an upward trajectory, suggesting a future-focused approach in bolstering scientific and

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Table 6. *Global Indicators.*

	Germany				Ireland				
Development	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Human development index (0-1, the best=1, ⇓)	0.950	7				6	0.950	2024	UNDP
Country brand ranking - tourism (rating, ⇑)	AAA	5				26	BBB	2025	BLCN
Country brand ranking - trade (rating, ⇑)	AA	2				14	AA	2025	BLCN
Institutions inputs index (score, ⇓)	73.5	18				10	79.1	2024	GII
Human capital and research inputs index (score, ⇓)	61.4	5				24	48.1	2024	GII
Infrastructure inputs index (score, ⇓)	52.9	26				19	54.8	2024	GII
Market sophistication inputs index (score, ⇓)	56.4	12				48	37.9	2024	GII
Business sophistication inputs index (score, ⇓)	55.3	18				16	55.7	2024	GII
Knowledge and technology outputs index (score, ⇓)	53.9	11				14	47.3	2024	GII
Creative outputs index (score, ⇓)	58.6	5				27	42.3	2024	GII
Liberties & Rights									
Civil liberties (0-60, the best=60, ⇓)	54	32				6	58	2024	FREEH
Corruption perceptions (0-100, lowest corruption=100, ⇓)	79	9				11	77	2022	TRINT
Economic freedom (0-100, highest freedom=100, ⇓)	73.7	13				3	82.0	2023	HERF
Happiness (0-10000, the happiest=10000, ⇓)	7,034	14				13	7,041	2022	WHPPYR
Political rights (0-40, the best=40, ⇓)	39	13				7	39	2024	FREEH
Press freedom (0-100, the best=100, ⇓)	82.0	16				6	88.3	2022	RSF
Property rights (0-10, the best=10, ⇓)	7.469	15				18	7.202	2022	PRA
Prosperity (0-100, the best=100, ⇓)	80.8	9				11	80.3	2023	LCNP
Global Contribution									
The Good Country Index - GCI (Global contributions rank, ⇑)	3	3				8	8	2020	GCI
Global contributions to science & technology (rank, ⇑)	27	26				48	49	2020	GCI
Global contributions to culture (rank, ⇑)	26	26				29	29	2020	GCI
Global contributions to international peace & security (rank, ⇑)	33	33				22	22	2020	GCI
Global contributions to world order (rank, ⇑)	10	10				16	16	2020	GCI
Global contributions to planet & climate (rank, ⇑)	13	13				10	10	2020	GCI
Global contributions to prosperity & equality (rank, ⇑)	12	12				17	17	2020	GCI
Global contributions to health & wellbeing (rank, ⇑)	1	1				14	14	2020	GCI

Note: Most values in this book's tables are ranked in descending order (highest to lowest), the exception being global contributions rankings, which are presented in ascending order due to their nature. However, original rankings from source data may differ from those in this book, as we only account for UN member states. To ensure clarity, the symbol "⇓" denotes descending order, while "⇑" signifies ascending order.

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technological advancements. This complex interrelation points towards a nation leveraging its intellectual resources as a springboard for future industries, thereby fortifying its global economic partnerships.

Globally, Ireland takes on a significant role in contributing to a collective good through various avenues, as reflected in the Good Country Index. The nation's high rankings in contributions to world order, planet and climate, and health and wellbeing mirror its proactive stance on pivotal international issues, underscoring Ireland's commitment to global responsibilities. These contributions not only enhance Ireland's international repute but also enable the country to forge and sustain meaningful relationships through shared values and objectives.

As Ireland navigates the global landscape, its position manifests both as a strategic partner and as a serene advocate of peace and progress. Defined by a nuanced balance of tradition and innovation, Ireland's global indicators are not just markers of success, but instruments shaping its international partnerships. These metrics provide insight into understanding how the nation might continue to cultivate its role—an enabler of global dialogue, a collaborator in economic ventures, and a defender of global cohesion.

Global Rankings Compared

Analyzing the German and Irish approaches within global indicators, we find notable areas of overlap. The closest matches across the indicators for both countries are seen in HDI score, happiness score, and prosperity score, whereas the greatest disparities exist in market index, civil liberties, and creative index.

Observing from a global positioning vantage, Germany and Ireland are bonded by a big 83% similarity, establishing this as the third highest similarity observed in the entire report. In the realm of international similarities, Germany pairs with Canada and Ireland with Iceland, highlighting their shared attributes. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is sixth, while the German position is the third in Irish listings.

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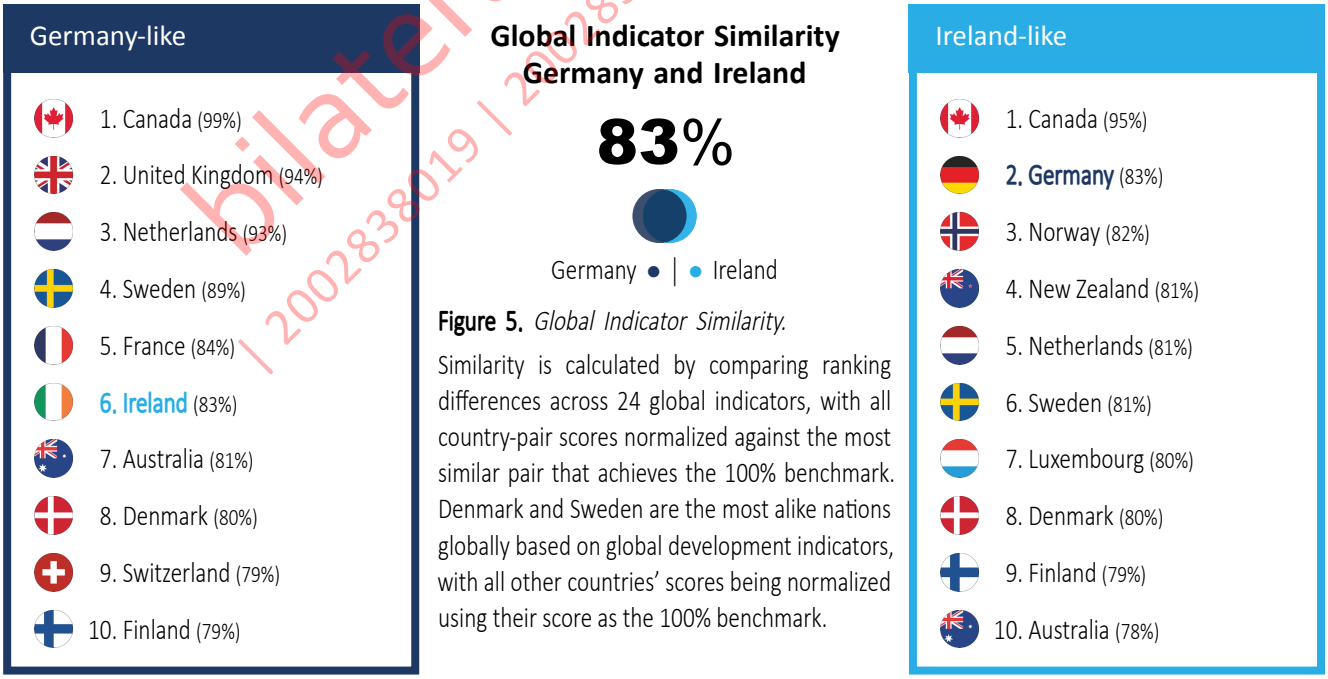


Figure 5. *Global Indicator Similarity.*

Similarity is calculated by comparing ranking differences across 24 global indicators, with all country-pair scores normalized against the most similar pair that achieves the 100% benchmark. Denmark and Sweden are the most alike nations globally based on global development indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

CHAPTER TWO



The Euro

Managed by the European Central Bank, it is a beacon of stability and a symbol of European unity. It's also one of the most trusted currencies in the world. Germany and Ireland are united as Eurozone members, symbolized by the Euro coins in this image.

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Economic Synergy

CHAPTER **2** Economic Synergy Page

Economic Footprints 40

Considering economic perspectives, Germany and Ireland connect at a 71% similarity rate, defying many established norms. Among Germany-like countries, the United Kingdom is the first, as for Ireland is Singapore.

Trade Networks 46

Trade connections between Germany and Ireland amount to a 68% similarity, outpacing much of the global landscape. The cultural and geographic tapestry of Germany is closely woven with Liechtenstein, as Ireland's is with the United Kingdom.

Finance & Investment 52

Financially, Germany and Ireland share a 64% similarity with each other, a figure that still surpasses their resemblance to the majority of other countries. The cultural and geographic tapestry of Germany is closely woven with France, as Ireland's is with Belgium.

International Tourism 56

Touristically, Germany and Ireland exhibit a 72% similarity, still reflecting more commonalities than with many other countries, delineating this as their supreme matching point in the chapter. For Germany, its kindred spirit lies in Switzerland, whereas Ireland's is intertwined with the Netherlands.

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European Central Bank Skytower

Rising proudly in Frankfurt am Main, the sleek facade of the ECB headquarters stands as a symbol of economic power and unity in the heart of Europe. This modern architectural marvel, with its distinctive logo, highlights Germany's pivotal role in the Eurozone's financial landscape.

Economic Footprints

The economic footprint of a country is another crucial for understanding its global position and bilateral relationships. This section explores various economic indicators to highlight the unique economic landscapes of Germany and Ireland, facilitating a comprehensive comparison.

Key indicators include the ease of doing business rank, time to start a business, start-up procedures, and the strength of legal rights. These metrics reflect the regulatory environment and influence investment attractiveness and entrepreneurial activities.

Economic development indicators such as GDP (current and PPP), GDP per capita, GDP growth, GNI, GNI per capita, and credit ratings provide insights into economic size, wealth distribution, and creditworthiness, affecting borrowing capacity on international markets.

The composition of GDP by end use and origin reveals resource allocation and economic structure, showing which sectors drive growth.

Inflation and price indicators like consumer price inflation, fuel prices, and PPP conversion factors indicate cost of living, price stability, and purchasing power, essential for understanding economic stability and impact on consumers and businesses.

Data for these indicators come from reputable organizations like the World Bank, IMF, and credit rating agencies, ensuring accuracy and reliability.

By examining these economic indicators, we gain a deeper understanding of the economic dynamics that shape the bilateral relationship between Germany and Ireland. This approach allows for a nuanced comparison, revealing similarities and differences that define each country's unique economic footprint.



Modern Marvel on North Wall Quay – Overlooking the River Liffey, the Central Bank of Ireland's Dockland Campus in Dublin showcases a striking example of contemporary architecture. This financial district landmark reflects Ireland's innovative spirit and economic resilience, drawing tourists and professionals alike to its dynamic and futuristic facade in the heart of the city.

German Economic Profile

Germany stands as an economic powerhouse with a deeply rooted history in industrial might and innovation. Its GDP ranks among the highest globally, signifying a robust economy that boasts a high standard of living, reflected in its impressive GDP per capita figures. This prosperity, however, is not without challenges; the economy has experienced varied growth rates, reflective of recent economic shifts and the global landscape. Germany's economic framework is characterized by its industrial sector, which forms about one-third of the GDP, underscoring the country's historical emphasis on manufacturing. Yet, the services sector predominates, illustrating a sophisticated, diverse economy capable of adapting to varying global demands.

The moderate inflation rates, though manageable, highlight the broader economic pressures facing Germany, as it navigates the complexities of maintaining price stability while fostering growth. This is compounded by relatively high consumer fuel prices, sug-

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Bull and Bear Sculpture, Frankfurt, Germany

The iconic bull and bear sculpture outside the Frankfurt Stock Exchange represents market dynamics and financial strength. This landmark highlights Germany's pivotal role in global economics and its thriving financial sector, fostering international trade and investment.

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gesting an intricate balancing act between environmental policies and economic pragmatism. Germany's strong credit ratings from major agencies reflect confidence in its economic stability and fiscal management, ensuring it remains a reliable player in international markets. This fiscal health contributes to its allure as a prime destination for foreign investment, although the ease of doing business indicates room for improvements in streamlining business operations and administrative efficiencies.

Germany's trade dynamics are pivotal to its economic narrative. As one of the world's top exporters, the country excels in producing high-value goods and services, which substantially contribute to its GDP. Yet, this dependency on international trade underscores the importance of maintaining strong, stable relationships with global partners. The delicate balance of imports and exports shapes Germany's engagement in global supply chains and economic alliances. Although imports remain significantly lower than exports, this trade surplus aids in bolstering Germany's economic resilience, offering a buffer against external economic shocks.

Strategically situated in Europe, Germany capitalizes on its geographic and economic position to influence both regional and global affairs. Its robust legal framework supports economic activities, although there are noted complexities in business start-up procedures that may deter swift entrepreneurial endeavors. Despite these hurdles, Germany continues to attract a highly skilled labor force, fostering innovation and maintaining its competitive edge in key industries

such as automotive engineering, pharmaceuticals, and technology.

In conclusion, Germany's economic architecture is a testament to its historical commitment to excellence and innovation, shaping its role as a key player on the international stage. Its economic policies and structures pave the way for sustained growth and productive international partnerships that are essential in a rapidly evolving global economy. This powerful economic footprint not only defines Germany's identity but also positions it as a cornerstone of stability and influence in an interconnected world.

Ireland's Economic Pulse

Ireland, a nation of rich historical and cultural fabric, is also woven into the complexities of the modern global economy through its robust economic foundation. The country's economic narrative is underscored by a striking GDP per capita, measured in Purchasing Power Parity (PPP), placing it among the highest globally. This economic indicator tells a story of prosperity that belies its small geographical size, reflecting a dynamic internal economic engine powered by high-value sectors. Despite its modest ranking by overall GDP volume, Ireland's economic structure boasts a high GDP growth rate, cementing its standing as an agile and forward-looking economy that adapts rapidly to global trends.

Central to Ireland's economic success is its sectoral composition, with services and industry dominating the GDP landscape. The services sector, in particular, underlines Ireland's transition from a primarily agrarian economy to a services-oriented one, driven by technology, pharmaceuticals, and financial services. This transformation has facilitated a high degree of international trade, with exports constituting a significantly high percentage of GDP. This export-led growth model binds Ireland intricately to global supply chains and international markets, underpinning its strategic importance and influence within the global economy.



Prof. Robert J. Aumann, Nobel Prize for Economics in 2005 – is recognized, together with Thomas Schelling, for having enhanced our understanding of conflict and cooperation through game-theory analysis. Born at Frankfurt am Main, he left Germany with his family and was schooled in New York. He took his degree at the City College of New York and his doctorate at the Massachusetts Institute of Technology, and he has taught at the Hebrew University of Jerusalem. He holds Israeli and American citizenship.

The country's high ease of doing business ranking further highlights its conducive business environment, characterized by simplified start-up procedures and a respectable legal rights index. These elements not only enhance Ireland's attractiveness for foreign direct investments but also position it as a hub for multinational corporations seeking an entry point into European markets. Despite a relatively higher inflation rate compared to global peers, the overall economic sentiment remains positive, bolstered by strong credit ratings from leading agencies, which reflect confidence in Ireland's economic management and resilience.

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Table 7. *Economic Footprint*

	Germany				Ireland				
Economic Development	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
GDP, PPP (constant 2017 intern'l $, ⇓)	5.2 T	6				41	608 B	2023	ICP
GDP per capita, PPP (constant 2017 intern'l $, ⇓)	61,909	18				3	115,625	2023	ICP
GDP (current US$, ⇓)	4.5 T	3				25	546 B	2023	WB/OECD
GDP per capita (current US$, ⇓)	52,746	21				4	103,685	2023	WB/OECD
GDP growth (annual %, ⇓)	-0.3	169				107	2.5	2024	WB/OECD
GNI growth (annual %, ⇓)	-0.1	133				38	5.6	23/22	WB/OECD
GNI, PPP (constant 2017 intern'l $, ⇓)	5.4 T	6				48	450 B	23/22	ICP
GNI per capita, PPP (constant 2017 intern'l $, ⇓)	64,053	14				5	87,752	23/22	ICP
Credit rating: S&P (tiebreak: GDP p.c., ⇑)	AAA	7				19	AA	22/23	CRTAG
Credit rating: Moody's (tiebreak: GDP p.c., ⇑)	Aaa	12				19	Aa3	2023	CRTAG
Credit rating: Fitch (tiebreak: GDP p.c., ⇑)	AAA	8				15	AA	22/24	CRTAG
Inflation & Prices									
Inflation, consumer prices (annual %, ⇓)	7.6	83				106	6.3	2023	IMF2
Pump price for gasoline (US$ per liter, ⇓)	2.0	16				26	1.8	2023	GIZ
Pump price for diesel fuel (US$ per liter, ⇓)	1.8	16				23	1.7	2023	GIZ
PPP conversion factor ratio (GDP) to market exch. rate (⇑)	0.7607	27				23	0.8124	2023	ICP
Private consumption PPP factor (LCU per intern'l $, ⇓)	0.7	164				148	1.0	2023	ICP
GDP Composition by Origin									
Agriculture (% of GDP, ⇓)	0.7	183				174	1.2	2017	WFB
Industry (% of GDP, ⇓)	30.7	68				34	38.6	2017	WFB
Services (% of GDP, ⇓)	68.6	55				98	60.2	2017	WFB
GDP Composition by End Use									
Government consumption (% of GDP, ⇓)	19.5	57				162	10.1	2017	WFB
Household consumption (% of GDP, ⇓)	53.1	138				177	34.0	2017	WFB
Investment in fixed capital (% of GDP, ⇓)	20.4	113				71	23.4	2017	WFB
Investment in inventories (% of GDP, ⇓)	-0.5	164				60	1.2	2017	WFB
Exports of goods and services (% of GDP, ⇓)	47.3	57				5	119.9	2017	WFB
Imports of goods and services (% of GDP, ⇓)	-39.7	77				181	-89.7	2017	WFB
Business Environment									
Ease of doing business rank (1=most business-friendly, ⇑)	22	20				22	24	2019	WB02
Time required to start a business (days, ⇑)	8	50				80	11	2019	WB02
Start-up procedures to register a business (number, ⇑)	9	142				7	3	2019	WB02
Strength of legal rights index (0=weak to 12=strong, ⇓)	6	70				54	7	2019	WB02

Note: In the tables throughout this book, the majority of values are ranked in descending order (highest to lowest). However, due to their inherent characteristics, certain metrics such as credit ratings, PPP conversion ratio, ease of doing business, time required to start a business, and start-up procedures to register a business are presented in ascending order. For easy identification, the symbol "⇓" marks descending order, while "⇑" indicates ascending order. In the trend bars, the final bar on the right provides a comparison of the most recent data against the two prior years.

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Ireland's competitiveness on the global stage is accentuated by its competitive pricing strategies, particularly in fuel markets, where pump prices, albeit high on a global scale, remain adequately aligned with its industrial demands. This economic resilience and adaptability in navigating global energy markets are key to sustaining its industrial growth, especially given the high logistical integration required for an export-heavy economy. Furthermore, Ireland's commitment to investment in fixed capital, reflective of its focus on infrastructure and technological advancements, positions it favorably for future growth.

Yet, perhaps the most intriguing aspect of Ireland's economic footprint is its agility and relentless pursuit of innovation, which continually reshapes its economic landscape. This trait ensures that Ireland maintains a pivotal role in international partnerships, leveraging its strengths to not only advance its domestic prosperity but also to influence broader economic synergies across borders. As Ireland navigates its path in this interconnected world, its distinctive economic features, shaped by a rich history of industrial advancement and strategic foresight, continue to underline its identity as a small yet impactful player on the grand economic stage. Ireland's economic evolution not only enhances its national wealth but also fosters deeper bilateral relations, reinforcing its role as a critical junction in global economic networks.

German & Irish Economic Harmony

When comparing Germany and Ireland within the scope of economic footprints, we observe a range of commonalities. Among the various indicators analyzed for both nations, the closest alignment is seen in business ease, PPP ratio, and diesel price. Conversely, the most significant divergences appear in GDP growth, startup steps, and government spending.

With economic insight, Germany and Ireland reflect a 70% similarity, transcending global averages. Among Germany-like countries, Finland is the first, as for Ireland is Singapore. As illustrated in the final chart of this section, Ireland ranks twenty-seventh in Germany's standings, while Germany holds twenty-second position in Ireland's rankings.

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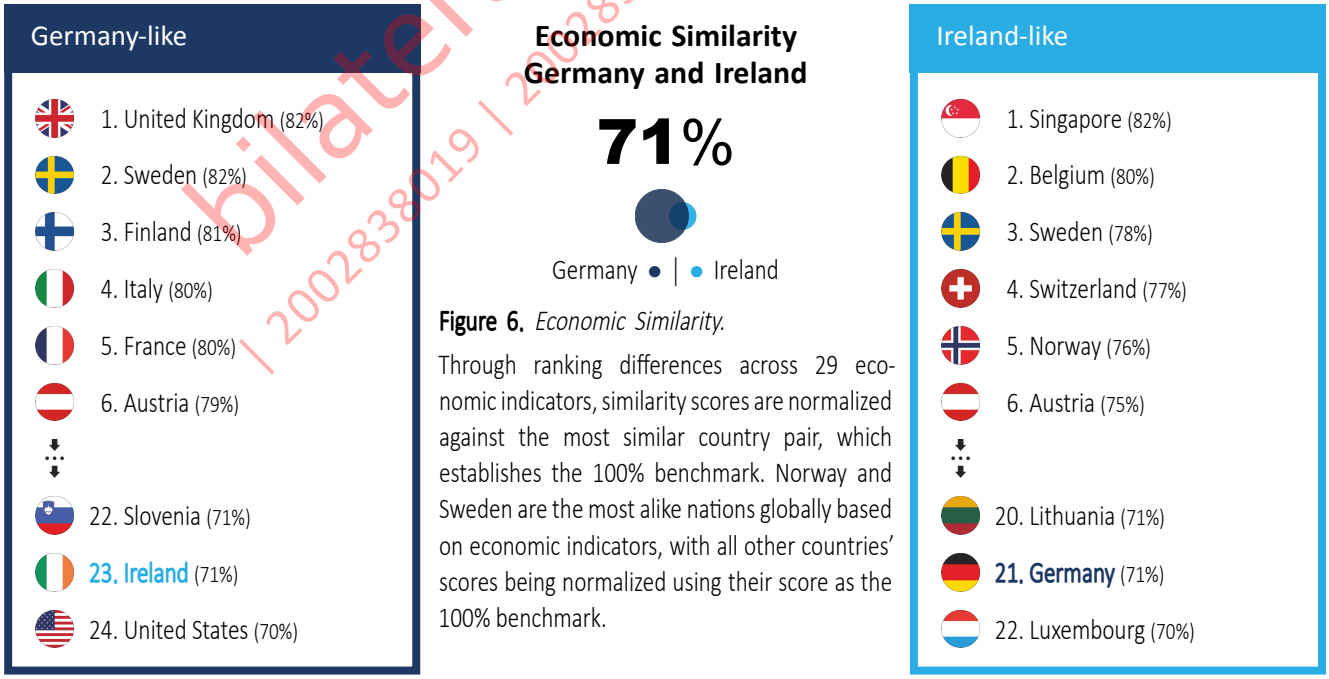
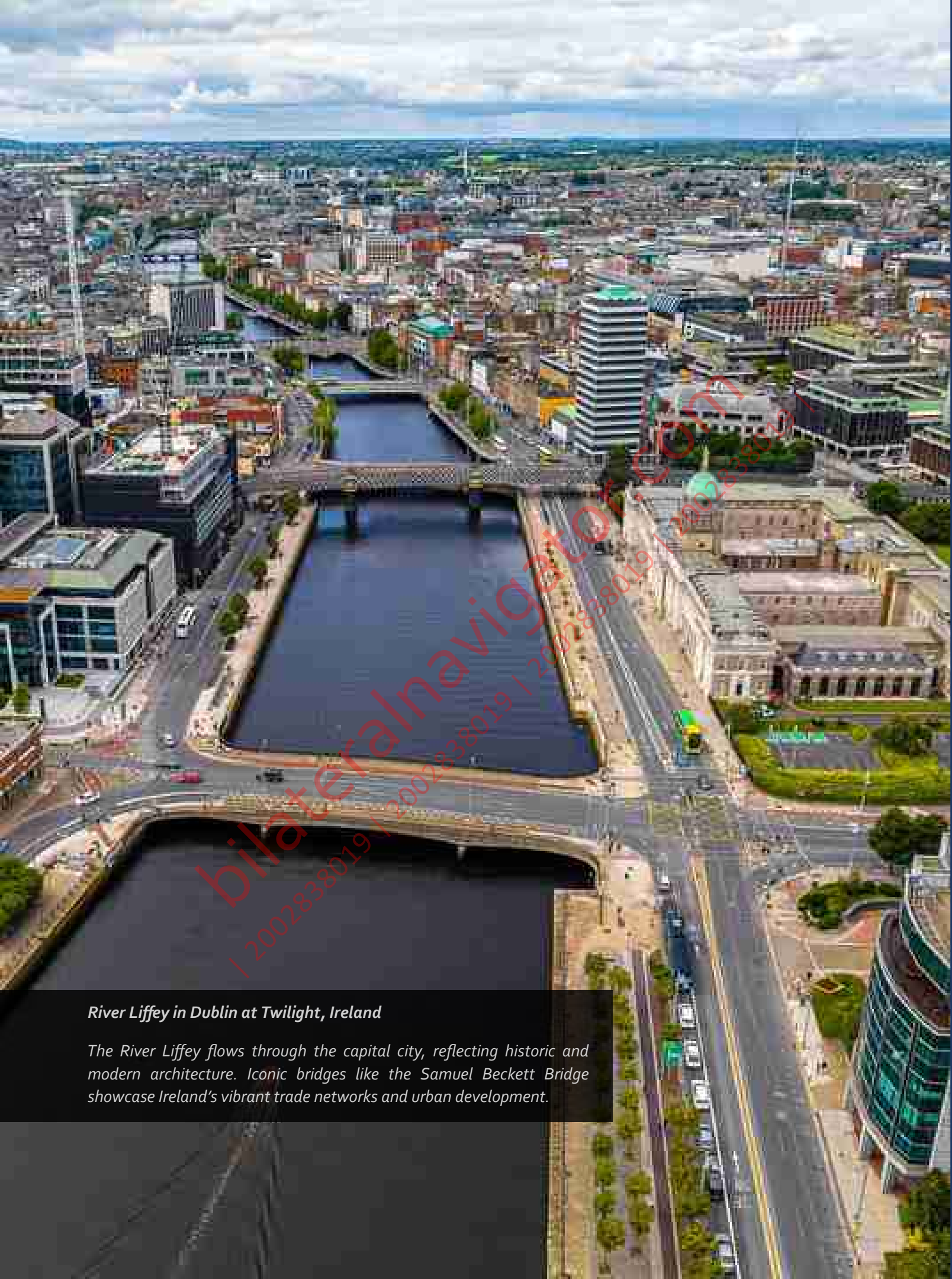


Figure 6. *Economic Similarity.*

Through ranking differences across 29 economic indicators, similarity scores are normalized against the most similar country pair, which establishes the 100% benchmark. Norway and Sweden are the most alike nations globally based on economic indicators, with all other countries' scores being normalized using their score as the 100% benchmark.



River Liffey in Dublin at Twilight, Ireland

The River Liffey flows through the capital city, reflecting historic and modern architecture. Iconic bridges like the Samuel Beckett Bridge showcase Ireland's vibrant trade networks and urban development.

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Trade Networks

Trade networks form the backbone of economic interactions between countries, shaping their economic landscapes and bilateral relationships. This section delves into various trade indicators to highlight the unique trade profiles of Germany and Ireland, providing a comprehensive comparison.

Key indicators include the balance of payments metrics such as current account balance, net financial account, and net primary income. These indicators reflect the economic transactions and financial health of a country, showing its trade surplus or deficit and the flow of capital.

Exports and imports data offer insights into the scale and composition of trade activities. The value and percentage of exports and imports of goods and services, along with specific categories like high-technology, food, and fuel exports and imports, illustrate the trade specialization and economic dependencies of each country. Service trade, including ICT service exports, reveals the role of the service sector in the economy.

The trade indicators are split into two tables. The first table lists the indicators mentioned above, while the second table presents the top markets (third countries) where Germany and Ireland export their goods and services and the countries from which they import. This structure provides a clear view of both countries' trade partners and the extent of their global trade networks.

Data for these indicators are sourced from reputable institutions like the International Monetary Fund (IMF), the World Bank, and the United Nations Comtrade database, ensuring accuracy and reliability. These sources provide detailed and standardized data, facilitating meaningful comparisons between countries.



Hamburg's Dynamic Elbe Port – Standing as a testament to Germany's robust trade networks, the Hamburg Elbe container port buzzes with activity. This sprawling harbor, adorned with towering cranes and colossal freighters, orchestrates a global ballet of imports and exports, symbolizing the nation's pivotal role in international commerce and economic synergy.



Port of Cork: Gateway to Economic Opportunity – Nestled in Cork City, this vibrant maritime hub is pivotal to Ireland's economic landscape. With its strategic location and expanding infrastructure, the Port of Cork is poised to become a cornerstone for commercial growth, fostering increased trade, tourism, and industrial development in the region.

By examining these trade indicators, we gain a deeper understanding of the trade dynamics that shape the economic relationship between the two countries. This comprehensive approach allows for a nuanced comparison, revealing both similarities and differences that define the unique trade networks of each country.

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Table 8. *International Trade Indicators.*

	Germany				Ireland				
Exports & Imports	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Exports of goods and services (BoP, current US$, ⇓)	2.1 T	3				12	732 B	2023	IMF
Exports of goods and services (% of GDP, ⇓)	47.1	63				6	134.1	2023	WB/OECD
Goods exports (% of exports, ⇓)	80.7	86				154	48.8	2021	IMF
High-technology exports (% of manufactured exports, ⇓)	17.9	37				5	47.8	2023	COMTR
Food exports (% of merchandise exports, ⇓)	6.0	147				133	8.5	2023	WB010
Fuel exports (% of merchandise exports, ⇓)	2.1	110				139	0.5	2023	WB010
Service exports (% of exports, ⇓)	19.3	100				32	51.2	2021	IMF
ICT service exports (% of service exports, ⇓)	10.6	74				1	58.9	2021	IMF
Imports of goods and services (current US$, ⇓)	1.9 T	3				17	549 B	2023	WB/OECD
Imports of goods and services (% of GDP, ⇓)	43.0	94				9	100.6	2023	WB/OECD
Goods imports (% of imports, ⇓)	78.2	92				170	27.6	2021	IMF
Food imports (% of merchandise imports, ⇓)	8.3	161				157	8.6	2023	WB010
Fuel imports (% of merchandise imports, ⇓)	8.6	147				155	7.2	2023	WB010
Service imports (% of imports, ⇓)	21.7	79				3	72.0	2021	IMF
Non-commercial service exports (current US$, ⇓)	5.9 B	2				30	426 M	2021	IMF
Non-commercial service imports (current US$, ⇓)	1.7 B	9				81	63 M	2021	IMF
Trade Exchange (10-year average, 2010-2019)									
Exports (current US$, ⇓): **DE → IE | IE → DE**	3.6 B	34				182	6.9 B	2019	WITS
Exports (% of exports, ⇓): **DE → IE | IE → DE**	0.537	34				182	1.225	2019	WITS
Balance of Payments									
Current account balance (% of GDP, ⇓)	6.2	27				20	9.9	2023	IMF7
Current account balance (BoP, current US$, ⇓)	279 B	1				9	54 B	2023	IMF
Net financial account (BoP, current US$, ⇓)	258 B	1				14	33 B	2023	IMF
Net primary income (BoP, current US$, ⇓)	155 B	2				185	-124 B	2023	IMF

Note: Global rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows. The trend bars, on the other hand, highlight the latest data by positioning it as the rightmost bar, compared to the two previous years.

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Germany's Trade Flows

Germany, positioned among the world's leading economic powerhouses, is intricately woven into the tapestry of global trade. A significant contributor to international commerce, Germany's export-driven economy thrives on an impressive variety of goods and services, contributing nearly half of its GDP—an indication of how deeply embedded it is in global market networks. It is a hub for manufacturing, where a substantial portion of its exports is comprised of goods, underscoring the country's industrial prowess. Meanwhile, Germany's strength in technology is evident, with high-tech exports forming a considerable share of its manufactured goods, showcasing its role as an innovator on the global stage.

This industrial dynamism is mirrored in Germany's import patterns, reflecting a balanced approach to trade; while the country imports goods and services almost equivalent to its exports in value, a notable portion is dedicated to high-value goods—critical for maintaining its manufacturing sector's competitive edge. An interesting aspect of Germany's trade profile is the modest contribution of food and fuel, both in imports and exports, highlighting a focus on sectors that prioritize high-skill and technology-intensive components. This emphasis propels Germany's stature, from a mere trading entity to a central node in the global supply chain.

Trade agreements play a crucial role in sustaining Germany's economic momentum, granting the country extensive market access and enabling it to foster strategic relationships across regions. As a member of various global and regional trade pacts, including the European Union, Germany seamlessly navigates trade barriers, making it a preferred partner for countries looking to engage with Europe. This ability to maintain amicable and robust trade relationships is a hallmark of Germany's economic diplomacy, enhancing its global influence beyond pure economic transactions.

Central to Germany's commercial relationships is its connection with European neighbors, notably France and Austria, which together account for a significant portion of Germany's export market. However, the ties extend far beyond Europe—as evidenced by its considerable trade with China, where mutual dependencies in industries like automotive and electronics shape a complex interplay of competition and collaboration. Meanwhile, Germany's engagement with emerging economies also hints at its strategic foresight, preparing for future growth avenues.

In the grander scheme of international commerce, Germany's distinctive trade characteristics define its identity as a global leader. The country's ability to leverage trade not merely for economic gain, but also as a tool of influence and partnership cements its role as a key player in the international arena. As Germany continues to evolve within this complex landscape, its commitment to innovation and strategic alliances will undoubtedly shape its path forward, enhancing its legacy and redefining the intricacies of global economic partnerships.



Frankfurt Skyline Overlooking Main River, Germany – The city's skyline features modern skyscrapers and financial institutions along the Main River. As a major European financial hub, Frankfurt combines contemporary architecture with historic landmarks, reflecting Germany's economic strength and global trade connections. A dynamic center for business and innovation.

Who Trades with Ireland?

Ireland stands as a beacon of economic synergy, carving a distinctive niche in the global marketplace. Its outward-looking trade policy has positioned it as a critical player in international commerce, with a vibrant export sector that showcases a diverse array of goods and services. The sheer volume of Ireland's exports, encompassing high-technology and ICT services, underscores its strategic importance in the global supply chain. By channeling a significant percentage of its exports into high-tech products, Ireland not only capitalizes on market specialization but also cements its status as a hub for innovation and technology. The resulting balance of payments reflects a thriving surplus, reinforcing Ireland's robust economic foundation.

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Table 9. *International Trade by Main Export and Import Partners.*

	Germany				Ireland				
Main Export Partners	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
to Austria (% of exports, ⇓)	4.7	7				25	0.4	2019	WITS
to Belgium (% of exports, ⇓)	4.3	8				2	12.0	2019	WITS
to China (% of exports, ⇓)	6.6	3				9	3.0	2019	WITS
to France (% of exports, ⇓)	8.8	1				6	4.6	2019	WITS
to Germany (% of exports, ⇓)						4	8.9	2019	WITS
to Italy (% of exports, ⇓)	5.4	6				10	2.7	2019	WITS
to Japan (% of exports, ⇓)	1.7	17				8	3.3	2019	WITS
to Netherlands (% of exports, ⇓)	6.1	5				7	3.5	2019	WITS
to Poland (% of exports, ⇓)	4.2	10				15	0.9	2019	WITS
to Switzerland (% of exports, ⇓)	4.3	9				5	4.7	2019	WITS
to United Kingdom (% of exports, ⇓)	6.6	4				3	11.8	2019	WITS
to United States (% of exports, ⇓)	8.6	2				1	25.7	2019	WITS
Main Import Partners									
from Belgium (% of imports, ⇓)	6.3	4				7	2.8	2019	WITS
from China (% of imports, ⇓)	9.6	1				5	5.0	2019	WITS
from Czechia (% of imports, ⇓)	4.7	8				17	0.8	2019	WITS
from France (% of imports, ⇓)	6.6	3				3	10.4	2019	WITS
from Germany (% of imports, ⇓)						4	9.2	2019	WITS
from Italy (% of imports, ⇓)	5.5	6				8	2.1	2019	WITS
from Japan (% of imports, ⇓)	2.4	14				9	1.7	2019	WITS
from Netherlands (% of imports, ⇓)	8.3	2				6	4.3	2019	WITS
from Poland (% of imports, ⇓)	4.8	7				14	0.9	2019	WITS
from Spain (% of imports, ⇓)	2.7	12				10	1.6	2019	WITS
from Switzerland (% of imports, ⇓)	4.3	9				11	1.4	2019	WITS
from United Kingdom (% of imports, ⇓)	4.1	10				1	30.4	2019	WITS
from United States (% of imports, ⇓)	5.9	5				2	15.2	2019	WITS

Note: All values in this table represent percentages of total exports/imports. Despite the pre-pandemic data, this remains the only publicly available source for all countries. The share of main partners is unlikely to significantly shift over a few years. Rankings in this table are displayed in descending order, as indicated by the symbol '⇓', and range from the highest to the lowest value within each country (unlike other tables, these are NOT global rankings). In instances where multiple countries have identical values for their imports/exports from/to other countries, GDP per capita is used as a tiebreaker.

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Import patterns into Ireland further demonstrate a well-rounded trade infrastructure. With a notable reliance on service imports, Ireland remains an open and dynamic economy, leveraging global connections to fuel domestic consumption. This strong orientation towards service imports complements its export prowess, ensuring a fluid and symbiotic economic ecosystem. The country's ability to adeptly balance its imports and exports results in a healthy current account surplus, allowing Ireland to maintain a competitive edge and foster strategic partnerships on an international scale.

Ireland's trade network extends across continents, with Belgium, Germany, and France emerging as pivotal partners, reflecting both historical ties and modern-day strategic alignments. These partnerships are not merely transactional; they exemplify deeper economic diplomatic efforts and shared interests, promoting Ireland's influence in regional and global policymaking.

The interplay between bilateral and regional trade agreements enhances market access for Irish goods and services, securing Ireland's place within the fabric of European and worldwide commerce.

Distinctive among its trade features, Ireland's dominance in exporting ICT services is unparalleled, setting the country apart as a global leader. This specialization in high-tech services not only drives economic growth but also strengthens Ireland's brand, attracting continued foreign investment. Meanwhile, Ireland's trade advantages in the technology and services sectors ensure that it remains agile and responsive to ever-evolving global demands. Such economic agility is crucial as nations navigate the complexities of post-pandemic recovery and shifting geopolitical landscapes.

Ultimately, Ireland exemplifies how strategic geographic and economic positioning can amplify a nation's influence. Through its adept management of trade relations, Ireland has cultivated an economic identity that harmonizes growth with stability. As a microcosm of global trade interconnectivity, this small island nation continues to punch above its weight, playing a significant role in the global marketplace and shaping international trade dynamics. In doing so, Ireland not only secures its economic future but also contributes to the evolving tapestry of international relations.

Markets Dialogue Between Germany & Ireland

In the context of trade networks, a comparison between Germany and Ireland reveals a range of areas of similarity. Of the indicators shared by both nations, they are most aligned in imports from France, exports to the United States, and United Kingdom, while their greatest differences are evident in primary income, exports average, and export share avg.

In terms of trade similarity, Germany and Ireland enjoy a 68% congruence, outmatching several international counterparts. In a global comparison, Germany's best match is found in Liechtenstein, just as Ireland's is in the United Kingdom. As the final chart in this section shows, Ireland holds twenty-ninth position in Germany's ranking, and Germany ranks ninth on Ireland's list.

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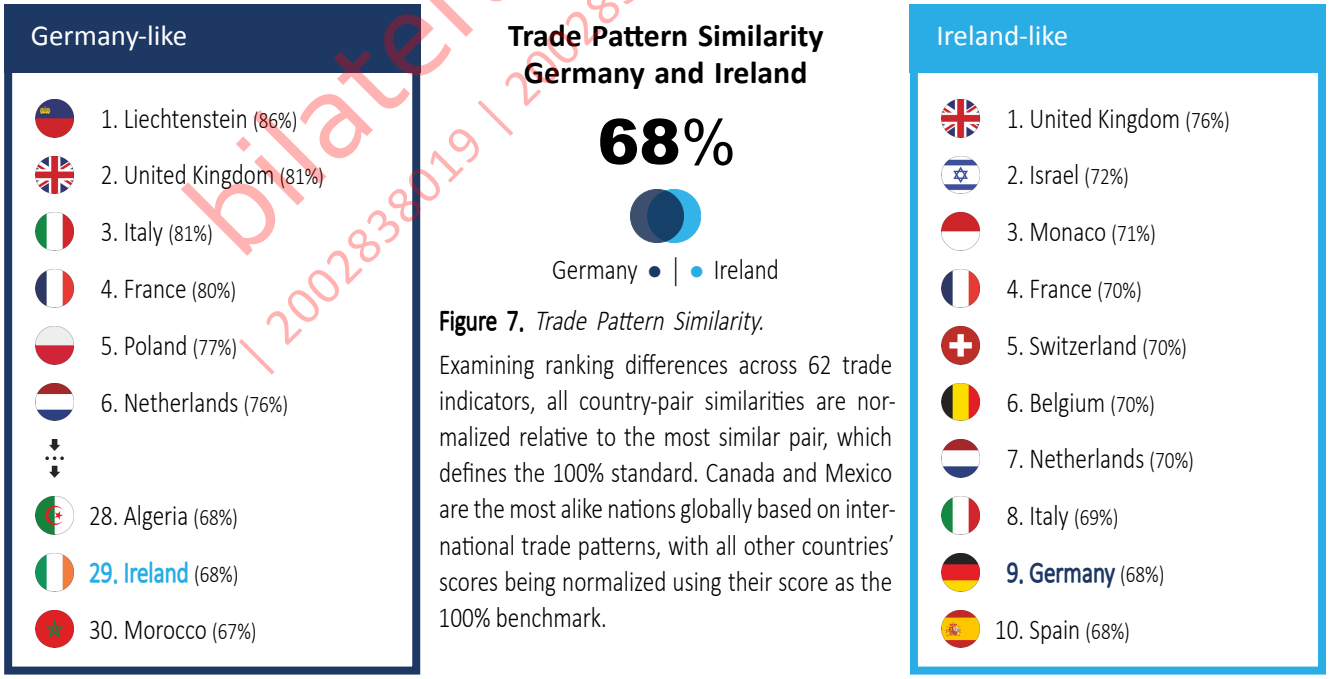


Figure 7. *Trade Pattern Similarity.*

Examining ranking differences across 62 trade indicators, all country-pair similarities are normalized relative to the most similar pair, which defines the 100% standard. Canada and Mexico are the most alike nations globally based on international trade patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

Finance & Investment

Finance and investment indicators are critical for understanding the economic health and potential of countries. This section explores various financial metrics to highlight the unique financial landscapes of Germany and Ireland, facilitating a comprehensive comparison.

Key indicators related to external debt include total external debt stocks, debt as a percentage of GNI, present value of external debt, short-term debt, use of IMF credit, and loans from the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA). These metrics provide insights into a country's debt burden and its reliance on international financial institutions.

Foreign direct investment (FDI) and personal remittances are also important indicators. FDI net inflows and outflows reflect the level of cross-border investments, indicating the attractiveness and integration of an economy into the global market. Personal remittances, both received and paid, highlight the flow of money sent by migrants, which can significantly impact the domestic economy.

Financial inclusion indicators, such as account ownership at banks or mobile money providers and domestic credit to the private sector, shed light on the accessibility of financial services. These measures are crucial for understanding how financial resources are distributed among the population and businesses.

Monetary policy indicators, including total reserves, official exchange rates, real effective exchange rates, and interest rates (deposit, lending, and real interest rates), reflect the stability and effectiveness of a country's monetary policy. These metrics help assess how well a country manages its currency and controls inflation.

Stock market indicators, such as the number of listed domestic companies, the total value of stocks traded, and market capitalization, provide insights into the development and dynamism of the capital markets. The S&P Global Equity Indices offer a measure of the performance of stock markets, indicating investor confidence and economic growth potential.

Data for these indicators are sourced from reputable institutions like the World Bank, International Monetary Fund (IMF), Global Findex Database, and World Federation of Exchanges, ensuring accuracy and reliability. These sources provide detailed and standardized data, facilitating meaningful comparisons between countries.

By examining these finance and investment indicators, we gain a deeper understanding of the financial dynamics that shape the economic relationship between Germany and Ireland. This comprehensive approach allows for a nuanced comparison, revealing both similarities and differences that define the unique financial and investment landscape of both countries.

Germany's Investment Space

Germany's financial landscape stands as a paragon of economic stability and sophistication within the global arena. At the heart of this robustness is an impeccable financial inclusion rate, with nearly universal account ownership, reflecting the country's commitment to equitably integrating all societal segments into its financial system. This inclusive infrastructure underpins a formidable banking sector that not only enables but

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also emboldens private sector credit, even though its proportion of GDP appears more modest compared to some global peers. This system of wide-ranging access creates a fertile ground for domestic and international collaborations, fostering an environment conducive to both inward and outward capital flows.

Across the spectrum of market dynamics, Germany displays a unique duality. Its stock market, though not characterized by explosive growth in terms of market capitalization relative to GDP, commands substantial total market value, demonstrating depth and maturity that attracts a diverse array of investors. The steady volume of stocks traded further accentuates a well-regulated and efficient trading environment, a feature that resonates with investors seeking both reliability and transparency. This centrality in the equities market not only reflects domestic economic activities but also reverberates globally, influencing cross-border investment strategies.

Foreign direct investment (FDI) further delineates Germany's pivotal economic narrative. Despite modest FDI inflows relative to its GDP, the country's substantial net outflows underscore its role as a pivotal capital exporter on the global stage. This dynamism positions Germany as a conduit for global economic activities, where local enterprises extend their reach internationally, weaving a complex web of economic interdependencies. Such investment patterns reveal Germany's strategic positioning as not merely a recipient but a proactive player influencing international financial currents, shaping bilateral relations with a plethora of nations.

A distinctive characteristic of Germany's financial ecosystem is its adept management of exchange rates and reserve accumulation, pivotal in mitigating economic volatility. While its official exchange rate and real effective exchange rate have seen subtle shifts, these reflect strategic adaptations to global market conditions rather than volatility-induced compulsions. This stability accentuates Germany's economic resilience, enhancing its attractiveness as a reliable destination for international capital. Consequently, the constant refinement of these fiscal tools underpin robust economic relations, extending beyond immediate geographical confines to influence European and global markets.

From investment incentives to market opportunities and financial innovation, Germany's financial narrative is one of strategic foresight and disciplined execution. The country's substantial capacity for personal capital movement, whether through remittances or investments, indicates a vibrant connectivity with the global economy, facilitating a dynamic interchange of funds that benefits both domestic development and international ties. Through precise economic stewardship and a forward-thinking financial landscape, Germany not only secures its economic future but also fortifies its international relationships, establishing itself as a linchpin of economic synergy on the world stage.

What Attracts Capital to Ireland?

In the realm of finance and investment, Ireland presents a dynamic landscape that reflects both its historical roots and modern innovations. Its adept blend of traditional banking with cutting-edge financial services illustrates a dual approach that has become a hallmark of its economic evolution. This strategic positioning enables Ireland to support wide financial inclusion, with nearly universal account ownership across different income levels, underscoring the country's commitment to inclusivity as a pillar of its economic framework. While the domestic credit to private sector remains relatively modest, reflecting a conservative

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Table 10. *Finance & Investments Indicators.*

	Germany				Ireland				
Financial Inclusion	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Account ownership at bank/mobile provider (% age 15+, ⇓)	100.0	3				8	99.7	2021	GFIDX
Account ownership of poorest 40% (% of age 15+, ⇓)	99.9	4				10	99.3	2021	GFIDX
Account ownership of richest 60% (% of age 15+, ⇓)	100.0	6				12	99.9	2021	GFIDX
Domestic credit to private sector (% of GDP, ⇓)	83.4	32				122	26.2	22/23	IMF3
Monetary Policies									
Total reserves (includes gold, current US$, ⇓)	323 B	11				72	13 B	2023	IMF2
Official exchange rate (LCU per US$, period average, ⇓)	1.8	158				182	0.7	1998	IMF9
Real effective exchange rate index (2010 = 100, ⇓)	97.1	59				77	88.9	2023	IMF9
Stock Market									
Listed domestic companies, total	429	19				72	43	22/18	WFEXD
Stocks traded, total value (current US$, ⇓)	1.3 T	9				40	32 B	22/18	WFEXD
Stocks traded, total value (% of GDP, ⇓)	31.7	22				40	8.3	22/18	WFEXD
Market capitalization of listed domestic com. (% of GDP, ⇓)	46.3	38				50	28.6	22/18	WFEXD
Market capitalization of listed domestic com. (current US$, ⇓)	1.9 T	9				39	110 B	22/18	WFEXD
S&P Global Equity Indices (annual % change, ⇓)	-12.3	39				66	-26.8	2022	SNP
FDI & Personal remittances									
Foreign direct investment, net inflows (BoP, current US$, ⇓)	16 B	21				187	-125 B	2023	IMF6
Foreign direct investment, net inflows (% of GDP, ⇓)	0.4	148				182	-22.9	2023	IMF12
Foreign direct investment, net outflows (BoP, current US$, ⇓)	80 B	5				182	-123 B	2023	IMF6
Foreign direct investment, net outflows (% of GDP, ⇓)	1.8	29				179	-22.6	2023	IMF6
Personal remittances, received (current US$, ⇓)	20 B	10				118	424 M	2023	WB/IMF
Personal remittances, received (% of GDP, ⇓)	0.5	137				168	0.1	2023	WB/IMF1
Personal remittances, paid (current US$, ⇓)	24 B	4				34	2.3 B	2023	WB/IMF
Personal remittances, paid (% of GDP, ⇓)	0.4	124				165	0.1	2021	WB/IMF

Note: Global rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows. The trend bars, on the other hand, highlight the latest data by positioning it as the rightmost bar, compared to the two previous years.

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lending approach, the robust total reserves provide a cushion, ensuring stability in times of economic fluctuations.

Ireland's stock market activity further accentuates its role as a significant player on the global stage. A sizeable market capitalization relative to GDP indicates a deep, liquid market that attracts investors seeking diversified opportunities. The vibrant trading activity, evidenced by the substantial total value of stocks traded, positions Ireland as an attractive destination for international capital. Despite a recent downturn in the S&P Global Equity Indices, the country's ability to navigate challenges highlights its resilience and ongoing appeal for global investors.

Foreign direct investment (FDI) patterns depict an intriguing story of Ireland's economic interconnectivity. The net outflows of FDI could be perceived as a testament to the country's global business footprint, as its firms actively engage and invest internationally. Conversely, the more subdued net inflows suggest a

strategic redirection of domestic economic priorities, potentially focusing on fostering local innovation and industries. This strategic recalibration could position Ireland as a hub of financial innovation, leveraging its knowledge-intensive sectors to attract long-term investments.

Monetary policy also plays a pivotal role in shaping Ireland's economic identity. A favorable exchange rate environment bolsters competitiveness, aiding in maintaining a positive trade balance. Yet, the real effective exchange rate index reveals underlying complexities, suggesting shifts in competitive advantage that require continuous adjustment and policy fine-tuning. Ireland's adherence to prudent fiscal strategies positions it well to adapt to such transitions, reinforcing its status as a reliable economic partner.

In summary, Ireland's financial landscape is marked by a harmonious blend of stability and innovation, shaping its role as a key player in the global economic arena. Its strategic financial policies, inclusive banking services, and proactive investment climate contribute to a robust framework that not only fosters domestic growth but also attracts international partnerships. As Ireland continues to develop its financial ecosystem, it remains poised to influence and contribute to the intricate tapestry of international economic relationships.

Investment Patterns Paralleled

Analyzing the German and Irish approaches within finance & investment, we find a range of areas of overlap. The closest matches across the indicators for both countries are seen in FDI out share, bank account share, and poor bank access, whereas the greatest disparities exist in FDI inflows, remit received, and private credit.

Financially, Germany and Ireland carry a 70% similarity, surpassing common expectations. France closely matches the German profile, while Finland emerge as the equivalent for Ireland. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is twenty-third, while the German position is the third in Irish listings.

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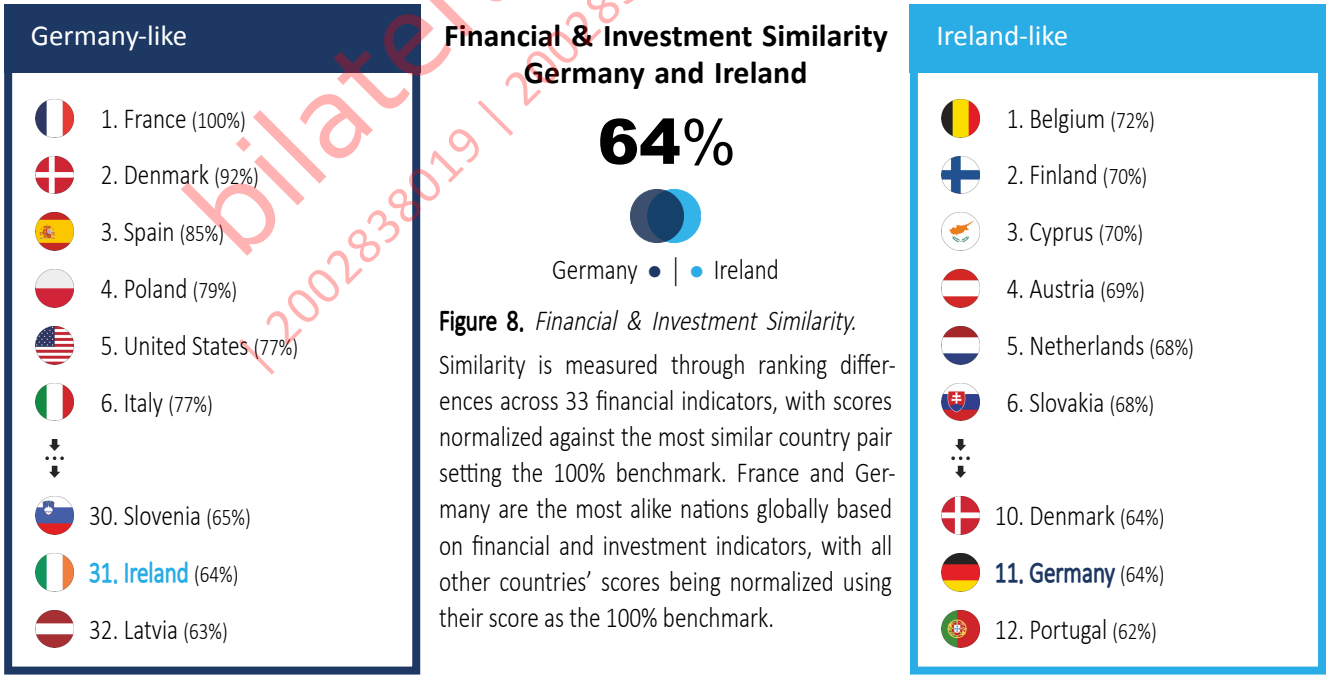


Figure 8. *Financial & Investment Similarity.*
Similarity is measured through ranking differences across 33 financial indicators, with scores normalized against the most similar country pair setting the 100% benchmark. France and Germany are the most alike nations globally based on financial and investment indicators, with all other countries' scores being normalized using their score as the 100% benchmark.



St Colman's Cathedral Overlooking Cork Harbour, Ireland

a Roman Catholic landmark, overlooks the scenic Cork Harbour. Built in 1868, it is surrounded by colorful Deck of Cards houses. The cathedral symbolizes Ireland's deep-rooted religious traditions and architectural grandeur, contributing to its cultural identity.

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International Tourism

International tourism is another vital component of economic and cultural exchanges between countries. This section analyzes tourism between Germany and Ireland to understand how it strengthens diplomatic and economic ties.

Key indicators include hotel amenities like free Wi-Fi, parking, air conditioning, and recreational facilities, which enhance tourists' experiences. Hotel reviews and ratings from TripAdvisor™ gauge customer satisfaction and the appeal of the hospitality sector. Metrics on the number of hotels, price per night, and star ratings provide a detailed view of the accommodation market.

International tourism performance indicators, such as tourist arrivals, receipts, and expenditure, measure the economic impact of foreign visitors. Tourist departures and expenditure abroad indicate residents' travel patterns, offering a balanced view of the tourism market.

Data from the World Tourism Organization (UNWTO) and TripAdvisor™ ensure accuracy and comprehensiveness, enabling reliable comparisons between countries.

By analyzing these tourism indicators, we gain a comprehensive understanding of the tourism dynamics between Germany and Ireland, identifying unique attributes, economic impacts, and potential areas for enhancing bilateral tourism relations.

Discovering Germany?

Germany's tourism landscape is a harmonious blend of rich cultural heritage, modern infrastructure, and diverse attractions that position it as a pivotal destination in the global travel arena. With its wealth of historical landmarks, including the iconic Berlin Wall and Neuschwanstein Castle, each year Germany draws millions of foreign visitors eager to explore its storied past. Despite a recent decline in international arrivals, the country remains a formidable force in tourism, driven by substantial tourist expenditure and a reputation for quality experiences. Germany's tourism sector not only enriches its economy through direct spending but also enhances its cultural diplomacy on the world stage, fostering connections that extend beyond the borders of travel and tourism.

Germany's tourism assets are robust, comprising a vast array of accommodations that cater to varied traveler preferences. With an extensive network of hotels, the majority offering four-star quality reflected in guest reviews, the country caters adeptly to both leisure and business travelers. For the adventure seekers, reliable business hotels and the availability of sustainable options like bicycle rentals and electric vehicle charging stations underscore Germany's commitment to broadening its appeal. These offerings make Germany a multifaceted destination, fostering deeper ties with domestic and international visitors and highlighting its role as a leader in sustainable tourism practices.

The country's tourism sector also contributes significantly to its international visibility, supported by its dynamic hotel industry known for its modern amenities such as free Wi-Fi, fitness centers, and conference facilities. Germany's strategic emphasis on connectivity and convenience attracts business tourists, underpinning its status as a key player in the international market. The wide availability of pet-friendly accommodations reflects the country's progressive approach to hospitality, appealing to a growing demographic of travelers who seek inclusive experiences. This adaptability not only attracts visitors of varying backgrounds

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Table 11. *International Tourism Indicators.*

	Germany				Ireland				
International Tourism	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Tourist arrivals (number of foreign visitors, ⇓)	10 M	11						2021	UNWTO
Tourist receipts (current US$, ⇓)	22 B	8				43	2.7 B	2021	UNWTO
Tourist receipts per arrival (current US$, ⇓)	2,155	38						2021	UNWTO
Tourism receipts as a share in exports (%, ⇓)	1.1	135				137	1.0	2021	UNWTO
Tourist departures (number of travelers to other countries, ⇓)	100 M	1				36	2.3 M	19/20	UNWTO
Tourist expenditure (travelers, current US$, ⇓)	51 B	3				42	2.6 B	2021	UNWTO
Tourist expenditure per departure (current US$, ⇓)	937	58				49	1,111	19/20	UNWTO
Hotels									
Total number of hotels on TripAdvisor™ (⇓)	6,308	11				39	3,011	2023	TRADV
Minimum hotels price per night (current US$, ⇓)	60	35				10	87	2023	TRADV
5 star hotels (% of hotels, ⇓)	8.0	77				116	4.4	2023	TRADV
4 star hotels (% of hotels, ⇓)	54.5	8				27	44.3	2023	TRADV
3 star hotels (% of hotels, ⇓)	35.5	142				113	44.6	2023	TRADV
2 star hotels (% of hotels, ⇓)	1.9	157				126	6.8	2023	TRADV
Hotel Reviews & Ratings									
Total number of hotel reviews on TripAdvisor™ (⇓)	1.4 M	12				17	1.3 M	2023	TRADV
Number of hotel reviews per hotel (⇓)	230	40				8	439	2023	TRADV
Hotels Style									
Family-friendly (% of hotels, ⇓)	26.3	58				89	24.2	2023	TRADV
Mid-range (% of hotels, ⇓)	25.0	94				53	28.5	2023	TRADV
Romantic (% of hotels, ⇓)	12.5	118				61	17.1	2023	TRADV
Budget (% of hotels, ⇓)	6.7	155				159	6.0	2023	TRADV
Business (% of hotels, ⇓)	17.8	27				43	13.6	2023	TRADV
Modern (% of hotels, ⇓)	8.0	31				34	7.6	2023	TRADV
Luxury (% of hotels, ⇓)	3.6	108				132	2.9	2023	TRADV
Amenities									
Pet friendly (% of hotels, ⇓)	29.0	1				48	15.2	2023	TRADV
Bridal Suite (% of hotels, ⇓)	4.8	17				11	13.2	2023	TRADV
Horseback Riding (% of hotels, ⇓)	2.7	17				2	13.1	2023	TRADV
Golf course (% of hotels, ⇓)	4.4	5				10	6.7	2023	TRADV
Canoeing (% of hotels, ⇓)	1.2	35				15	4.9	2023	TRADV
Electric vehicle charging station (% of hotels, ⇓)	7.0	3				28	2.3	2023	TRADV
Mini Golf (% of hotels, ⇓)	2.7	4				18	2.3	2023	TRADV
Windsurfing (% of hotels, ⇓)	1.1	14				4	3.8	2023	TRADV
Bowling (% of hotels, ⇓)	0.8	4				19	0.7	2023	TRADV
Archery (% of hotels, ⇓)	0.2	26				7	0.9	2023	TRADV

Note: Global rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows. The trend bars, on the other hand, highlight the latest data by positioning it as the rightmost bar, compared to the two previous years.

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but also solidifies Germany's reputation as a versatile destination, capable of meeting and exceeding global expectations.

A key factor contributing to Germany's global tourism appeal is its unique blend of seasonal offerings, which attract and retain international interest. The distinct four-season climate provides opportunities for skiing in the Bavarian Alps, summer hiking in expansive natural parks, and rich cultural festivals year-round. This seasonal diversity enhances Germany's visitor experience, encouraging repeat visits and fostering an ongoing cultural exchange that strengthens its position in international relations. By catering to diverse interests—from traditional cultural tourism to modern leisure and adventure activities—Germany continues to assert its influence, enriching its international partnerships through meaningful engagement.

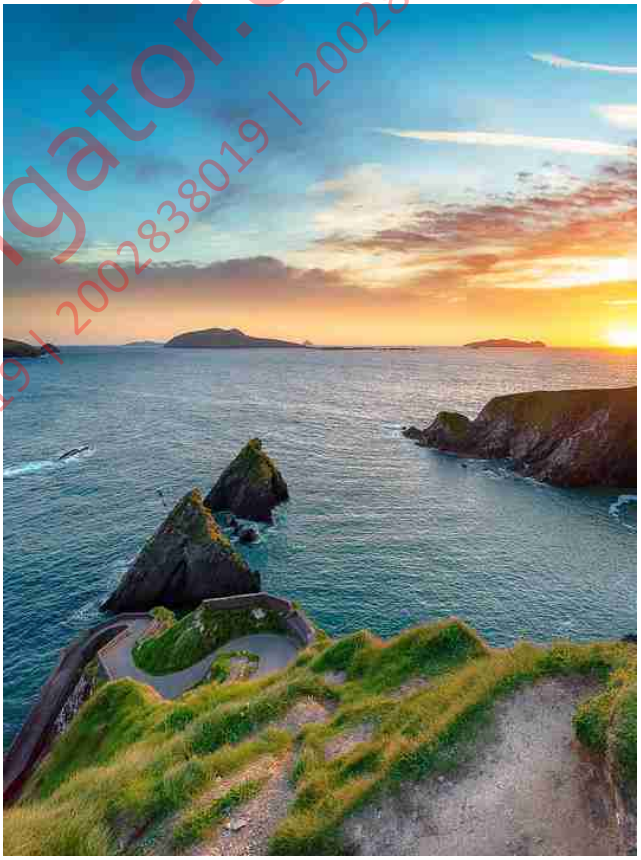
In the realm of global tourism dynamics, Germany stands as a bridge between cultures, a role fortified by its substantial outbound tourism. The significant number of Germans traveling abroad each year further amplifies the country's diplomatic impact, as each journey abroad weaves new threads into the tapestry of international understanding. Germany's tourism capacity not only bolsters its economy but also crafts new pathways for bilateral and multilateral cooperation, underscoring tourism's impact as a catalyst for peace, prosperity, and cultural enlightenment on the world stage. As Germany navigates the complexities of its future, its tourism attributes will continue to shape its strategic importance and identity in an interconnected world.

Ireland as Destination

Ireland, with its enchanting landscapes and rich cultural tapestry, stands as a vibrant player in the realm of international tourism. Its allure draws millions of visitors each year, captivated by the country's lush



Aerial View of Cologne's Historic Landmarks, Germany – An aerial perspective reveals the city's iconic landmarks, including the Gothic Cologne Cathedral and the Hohenzollern Bridge spanning the Rhine River. This vibrant city blends historic architecture with modern urban life, attracting tourists and fostering cultural exchange.



Sunset Over Dunquin Pier, County Kerry, Ireland – Dunquin Pier on the Dingle Peninsula glows under a stunning sunset. This coastal landmark is part of Ireland's Wild Atlantic Way, attracting international tourists and promoting cultural exchange.

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Neuschwanstein Castle in Winter, Bavaria, Germany

stands majestically amidst snow-covered landscapes, embodying fairy-tale architecture and Bavarian heritage. Built in the 19th century, it is a symbol of romanticism and attracts visitors worldwide, showcasing Germany's cultural richness and historic legacy.

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countryside, historic ruins, and the distinctive rhythm of Irish life. While the nation may not lead globally in tourist receipts or expenditure, reflecting a modest contribution of tourism to overall exports, this niche status leaves ample room for strategic growth and development in the sector. Notably, Ireland's hotel industry plays a central role, with a substantial presence on international platforms like TripAdvisor, where high volumes of reviews suggest significant visitor engagement.

The country's accommodation sector reflects a diverse range of offerings, catering predominantly to travelers seeking comfort and value. A high proportion of three and four-star establishments highlight a focus on quality mid-range hospitality, though luxury options remain less prominent. Irish hotels are notably equipped with modern essentials such as free internet and parking, though there's room for enhancement in amenities like air conditioning and on-site dining options. The current hospitality landscape aligns with Ireland's natural and cultural appeal, offering visitors an experience firmly rooted in personal comfort and accessibility.

Tapping into this core of hospitality services, Ireland navigates the multifaceted terrain of tourism segments with a particular emphasis on leisure and adventure. Its scenic landscapes provide a quintessential backdrop for those inclined towards hiking, horseback riding, and golf, allowing visitors to immerse themselves wholly in nature's beauty. Despite its insular allure, the country encourages exploration beyond its shores, evident in a significant number of Irish departures for international travel, which mirrors a growing curiosity and openness to global cultures.

Ireland's tourism flourishes not just as a standalone attraction but as a conduit for cultural exchange and international visibility. The steady stream of inbound and outbound travel facilitates a dynamic interchange

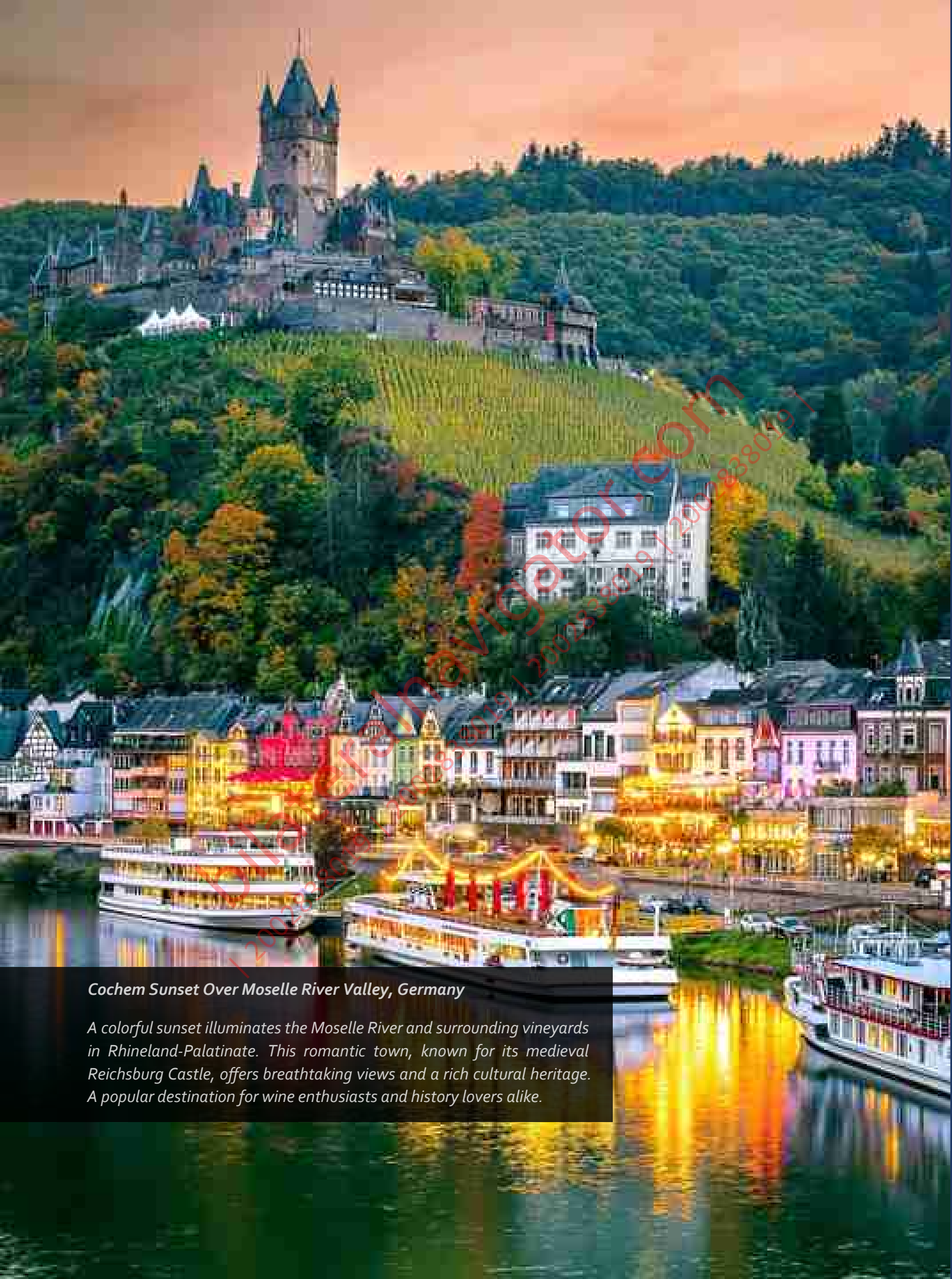


Brandenburg Gate Illuminated at Berlin Sunset, Germany – an iconic symbol of unity and history, glows under the evening sky. Located at Pariser Platz, this neoclassical monument attracts visitors from around the world. Its illumination highlights Berlin's blend of historical significance and modern vibrancy.



Carrigadrohid Castle: A Scenic Irish Landmark – Experience the enchanting beauty of Carrigadrohid Castle in County Cork, Ireland, captured in a stunning aerial view at sunset. Set amidst lush meadows and flowing rivers, this historic site offers a serene glimpse into Ireland's heritage, enticing tourists with its picturesque natural surroundings and captivating architectural charm.

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Cochem Sunset Over Moselle River Valley, Germany

A colorful sunset illuminates the Moselle River and surrounding vineyards in Rhineland-Palatinate. This romantic town, known for its medieval Reichsburg Castle, offers breathtaking views and a rich cultural heritage. A popular destination for wine enthusiasts and history lovers alike.

of ideas, traditions, and relationships, reinforcing Ireland's identity on the world stage. Key attractions such as its historical castles and vibrant festivals draw international acclaim, making the country a canvas upon which global narratives of heritage, innovation, and natural grace are woven.

In conclusion, Ireland's tourism encapsulates the essence of its vibrant culture and natural grandeur, underscoring its role as a pivotal junction in global travel. The unique characteristics of its tourism industry not only bolster the nation's economic framework but also enhance its diplomatic and cultural ties worldwide. By leveraging these attributes, Ireland stands poised to enhance its strategic importance, inviting the world to experience a slice of its remarkable story. As the country embraces opportunities for expansion and refinement, its tourism sector continues to shape, and be shaped by, an interconnected global audience.

Germany & Ireland in Welcoming Visitors

In comparing the two nations within the context of international tourism, we can observe a range of commonalities. Among the indicators reviewed, the Germans and Irish show the closest alignment in tourism exports, modern hotels, and budget hotels, while the biggest differences are found in tourist arrivals, income per tourist, and romantic hotels.

The tourism correlation between Germans and Irish are marked at 72%, surpassing a significant portion of the global scene, signifying the greatest level of their similarity in this chapter. Germans align most closely with Swiss, and similarly, Irish' closest match Dutch. As shown in the final chart of this section, Irish are ranked seventeenth on the Germans' list, while Germans hold the fifth position on the Irish' rankings.

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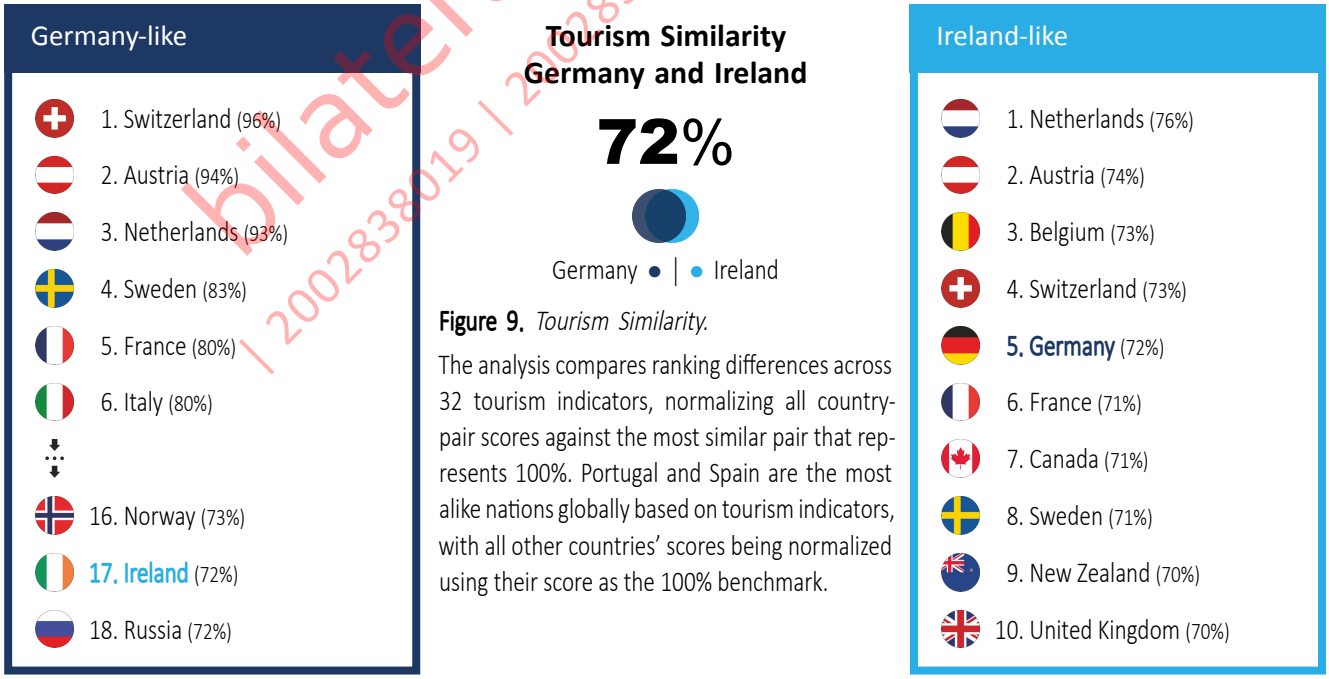


Figure 9. *Tourism Similarity.*

The analysis compares ranking differences across 32 tourism indicators, normalizing all country-pair scores against the most similar pair that represents 100%. Portugal and Spain are the most alike nations globally based on tourism indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

CHAPTER THREE



Glendalough National Park Scenic Landscape, Ireland

features serene valleys, wooded hills, and reflective lakes. Known for its historical monastic site and natural beauty, the park embodies Ireland's dedication to preserving its cultural and environmental heritage for future generations.

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Green Partnership

CHAPTER **3** Green Partnership Page

Agriculture & Resources 66

Exploring the agrarian landscape reveals a 59% similarity between Germany and Ireland. Germany finds its most compatible match in France, much like Ireland does with Malaysia.

Energy Paradigms 72

Energetically, Germany and Ireland find themselves sharing 66% similarity, surpassing many of their global counterparts. For Germany, its kindred spirit lies in Italy, whereas Ireland's is intertwined with Croatia.

Environment Matters 79

Through the lens of ecological concerns, Germany and Ireland align closely, with a 79% similarity, marking the peak of their resemblance within this chapter. France emerges as the closest counterpart to Germany, whereas Ireland finds its parallel in Denmark.

Climate Pledges 85

Echoing climate-related dimensions, Germany and Ireland boast a 70% similarity, edging out many peers. France represents the closest match to Germany on the world stage, and Norway to Ireland.

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Harvest Scene in Bavaria

The golden fields of Bavaria come alive as a combine machine diligently harvests ripe wheat under a clear blue sky. This view exemplifies the harmonious blend of traditional agriculture and modern machinery, showcasing the vital role of farming in Germany's rural landscapes and food production.

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Agriculture & Resources

Agriculture and natural resources play a significant role in understanding the economic and environmental dynamics between countries. This section examines key indicators related to land use, agricultural production, and resource management to provide a comprehensive view of the agricultural profiles and resource utilization in Germany and Ireland.

Indicators such as agricultural land area, the percentage of arable land, and the extent of irrigated agricultural land give insight into the scope and intensity of farming activities. These metrics help illustrate the potential for crop cultivation and food security within each country. Production-related metrics, including land under cereal production, cereal yield, and indexes for food, crop, and livestock production, highlight the productivity and efficiency of the agricultural sector. These indicators reflect how well countries are utilizing their agricultural resources to produce essential food items.

Resource management is assessed through indicators like the percentage of terrestrial and marine protected areas, renewable internal freshwater resources per capita, and annual freshwater withdrawals. These measures reflect the effectiveness of conservation efforts and the sustainability of water resource management, crucial for long-term environmental health and agricultural viability.

Additional indicators such as the number of tractors per unit of arable land, fertilizer consumption, and the economic value added by agroforestry and fishing provide further detail on the mechanization level, input use, and economic contributions of the agricultural sector. These indicators reveal the technological advancement and economic importance of agriculture in each country.



Sunset Over Connemara Pastures, Ireland – A serene sunset illuminates a tranquil lake surrounded by lush green pastures and grazing sheep. This picturesque rural landscape showcases Ireland's agricultural heritage and natural beauty, emphasizing its commitment to sustainable farming and resource management.

Water-related indicators, including water productivity and access to drinking water services, both overall and in urban areas, emphasize the efficiency and equity of water usage. These metrics are essential for understanding the sustainability of water resources and their impact on both agriculture and public health.

The data for these indicators are sourced from reputable institutions such as the Food and Agriculture Organization (FAO), the World Bank, and the International Labour Organization (ILO). These sources ensure the accuracy and reliability of the information, providing a solid foundation for analysis.

By examining these agriculture and resource indicators, we gain a nuanced understanding of the environmental and economic contexts that shape the bilateral relationship between Germany and Ireland. This comprehensive approach allows for detailed comparisons, revealing both similarities and differences that define the unique agricultural and resource landscapes of each country. Through this analysis, we can identify opportunities for collaboration and development in

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Vineyards in Pfalz Region, Germany

is renowned for its picturesque vineyards stretching across rolling hills. This region's fertile soil and favorable climate make it a hub for wine production, showcasing Germany's agricultural traditions and commitment to sustainable resource management.

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agricultural practices and resource management, fostering a stronger green partnership between the two nations.

German Natural Wealth

Germany's agricultural landscape is a tapestry of modern efficiency and time-honored tradition, underscored by its significant arable land base, which constitutes over a third of its total land area. This fertile expanse supports an extensive cereal production network, ranking Germany among the top global producers. Despite fluctuations in cereal yield and production indexes, the country has maintained a stable growth trajectory, indicative of a reinvigorated focus on technological innovation and sustainable practices in farming. The proportion of irrigated agricultural land, although modest, maximizes productivity, showcasing Germany's adeptness at aligning its natural resources with technological advancements to meet global demands.

The agricultural sector in Germany is heavily mechanized, boasting one of the highest densities of tractors per area of arable land in the world. This mechanization complements the strategic application of fertilizers, ensuring efficient nutrient management across the country's vast expanses of cultivated land. However, the value added by agriculture, forestry, and fishing sectors remains a relatively small fraction of Germany's GDP, reflecting the broader orientation towards high-tech and industrial economic

activities. Yet, these sectors contribute significantly to rural employment and regional economies, preserving cultural landscapes and regional biodiversity through integrated pest management and organic farming practices.

Germany's resource management extends beyond its fields to a robust network of terrestrial and marine protected areas, positioning it as a leader in conservation efforts. This strong environmental stewardship is pivotal not only for protecting Germany's biodiversity but also in securing the ecological services vital for sustainable agriculture. Freshwater resources, critical for both agriculture and urban consumption, are carefully managed, affirming Germany's commitment to high water productivity and universal access to drinking water services, even as pressures mount on its renewable freshwater reserves.

In the global marketplace, Germany's specialty products, from wheat to potatoes, play a significant role in shaping its international trade relations. The country's meticulous standards and innovative agricultural practices have positioned it as a reliable trading partner, especially within the European Union. Germany's ability to balance high productivity and sustainable practices enhances its allure in international collaborations, as countries look to emulate its successful integration of technology in agriculture.

The intersection of Germany's agricultural capacity and natural resources reflects a sophisticated nexus that not only supports its domestic needs but also bolsters its strategic partnerships worldwide. By maintaining a balance between tradition and innovation, Germany navigates the challenges and opportunities of agriculture in a globalized economy, reinforcing its standing as a pivotal player on the world stage capable of influencing the sustainable development agenda across borders.



Irish Cow by the Sea – An Irish cow stands amidst a lush pasture with the sea in the backdrop, encapsulating the essence of Ireland's agricultural richness. The serene landscape showcases the harmonious blend of nature and farming, highlighting the country's commitment to sustainable agriculture and the iconic rural charm of its countryside.

Irish Resource Base

In the verdant tapestry of Ireland, agriculture weaves a rich narrative, punctuated by lush pastures and a climate that may often be mercurial but proves ideal for certain types of green fodder and dairy farming. While the percentage of land dedicated to general agriculture is robust, the amount of arable land is more modest, revealing a landscape more favorable for pastures than for crop production. Yet, Ireland prides itself on its impressive cereal yield metrics, with productivity figures positioning the country near the upper echelons globally. This uncommon combination of extensive pastureland and high-yield cereal production underlines the country's unique agricultural strategy, where quality and intensity supplement quantity.

Beyond its rolling greens, Ireland's agricultural narrative is intricately interwoven with its natural resources, particularly water, a crucial economic and environmental asset. Despite the country's bounteous internal freshwater resources, its cautious approach to freshwater withdrawals reflects a sustainable ethos. This judicious management is mirrored in the nation's water

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Table 12. *Agriculture & Resources Indicators.*

	Germany				Ireland				
Land Use	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Agricultural land (km², ⇓)	165,910	53				93	43,370	2021	FAO
Agricultural land (% of land area, ⇓)	47.5	61				29	63.0	2021	FAO
Arable land (% of land area, ⇓)	33.4	23				120	6.3	2021	FAO
Agricultural irrigated land (% of agricultural land, ⇓)	3.1	60						2020	FAO
Production									
Land under cereal production (ha, ⇓)	6.1 M	29				114	285,660	2022	FAO
Cereal production (mt, ⇓)	43 M	15				86	2.5 M	2022	FAO
Cereal yield (kg per ha, ⇓)	7,126	16				8	8,702	2022	FAO
Food production index (2014-2016=100, ⇓)	92.7	162				43	121.5	2022	FAO
Crop production index (2014-2016=100, ⇓)	91.5	160				127	99.4	2022	FAO
Livestock production index (2014-2016=100, ⇓)	93.4	159				40	123.2	2022	FAO
Tractors (per 100 km² of arable land, ⇓)	838.3	23				10	1,476.4	00/05	FAO
Fertilizer consumption (kg/ha of arable land, ⇓)	130.1	73				2	1,637.1	2021	FAO
Value added in agroforestry & fishing (% of GDP, ⇓)	0.7	180				174	0.9	2023	WB/OECD
Value added in agrofor. & fishing (per worker, const. '15 US$, ⇓)	43,961	18				23	37,485	2022	WB1
Resources									
Terrestrial and marine protected areas (% of terr. area, ⇓)	38.7	10				140	4.0	2022	WDPA
Marine protected areas (% of territorial waters, ⇓)	45.5	5				71	2.3	2022	WDPA
Terrestrial protected areas (% of land area, ⇓)	37.6	17				108	14.4	2022	WDPA
Renewable internal freshwater resources per capita (m³, ⇓)	1,287	116				46	9,829	2020	FAO1
Annual freshwater withdrawals, total (m³, ⇓)	26 B	30				95	1.6 B	2021	FAO1
Annual domestic freshwater withdrawals (% of fw. wd., ⇓)	41.5	49				17	64.0	2021	FAO1
Drinking water services (% of population, ⇓)	100.0	27				96	96.0	2022	WB-JMP
Drinking water services in urban areas (% of urban pop.)	100.0	12				116	95.4	2022	WB-JMP
Water productivity (const. 2015 US$ GDP/m³ of fw. wd.)	141.5	26				13	257.0	2020	FAO6

Note: Global rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows. The trend bars, on the other hand, highlight the latest data by positioning it as the rightmost bar, compared to the two previous years.

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productivity, which stands as a noteworthy testament to its efficiency, bolstering its competitive stance in green technology and sustainable practices. Thus, Ireland showcases a model where a blend of conservative use and efficient management of natural endowments help sustain the nation's agrarian sectors.

The country's agricultural practices are not merely about enduring heritage but also about skilled adaptation and technological adoption. The high density of tractors per unit of arable land points to an integration of innovation into traditional farming methods, paving the way for enhanced outputs. This modern embrace is further exemplified by high fertilizer usage, which forms part of an intense approach to maximize the potential of the nation's modest arable lands, ensuring that the produce remains competitive on the global stage. Together, these elements depict a sophisticated interplay of modern technology with age-old practices, advancing Ireland's agricultural proficiency.

From pastures to plates, these bounteous lands yield more than sustenance—they craft a narrative of economic symbiosis and trade vitality. The buoyant livestock industry highlights Ireland's global presence in meat and dairy markets, where quality often shepherds broader negotiation clout in trade agreements. This livestock vigor, allied with cereal production, secures Ireland an influential position in international trade, fostering robust bilateral relations driven by high-demand exports. These agricultural commodities significantly impact trade partnerships, utilizing Ireland's distinctive production strengths to forge indispensable connections across the global landscape.

At the heart of this green partnership lies Ireland's commitment to sustainability and conservation. The substantial areas dedicated to terrestrial protection underscore a national dedication to preserving biodiversity and fostering environmental stewardship. These efforts illustrate a broader commitment not just to current productivity but to future ecological well-being. Ireland's agricultural identity, therefore, is not merely a function of its immediate output but an enduring testament to a balance between harnessing and honoring the earth—a perspective that influences its global relationships by shaping a country dedicated to sustainable growth and resource conservation.

German & Irish Essentials

When comparing Germany and Ireland within the scope of agriculture & resources, we observe certain commonalities. Among the various indicators analyzed for both nations, the closest alignment is seen in farm productivity, GDP share, and cereal yield. Conversely, the most significant divergences appear in irrigated share, protected areas, and livestock index.

From a agrarian viewpoint, Germany and Ireland have notable similarities, amounting to an approximate 59% overlap. France emerges as the closest counterpart to Germany, whereas Ireland finds its parallel in South Korea. As illustrated in the final chart of this section, Ireland ranks fifty-seventh in Germany's standings, while Germany holds fifty-ninth position in Ireland's rankings.

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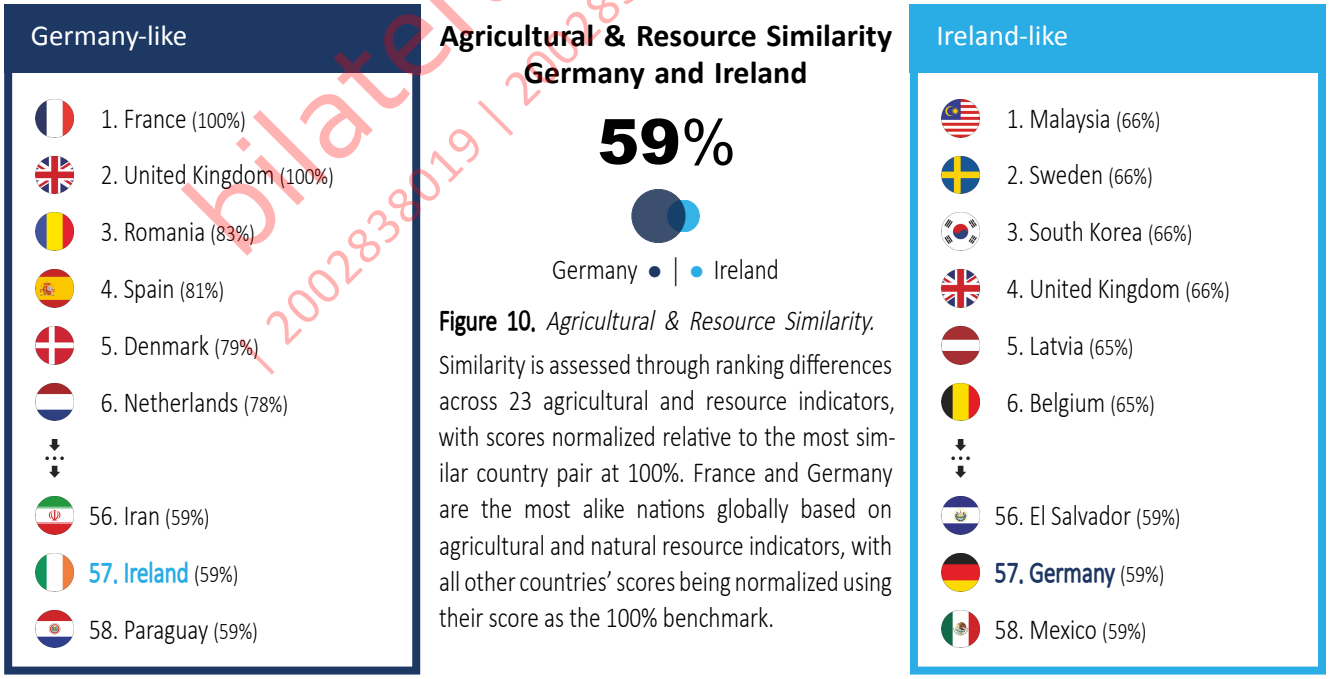
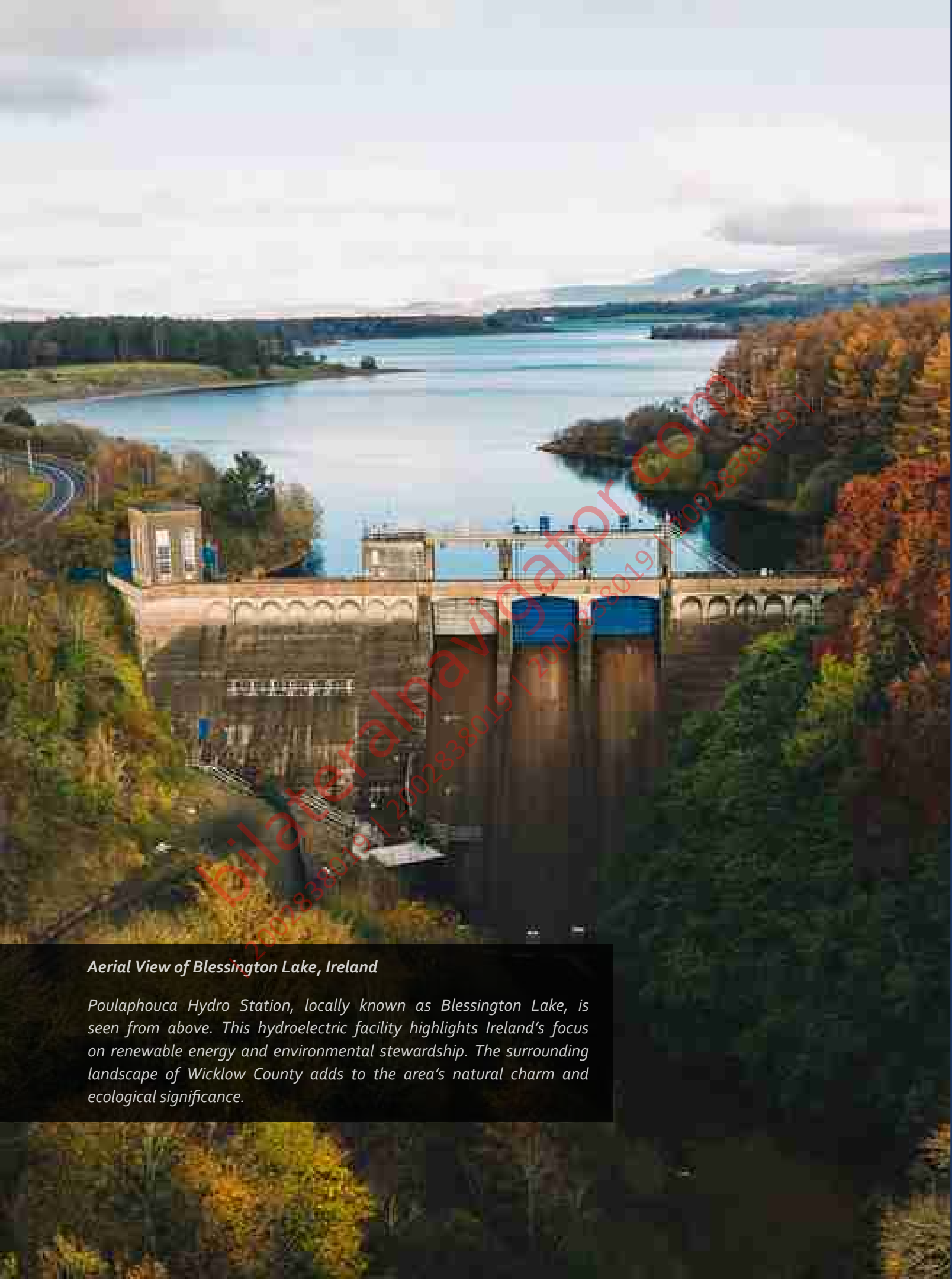


Figure 10. *Agricultural & Resource Similarity.* Similarity is assessed through ranking differences across 23 agricultural and resource indicators, with scores normalized relative to the most similar country pair at 100%. France and Germany are the most alike nations globally based on agricultural and natural resource indicators, with all other countries' scores being normalized using their score as the 100% benchmark.



Aerial View of Blessington Lake, Ireland

Poulaphouca Hydro Station, locally known as Blessington Lake, is seen from above. This hydroelectric facility highlights Ireland's focus on renewable energy and environmental stewardship. The surrounding landscape of Wicklow County adds to the area's natural charm and ecological significance.

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Energy Paradigms

Energy production and consumption are key to understanding the economic and environmental strategies of nations. This section analyzes various energy-related indicators to provide a comprehensive comparison of the energy profiles of Germany and Ireland. Evaluating these metrics offers insights into each country's approach to energy management and sustainability.

Metrics related to energy availability, such as per capita consumption and access to electricity, reveal overall energy usage and the extent to which the population has access to essential energy services, crucial for assessing quality of life and economic potential.

Coal-related indicators, including production, consumption, exports, imports, and proven reserves, illustrate the role of coal in the energy mix, highlighting each country's reliance on this fossil fuel and its associated environmental challenges.

The composition of electricity sources, encompassing fossil fuels, nuclear, solar, wind, hydroelectricity, tide and wave, geothermal, and biomass and waste, offers a detailed view of the diversity and sustainability of the energy portfolio. These metrics indicate progress toward renewable energy and efforts to reduce carbon emissions.

Electricity volume indicators, such as generating capacity, annual consumption, exports, imports, and distribution losses, provide insights into the efficiency and capacity of the electricity sector, essential for understanding infrastructure and technological advancements in energy distribution and usage.

Natural gas metrics, including production, consumption, exports, imports, and proven reserves, shed light on the role of natural gas in the energy landscape, assessing its economic and sustainability impacts.

Petroleum-related indicators, including total petroleum production, crude oil and lease condensate exports and imports, and estimated reserves, offer a comprehensive view of the oil sector, helping understand economic dependence on oil and potential future energy security

Refined petroleum indicators, covering production, consumption, exports, and imports, highlight refining capacity and the economic impact of refined petroleum products, useful for evaluating the efficiency and sustainability of the petroleum sector.

The data for these indicators come from authoritative sources such as the World Factbook by CIA and the World Bank Global Electrification Database, ensuring accurate and reliable information for thorough analysis.

Through this examination, we gain a deeper understanding of the energy dynamics that shape the relationship between Germany and Ireland. This detailed comparison uncovers unique aspects of each country's energy landscape and identifies opportunities for collaboration and advancement in energy practices, enhancing the green partnership between the two nations.

Germany's Energy Portfolio

In the heart of Europe lies Germany, a nation whose energy framework builds a complex tapestry intertwining ambition and pragmatism. Germany's energy consumption is robust, reflective of its industrial prowess and the lifestyle of its highly electrified society.

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Offshore Wind Farm in North Sea Germany

This impressive vista showcases the pivotal role of Germany's offshore wind farms in advancing sustainable energy. Nestled in the North Sea, these towering turbines are a testament to the nation's commitment to harnessing clean, renewable power, contributing to a greener future and setting a benchmark for environmental responsibility.

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Every citizen has complete access to electricity, a testimony to the country's exceptional infrastructure. However, the true story unfolds when considering the nation's towering installed generating capacity, supported by a diverse energy mix and strategic cross-border energy ties that position Germany as a pivotal actor in the international energy arena.

At the core of Germany's energy identity is its energy transition initiative, the ""Energiewende,"" which signifies a shift towards renewable energy sources while phasing out nuclear and fossil fuels. Although fossil fuels still hold a significant share, they are not the majority, enabling renewables to capture a growing slice of the energy pie. The country's wind and solar power capacities shine particularly bright, infusing the grid with cleaner energy and reducing dependencies on imported fossil fuels. The unmistakable power of wind turbines contributes to the nation's impressive generating capability, offering a renewable lifeline that complements its limited hydroelectric options.

Germany's strategic geographic location and energy policy have made it a central node in Europe's energy network. The nation is one of the foremost electricity exporters, showcasing its capability to generate a surplus and facilitate energy flows to neighboring countries. Despite substantial imports, largely of crude oil and natural gas, Germany's robust production and consumption figures highlight its role as a major player in global energy markets. Its capacity to manage imports and exports effectively ensures a stable energy

supply within its borders and strengthens its diplomatic leverage, cementing Germany's reputation as a reliable partner in Europe's energy landscape.

The driving force behind these dynamics is Germany's commitment to innovation and sustainability, leading the charge in biomass and waste capacity as well as emerging energy technologies such as tide and wave power. These advancements contribute to Germany's quest for energy independence and sustainability, enhancing its appeal as a leader in combating climate change. The country's forward-thinking policies are underscored by its ability to maintain significant proven reserves of natural resources, offering a cushion against global market volatilities and facilitating energy security.

Germany's energy framework is not merely a domestic concern but a global beacon symbolizing the possibilities of a sustainable future. Its ability to balance high consumption with ambitious environmental commitments shapes its identity on the world stage, influencing partnerships and serving as a model for energy transformation. In this interwoven world of interconnected energy systems, Germany stands as a dynamic force, continuously evolving while forging pathways for cooperation and innovation.

What Energizes Ireland?

In the lush backdrop of Ireland, where rolling green hills meet the rugged coastline, the energy landscape is a fascinating tapestry that reflects both challenges and ambitious strides toward a more sustainable future. The island nation stands firmly among its global peers with total electricity access for its population. Its compact size and geographic conditions have shaped an energy system that is characterized by unique features, including a high reliance on wind power, which makes up a substantial portion of its energy mix. While fossil fuels still account for more than half of the total



Rappbode Dam and Suspension Bridge, Germany – paired with the world's longest suspension bridge, showcases engineering marvels amidst stunning natural scenery. This site reflects Germany's focus on sustainable energy and infrastructure development, blending technology with environmental stewardship.

capacity, Ireland's wind energy capacity is among the highest globally, marking it as a leader in harnessing this renewable resource.

However, Ireland's journey in energy advancement is not without its complexities. The nation's energy consumption per capita is ranked moderately high, a testament to a vibrant economy and a modern lifestyle. Yet, the installed generating capacity and annual consumption show a certain level of constraint, requiring Ireland to import a significant amount of energy to meet its needs. Despite having ample electricity access, the country navigates considerable distribution losses. This calls for strategic investments in improving energy infrastructure to minimize waste and maximize efficiency.

The interplay between Ireland's energy infrastructure and consumption sectors reveals a critical dependency on cross-border energy exchanges. Exports and imports of electricity balance the grid, underscored by Ireland's intricate connections with neighboring England and other European countries. Such ties in energy trade underscore the island's strategic positioning in the broader European energy market. While Ireland does produce a minimal amount of its petroleum

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Connemara's Sustainable Energy Vista

An aerial view showcases the sprawling Galway Wind Park nestled in the scenic Cloosh Valley, County Galway. As Ireland's largest onshore wind farm, it harmoniously blends technology and nature, supporting green energy generation while providing a beautifully rugged backdrop for recreational pursuits like the Galway Wind Way.

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Table 13. *Energy Production and Consumption Indicators.*

	Germany				Ireland				
Availability	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Energy consumption per capita (Btu/person, ⇓)	161 M	27				35	134 M	2019	WFB
Access to electricity (% of population, ⇓)	100.0	19				3	100.0	2022	WB23
Electricity Volume									
Generating capacity installed (kW, ⇓)	248 M	6				57	11 M	2020	WFB
Annual Consumption (kWh, ⇓)	500 B	9				62	31 B	2020	WFB
Exports (kWh, ⇓)	67 B	2				51	1.9 B	2020	WFB
Imports (kWh, ⇓)	48 B	2				54	1.8 B	2020	WFB
Distribution Losses (kWh, ⇓)	26 B	17				78	2.3 B	2020	WFB
Electricity Sources									
Fossil fuels (% of total capacity, ⇓)	40.5	122				104	57.8	2020	WFB
Nuclear (% of total capacity, ⇓)	11.1	20				35	0.0	2020	WFB
Solar (% of total capacity, ⇓)	9.2	9				124	0.2	2020	WFB
Wind (% of total capacity, ⇓)	23.9	7				4	34.8	2020	WFB
Hydroelectricity (% of total capacity, ⇓)	4.5	116				122	3.7	2020	WFB
Tide and wave (% of total capacity, ⇓)	0.2	4				11	0.0	2020	WFB
Biomass and waste (% of total capacity, ⇓)	10.4	16				35	3.6	2020	WFB
Coal									
Production (metric tons, ⇓)	115 M	8				76	0	2020	WFB
Consumption (metric tons, ⇓)	145 M	7				83	351,000	2020	WFB
Exports (metric tons, ⇓)	2.3 M	16				37	132,000	2020	WFB
Imports (metric tons, ⇓)	32 M	8				65	408,000	2020	WFB
Proven reserves (metric tons, ⇓)	36 B	7				68	14 M	2019	WFB
Petroleum									
Total petroleum production (bbl/day, ⇓)	135,000	40				103	600	2021	WFB
Crude oil and lease condensate imports (bbl/day, ⇓)	1.7 M	6				52	60,300	2018	WFB
Crude oil estimated reserves (barrels, ⇓)	115 M	68				100	0	2021	WFB
Refined Petroleum									
Production (bbl/day, ⇓)	2.2 M	9				74	64,970	2017	WFB
Consumption (bbl/day, ⇓)	2.3 M	10				63	159,100	2019	WFB
Exports (bbl/day, ⇓)	494,000	17				57	37,040	2017	WFB
Imports (bbl/day, ⇓)	883,800	9				44	126,600	2017	WFB
Natural Gas									
Production (m^3, ⇓)	5.1 B	49				57	2.7 B	20/19	WFB
Consumption (m^3, ⇓)	8.8 B	51				58	5.5 B	20/19	WFB
Imports (m^3, ⇓)	83 B	3				43	2.8 B	20/19	WFB
Proven reserves (m^3, ⇓)	23 B	71				77	9.9 B	2021	WFB

Note: Global rankings in this table are presented in descending order (highest to lowest), marked by the "⇓" arrows.

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needs, it primarily relies on imports to supply its energy sector, further highlighting its interconnectedness and reliance on international energy partnerships.

National policies have sought to propel Ireland toward ambitious environmental commitments. Ireland's engagement with global partners in addressing climate change underscores its commitment to sustainable development. The focus on improving renewable energy technologies, particularly wind, is central to these goals. Furthermore, the energy policies in place steer the nation toward reducing its carbon footprint, although balancing economic imperatives with environmental responsibilities remains a delicate task.

As a nation generously endowed with renewable potential, yet still reliant on energy imports, Ireland finds itself at a crossroads that epitomizes the challenges and opportunities of modern energy paradigms. The geographical nature of an island and its strong wind currents lend Ireland a distinctive edge in renewable energy, while its ambitious climate goals indicate a path toward greater energy independence in the future. The story of Ireland's energy system is one of transition, carrying significant implications for its growth, strategic importance, and the strengthening of its relationships within a global context increasingly influenced by the imperatives of sustainability and cooperation.

Powering Germany & Ireland Compared

In the context of energy paradigms, a comparison between Germany and Ireland reveals a range of areas of similarity. Of the indicators shared by both nations, they are most aligned in wind share, gas reserves, and hydro share, while their greatest differences are evident in solar share, coal use, and output.

In terms of energy similarity, Germany and Ireland enjoy a 66% congruence, outmatching several international counterparts. Germany sees its reflection in Italy, just as Ireland identifies closely with Croatia. As the final chart in this section shows, Ireland holds thirty-eighth position in Germany's ranking, and Germany ranks thirty-first on Ireland's list.

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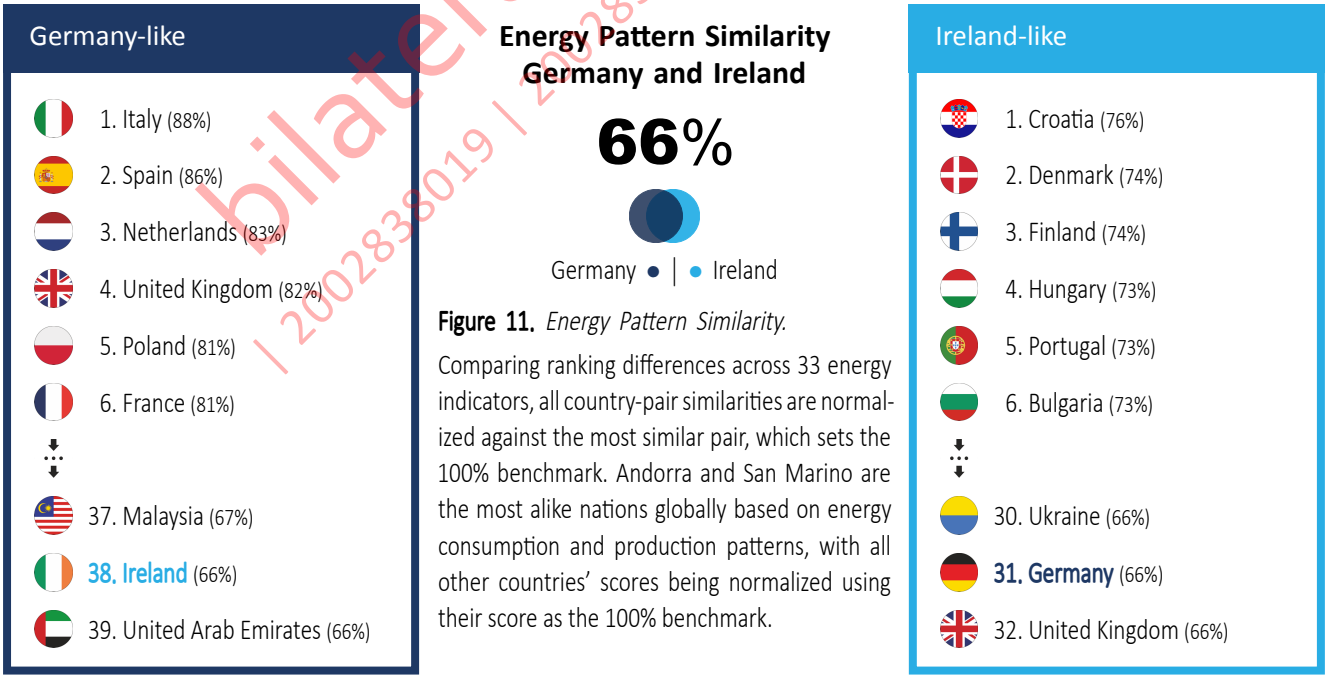


Figure 11. *Energy Pattern Similarity.*

Comparing ranking differences across 33 energy indicators, all country-pair similarities are normalized against the most similar pair, which sets the 100% benchmark. Andorra and San Marino are the most alike nations globally based on energy consumption and production patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

Environment Matters

Understanding the environmental health and ecosystem vitality of a country is essential for assessing its sustainability and ecological stewardship. This section delves into a range of environmental indicators to offer a thorough analysis of the ecological status and efforts of Germany and Ireland. By comparing these metrics, we can discern each nation's approach to preserving natural habitats, managing pollution, and fostering biodiversity.

Ecosystem vitality indicators encompass measures such as terrestrial and marine protected areas, biodiversity habitat index, and species protection index. These metrics highlight the efforts in conserving biodiversity and protecting critical ecosystems. Metrics like tree cover loss, grassland loss, and wetland loss provide insights into land degradation and habitat changes, which are crucial for understanding environmental pressures and conservation priorities.

Indicators related to environmental health, such as exposure to inhalable particles (PM 2.5), household solid fuels, ozone exposure, and unsafe drinking water, shed light on the public health implications of environmental conditions. These metrics are important for assessing the impact of environmental pollution on human health and the effectiveness of policies aimed at mitigating these risks. Additionally, indicators like wastewater treatment and recycling rates reflect the infrastructure and efficiency of waste management systems.

The performance metrics, including the Environmental Performance Index and policy and institutions for environmental sustainability, provide an overarching view of each country's environmental governance and effectiveness in implementing sustainable practices.



Red Deer in Killarney National Park, Ireland – A majestic red deer stag stands amidst the autumnal hues of Killarney National Park, known for its biodiversity, the park exemplifies Ireland's dedication to wildlife conservation and environmental preservation, fostering a harmonious balance between nature and heritage.

These indicators are instrumental in evaluating how well countries are managing their natural resources and addressing environmental challenges through policy and institutional frameworks.

The data for these indicators are sourced from reputable institutions such as the Environmental Performance Index by Yale University and the United Nations Environmental Program. These sources ensure the reliability and accuracy of the information, providing a robust basis for analysis.

Analyzing these environmental indicators offers a comprehensive understanding of the ecological dynamics that shape the bilateral relationship between Germany and Ireland. This detailed comparison highlights the unique environmental landscapes and challenges of each country, revealing opportunities for collaboration and improvement in environmental stewardship. Through this analysis, we can identify areas where both countries can work together to enhance their environmental sustainability and build a stronger green partnership.

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Irish Mountain Hare

Nestled in the wild landscapes of western Ireland, the Irish Mountain Hare thrives as an emblem of the country's rich natural heritage. With its distinctive coat and lively presence, this endemic species plays a vital role in the ecosystem, showcasing Ireland's commitment to biodiversity and environmental conservation.

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German Environmental State

Germany is a nation deeply intertwined with environmental stewardship, standing at the forefront of global eco-consciousness. With its panoramic landscapes and vibrant ecosystems, the country has entrenched itself in the collective effort to safeguard natural habitats. Within the sprawling European heartland, Germany has achieved full protection of its terrestrial and marine biomes, positioning it robustly among the top tier globally in terms of ecological conservation. This commitment is mirrored in the cultivation and preservation of species, where meticulous efforts have led to an exemplary Species Protection Index indicating a notable success story amid broader biodiversity challenges.

However, the narrative of environmental quality in Germany is not without its complications. The country faces significant challenges on fronts like biodiversity habitats and terrace land losses, reflecting broader strains on its natural endowments. With tree and grassland areas under stress, the Biodiversity Habitat Index signals concerns that echo through Germany's forest and grassland management strategies. Yet, in the face of adversity, Germany's sustainability endeavors shine brightly, particularly in areas like wastewater treatment and the management of harmful emissions, where strategic policies and innovations have yielded commendable results.

At the cross-section of policy and international cooperation, Germany continues to harness its environ-

mental policies to foster global dialogue. The substantial reduction in emissions of sulfur dioxide and nitrogen oxides is a testament to Germany's keen embrace of clean air initiatives and its contributions to international environmental accords. Germany's cutting-edge waste management systems and pioneering recycling policies further elevate its status as a leader in sustainable development. These efforts underscore the country's role as a beacon of technological and environmental symbiosis, strengthening its relationships with European partners and beyond.

Germany's singular environmental attributes—its robust air quality management and thorough waste treatment protocols—offer crucial insights into its dynamic role within the global environmental sphere. Despite the challenges, Germany's innovative approaches, especially in curbing PM 2.5 exposure and ensuring safe sanitation, set a precedent for integrating health with environmental policy. These are initiatives pregnant with potential for replication in other jurisdictions, thereby enabling Germany to influence global standards for sustainable living.

Ultimately, Germany's environmental context, punctuated by both its promise and its perils, encapsulates the delicate balance between economic growth and ecology. This balance is critical as Germany navigates its position as a pivotal player on the international stage. By weaving its environmental strategies into the tapestry of global cooperation, Germany not only addresses its national ecological challenges but also contributes expansively to a more sustainable future. This symbiotic relationship between domestic policy and international collaboration vividly highlights how Germany's environmental priorities shape its unique identity in the interconnected global landscape.

What's Ireland's Environmental Story?

In the lush tapestry of Ireland's landscapes, a complex interplay unfolds between the verdant, timeworn terrains and the modern challenges of ecological stewardship. Despite its storied reputation for rolling green hills and misty vistas, Ireland's environmental journey is a nuanced one, reflecting a nation balancing development with conservation. The Environmental Performance Index places the country in a respectable global position, indicating efforts that are commendable yet fraught with ongoing challenges in areas such as ecosystem vitality and tree cover loss. This dual reality captures Ireland's commitment to improving its ecological standing while contending with significant hurdles that continually demand attention and innovation.



Lynx in Autumn Forest Habitat, Germany – A lynx moves gracefully through autumn leaves near a water source, blending into its forest environment. This elusive predator highlights Germany's rich biodiversity and ongoing efforts to protect endangered species and their natural ecosystems.

Ireland enjoys a notable reputation for its pristine air quality, bolstered by impressive rankings in inhalable particle and household solid fuel management. These achievements underscore the country's proactive stance in mitigating air pollution and enhancing environmental health, crucial components in its domestic policy and international environmental engagements. Yet, such successes are counterbalanced by pressing issues in biodiversity. With an underwhelming Biodiversity Habitat Index, efforts toward species protection and habitat conservation present a noticeable gap, challenging Ireland's aspiration to become a benchmark in ecological sustainability. However, the strides

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Table 14. *Environment Protection Indicators.*

	Germany				Ireland				
Performance	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Environmental Performance Index (score, the best=100, ⇓)	62.4	13				24	57.4	2022	EPI
Ecosystem Vitality									
Ecosystem Vitality (score, the best=100, ⇓)	66.8	6				62	50.9	2022	EPI
Terrestrial biome protection (national weights, ⇓)	100.0	5				83	82.9	2022	EPI
Terrestrial biome protection (global weights, ⇓)	100.0	5				90	82.9	2022	EPI
Marine protected areas (score, the best=100, ⇓)	100.0	7				53	21.3	2022	EPI
Protected Areas Representativeness Index (score, the best=100, ⇓)	64.3	23				67	42.5	2022	EPI
Biodiversity Habitat Index (score, the best=100, ⇓)	36.2	155				123	40.2	2022	EPI
Species Protection Index (score, the best=100, ⇓)	89.4	9				44	72.7	2022	EPI
Species Habitat Index (score, the best=100, ⇓)	86.2	84				17	96.9	2022	EPI
Tree cover loss (score, the best=100, ⇓)	11.5	112				141	7.8	2022	EPI
Grassland loss (score, the best=100, ⇓)	47.8	84				64	56.4	2022	EPI
Wetland loss (score, the best=100, ⇓)	26.1	143				109	35.8	2022	EPI
Fish Stock Status (score, the best=100, ⇓)	25.5	70				68	25.9	2022	EPI
Marine Trophic Index (score, the best=100, ⇓)	41.3	13				75	13.1	2022	EPI
Fish caught by trawling (score, the best=100, ⇓)	10.1	50				30	14.9	2022	EPI
SO_2 adjusted emissions growth (score, the best=100, ⇓)	100.0	12				3	100.0	2022	EPI
NO_x adjusted emissions growth (score, the best=100, ⇓)	100.0	12				44	90.7	2022	EPI
Sustainable Pesticide Use (score, the best=100, ⇓)	60.0	37				44	50.0	2022	EPI
Sustainable Nitrogen Management Index (score, the best=100, ⇓)	61.9	26				59	47.3	2022	EPI
Wastewater treatment (score, the best=100, ⇓)	97.0	11				20	87.0	2022	EPI
Bird species, threatened (⇓)	11	134				148	9	2018	UNEP
Fish species, threatened (⇓)	24	110				104	28	2018	FROESE
Mammal species, threatened (⇓)	5	141				140	5	2018	UNEP
Environmental Health									
Environmental Health (score, the best=100, ⇓)	82.0	19				6	88.3	2022	EPI
Inhalable particles (PM 2.5) exposure (score, the best=100, ⇓)	65.5	25				9	88.0	2022	EPI
Household solid fuels (score, the best=100, ⇓)	100.0	14				2	100.0	2022	EPI
Ozone exposure (score, the best=100, ⇓)	49.3	79				18	84.0	2022	EPI
NO_x exposure (score, the best=100, ⇓)	13.4	161				72	34.4	2022	EPI
SO_2 exposure (score, the best=100, ⇓)	60.1	77				79	59.6	2022	EPI
CO exposure (score, the best=100, ⇓)	56.3	82				38	71.0	2022	EPI
VOC exposure (score, the best=100, ⇓)	59.6	40				22	84.7	2022	EPI
Unsafe sanitation (score, the best=100, ⇓)	100.0	9				27	93.5	2022	EPI
Unsafe drinking water (score, the best=100, ⇓)	98.6	14				1	100.0	2022	EPI
Lead exposure (score, the best=100, ⇓)	89.8	19				26	81.8	2022	EPI
Controlled solid waste (score, the best=100, ⇓)	98.5	8				20	93.9	2022	EPI
Recycling (score, the best=100, ⇓)	49.8	10				12	42.4	2022	EPI
Ocean Plastics (score, the best=100, ⇓)	29.5	98				58	41.4	2022	EPI

Note: Global rankings in this table are presented in descending order (highest to lowest), marked by the "⇓" arrows. The trend bars visually represent data from the past three years, with the rightmost bar specifically illustrating the most recent data.

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made in fisheries management, highlighted by recent improvements in fish stock status and the reduction of trawling impacts, exhibit potential pathways to broader ecological resilience.

Ireland's unique ecosystems, from the coastal cliffs teeming with seabirds to peat bogs rich with history and life, offer not just a narrative of natural beauty but a canvas for innovative conservation efforts. The nation's marine protected areas, although still evolving, represent a growing consciousness towards preserving marine biodiversity. Such initiatives could potentially position Ireland as a leader in international marine conservation dialogues. Meanwhile, terrestrial biome protection illustrates a complex picture: national efforts are progressing, although there remains room for growth on a global scale, suggesting that aligning domestic success with international standards could enhance Ireland's environmental diplomacy and cooperative ventures.

Furthermore, Ireland's strategic approach to wastewater treatment and waste management underpins its dedication to safeguarding public health and natural resources. This is supported by substantial scores in controlled waste and sanitation systems, areas where consistent improvement not only amplifies domestic quality of life but also fortifies Ireland's reputation as an environmentally conscious nation. Yet, despite exemplary strides in drinking water safety and recycling practices, Ireland faces ongoing challenges with wetland and grassland losses, critical habitats that require sustained management and innovative policy solutions to prevent further degradation.

As Ireland faces the crossroads of environmental sustainability and developmental pressures, the narrative is both a reflection and a roadmap. Strong environmental policies are not just national priorities, but crucial components in Ireland's role as a global partner seeking sustainable growth. The delicate balance struck between conservation successes and the ecological challenges ahead will define its international environmental partnerships, shaping not just Ireland's future but its contributions to the broader, interconnected global ecological community. In an age where environmental issues transcend borders, Ireland's evolving landscape serves as both a microcosm and a potential model for collaborative stewardship on the world stage.



Black Forest Cold-Blooded Horses – In the serene pastures of Baden-Württemberg's Upper Black Forest, two majestic Black Forest cold-blooded horses embody Germany's rich tradition of equine husbandry. These robust and gentle horses, a symbol of the region's agricultural heritage, continue to thrive amidst the verdant landscapes that define their origin.

Two Countries, One Planet

Analyzing the German and Irish approaches within environment matters, we find notable areas of overlap. The closest matches across the indicators for both countries are seen in mammal risk, recycling, and fish stocks, whereas the greatest disparities exist in NOx levels, global biomes, and biome protect.

From a environmental standpoint, Germany and Ireland exhibit a notable 79% similarity, and this similarity tops all others within this chapter. For Germany, France stands out as its prime analog, just as Denmark does for Ireland. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is ninth, while the German position is sixth in Irish listings.

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Eurasian Eagle Owl in Forest Habitat, Germany

A Eurasian Eagle Owl perches on a tree trunk in an autumn forest, surrounded by golden light and vibrant foliage. This majestic bird symbolizes Germany's dedication to wildlife conservation and preserving natural habitats for future generations.

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Germany-like

1. France (100%)
2. Netherlands (93%)
3. United Kingdom (92%)
4. Denmark (84%)
5. Italy (83%)
6. Belgium (82%)
7. Spain (81%)
8. Poland (81%)
9. Ireland (79%)
10. Estonia (77%)

Environmental Similarity Germany and Ireland

79%

Germany ● | ● Ireland

Figure 12. *Environmental Similarity.*

Analysis of ranking differences across 38 environmental indicators determines similarity scores, normalized against the most similar country pair at 100%. Estonia and Latvia are the most alike nations globally based on environmental indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

Ireland-like

1. Denmark (86%)
2. United Kingdom (81%)
3. Norway (80%)
4. France (80%)
5. Sweden (79%)
6. Germany (79%)
7. Lithuania (78%)
8. Netherlands (77%)
9. Iceland (77%)
10. Estonia (77%)

Climate Pledges

This section explores how countries tackle global warming and minimize their environmental footprint by examining climate-related indicators for Germany and Ireland. Comparing these metrics reveals each nation's strategies for mitigating climate change and advancing sustainability.

Greenhouse gas indicators, such as the greenhouse gas intensity growth rate and emissions per capita, highlight progress and challenges in reducing emissions. These metrics assess efforts to curb pollution and transition to a low-carbon economy.

Metrics like projected GHG emissions in 2050 and climate change policy objectives show long-term commitments and strategies, providing a glimpse into future goals and policy effectiveness.

Carbon dioxide-related metrics, including emissions growth from land cover changes and emissions per capita, offer insights into primary CO_2 sources and land use impacts, crucial for understanding broader environmental effects and areas for improvement.

Methane and other greenhouse gases, such as F-gases, N_2O, and black carbon, have adjusted emissions growth rates that detail various pollutants contributing to global warming, pinpointing specific challenges and opportunities for reduction.

Climate change impact indicators, such as the percentage of the population affected by droughts, floods, and extreme temperatures, underscore the human and economic toll of climate events, emphasizing the need for effective adaptation and mitigation strategies.

Emissions data, including total greenhouse gas emissions and CO_2 emissions per GDP unit, quantify each country's overall contribution to global emissions, vital for setting benchmarks and tracking progress.

Data for these indicators are sourced from authoritative institutions such as Climate Watch and the Environmental Performance Index by Yale University, ensuring accurate, reliable, and up-to-date information.

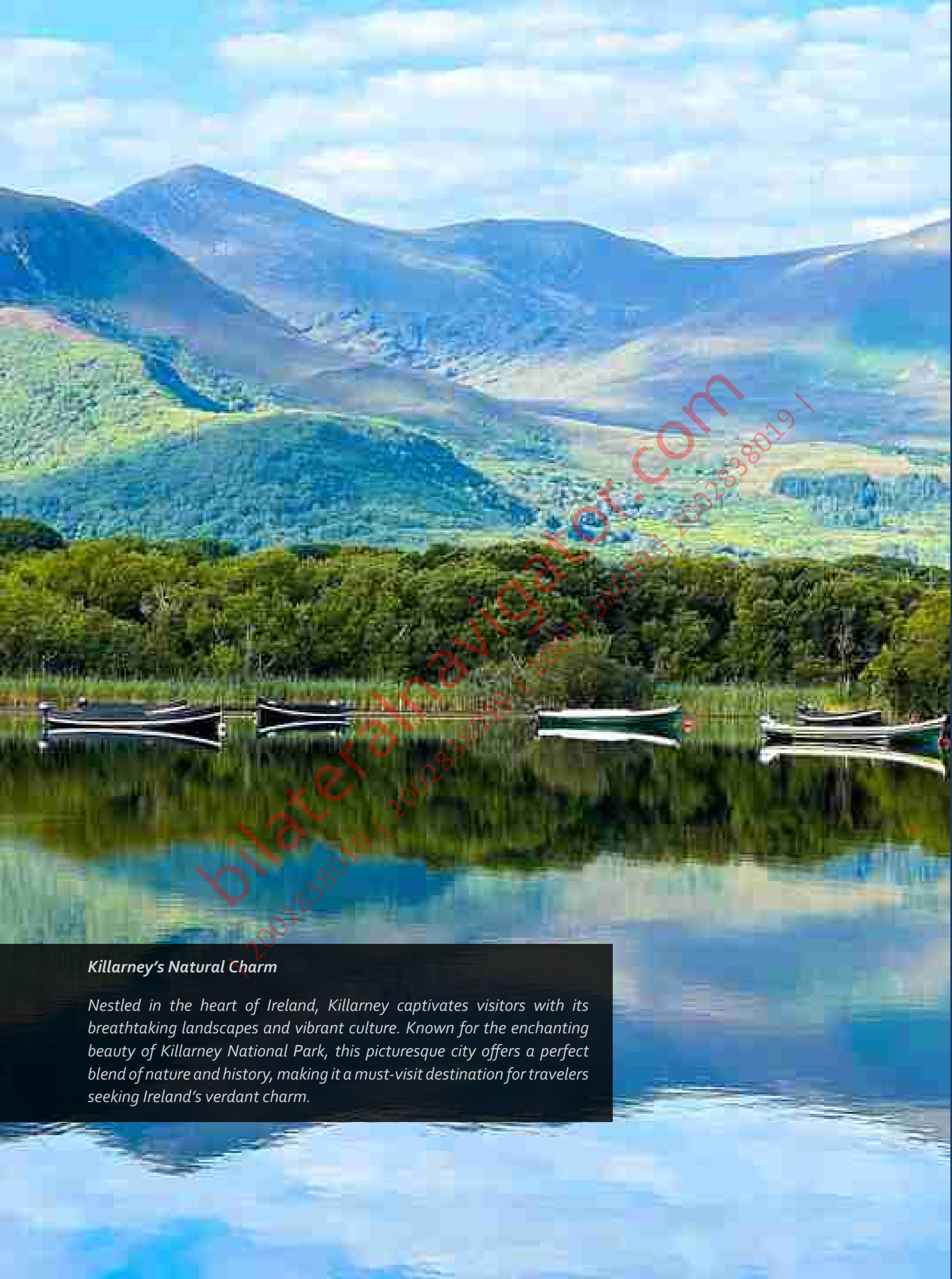
Through this examination, we gain a detailed understanding of the climate dynamics between Germany and Ireland. This comparison uncovers similarities and differences in their climate strategies, highlighting unique aspects of their environmental commitments and identifying opportunities for collaboration in climate action, fostering a stronger green partnership.

Germany's Climate Path

Germany stands as a pivotal actor on the global climate stage, not only due to its significant greenhouse gas emissions but also because of its comprehensive approach to tackling climate change. The country's high total greenhouse gas emissions remind us of its industrial prowess and its reliance on energy-intensive sectors. However, Germany's climate influence goes beyond emissions; it embodies a story of ambitious transformation. Despite its high CO_2 emissions, the country's decreasing greenhouse gas intensity illustrates a commitment to economic growth detached from emissions escalation. These efforts reflect Germany's strategic maneuvering towards more sustainable economic models, paving the way for future innovation in green technologies.

As Germany continues to advance its climate policies, its internal strategies resonate globally. The nation's intent to manage CO_2 emissions, alongside its decreasing emissions per capita, showcases its resolve to address climate change comprehensively, balancing ecological responsibilities with economic stability. Notably, the sharp decline in CO_2 emissions per GDP unit underscores Germany's evolving economic

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Killarney's Natural Charm

Nestled in the heart of Ireland, Killarney captivates visitors with its breathtaking landscapes and vibrant culture. Known for the enchanting beauty of Killarney National Park, this picturesque city offers a perfect blend of nature and history, making it a must-visit destination for travelers seeking Ireland's verdant charm.

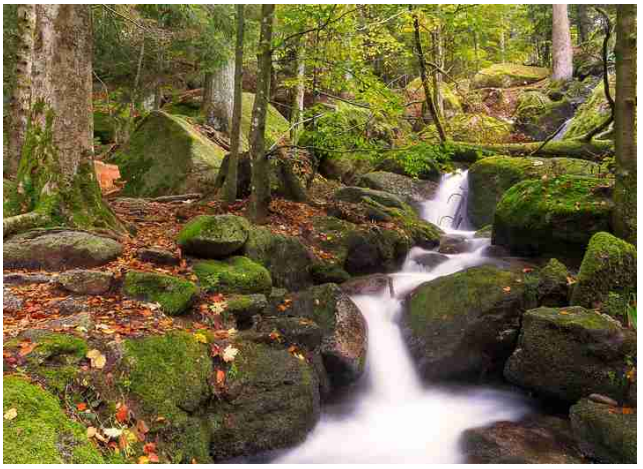
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stance, prioritizing efficiency and sustainable development. This economic transition is not merely a national agenda but forms the bedrock of Germany's identity as a climate leader, influencing its diplomatic engagements and collaborations worldwide.

Beyond its borders, Germany's climate measures act as a beacon for international cooperation. The country's commitment to reducing methane and F-gases highlights its proactive role on emissions fronts less commonly addressed by industrialized nations. Such actions enhance Germany's standing as a frontrunner, particularly in forums where global climate policies are shaped. The concerted effort to adjust and manage emissions growth, be it in CO_2, methane, or even black carbon, reinforces Germany's inclination towards a sustainable path, signaling other nations to align and synergize on similar trajectories.

Germany's climate journey is further distinguished by its adaptive capabilities and resilience building. The strategy is mirrored in data that indicates low vulnerability to extreme weather events, signifying successful adaptation frameworks that other susceptible regions could emulate. This resilience fortifies Germany's international partnerships, particularly in initiatives focused on technology transfer and sustainable agricultural practices, showcasing the country as a source of both innovation and stability.

Overall, Germany's climate commitments reflect a nation operating with foresight and responsibility, aware of its global impact and the interconnected fabric of international relations. By investing in green technologies and robust climate policies, Germany not only refines its domestic landscape but also crafts a narrative of leadership that extends across continents. Such attributes not only solidify its role as a pivotal climate actor but also lay the groundwork for enriched bilateral partnerships, driving collective progress in confronting global ecological challenges.



Gertelsbacher Waterfalls Cascading Through Black Forest, Germany – The Gertelsbacher Waterfalls flow gracefully through moss-covered rocks and dense trees in autumn. This secluded area offers a peaceful retreat, with cascading streams and vibrant foliage creating a picturesque scene. A testament to Germany's commitment to preserving its natural wonders.

Irish Green Vision

Ireland stands as a distinctive figure in the global climate landscape, characterized by its commitment to sustainable transformation and resilience. Its greenhouse gas emissions have witnessed a declining trend, underscoring a significant reduction in both total emissions and per capita figures over recent years. This represents a conscious move toward minimal environmental impact, an achievement showcasing Ireland's resolve to align economic growth with green principles. Despite the challenges embedded in its agricultural sector, primarily due to methane emissions, Ireland's efforts are narratively impressive, marked by strategically crafted policies aimed at embracing cleaner technologies and sustainable practices. The decline in carbon intensity per GDP suggests Ireland's economy is gradually decoupling from carbon reliance, a strategic pivot towards a greener economy.

One of Ireland's remarkable achievements lies in its greenhouse gas intensity improvement, where it ranks at the pinnacle globally, reflecting the efficacy of domestic policies and international collaboration. This prowess fuels Ireland's potential as a beacon of best

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Triberg Falls Among Black Forest's Towering Trees, Germany

one of Germany's tallest waterfalls, cascades through lush greenery and rocky terrain. Located in Baden-Württemberg, this iconic site highlights the region's pristine environment and natural heritage. A popular destination for visitors exploring the Schwarzwald's scenic beauty.

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practices in climate policy implementation. The adaptation of farm practices, targeted reduction strategies in methane emissions, and control over fluorinated gases highlight its pragmatic approach to climate challenges. Ireland's ethos of sustainability is not only a national priority but also a narrative that foregrounds its international standing as a proactive participant in global climate initiatives.

Ireland's climate vision is underscored by its ambition to transition to a low-carbon economy by 2050, a pathway fraught with complexities yet driven by an unwavering commitment to planetary health. Although Ireland's projected greenhouse gas emissions score suggests room for stringent measures, the country's strategic positioning at international climate forums reinforces its dedication to intensifying domestic actions and establishing alliances that serve broader ecological goals. Innovative policy frameworks and international agreements reciprocally fuel its journey towards achieving ambitious targets, essential for fortifying international relations.

Furthermore, Ireland's proactive climate policy objectives not only carve its identity on the global stage as a green innovator but also serve as a catalyst for fostering partnerships centered around sustainable growth. The country's progress in curbing black carbon emissions positions Ireland as a leader in local air quality improvement, affirming its influence in orchestrating regional environmental benefits. By strengthening green partnerships, Ireland seeks to enhance its strategic and economic engagements, underscoring how climate policy can be a conduit for nurturing diplomatic ties.

As Ireland continues its journey towards comprehensive climate resilience, its narrative elucidates the possibilities vested in strategic climate foresight and meticulous execution. The evolving regulatory landscape, driven by scientific evidence and diplomatic rigor, assists Ireland in reducing vulnerabilities to climate-induced adversities, like droughts and floods, while also spreading its influence globally by crafting a climate discourse that is resilient, cooperative, and visionary. Such endeavors ensure that Ireland remains a pivotal player in orchestrating a collective global response to climate change, charting a path that intertwines domestic action with global solidarity.



Romantic Chalk Cliffs of Ruegen – Discover the stunning beauty of Germany's Baltic Sea coast on the island of Ruegen, where the iconic white chalk cliffs rise dramatically against the azure sky. This idyllic destination blends natural splendor with tranquility, making it a perfect escape for nature lovers and those seeking a peaceful retreat in spring.

German & Irish Actions Synergy

Analyzing the German and Irish approaches within climate pledges, we find a range of areas of overlap. The closest matches across the indicators for both countries are seen in adjusted F-gas growth, CO_2 per capita, and climate policy, whereas the greatest disparities exist in adjusted methane growth, N_2O growth, and CO_2 total.

Within the scope of climate metrics, Germany and Ireland resonate with 70% similarity, standing out amidst their global group. Germany aligns most closely with France, and similarly, Ireland's closest match is Norway. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is nineteenth, while the German position is sixteenth in Irish listings.

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Maghera Waterfall in County Donegal, Ireland

The Maghera Waterfall cascades through lush greenery and moss-covered rocks, creating a tranquil scene. This natural landmark highlights Ireland's commitment to preserving its scenic beauty amidst climate change challenges.

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Table 15. *Climate Related Indicators.*

	Germany				Ireland				
Emissions	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Total greenhouse gas emissions (kt of CO_2 equivalent, ⇓)	692,751	10				69	59,498	2020	CW-GHG
CO_2 emissions (kt, ⇓)	603,351	7				67	33,742	2020	CW-GHG
CO_2 emissions (kg per PPP $ of GDP, ⇓)	0.1	116				171	0.1	2020	CW-GHG2
CO_2 emissions (mt per capita, ⇓)	7.3	26				28	6.8	2020	CW-GHG4
Agricultural methane emissions (kt of CO2 equivalent, ⇓)	31,173	24				53	14,209	2020	CW-GHG
Changes									
Greenhouse gas intensity growth rate (score, the best=100, ⇓)	60.8	49				1	100.0	2022	EPI
Greenhouse gas emissions per capita (score, the best=100, ⇓)	27.5	148				170	17.5	2022	EPI
Projected GHG Emissions in 2050 (score, the best=100, ⇓)	9.1	164				108	32.9	2022	EPI
Climate Change Policy Objective (score, the best=100, ⇓)	47.2	65				61	48.2	2022	EPI
CO_2 adjusted emissions growth (score, the best=100, ⇓)	64.3	19				45	53.1	2022	EPI
CO_2 emissions growth from land cover (score, the best=100, ⇓)	93.4	17				59	55.9	2022	EPI
Methane, adjusted emissions growth (score, the best=100, ⇓)	73.9	16				105	38.5	2022	EPI
F-gases adjusted emissions growth (score, the best=100, ⇓)	82.8	18				17	87.1	2022	EPI
N_2O adjusted emissions growth (score, the best=100, ⇓)	90.9	25				87	65.7	2022	EPI
Black carbon adjusted emissions growth (score, the best=100, ⇓)	100.0	13				2	100.0	2022	EPI
Droughts, floods, extreme temp. (% of pop., avg. 1990-2009, ⇓)	<0.1	118				143	<0.1	2009	EM-DAT

Note: Global rankings in this table are presented in descending order (highest to lowest), marked by the "⇓" arrows. The trend bars visually represent data from the past three years, with the rightmost bar specifically illustrating the most recent data.

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Germany-like

1. France (99%)
2. Italy (86%)
3. Belgium (84%)
4. United States (81%)
5. Japan (80%)
6. Austria (80%)

⋮

18. Switzerland (71%)
19. Ireland (70%)
20. Slovakia (70%)

Climate Action Similarity Germany and Ireland

70%

Germany ● | ● Ireland

Figure 13. *Climate Action Similarity.*

Similarity scores are derived from ranking differences across 16 climate indicators, normalized relative to the most similar country pair setting the 100% standard. Canada and South Korea are the most alike nations globally based on climate action indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

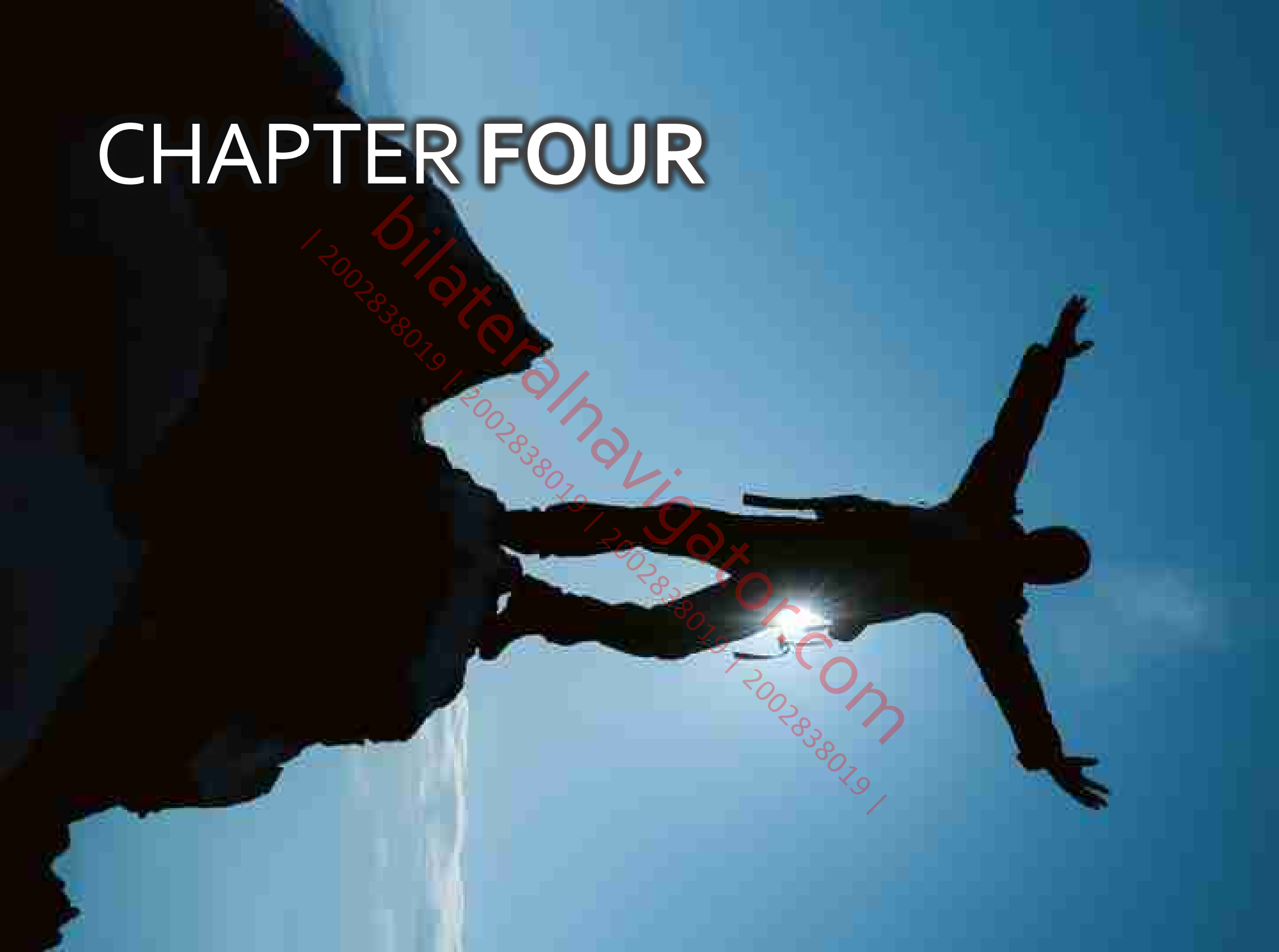
Ireland-like

1. Norway (79%)
2. Austria (78%)
3. Denmark (75%)
4. Switzerland (75%)
5. Netherlands (75%)
6. Belgium (74%)

⋮

15. Greece (71%)
16. Germany (70%)
17. Italy (69%)

CHAPTER FOUR



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Human Empowerment

CHAPTER **4** Human Empowerment Page

Health Landscapes 94

With healthcare insight, Germany and Ireland reflect a 71% similarity, transcending global averages. Czechia closely matches the German profile, with Luxembourg as the equivalent for Ireland.

Education Systems 101

Considering educational perspectives, Germany and Ireland connect at a 71% similarity rate, defying many established norms. In a global comparison, Germany's best match is found in Austria, just as Ireland's is in Australia.

Social Justice 106

Echoing social-related dimensions, Germany and Ireland boast a 74% similarity, edging out many peers, and this similarity tops all others within this chapter. Malta represents the closest match to Germany on the world stage, and Denmark to Ireland.

Gender Balance 112

With gender-related insight, Germany and Ireland reflect a 70% similarity, transcending global averages. The cultural and geographic tapestry of Germany is closely woven with Austria, as Ireland's is with Greece.

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ADAC Rescue Helicopter

With its striking yellow exterior, the ADAC emergency helicopter embodies Germany's commitment to rapid medical response. Offering essential aid during critical situations, this airborne vehicle showcases the fusion of technology and healthcare, serving as a vital component in the country's extensive emergency services infrastructure and ensuring timely assistance across urban landscapes.

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Health Landscapes

Exploring the health landscapes of Germany and Ireland provides insights into their healthcare systems and population health. This section examines health-related indicators to analyze each country's approach to disease prevention, healthcare access, mortality, and nutrition. Comparing these metrics reveals strengths and challenges in promoting public health and well-being.

Indicators related to disease prevention, such as basic sanitation services, HIV prevalence and incidence, tuberculosis and malaria incidence, and immunization rates for HepB3, DPT, and measles, assess the effectiveness of public health initiatives and preventive care.

Healthcare access indicators, including health expenditure per capita, percentage of GDP spent on healthcare, household health spending share, availability of hospital beds, and the density of healthcare professionals, highlight the availability and quality of medical services and the capacity to meet healthcare needs.

Mortality indicators, including maternal, neonatal, infant, and under-five mortality rates, and mortality from communicable and non-communicable diseases, unintentional poisoning, suicide, injuries, and air pollution, offer a comprehensive view of health outcomes and challenges. These metrics identify health risks and evaluate healthcare effectiveness.

Nutrition and food security indicators, such as the prevalence of undernourishment, overweight among children, anemia among non-pregnant women, food insecurity, diabetes prevalence, alcohol consumption, and tobacco use, provide insights into nutritional status and lifestyle factors affecting health.

Data for these indicators come from authoritative sources like the World Health Organization, UNICEF, and global health databases, ensuring accuracy and reliability.

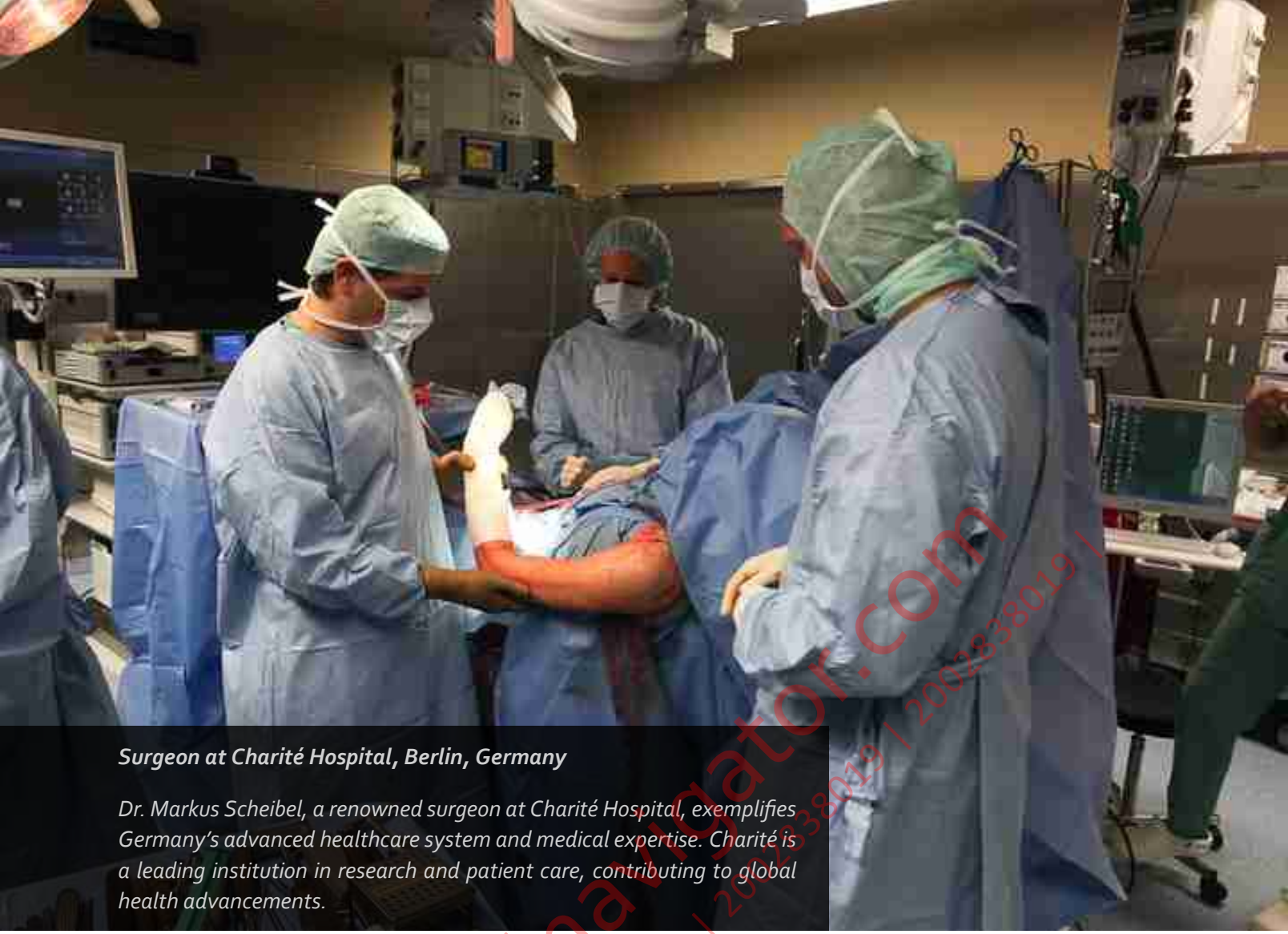
Evaluating these health indicators provides a nuanced understanding of healthcare dynamics and public health challenges shaping the bilateral relationship between Germany and Ireland. This comparison reveals similarities and differences in their health landscapes, identifying opportunities for collaboration and improvement in healthcare practices, and fostering a stronger partnership focused on enhancing health outcomes and well-being for both nations.

German Public Health

Germany's healthcare system stands as a robust model characterized by extensive infrastructure and investment. Ranked among the leading nations for its healthcare expenditure, Germany commits a significant percentage of its GDP to health, reflecting a consistent prioritization of public welfare. With an impressive number of hospital beds and a commendable ratio of healthcare professionals per capita, the country ensures broad access to medical services. This infrastructure backbone is reinforced by a substantial surgical workforce, underscoring Germany's capacity to manage complex medical cases. Such foundational strengths position Germany as a beacon of healthcare excellence, prompting international interest in its systemic efficiencies and cutting-edge practices.

The interplay between public health measures and healthcare delivery is notably evident in Germany's preparedness for emergencies and disease prevention. High immunization rates, particularly for measles,

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Surgeon at Charité Hospital, Berlin, Germany

Dr. Markus Scheibel, a renowned surgeon at Charité Hospital, exemplifies Germany's advanced healthcare system and medical expertise. Charité is a leading institution in research and patient care, contributing to global health advancements.

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and the effective control of infectious diseases like tuberculosis and HIV, illustrate Germany's proactive approach towards maintaining public health. These initiatives are complemented by low maternal and neonatal mortality rates, showcasing a comprehensive strategy that combines preventative care with responsive healthcare delivery. As a result, Germany not only safeguards its population but also sets standards that inspire international collaboration and the exchange of best practices.

Germany's healthcare advances extend beyond its borders, contributing to its strategic importance in international medical cooperation. It excels in specialized treatments and innovations that attract global attention, making it a hub for medical tourism. The reputation for quality care and medical expertise draws patients worldwide, fostering a dynamic exchange between nations and enriching global health dialogues. This multicultural influx further enhances Germany's healthcare landscape by infusing diverse perspectives and fostering collaborations that transcend borders.

Despite these achievements, challenges remain, particularly in addressing lifestyle-related health concerns such as the high prevalence of tobacco use and alcohol consumption. Nonetheless, the country's robust healthcare framework continues to focus on mitigating the impacts of non-communicable diseases, acknowledging the shifting health paradigms over time. By addressing these public health challenges with sustained innovation and policy refinement, Germany seeks to improve life quality and further elevate its status on the international stage.

In conclusion, Germany's healthcare system not only provides its citizens with comprehensive services but also shapes its global presence. The country's ability to leverage its strengths in infrastructure, workforce, and disease management plays a vital role in its bilateral relations. As an exemplar of healthcare excellence and innovation, Germany's commitment to health enhancement reflects its broader dedication to fostering human empowerment and influencing international health policy frameworks.

Irish Healthcare System

Ireland's healthcare landscape paints a picture of a nation fervently committed to the well-being of its citizens, tempered with a touch of Irish pragmatism. With a high per capita health expenditure, it stands among the top nations globally when it comes to investing in healthcare. This financial commitment translates into an infrastructure that supports a robust number of healthcare professionals, including an impressive ratio of nurses and midwives to the population. The country's health framework is designed to provide extensive coverage and care, reflected in a comprehensive array of health services accessible to its citizens. However, its expenditure as a percentage of GDP suggests room for more efficient utilization of resources, a balancing act Ireland continually refines in its pursuit of excellence.

The harmony of public health measures and healthcare delivery in Ireland is underscored by its proactive stance on disease prevention and health promotion. With impressively low rates of HIV and tuberculosis incidence, Ireland showcases an effective public health strategy that emphasizes early intervention and widespread immunization, though recent trends hint at challenges that may require renewed vigilance. The country's low prevalence of undernourishment and anemia among non-pregnant women further signals



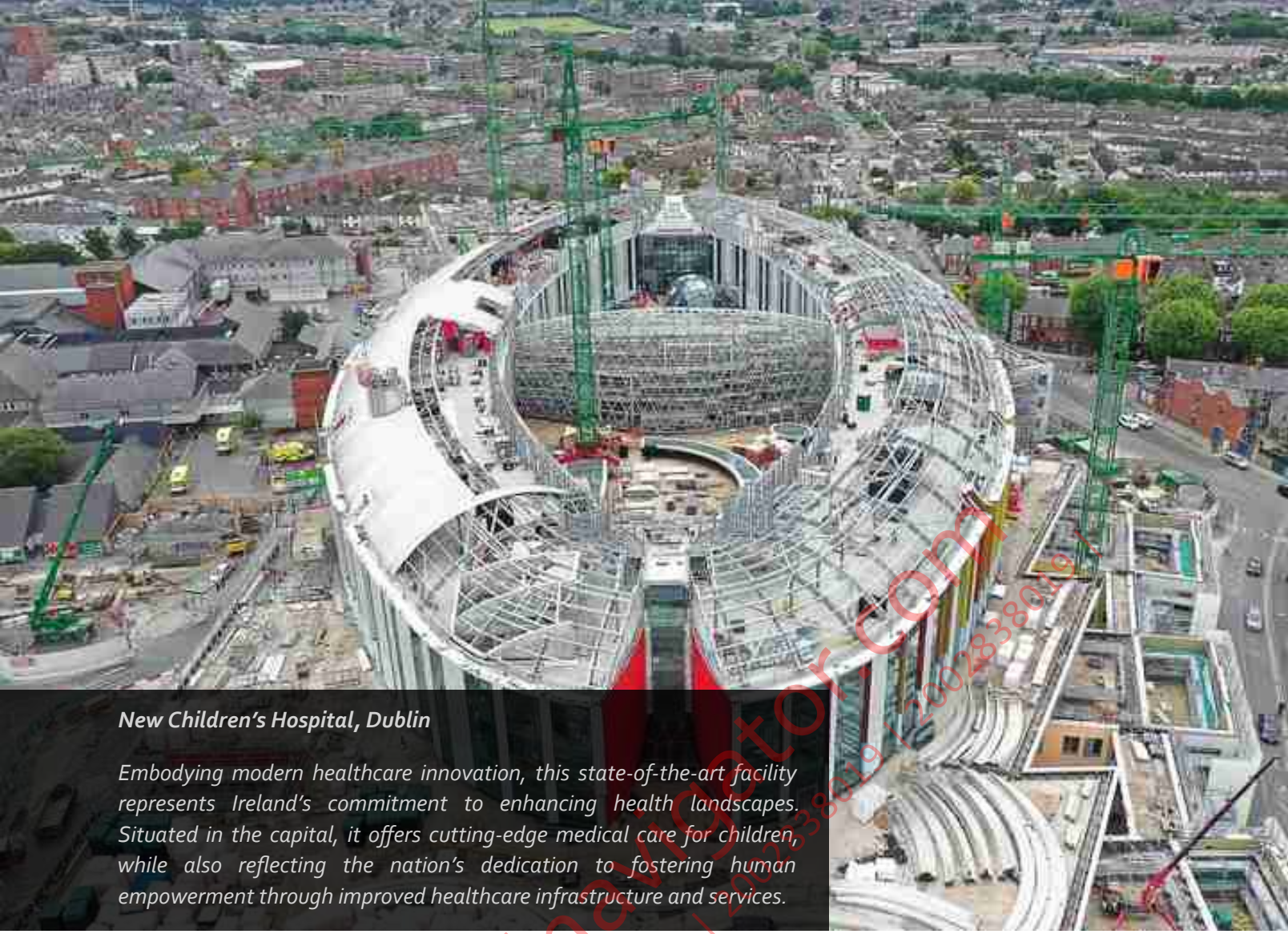
Prof. Katalin Karikó, Nobel Prize for Medicine in 2023 – is recognized, together with Drew Weissman, for their discoveries concerning nucleoside base modifications that enabled the development of effective messenger RNA vaccines against COVID-19. Born at Szolnok in Hungary, she took her degree and doctorate at the University of Szeged. At the University of Pennsylvania she and Drew Weissman found the modification of messenger RNA that made the vaccines possible, and she has been a senior vice-president at BioNTech and professor at Szeged. She holds Hungarian and American citizenship.

a successful approach to nutritional health, ensuring a high quality of life for its citizens through sound policy and implementation.

Emergency preparedness forms a central pillar of Ireland's healthcare system, reflected through streamlined services that prioritize quick response and adaptability. Concurrently, Ireland excels in providing specialized healthcare services, fostering an environment of innovation and expertise that not only serves its populace but also attracts international attention. The nation's growing specialization in medical tourism highlights its strategic use of cultural openness and health innovation to bolster international medical cooperation, facilitating knowledge exchange and fostering a global community of health experts.

Distinctive healthcare traits like Ireland's strong surgical workforce and the burgeoning number of surgical procedures performed position it as a hub of modern medical practice. Efforts in addressing non-communicable diseases are evident, though the higher mortality rate from such conditions reflects an area for potential

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New Children's Hospital, Dublin

Embodying modern healthcare innovation, this state-of-the-art facility represents Ireland's commitment to enhancing health landscapes. Situated in the capital, it offers cutting-edge medical care for children, while also reflecting the nation's dedication to fostering human empowerment through improved healthcare infrastructure and services.

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growth. Despite challenges such as alcohol consumption and tobacco use, Ireland's low rates of infant and maternal mortality underpin its success in prioritizing the health of its most vulnerable populations.

Ultimately, Ireland's healthcare system and public health strategies shape its international persona as a country committed to advancement and cooperation. Through continuous refinement and strategic international partnerships, the nation not only addresses the immediate health needs of its citizens but also leverages its healthcare expertise to foster stronger international relationships. This dynamic interplay of domestic health outcomes and international collaboration positions Ireland as a beacon of healthcare innovation, emphasizing its strategic importance on a global stage.

German & Irish Health Check

When comparing Germany and Ireland within the scope of health landscapes, we observe a range of commonalities. Among the various indicators analyzed for both nations, the closest alignment is seen in alcohol use, chronic deaths, and health spend. Conversely, the most significant divergences appear in child obesity, health GDP share, and diabetes rate.

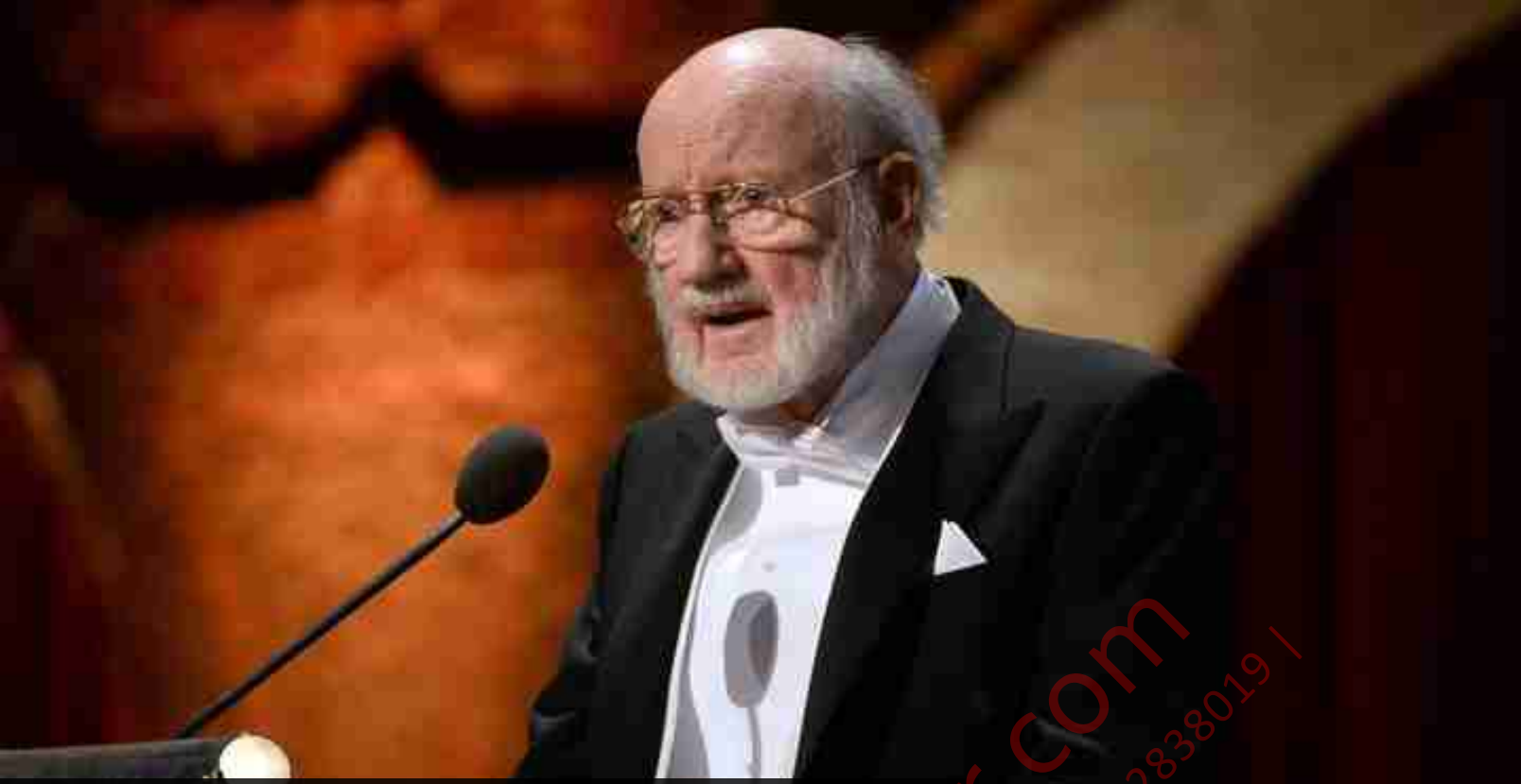
Healthcare connections between Germany and Ireland amount to a 72% similarity, outpacing much of the global landscape. Among Germany-like countries, Czechia is the first, as for Ireland is Luxembourg. As illustrated in the final chart of this section, Ireland ranks twentieth in Germany's standings, while Germany holds seventh position in Ireland's rankings.

Table 16. *Healthcare Indicators.*

	Germany				Ireland				
Health Care Access	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Current health expenditure per capita (current US$, ⇓)	6,191	13				10	6,349	2022	WHO01
Current health expenditure (% of GDP, ⇓)	12.7	9				111	6.1	2022	WHO01
Household health spending share (% of total, ⇓)	12.2	150				158	10.7	2021	WHO01
Hospital beds (per 1,000 people, ⇓)	7.8	7				73	2.9	2020	WHO-S
Nurses and midwives (per 1,000 people, ⇓)	12.4	12				7	14.9	20/21	WHO08
Physicians (per 1,000 people, ⇓)	4.5	19				29	4.1	2021	WHO08
Specialist surgical workforce (per 100,000 people, ⇓)	108.0	14				33	72.0	15/18	LANCET
Number of surgical procedures (per 100,000 people, ⇓)	19,124	7				57	3,053	22/10	LANCET1
Nutrition & Food Security									
Prevalence of undernourishment (% of population, ⇓)	2.5	127				116	2.5	2021	FAO4
Overweight, weight for height (% of children under 5, ⇓)	3.2	119						2016	UNICEF1
Anemia among non-pregnant women (% of women ages 15-49, ⇓)	11.6	176				173	11.9	2019	WHO05
Moderate or severe food insecurity in the population (%, ⇓)	3.8	147				138	5.4	2021	FAO3
Diabetes prevalence (% of ages 20 to 79, ⇓)	6.9	102				179	3.0	2021	IDIABF
Alcohol consumption (liters per adult, age 15+, ⇓)	11.8	6				18	10.8	2020	WHO-GHO
Prevalence of current tobacco use (% of adults, ⇓)	22.0	71				80	20.8	2020	WHO-GHO
Disease Prevention									
Basic sanitation services (% of population, ⇓)	99.2	34				104	89.3	2022	WB-JMP
Prevalence of HIV, total (% of population ages 15-49, ⇓)	0.1	133				82	0.3	2021	UNAIDS
Incidence of HIV (per 1,000 uninfected pop. ages 15-49, ⇓)	0.1	128				91	0.1	2021	UNAIDS
Incidence of tuberculosis (per 100,000 people, ⇓)	5.1	162				168	4.5	2022	WHO07
Immunization, HepB3 (% of one-year-old children, ⇓)	87	104				70	93	2022	WHO03
Immunization, DPT (% of children ages 12-23 months, ⇓)	91	88				71	93	2022	WHO03
Immunization, measles (% of children ages 12-23 months, ⇓)	97	30				85	90	2022	WHO03
Mortality									
Maternal mortality ratio (est. per 100,000 live births, ⇓)	4	171				159	5	2020	WHO04
Mortality rate, neonatal (per 1,000 live births, ⇓)	2.2	163				166	2.1	2022	UNICEF
Mortality rate, infant (per 1,000 live births, ⇓)	3.0	167				170	2.7	2022	UNICEF
Mortality rate, under 5 (per 1,000 live births, ⇓)	3.6	166				174	3.1	2022	UNICEF
Communicable/maternity/nutrition deaths (%, ⇓)	4.8	161				145	5.7	2019	GH-EST
Non-communicable diseases deaths (%, ⇓)	90.6	20				21	90.4	2019	GH-EST
Non-communicable disease deaths (ages 30-70, %, ⇓)	12.1	146				166	9.7	2019	WHO-GHO
Unintentional poisoning mortality rate (per 100,000 people, ⇓)	0.3	130				127	0.3	2019	WHO-GHO
Suicide mortality rate (per 100,000 people, ⇓)	12.3	42				62	9.6	2019	WHO-GHO
Injury caused mortality (%, ⇓)	4.6	160				169	3.9	2019	GH-EST
Air pollution mortality rate (per 100,000 people, ⇓)	16.0	160				170	11.9	2016	WHO-GHO

Note: Global rankings in this table use descending order (highest to lowest), marked by arrows "⇓". The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

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Prof. William C. Campbell, Nobel Prize for Medicine in 2015

is recognized, together with Satoshi Omura, for their discoveries concerning a novel therapy against infections caused by roundworm parasites. Born at Ramelton in County Donegal, he took his degree at Trinity College Dublin and his doctorate at the University of Wisconsin. He spent his career with the Merck Institute for Therapeutic Research, where the work on ivermectin was done, and became an American citizen.

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Germany-like

1. Czechia (97%)
2. Austria (85%)
3. Switzerland (83%)
4. Belgium (82%)
5. Netherlands (82%)
6. Slovenia (76%)

19. Luxembourg (72%)
20. Ireland (71%)
21. Portugal (71%)

Healthcare Similarity Germany and Ireland

71%

Germany ● | ● Ireland

Figure 14. *Healthcare Similarity.*

Through ranking differences across 37 healthcare indicators, similarity scores are normalized against the most similar country pair, which establishes the 100% benchmark. Italy and Spain are the most alike nations globally based on healthcare indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

Ireland-like

1. Luxembourg (80%)
2. Italy (77%)
3. Netherlands (74%)
4. Denmark (74%)
5. Spain (74%)
6. New Zealand (72%)
7. France (72%)
8. Norway (72%)
9. Switzerland (72%)
10. Germany (71%)

Education Systems

Examining the education systems of Germany and Ireland offers valuable insights into their approaches to fostering human capital and societal development. This section investigates various education-related indicators, providing a comprehensive comparison between the two countries. By analyzing these metrics, we can better understand each nation's educational strengths and areas for improvement.

Indicators related to access, such as government expenditure on education, pre-school enrollment, primary school starting age, duration of primary and secondary education, and school enrollment rates at different levels, highlight the investment and infrastructure dedicated to education. These metrics are crucial for understanding the accessibility and inclusivity of the education systems in both countries.

The pupil-teacher ratios at primary, secondary, and tertiary levels are indicative of classroom conditions and the quality of interaction between students and educators. Progression to secondary school and tertiary enrollment rates further reveal the educational pathways and opportunities available to students.

Human capital indicators, including the Human Capital Index, the percentage of the population completing various education levels, and the prevalence of higher education degrees (Bachelor's, Master's, and Doctoral), shed light on the educational attainment and workforce readiness of each country. These metrics are essential for evaluating the long-term impact of education on economic development and social progress

Quality indicators, such as adult and youth literacy rates, proficiency in English as a foreign language, and scores in verbal reasoning, quantitative reasoning, and analytical writing, offer insights into the effectiveness of education in developing critical skills. The presence of top-ranked universities in each country also reflects the global competitiveness of their higher education institutions.

The data for these indicators are sourced from reputable organizations such as UNESCO, the World Bank, and various educational assessment bodies. These sources ensure the reliability and validity of the information, providing a robust foundation for analysis.

By evaluating these education indicators, we gain a nuanced understanding of the educational landscapes that shape the bilateral relationship between Germany and Ireland. This detailed comparison reveals both similarities and differences, highlighting unique aspects of each country's education system. Through this analysis, we can identify opportunities for collaboration and development in educational practices, fostering a stronger partnership focused on enhancing human capital and educational outcomes for both countries.

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Education in Germany

In the heart of Europe, Germany stands out for its robust educational framework, deeply rooted in a blend of tradition and innovation. The country allocates a modest portion of its GDP towards education, yet it has constructed an intricate system that prioritizes efficiency and quality across all levels of learning. From an early starting age of six years for primary education, Germany's system paves a structured path towards lifelong learning, reflected in its completion rates across various educational stages. The distinctive structure of Germany's education system, notably with one of the longest secondary education durations in the world, ensures a comprehensive academic and



Technical University of Munich Campus, Germany

is renowned for its academic excellence and innovation. As one of Europe's leading universities, TUM exemplifies Germany's commitment to education and research, fostering global knowledge exchange and technological advancement.

personal development for its students, enhancing their global competitiveness.

Germany's educational landscape is characterized by a generous blend of academic and vocational pathways. Enrollment rates in secondary and tertiary education remain high, emphasizing the country's commitment to education as a pivotal societal cornerstone. The low pupil-teacher ratio across primary, secondary, and tertiary levels further accentuates the personalized attention students receive, fostering an engaging and effective learning environment. This is particularly evident in tertiary education, where a remarkably low pupil-teacher ratio underscores the focus on advanced knowledge transmission and research-led learning, which is a hallmark of German higher education institutions.

The allure of Germany's education system extends beyond its borders, attracting international interest and fostering dynamic academic cooperation. Renowned for its research strengths and innovative programs, exemplified by top-ranked universities such as LMU Munich, Germany serves as a cornerstone of international academic exchange. The country's emphasis on high-quality research has resulted in a thriving environment for doctoral studies. This appeal, combined with a language proficiency consistently above global averages, allows Germany to maintain its influential role in international academic communities.

Germany's distinctive educational features, including its comprehensive vocational education system and a strong emphasis on professional degrees, contribute significantly to its Human Capital Index and its broader

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socio-economic fabric. With a high percentage of adults holding secondary and advanced degrees, Germany positions itself as a leader in cultivating a well-rounded and highly skilled workforce. This strategic focus on education enables Germany to embody a model of human empowerment, acting as a magnet for international students and scholars, drawn by the promise of rigorous academic challenge and the cultural depth of Germany's intellectual tradition.

The fusion of historical legacy with progressive education policies in Germany creates an indelible impact on the country's international relations. As a hub of innovation and intellectual engagement, Germany remains a pivotal player on the global stage, its educational influence creating avenues for partnerships and collaborations across continents. Through educational diplomacy, embodied in strong student exchange programs and a significant footprint in global academia, Germany fortifies its role as a powerful nucleus of learning and human development, shaping not just national identity but also contributing to global educational trends and transformations.

What Shapes Irish Education?

Ireland's educational landscape is a tapestry of rich traditions and modern innovation, woven seamlessly into its cultural fabric. At the heart of Ireland's education system lies a profound commitment to accessibility and excellence, stretching from the foundation of primary education through to the heights of tertiary study. Primary education, starting at the youthful age of five and lasting for eight years, establishes a robust groundwork, ensuring that nearly all Irish children embark on their educational journey with equal footing. Although the primary enrollment rate is approaching universality, the relatively high pupil-teacher ratio indicates challenges in personalized attention at this level. Nevertheless, the strength of the early educational stages is reflected in the extensive infrastructure supporting secondary education, boasting high enrollment figures that consistently position Ireland among the global leaders.



Rheinisch Westphalian Technical University Aachen – Known for its cutting-edge research and innovation, this esteemed institution epitomizes Germany's commitment to human empowerment through education. RWTH Aachen fosters a dynamic learning environment, bridging academic excellence with practical application, preparing students to tackle global challenges with a strong foundation in science and technology.

Secondary education in Ireland, while shorter than many global counterparts, is a crucial phase of academic and personal development. With a formidable secondary school enrollment rate, the country prioritizes a comprehensive curriculum aimed at nurturing well-rounded individuals. The focus on quality is evident in the increasingly favorable pupil-teacher ratios, allowing for more tailored teaching experiences. This emphasis on secondary education serves as a gateway to higher academic pursuits and lifelong learning, forming the backbone of Ireland's high scores in verbal and analytical reasoning, key indicators of the country's strong cognitive competencies in global assessments.

The transition from secondary to tertiary education is marked by impressive enrollment rates, underscoring the value placed on higher education within Irish society. Universities in Ireland, particularly those like Trinity College Dublin, have cultivated an international reputation, contributing significantly to global academic collaboration and research initiatives. This reputation is partly fueled by the solid framework Ireland has

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Table 17. *Education System Indicators.*

	Germany				Ireland				
Access	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Government expenditure on education (% of GDP, ⇓)	4.5	76				144	2.9	22/21	UNESCO
Pre-school enrollment (% gross, ⇓)	108.0	11				32	95.4	2020	UNESCO
Primary school starting age (years, ⇑)	6	38				1	5	2023	UNESCO
Primary education, duration (years, ⇓)	4	172				1	8	2023	UNESCO
School enrollment, primary (% gross, ⇓)	100.2	87				92	99.6	2022	UNESCO
Pupil-teacher ratio, primary (⇑)	12.3	158				126	16.1	17/12	UNESCO1
Progression to secondary school (%, ⇓)	99.5	37						2016	UNESCO1
Secondary education, duration (years, ⇓)	9	1				169	5	2023	UNESCO
School enrollment, secondary (% gross, ⇓)	100.8	57				7	133.2	2022	UNESCO
Pupil-teacher ratio, secondary (⇑)	12.0	123				99	14.3	17/97	UNESCO1
School enrollment, tertiary (% gross, ⇓)	77.4	29				33	76.6	2022	UNESCO
Pupil-teacher ratio, tertiary (⇑)	7.6	169				92	15.4	17/10	UNESCO1
Human Capital									
Human Capital Index (scale 0-1, ⇓)	0.7512	23				7	0.7926	2020	WB12
Completed primary school (% of 25+, ⇓)	99.0	36				37	99.0	2022	UNESCO
Completed lower secondary school (% of 25+, ⇓)	94.0	35				50	90.1	2022	UNESCO
Completed upper secondary school (% of 25+, ⇓)	80.8	28				32	79.5	2022	UNESCO
Bachelor's degree or equivalent (% of 25+, ⇓)	29.2	32				10	37.3	2022	UNESCO
Master's degree or equivalent (% of 25+, ⇓)	12.3	39				29	13.7	2022	UNESCO
Doctoral degree or equivalent (% of 25+, ⇓)	1.8	17				19	1.5	2022	UNESCO
Top translated author (languages, ⇓): **J.W.v.Goethe | J.Joyce**	81	4				7	71	2023	UNESCO
Quality									
English as a foreign language (mean score, ⇓)	100	5				28	94	2021	TOEFL
Verbal Reasoning (tests in English, mean score, ⇓)	155	10				5	157	2019	ETS/GRE
Quantitative Reasoning (tests in English, mean score, ⇓)	157	17				51	154	2019	ETS/GRE
Analytical Writing (tests in English, mean score, ⇓)	3.9	11				5	4.2	2019	ETS/GRE
Top ranked university (rank, ⇑): **uni-muenchen.de | tcd.ie**	136	18				30	224	2020	UNIRNK

Note: Global rankings in this book's tables typically use descending order (highest to lowest), except for pupil-teacher ratios, which use ascending order. To clarify, arrows indicate order orientation: "⇓" for descending and for "⇑" ascending order. The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

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built around bachelor's, master's, and doctoral degree attainment, each showing a commendable upward trend in completion rates among adults. Such higher education achievements not only reflect Ireland's dedication to academic excellence but also bolster its capacity for international partnerships and cultural exchanges, attracting students and scholars worldwide.

Professional and vocational education further enriches Ireland's educational offerings, facilitating the development of specialized skills in various sectors crucial to Ireland's economic resilience. The robust vocational tracks complement the academic pathways, ensuring a well-rounded workforce that is both innovative and adaptive. This dual approach enhances Ireland's

appeal as a destination for foreign investments and multinational enterprises, contributing to its strategic importance globally. Despite relatively low government expenditure on education as a percentage of GDP, the country's educational outputs continue to rise, illustrating efficiency and effective allocation of resources.

In the global arena, Ireland's educational narrative is a tale of strategic growth and influence. Its well-educated populace, propelled by a comprehensive educational system, positions the country as a thought leader and a collaborator of choice in international endeavors. This stature is further enriched by a cultural legacy of literary figures, such as James Joyce, whose contributions extend Ireland's intellectual influence beyond its borders. The interplay of educational quality, cultural richness, and innovative spirit defines Ireland as a nation deeply rooted in its heritage while dynamically engaging with the world stage, shaping its identity and fostering enduring international relationships.

Germans & Irish at School

In the context of education systems, a comparison between Germany and Ireland reveals a range of areas of similarity. Of the indicators shared by both nations, they are most aligned in doctoral degree, primary complete, and author translate, while their greatest differences are evident in secondary entry, primary years, and secondary years.

Reflecting on educational parallels, Germany and Ireland achieve a 71% similarity, outperforming a multitude of peers. Germany's data echo in Austria, as Ireland's do in the Netherlands. As the final chart in this section shows, Ireland holds twentieth position in Germany's ranking, and Germany ranks fifteenth on Ireland's list.

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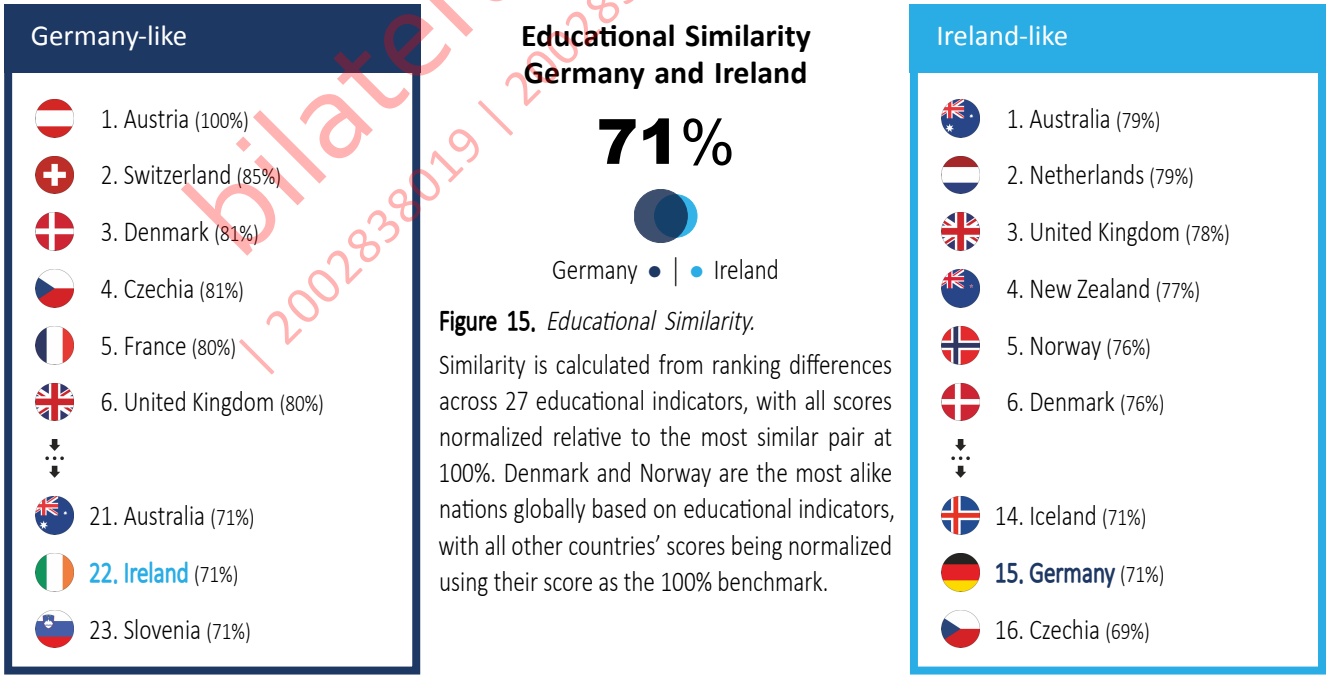
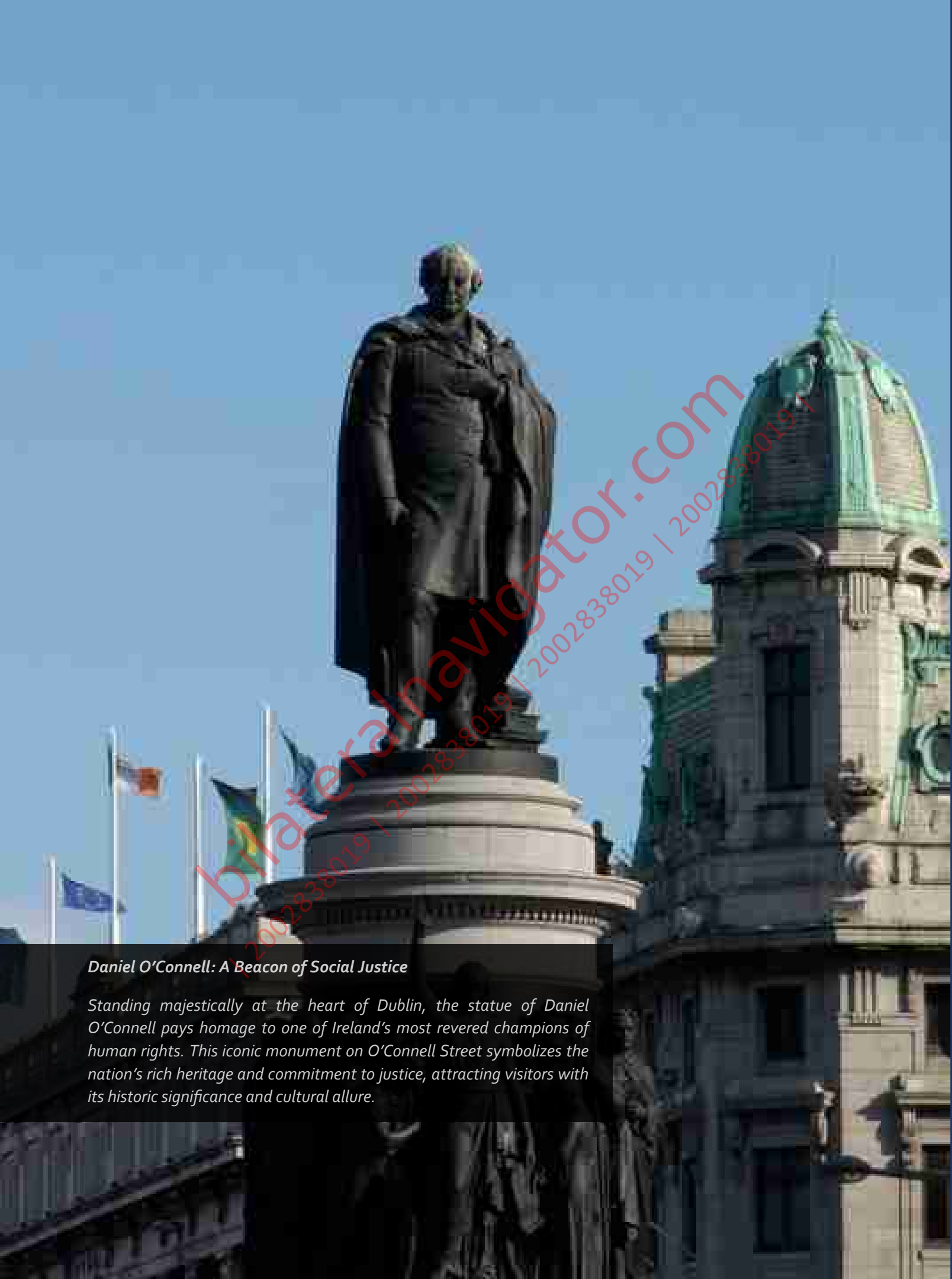


Figure 15. *Educational Similarity.*

Similarity is calculated from ranking differences across 27 educational indicators, with all scores normalized relative to the most similar pair at 100%. Denmark and Norway are the most alike nations globally based on educational indicators, with all other countries' scores being normalized using their score as the 100% benchmark.



Daniel O'Connell: A Beacon of Social Justice

Standing majestically at the heart of Dublin, the statue of Daniel O'Connell pays homage to one of Ireland's most revered champions of human rights. This iconic monument on O'Connell Street symbolizes the nation's rich heritage and commitment to justice, attracting visitors with its historic significance and cultural allure.

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Social Justice

Understanding social justice within a country helps grasp its overall social and economic health. This section examines several social justice indicators to provide an in-depth analysis of the social equity and inclusivity of Germany and Ireland. By comparing these metrics, we can uncover each nation's approach to employment, income distribution, poverty, and unemployment, highlighting their unique challenges and achievements.

Employment indicators such as employment-to-population ratio, labor force participation rate, and employment distribution across agriculture, industry, and services sectors, provide a snapshot of the workforce structure and economic engagement of the population. Metrics on self-employment and the proportion of employers illustrate the entrepreneurial environment and job diversity within each country.

Income inequality indicators, including the Gini index, income shares held by the lowest and highest 10%, and the mean consumption or income per capita, are vital for understanding the wealth distribution and economic disparities. These metrics reveal the economic inequality and highlight areas needing policy intervention to ensure a more equitable society.

Poverty indicators, such as the national poverty ratio, multidimensional poverty ratio, and poverty gaps at different income levels, provide a comprehensive view of the poverty landscape. These measures help identify the depth and breadth of poverty, offering insights into the socio-economic conditions affecting the most vulnerable populations.

Unemployment indicators, including the overall unemployment rate, youth unemployment rates, and



H.E. Seán MacBride, Nobel Prize for Peace in 1974 – was recognized for his lifelong efforts on behalf of human rights. Born in Paris, the son of an Irish officer and a mother born in England who became a figure in Irish nationalist life, he was schooled in France and at Mount St Benedict in County Wexford and qualified as a barrister in Ireland. He served as Ireland's minister for external affairs and helped found Amnesty International, and he died in Dublin.

the proportion of youth not engaged in education, employment, or training, shed light on the job market dynamics and the challenges faced by young people. These metrics are crucial for assessing the effectiveness of labor market policies and the economic opportunities available to the younger generation.

The data for these indicators are sourced from reputable institutions like the International Labour Organization, the World Bank, and government statistical agencies, ensuring their reliability and accuracy. These sources provide a solid foundation for analysis and comparison.

Examining these social justice indicators reveals the socio-economic factors shaping the bilateral relationship between Germany and Ireland. This detailed comparison highlights both similarities and differences, uncovering unique aspects of each country's social landscape. Through this analysis, we can identify opportunities for collaboration and development in social

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Martin Luther's Legacy

Standing resolute in front of Dresden's iconic Frauenkirche, Martin Luther's memorial beautifully embodies the spirit of human empowerment and social justice that he championed. This striking monument by Ernst Rietschel highlights Luther's pivotal role in the Reformation, marking a profound cultural and religious impact within Germany's rich historical tapestry.

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policies, fostering a stronger and more equitable partnership between the two nations.

German Social Fabric

Germany's social framework paints a complex picture of balance between economic prowess and social equity, setting a standard that many nations aspire to emulate. The employment landscape in Germany is particularly illustrative of its social policies influencing societal outcomes. With a high labor force participation rate, the country demonstrates a robust engagement of its working-age population, underscoring a diverse and versatile economy. However, the employment distribution highlights specific societal transitions, as a significant majority of jobs are within the service sector, reflecting a shift away from traditional industries and agriculture. This transformation is supported by innovative social policies aimed at sustaining high employment rates, despite a modest overall employment-to-population ratio.

A key element in Germany's social justice framework is its effective handling of unemployment, which remains impressively low. Youth unemployment indicators, specifically, reveal a society that invests deeply in education and vocational training, supporting young people's integration into the labor market. This strategic focus not only diminishes the fear of joblessness among young adults but also enhances the country's future economic stability and productivity. Such low youth unemployment rates, coupled with substantial

protection against poverty, highlight Germany's commitment to nurturing its human capital, ensuring equitable growth, and reinforcing its standing in global human rights dialogues.

Income distribution further illustrates Germany's nuanced approach to social equity. A relatively low Gini index suggests a more equal distribution of wealth compared to many of its peers, reflecting on policies that aim to mitigate income disparities. The income share held by the highest earners contrasts sharply with the more equitable distribution among the lower brackets, underlining effective taxation and social benefits systems. Germany's impressive GDP per person employed and high-income levels per capita position it as a global leader, showcasing a model where economic efficiency and social equity are not mutually exclusive but rather complementary.

Germany continues to make strides in reducing the dimensions of poverty, evidenced by a very low poverty gap and a steadily declining multidimensional poverty ratio. These indicators align with a societal ethos that aims to provide a safety net for all citizens, ensuring access to essential services and opportunities. While the national poverty rate remains a point of concern, ongoing initiatives targeting vulnerable groups demonstrate Germany's proactive approach in striving for even greater social justice and cohesion.

Globally, Germany's social framework projects its identity as a nation of innovation and responsibility. By fostering enhanced social equity through its strategic policies, Germany not only cultivates a high quality of life for its citizens but also strengthens its international partnerships. Its global leadership in social reforms serves not merely as a testament to domestic achievements but as an influential example in shaping international socioeconomic norms. In an interconnected world, Germany's social justice legacy continues to pave the way for collaborative growth and mutual advancement on the global stage.



Ms. Nadia Murad, Nobel Prize for Peace in 2018 – is recognized, together with Denis Mukwege, for their efforts to end the use of sexual violence as a weapon of war and armed conflict. Born at Kocho in the Sinjar district of northern Iraq to a Yazidi farming family, she grew up in the village and attended its school until her community was attacked in 2014. She afterwards settled in Germany, became a United Nations goodwill ambassador, and continues to speak for the Yazidi community.

Ireland's Community Bonds

In the global tapestry of social justice and equity, Ireland stands out with a distinctive blend of economic strength and progressive social policies. The country has made significant strides in integrating diverse employment sectors, evidenced by its robust employment in the service industry. The service sector, comprising a significant portion of total employment, reflects Ireland's strategic pivot toward a knowledge-based economy. Despite a relatively low rate of agricultural employment, the industry forms a bedrock for innovation, driving employment diversification. These dynamics showcase Ireland's successful adaptation to global economic changes, fostering resilience against broader socioeconomic shifts.

Ireland's labor force participation rate highlights a strong engagement across working-age demographics. Recent trends indicate a positive trajectory, underscoring the success of Ireland's inclusive employment strategies and policies that encourage workforce participation. This high engagement rate among the working-age population is complemented by a comparatively modest unemployment rate, reflecting

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Table 18. *Labor Market & Social Justice Indicators.*

	Germany				Ireland				
Employment	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Employment to population ratio (% of pop. 15+, est., ⇓)	59.6	79				54	62.7	2023	ILO1
Labor force participation rate (% of ages 15-64, ⇓)	79.9	18				38	76.8	2022	ILO4
Employment in agriculture (% of total employment, est., ⇓)	1.2	170				141	4.0	2022	ILO
Employment in industry (% of total employment, est., ⇓)	26.9	31				90	19.2	2022	ILO
Employment in services (% of total employment, est., ⇓)	71.9	38				23	76.8	2022	ILO
Employers (% of total employment, est., ⇓)	4.1	49				58	3.9	2022	ILO
Self-employed (% of total employment, est., ⇓)	8.7	166				147	14.0	2022	ILO
Unemployment									
Unemployment, est. (% of total labor force, ⇓)	3.0	145				103	4.5	2023	ILO3
Youth unemployment (% of youth labor force, 15-24, est., ⇓)	6.0	150				101	10.8	2023	ILO3
Youth unemployment, female (% of female labor, 15-24, est., ⇓)	5.2	157				109	10.3	2023	ILO3
Youth unemployment, male (% of male labor, 15-24, est., ⇓)	6.6	136				94	11.2	2023	ILO3
Youth not working and not studying (% of youth pop., est., ⇓)	7.5	149				157	6.4	2023	ILO1
Income Inequality									
Gini index (⇑)	32.4	49				34	30.1	20/21	WB07
Income share held by lowest 10% (⇓)	2.9	70				27	3.6	20/21	WB07
Income share held by highest 10% (⇓)	25.0	114				118	24.8	20/21	WB07
Mean consumption of income per capita (PPP $/day, ⇓)	70.3	6				15	58.9	20/21	WB22
GDP per person employed (constant 2017 PPP $, ⇓)	120,407	17				2	230,224	2023	WB36
Bottom 40% class per capita growth rate (%, ⇓)	2.4	58				24	4.7	20/21	WB22
Poverty									
Poverty ratio at national poverty lines (% of pop., ⇓)	14.8	121				124	14.0	2021	WB35
Multidimensional poverty ratio (% of total pop., ⇓)	24.0	32				37	20.8	2020	EUROST
Poverty gap at $6.85 a day (2017 PPP, %, ⇓)	0.3	148				158	0.1	20/21	WB07
Poverty gap at $3.65 a day (2017 PPP, %, ⇓)	0.2	131				142	0.1	20/21	WB07
Poverty gap at $2.15 a day (2017 PPP, %, ⇓)	0.2	103				138	0.0	20/21	WB07

Note: Global rankings in this table use descending order (highest to lowest), marked by arrows "⇓". The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

effective national labor policies. Interestingly, even with the challenges posed to global youth employment, Ireland's youth unemployment rates remain manageable, speaking to both the effectiveness of the educational system and the country's commitment to youth empowerment.

The country's commitment to income equality is further underscored through its Gini index ranking and income distributions. Ireland achieves a noteworthy position, reflecting a balanced distribution of wealth that favors equitable growth. Furthermore, the steady growth rate in per capita income for the bottom 40% of the population highlights Ireland's policies toward inclusive economic development, ensuring that prosperity is shared among its citizens. As illustrated by the low poverty gap figures, Ireland has managed to keep extreme poverty to a minimum, which reinforces its strong social safety net and effective poverty alleviation measures.

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Ireland's global standing in reducing poverty is also commendable. With minimal poverty gaps at both national and international thresholds, the nation's social framework exemplifies strategic leadership that aligns with international human rights standards. Such achievements assist Ireland in maintaining its reputation as a country that not only meets but often exceeds global benchmarks for social justice and economic equity. This international standing is cemented by the country's capacity to manage and reduce multidimensional poverty through well-targeted social interventions and policies that address the core needs of its population.

On the world stage, Ireland's blend of economic acumen and social equity poises it as a model of progressiveness. The country's ability to balance growth with welfare, demonstrated through its effectiveness in managing employment and economic distribution, enriches its international partnerships and lends weight to its diplomatic engagements. By championing fairness and social justice within its borders, Ireland continues to reinforce its influence and strategic alliances, contributing to a more equitable and interconnected global community.

German & Irish Social Mirrors

Analyzing the German and Irish approaches within social justice, we find a range of areas of overlap. The closest matches across the indicators for both countries are seen in youth inactive, mean income, and richest share, whereas the greatest disparities exist in industry jobs, youth jobless, and female youth jobs.

Viewed through a social-related lens, Germany and Ireland exhibit a 74% similarity, surpassing the global median, indicating their highest degree of likeness in this chapter. Malta emerges as the closest counterpart to Germany, whereas Ireland finds its parallel in Denmark. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is the third, while the German position is seventeenth in Irish listings.

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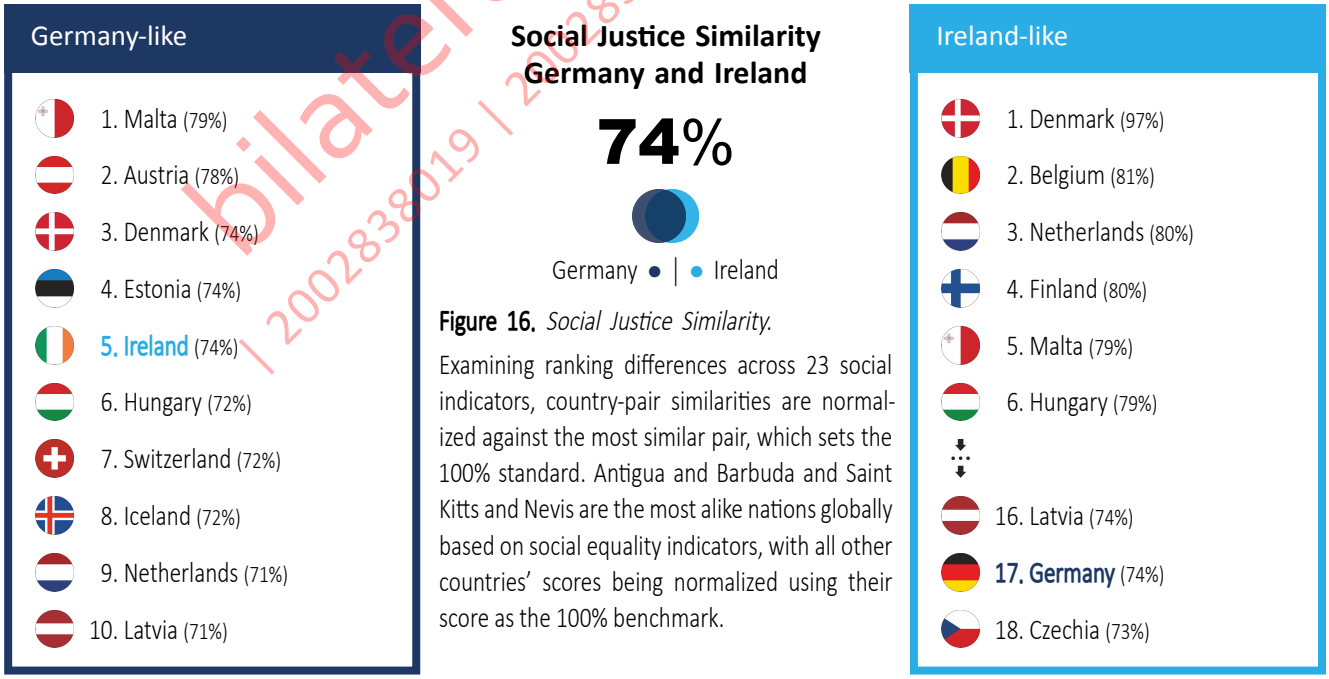


Figure 16. *Social Justice Similarity.*

Examining ranking differences across 23 social indicators, country-pair similarities are normalized against the most similar pair, which sets the 100% standard. Antigua and Barbuda and Saint Kitts and Nevis are the most alike nations globally based on social equality indicators, with all other countries' scores being normalized using their score as the 100% benchmark.



Bust of Constance Markievicz in Dublin, Ireland

A bust of Constance Markievicz stands in St. Stephen's Green, honoring her legacy as an Irish politician and revolutionary nationalist. This symbol reflects Ireland's efforts toward gender equality and inclusion.

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Gender Balance

Examining gender balance provides insights into social and economic dynamics. This section explores gender-related indicators to assess equity in Germany and Ireland. By analyzing these metrics, we gain a clearer picture of each nation's efforts towards gender equality and women's empowerment.

Population balance indicators, such as sex ratios in various age groups, highlight demographic trends and potential long-term gender imbalances.

Women's empowerment indicators, including seats held by women in parliaments, women's share in company ownership, and senior management positions, reflect progress and challenges in achieving gender equality in professional and political spheres.

Additional indicators on women's labor force participation, decision-making power at home, and informed sexual and reproductive choices provide insights into women's autonomy in public and private life. Metrics such as teenage mothers and early marriage offer perspectives on women's health and education.

Data sources for these indicators include Demographic and Health Surveys, the International Labour Organization, and the World Bank, ensuring reliability.

By evaluating these indicators, we can compare gender balance in Germany and Ireland, identifying unique and shared challenges. This analysis helps pinpoint opportunities for fostering gender equality and empowering women, contributing to a more inclusive society in both nations.

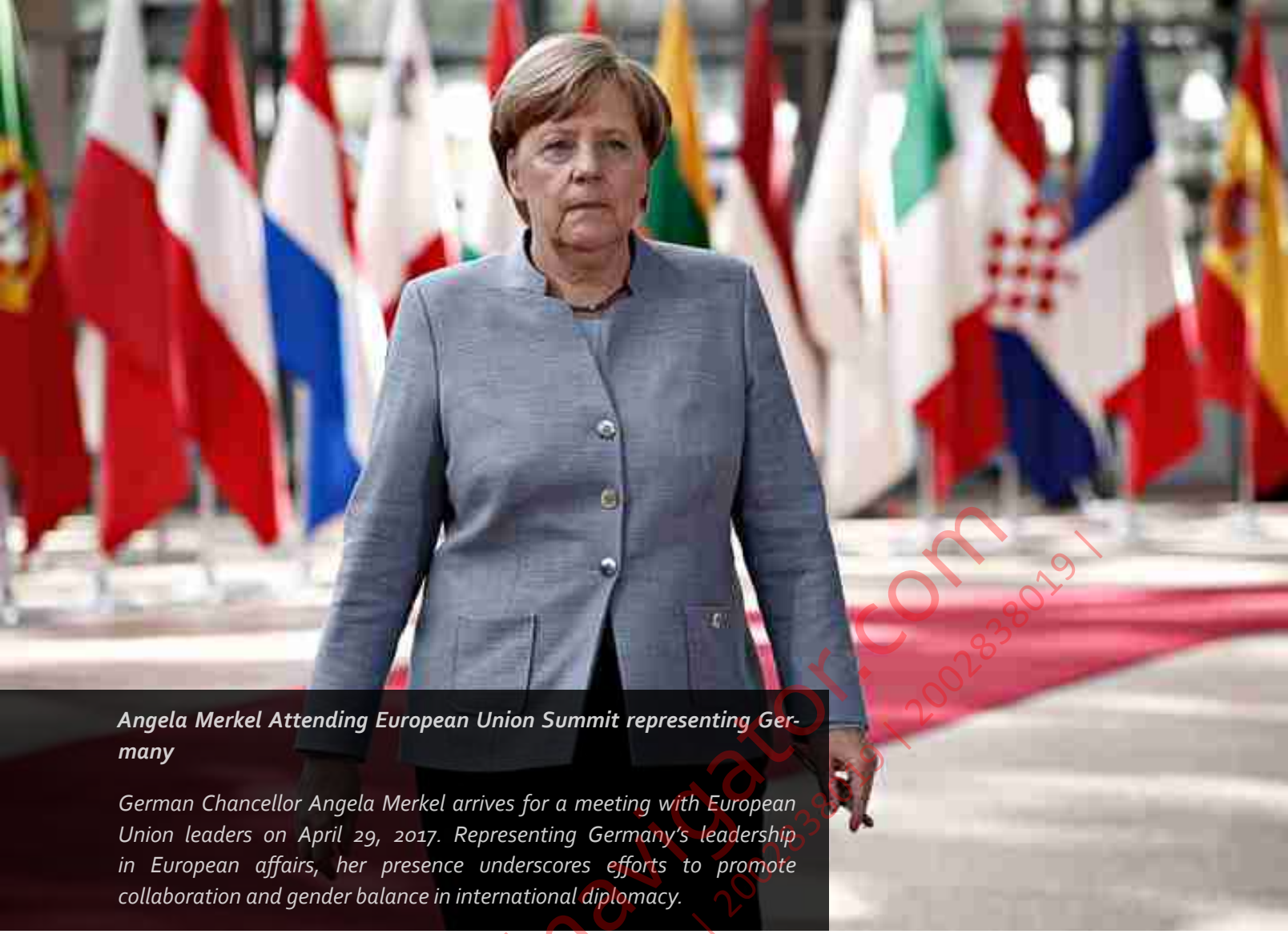
Gender Equality in Germany

Germany's gender equality landscape reflects a multifaceted blend of progress and areas still in need of attention. The overall sex ratio presents a balanced demographic backdrop, essential for equitable policy-making and resource distribution. At birth and throughout early childhood, the country aligns closely with natural expectations, indicating a healthy demographic foundation. However, a marked disparity emerges in the senior population, where women significantly outnumber men. This demographic nuance influences societal structures, retirement policies, and healthcare demands, with women playing increasingly crucial roles in shaping these sectors.

The nation's robust legal framework, exemplified by its perfect score on the Women Business and the Law Index, underscores Germany's commitment to gender equity, promoting an environment where women's legal rights are equivalent to those of men. This achievement positions Germany as a leader in gender equality on the international stage, illustrating a significant alignment between its legislative commitments and global best practices. The strong legal infrastructure supports women's rights holistically, paving the way for further advancements in social policy and, potentially, serving as a model for countries striving for similar achievements.

Despite this legal parity, challenges remain in translating laws into tangible societal outcomes, particularly in the economic arena. Women's representation in senior and middle management roles modestly lags compared to other progressive metrics, indicating an opportunity for growth in corporate leadership. Nonetheless, the relatively high percentage of women holding seats in national parliaments demonstrates significant political empowerment, affirming their influence in the legislative process. This political presence can drive policy shifts and champion initiatives aimed at reducing the corporate leadership gender gap, setting a trajectory for future growth and equality.

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Angela Merkel Attending European Union Summit representing Germany

German Chancellor Angela Merkel arrives for a meeting with European Union leaders on April 29, 2017. Representing Germany's leadership in European affairs, her presence underscores efforts to promote collaboration and gender balance in international diplomacy.

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Table 19. *Gender Balance Indicators.*

	Germany				Ireland				
Population Balance	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Sex ratio in total population (m/f, ⇓)	1.0	138				110	1.0	2021	WB09
Sex ratio at birth (male births per female births, ⇓)	1.1	66				69	1.1	2022	UN-PD
Sex ratio, age group 0-14 years (m/f, ⇓)	1.1	52				91	1.0	2021	WB09
Sex ratio, age group 15-64 years (m/f, ⇓)	1.0	39				129	1.0	2021	WB09
Sex ratio, age group 65 years and over (m/f, ⇓)	0.8	102				33	0.9	2021	WB09
Women's Empowerment									
Seats held by women in national parliaments (%, ⇓)	35.2	45				104	23.1	2023	IPU
Women's share in company ownership (%, ⇓)	33.5	84				25	54.9	21/20	WB04
Women's share in senior and middle management (%, ⇓)	26.5	99				68	35.1	2022	ILO6
Women's share in labor force (% of total labor force, ⇓)	46.7	67				65	46.8	2023	WB31
Women Business and the Law Index Score (scale 1-100, ⇓)	100.0	8				2	100.0	2023	WB38

Note: Global rankings in this table use descending order (highest to lowest), marked by arrows "⇓". The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

Societal and cultural shifts are subtly reshaping traditional roles, with women now constituting nearly half of the labor force. This participation is crucial not only for economic diversity but also for sustaining the country's innovative and competitive edge. Women's involvement in company ownership signifies a progressive shift towards inclusivity in business, aligning with Germany's broader aspirations of fostering an environment that values diverse perspectives. These strides towards economic inclusion reflect in Germany's enhanced strategic positioning, showcasing its potential as a dynamic partner in international economic alliances.

Overall, Germany's efforts towards gender equality paint a picture of a nation at the forefront of legal reforms with room for socioeconomic improvements. Its balanced sex ratios and legal benchmarks foster a stable environment conducive to equality, while its challenges in corporate leadership represent avenues for future developments. As Germany continues to integrate gender perspectives into its domestic and international policies, it fortifies its role as a significant player in promoting global gender parity and exemplifying the benefits of inclusive growth.

Women of Ireland

Situated on the western fringe of Europe, Ireland stands out with a notable commitment to gender equality, reflected through various indicators that showcase both progress and areas in need of continued focus. The country's gender balance within its population mirrors a striking equilibrium, maintaining a sex ratio of one-to-one across various age groups, except among the elderly where women outnumber men. This demographic structure acts as a foundational pillar for gender-related policies and societal norms, fostering an environment that increasingly supports the equal participation of women across different sectors.



Clara Zetkin Memorial Bust – This sculpture in Dresden honors Clara Zetkin, a pioneering figure in the pursuit of gender equality and women's rights in Germany. Zetkin's work laid a foundation for the empowerment and representation of women, reflecting her enduring impact on society's path toward balance and inclusion.

In the realm of political representation, Ireland presents a mixed picture. While the participation of women in national parliaments remains below the global average, there has been a significant positive trend over the past few years. This upward shift is indicative of ongoing efforts to enhance female political representation, despite the current figure being relatively modest. To complement political strides, Ireland demonstrates notable leadership in economic empowerment, with women making up a majority of company owners, underscoring a robust entrepreneurial spirit among Irish women.

Women's involvement in the labor force is another area of considerable strength, with women comprising a significant portion of Ireland's workforce. The trend indicates a growing participation rate over recent

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Mary Robinson's Climate Leadership

At Chatham House, Mary Robinson, the former president of Ireland and a prominent advocate for human empowerment, addresses pressing climate change issues. Her distinguished career, merging politics and human rights, highlights Ireland's commitment to global environmental challenges and gender balance within leadership roles.

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years, highlighting the country's success in facilitating conditions that attract and retain female talent in the labor market. Furthermore, Ireland excels in providing an equitable business environment, maintaining a near-perfect score on the Women Business and the Law Index. This legal framework not only ensures gender parity within economic activities but also enhances Ireland's appeal as a progressive and egalitarian society on the world stage.

Distinctive in its approach to combining legal measures with societal outcomes, Ireland's gender equality achievements also influence its international relationships. By prioritizing gender balance, Ireland reinforces its international standing and builds partnerships based on shared values of equality and respect for human rights. This emphasis on gender dynamics serves not only as a domestic policy triumph but also as a strategic element that shapes Ireland's identity and reputation globally.

Ireland's journey in fostering gender equality is a tale of both accomplishments and ongoing challenges. The blend of robust legal frameworks, coupled with visible social progress, underscores the nation's commitment to building an inclusive society. As Ireland continues to forge ahead in closing the gender gap, its efforts resonate beyond its borders, setting a benchmark for other nations and reinforcing its role as a leader in promoting gender equity on the international stage.

Gender Progress Paralleled

When analyzing German and Irish gender-related indicators, we can identify a range of similarities. The two nations are most closely aligned in women workers, birth ratio, and women rights, while their most significant differences occur in adult sex ratio, elder sex ratio, and women MPs.

Harnessing gender-related cohesion, Germans and Irish share a notable 70% similarity, eclipsing many comparative relationships. Austrians closely match the German profile, while Greeks emerge the equivalent for Irish. This is further illustrated in the concluding chart, where Irish are ranked twenty-third in the Germans' rankings, while Germans are fourteenth in the Irish' listings.

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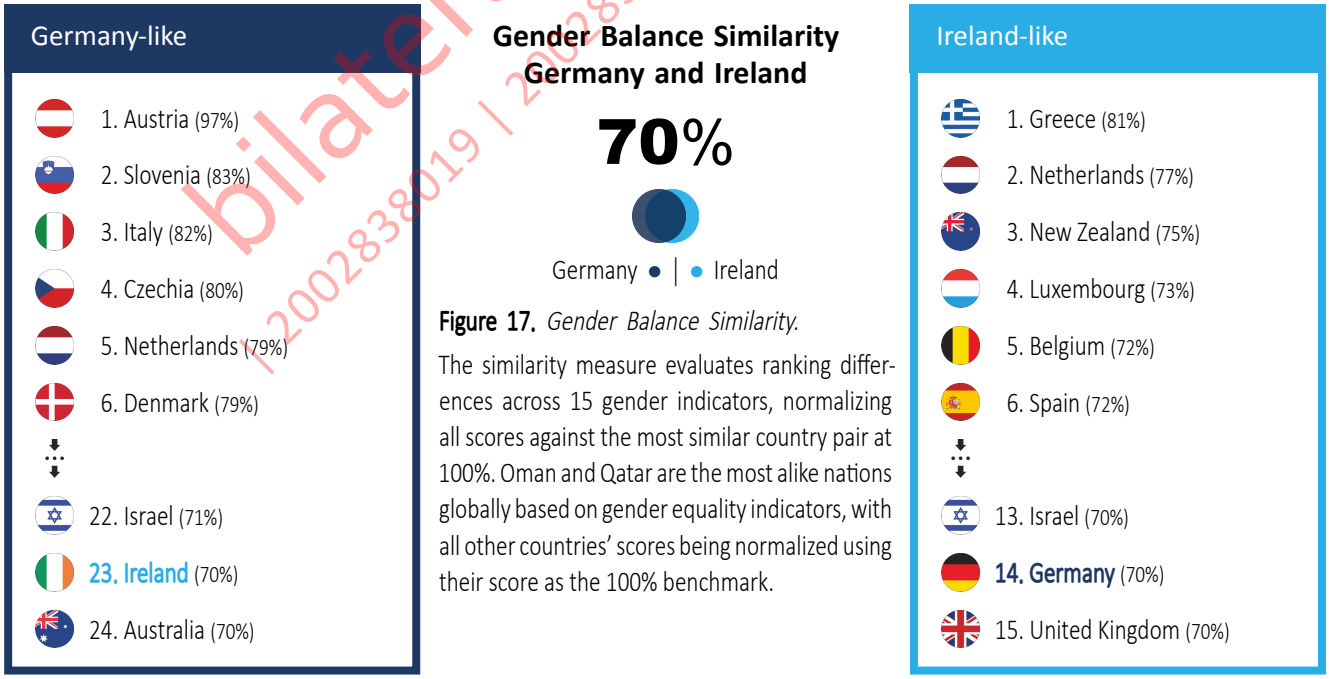


Figure 17. *Gender Balance Similarity.*

The similarity measure evaluates ranking differences across 15 gender indicators, normalizing all scores against the most similar country pair at 100%. Oman and Qatar are the most alike nations globally based on gender equality indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

CHAPTER FIVE

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Innovation Nexus

CHAPTER **5** Innovation Nexus Page

Innovations & Technology 120

Technologically, Germany and Ireland find themselves sharing 60% similarity, surpassing many of their global counterparts. The cultural and geographic tapestry of Germany is closely woven with France, as Ireland's is with Greece.

Skill Sets 125

Harnessing skill-related cohesion, Germany and Ireland share a notable 61% similarity, eclipsing many comparative relationships. Germany's counterpart in similarity is Austria, paralleled by Ireland's congruence with the United Kingdom.

Students Abroad 131

Study abroad-wise, Germany and Ireland share a 75% similarity with each other, a figure that still surpasses their resemblance to the majority of other countries, and it stands as their paramount similarity in the chapter. The cultural and geographic tapestry of Germany is closely woven with the Netherlands, as Ireland's is with Denmark.

Foreign Students 136

Foreign students connections between Germany and Ireland amount to a 73% similarity, outpacing much of the global landscape. Germany aligns most closely with the Netherlands, and similarly, Ireland's closest match is China.

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Innovations & Technology



Prof. Ferenc Krausz, Nobel Prize for Physics in 2023 – is recognized, together with Pierre Agostini and Anne L'Huillier, for experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter. Born at Mor in Hungary, he studied electrical engineering and physics in Budapest and took his doctorate in laser physics at the Vienna University of Technology. He is a director of the Max Planck Institute of Quantum Optics at Garching and a professor at Munich, and he has worked in Germany.



Prof. Ernest Thomas Sinton Walton, Nobel Prize for Physics in 1951 – was recognized, together with John Cockcroft, for their pioneer work on the transmutation of atomic nuclei by artificially accelerated atomic particles. Born at Dungarvan in County Waterford, he studied at Trinity College Dublin and took a research scholarship to the Cavendish Laboratory at Cambridge, where he worked under Ernest Rutherford and split the atomic nucleus. He returned to Trinity College Dublin as professor of natural philosophy, and he died in Belfast.

Exploring innovations and technology provides a comprehensive view of a country's progress and capacity for future development. In this section, we delve into various high-tech indicators to analyze the innovation landscapes of Germany and Ireland. By comparing these metrics, we gain insights into each nation's approach to fostering innovation and technological advancement.

Indicators related to intellectual property, such as industrial design applications and patent applications, highlight the countries' creative and inventive activities. These metrics are crucial for understanding the level of innovation and the protection of new ideas and technologies within each nation.

Performance metrics like the Global Innovation Index scores and rankings provide a snapshot of how well each country performs in terms of innovation inputs and outputs. These indicators are vital for assessing the overall innovation ecosystem and the effectiveness of policies and infrastructure supporting innovation.

Research and development (R&D) indicators, including expenditure as a percentage of GDP and the number of researchers and technicians per million people, offer insights into the investment and human resources dedicated to advancing science and technology. The volume of scientific and technical journal articles further illustrates the research output and knowledge creation in each country.

Data for these indicators are sourced from reliable institutions such as the World Intellectual Property Organization (WIPO), UNESCO Institute for Statistics (UIS), and the National Science Foundation. These sources ensure the accuracy and credibility of the information presented.

By examining these innovation and technology indicators, we can compare the technological landscapes of Germany and Ireland, identifying their strengths and areas for improvement. This analysis provides a foundation for understanding how each country fosters innovation and technology, offering opportunities

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for collaboration and mutual growth in the high-tech sector.

German Innovation Scene

Germany stands at the forefront of global innovation, a status deeply intertwined with its robust investment in research and development. Although recent trends show a slight decline, Germany's commitment to nurturing a high density of researchers and technicians embodies its dedication to scientific progress. The nation's competitive edge is further accentuated by a prolific output of scientific and technical journal articles, reflecting the vibrant intellectual environment driving its knowledge economy. Despite these fluctuations, Germany maintains a strong position as a leader in patent applications, both from resident and non-resident inventors, showcasing its rich tradition in industrial ingenuity.

This innovation-driven ecosystem is underpinned by a dynamic blend of traditional scientific prowess and an adaptive approach to contemporary technological challenges. As Germany tirelessly enhances its technological frameworks, it solidifies its standing within the Global Innovation Index, demonstrating resilience and adaptability. This deft balance between inputs, such as resources allocated to innovation, and outputs, like tangible technological advancements, underscores Germany's strategic foresight in maintaining its innovative stature amidst global shifts.

Germany's capacity for innovation inevitably influences its international competitiveness, serving as a magnet for cross-border collaborations. The depth of scientific resources and an active intellectual ecosystem position Germany as an attractive partner in diverse global research initiatives. The significant number of industrial design applications and trademarks emerging from Germany further highlight the nation's penchant for fostering an environment ripe for industrial creativity and branding, enhancing its global footprint and partnership prospects.



Prof. Benjamin List, Nobel Prize for Chemistry in 2021 – is recognized, together with David MacMillan, for the development of asymmetric organocatalysis. Born in Frankfurt into a family of scientists and artists, he took his diploma at the Free University of Berlin and his doctorate at the Goethe University in Frankfurt. He worked at the Scripps Research Institute in California and directs the department of homogeneous catalysis at the Max Planck Institute for Coal Research, holding also a post at Hokkaido University in Japan.

Distinctively, Germany's ability to sustain a broad base of technological and scientific outputs attracts global attention, distinguishing it as a critical node within the international innovation landscape. This reputation is not solely built on high-volume outputs but is also characterized by the strategic depth of its research endeavors, ensuring sustainable growth and leadership. The continuous stream of non-residential patents and trademarks signifies an openness to international part-

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Johannes Gutenberg's Printing Press

Nestled in Mainz, Germany, this iconic replica highlights a cornerstone of innovation, the Gutenberg Press. It revolutionized communication by enabling mass production of written texts, marking the dawn of the European printing revolution and transforming the flow of information across society, a pivotal legacy in the heart of Rhineland-Palatinate.

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nerships, enhancing cross-border knowledge transfers and collaborations that fuel global progress.

In summary, Germany's innovation ecosystem is a linchpin in its strategic international engagements, reinforcing its role as an influential player on the global stage. The country's meticulous emphasis on nurturing a fertile ground for scientific inquiry and industrial innovation portrays a landscape ripe with potential. As such, Germany not only shapes its own developmental trajectory but also profoundly influences the innovative capacities and partnerships worldwide, reinforcing its stature as both a pioneer and partner in technological advancement.

Ireland's Tech Spirit

Ireland's innovation ecosystem is a beacon of strategic advancement and robust capability, shaping its position firmly in the global arena of technology and international relations. Despite facing challenges, Ireland continues to leverage its focus on research and development as a critical driver for innovation. With a significant number of researchers per million people, the country positions itself among the frontrunners in global R&D effectiveness. This substantial talent pool underpins Ireland's capacity to produce a steady stream of scientific and technical journal articles, enhancing the country's intellectual contributions and

reinforcing its reputation as a knowledge-intensive economy.

The country's impressive research footprint is complemented by an increasing presence of technicians in R&D, an element that fortifies its technical foundation. Although the overall expenditure as a percentage of GDP reveals an evolving trend, the substantial involvement and output of Ireland's researchers indicate a concentrated effort on maximizing intellectual capital. This is further evidenced by the robust momentum in patent applications, particularly among residents—a testament to the nation's creative drive and commitment to translating research into actionable innovations.

Ireland's appeal in the international innovation landscape is underpinned by its standing on the Global Innovation Index. While the overall score reflects a slight dip, the depth of outputs showcases a country that efficiently converts inputs into tangible outcomes, emphasizing Ireland's competence in justifying investments through productive outputs. This dynamic creates a strategic advantage, fostering deeper collaboration and partnerships with international stakeholders who value efficiency in innovation processes.

The distinctive blend of resident and nonresident patent applications, albeit modest in volume, indicates Ireland's dual strategy of nurturing domestic inventiveness while also attracting foreign innovation endeavors. The country's strategic geographic position as a gateway to Europe and its proactive role in fostering a friendly business and investment climate play integral roles in enhancing Ireland's attractiveness as an innovation hub, inviting global enterprises to collaborate and invest.

Overall, Ireland stands out with its resilient innovation ecosystem, driven by human capital and strategic orientation towards scalable growth. The seamless interplay between its innovation drivers and technological outputs not only enhances its competitiveness but also sets the stage for deepening international collaborations. As Ireland continues to refine its R&D and innovation policies, it is poised to be an influential player in shaping the future of global technology narratives, fostering relationships that are both symbiotic and transformative in scope.



Diving into Innovation – The sleek silhouette of a naval submarine cutting through underwater depths reflects Ireland's profound contribution to maritime technology through John Philip Holland, the Irish-American inventor whose pioneering designs revolutionized naval warfare and underwater exploration. This image captures the legacy of innovation that flows from Ireland's shores to global waters, where creative engineering minds continue to push the boundaries of what's possible beneath the waves.

Innovation Patterns Face-to-Face

When comparing Germany and Ireland within the scope of innovations & technology, we observe certain commonalities. Among the various indicators analyzed for both nations, the closest alignment is seen in researchers, technicians, and innovation rank. Conversely, the most significant divergences appear in marks local, foreign, and design foreign.

With innovative insight, Germany and Ireland reflect a 60% similarity, transcending global averages. Germany aligns most closely with France, and similarly, Ireland's closest match is Greece. As illustrated in the final chart of this section, Ireland ranks fifty-eighth in Germany's standings, while Germany holds thirty-seventh position in Ireland's rankings.

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Table 20. *Innovation & Technology (High-Tech) Indicators.*

	Germany				Ireland				
Research & Development	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Research & development expenditure (% of GDP, ⇓)	3.1	9				36	1.1	2021	UNESCO
Researchers in R&D (per million people, ⇓)	5,536	14				15	5,251	2021	UNESCO
Technicians in R&D (per million people, ⇓)	2,007	9				18	1,165	2017	UNESCO2
Scientific & technical journal articles (⇓)	109,379	4				46	8,563	2020	NSF
Scientific & technical journal articles per researcher (⇓)	20.0	18				84	1.5	2018	NSF
Scientific & technical articles/bn PPP$ GDP (⇓)	27.7	35				48	20.5	2022	GII
Intellectual Property									
Industrial design applications, resident, by count (⇓)	33,448	4				72	95	2021	WIPO
Industrial design applications, nonresident, by count (⇓)	3,549	15				107	19	2021	WIPO
Patent applications, residents (⇓)	39,822	5				77	75	2021	WIPO1
Patent applications, nonresidents (⇓)	18,747	9				92	42	2021	WIPO1
Trademark applications, nonresident, by count (⇓)	26,098	23						2021	WIPO
Trademark applications, resident, by count (⇓)	246,296	11						2021	WIPO
Performance									
Global Innovation Index (score, ⇓)	57.2	8				22	48.5	2022	GII
Global Innovation Index - Output (rank, ⇑)	7	7				19	19	2022	GII
Global Innovation Index - Input (rank, ⇑)	12	11				24	25	2022	GII

Note: Arrows indicate order orientation in global rankings: "⇓" for descending and for "⇑" ascending order (GII Output/Input only). The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

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Germany-like

1. France (100%)
2. South Korea (99%)
3. United Kingdom (97%)
4. Japan (96%)
5. Canada (83%)
6. Australia (80%)

...

57. Latvia (60%)
58. Ireland (60%)
59. Kazakhstan (60%)

Innovation Similarity Germany and Ireland

60%

Germany ● | ● Ireland

Figure 18. *Innovation Similarity.*

Analysis of ranking differences across 15 innovation indicators produces similarity scores normalized relative to the most similar country pair's 100% benchmark. France and Germany are the most alike nations globally based on technological innovation indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

Ireland-like

1. Greece (70%)
2. Hungary (67%)
3. Lithuania (67%)
4. Luxembourg (67%)
5. Belgium (67%)
6. Latvia (67%)

...

36. Australia (61%)
37. Germany (60%)
38. Georgia (60%)

Skill Sets

We explore the unique skills of countries, drawing insights from "World of Skills" by Dr. Siniša Grgić. We present Knowledge Graphs for Germany and Ireland, showcasing skills that enhance global competitiveness. These graphs, the result of a decade of research, categorize skills into clusters, reflecting each nation's strengths.

Leveraging big data and machine learning, "World of Skills" uncovers distinct national skills, processing data from diverse sources to present a comprehensive view. The goal is to identify core competencies that drive growth and success.

Benchmarking against a global dataset, this research highlights each country's unique capabilities, crucial for economic and social development. Knowledge graphs visualize these skills, revealing both strengths and weaknesses.

By showcasing the top skills of Germany and Ireland, we appreciate global talent diversity and identify collaboration opportunities. This analysis encourages leveraging national skills for sustainable development and competitiveness, offering valuable insights for policymakers, educators, and business leaders.

What Can Germans Do the Best?

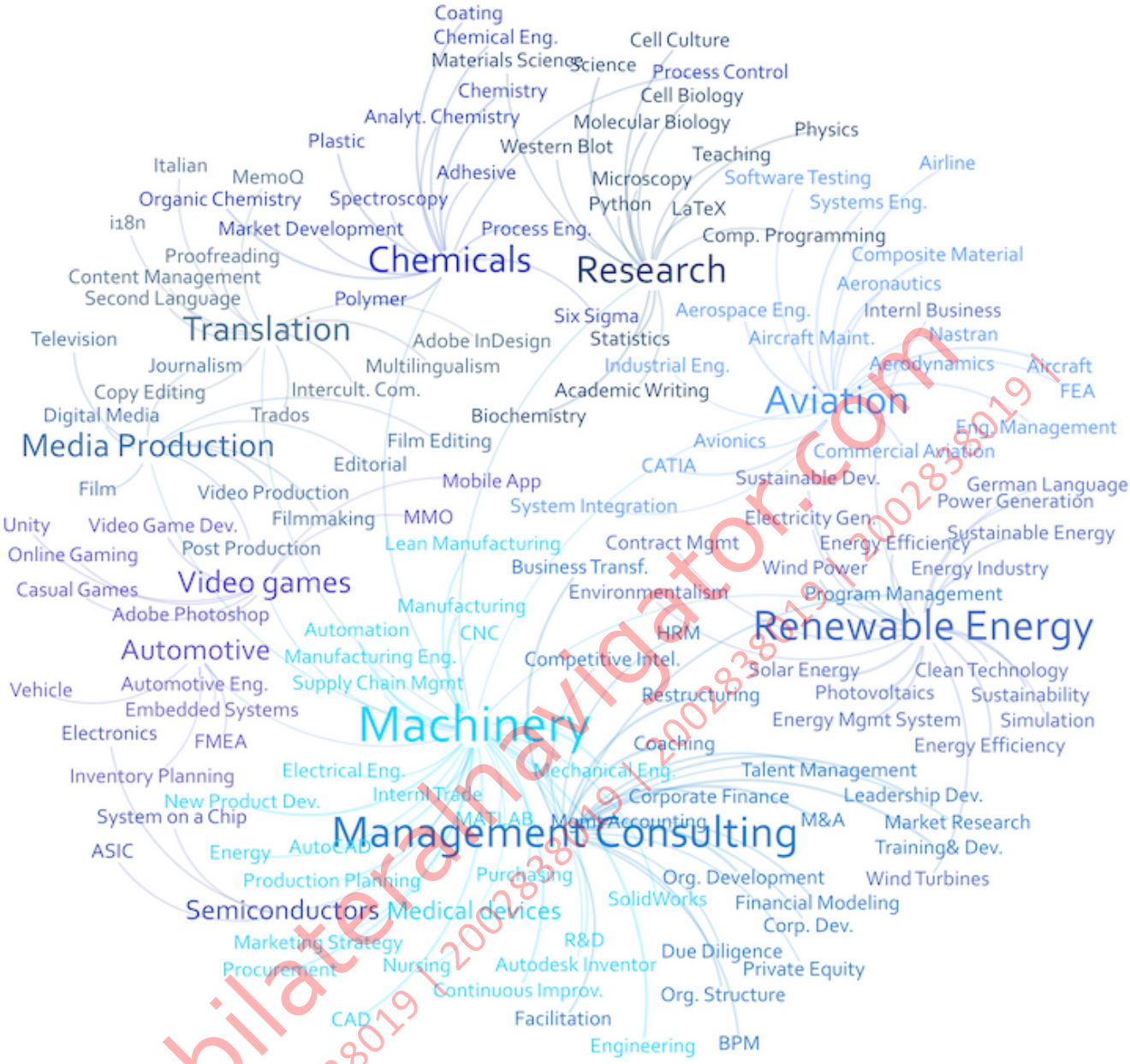
Germany's strongest recorded cluster is machinery, and no signature could suit the country better. Engineering, Manufacturing and New Product Development dominate the profiles, underpinned by Mechanical Engineering and a strong current of International Trade, a reminder that German machine-building has always been an export discipline as much as a domestic one.

The tools of that trade appear in unusual depth. Computer Aided Design, AutoCAD, SolidWorks and Autodesk Inventor serve the drawing office; Computer Numerical Control governs the shop floor; MATLAB handles analysis. Around them cluster the process disciplines, Continuous Improvement, Lean Manufacturing, Production Planning and Automation, with Procurement and Supply Chain Management organising the chain that builds and ships the machines.

Management consulting comes second, and its composition is revealing. Coaching and Organizational Development lead, followed by Mergers and Acquisitions, Restructuring and Business Transformation, with Corporate Finance, Financial Modeling, Due Diligence and Private Equity as the transactional backbone. Talent Management and Leadership Development sit alongside, so the work runs from the engineering of deals to the slower business of rebuilding the organisations they leave behind.

Renewables and environment ranks third, reflecting a long and sustained national commitment to the energy transition. Photovoltaics and Solar Energy are the most widely held skills, with Wind Power, Wind Turbines and Sustainable Energy close behind. Breadth matters as much as the headline technologies: Energy Efficiency, Energy Management System, Clean Tech-

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Figure 19. *German Knowledge Graph – skills that make Germans most competitive in the World.*

Acronyms: BPM -- Business Performance Management, CAD -- Computer Aided Design, CNC -- Computer Numerical Control, Contract Mgmt -- Contract Management, Energy Mgmt System -- Energy Management System, FEA -- Finite Element Analysis, FMEA -- Failure Mode and Effects Analysis, HRM -- Human Resource Management, i18n -- Internationalization, Intern'l Business -- International Business, Intern'l Trade -- International Trade, M&A -- Mergers and Acquisitions, Mgmt Accounting -- Management Accounting, R&D -- Research and Development, Supply Chain Mgmt -- Supply Chain Management



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Figure 20. *Irish Knowledge Graph – skills that make Irish most competitive in the World.*

Acronyms: BPM -- Business Performance Management, CAPA -- Corrective and Preventive Action, CCTV -- Closed Circuit Television, DFM -- Design for Manufacturing, DoE -- Design of Experiments, EQ -- Emotional Intelligence, FMCG -- Fast Moving Consumer Goods, FMEA -- Failure Mode and Effects Analysis, GLP -- Good Laboratory Practice, GMP -- Good Manufacturing Practice, HPLC -- High Performance Liquid Chromatography, i18n -- Internationalization, LIMS -- Laboratory Information Management System, Manual Load Handling -- Manual Handling of Loads, MBTI -- Myers–Briggs Type Indicator, Mgmt Dev. -- Management Development, NLP -- Neuro Linguistic Programming, PAGE -- Polyacrylamide Gel Electrophoresis, PCR -- Polymerase Chain Reaction, Pharma Ind. -- Pharmaceutical Industry, QMS -- Quality Management System, RCA -- Root Cause Analysis, R&D -- Research and Development, Software Proj. Mgmt -- Software Project Management, Software QA -- Software Quality Assurance, SOP -- Standard Operating Procedure, SPC -- Statistical Process Control, V&V -- Verification and Validation, Web Localiz. -- Website Localization



nology and Power Generation suggest professionals working across the whole system rather than one niche.

Aviation and aerospace forms the fourth cluster, and it reaches deep into the industry's technical core. Aerospace Engineering leads, joined by Aircraft, Systems Engineering and Aircraft Maintenance, with CATIA the design tool of choice. Composite Material, Avionics, Finite Element Analysis, Nastran and Aerodynamics follow, while Commercial Aviation and Airline skills show a workforce spanning both manufacture and operations.

The research cluster balances the life sciences against the physical ones. Science, Molecular Biology and Statistics head the list; Biochemistry, Cell Culture, Western Blot and Microscopy point to substantial bench work, with Physics and Materials Science at the harder end. LaTeX, Python and Academic Writing describe a workforce that publishes and computes as readily as it experiments.

Chemicals sits close by, where Chemistry, Polymer, Coating and Plastic dominate, supported by Organic Chemistry, Chemical Engineering and Spectroscopy, while Process Engineering, Process Control and Six Sigma tie laboratory knowledge to industrial output; Adhesive appears as a distinctly applied specialism. Translation and localisation is quieter but telling for an export economy at Europe's centre, with Proofreading, Multilingualism, Intercultural Communication and tooling such as Trados and MemoQ.

The narrower clusters stay consistent with the picture. Media production rests on Video Production, Television and Filmmaking; computer games professionals record Adobe Photoshop, Video Game Development and Unity. Automotive appears with Failure Mode and Effects Analysis at its head, ahead of Automotive Engineering and Embedded Systems, a formal reliability method outranking general vehicle skills. Semiconductors contributes Electronics, ASIC and System on a Chip design.

Irish's Best Skills

Ireland's deepest recorded strength lies in pharmaceuticals, and the skills within that cluster describe manufacturers rather than researchers alone. Good Manufacturing Practice leads, followed by broad industry experience, verification and validation, and standard operating procedures. FDA knowledge ranks high, as do corrective and preventive action, quality management systems and change control, the working vocabulary of plants obliged to prove every batch they release.

Beneath that regulatory layer sit the laboratory disciplines that keep production honest: high performance liquid chromatography, quality control, good laboratory practice and analytical chemistry. Alongside them run the process methods of the modern plant floor, Six Sigma, continuous improvement and lean manufacturing. Decades of inward investment in medicine manufacturing have left a workforce trained to inspection-grade standards, and the profiles record exactly that.

Medical devices, the second cluster, is a close relative and confirms the pattern. ISO 13485, the quality standard written for device manufacture, leads, followed by new product development, design control and failure mode and effects analysis. Engineering design, SolidWorks and biomedical engineering appear together with Minitab, DMAIC and statistical process control, the tools of firms taking regulated products from drawing board to production line.

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The third cluster changes register entirely. Irish professionals record fine art, painting and visual arts most heavily, with contemporary art, drawing, mixed media and sculpture close behind, and studio practice extending through oil painting, acrylic, watercolour and printmaking. Just as telling is the institutional side, art education, gallery work, curating, public art and exhibition management, which marks this as a working arts economy.

Translation and localisation follows, and here the software industry shows through plainly. Trados, the translation memory tool, tops the cluster, with internationalisation, website localisation, terminology and machine translation beside German and Italian. Video games, agile software development and software quality assurance suggest much of the work is adapting software for global markets, fitting Ireland's role as a European base for technology firms.

Professional training and coaching comes fifth, led by facilitation, personal development and management development, then leadership development, emotional intelligence, organisational development and career counselling. Further down sit the more technical instruments of the trade, psychometrics and the Myers-Briggs Type Indicator. It is a service specialism that grows naturally around a country hosting large numbers of managed, multinational operations.

Biotechnology reads like an inventory of the laboratory bench. Polymerase chain reaction, cell culture, microbiology and biochemistry lead, with gel electrophoresis, ELISA, Western blot and protein purification behind them. These wet-lab skills sit naturally alongside the pharmaceutical cluster, giving the life sciences base scientific depth to match its manufacturing discipline rather than duplicating it.

The smaller clusters are consistent with a country that both produces and hosts. Food production rests on industry experience, HACCP and food safety, reflecting a substantial agri-food sector; health and fitness centres on personal training and nutrition, sport on coaching and sponsorship, with golf and rugby named. Across 10,037 recorded skills, the most distinctive of all is transfer agency, a niche of fund administration.

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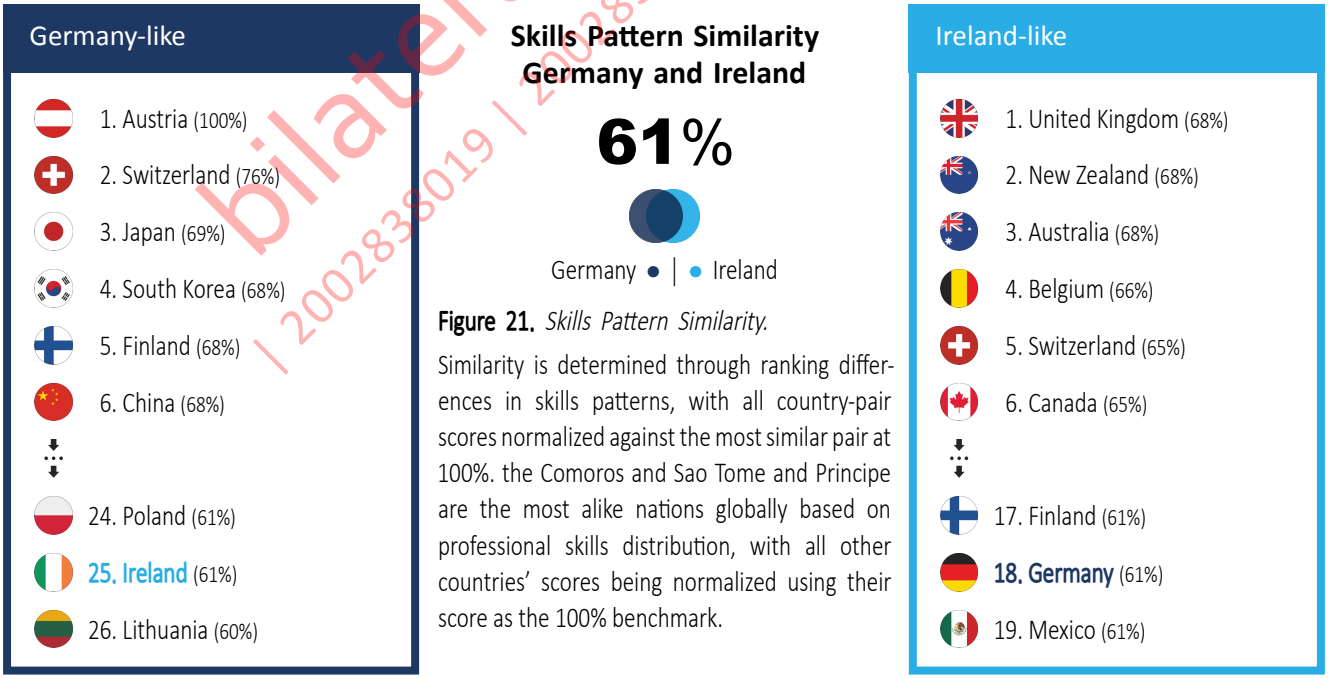


Figure 21. *Skills Pattern Similarity.*

Similarity is determined through ranking differences in skills patterns, with all country-pair scores normalized against the most similar pair at 100%. the Comoros and Sao Tome and Principe are the most alike nations globally based on professional skills distribution, with all other countries' scores being normalized using their score as the 100% benchmark.

Students Abroad

In this section, we examine the significance of international education choices as a means to understand bilateral relations between Germany and Ireland. Drawing on the extensive research presented in "World of Skills" by Dr. Siniša Grgić, we explore how study destinations abroad reflect broader socio-economic and cultural trends. This analysis is the result of long-term research, utilizing big data techniques to analyze the educational preferences of international students.

The analysis of study abroad choices offers a unique perspective on the international educational landscape. It is not merely about where individuals choose to study but also what these choices reveal about a country's educational standards, cultural affinities, and economic connections. By comparing Germany and Ireland in this context, we aim to uncover patterns and trends that signify deeper bilateral ties and mutual influences.

To achieve this, we employed a comprehensive methodology that leverages big data and machine learning to analyze vast amounts of data from public online sources. The resulting table showcases these preferences, highlighting not just countries, but the most popular university within each country for the nationals of Germany and Ireland.

An interesting discovery is that each country tends to have its own preferred university in other popular countries for foreign students. This phenomenon can be explained by the network effect: once an individual successfully completes a study program, they often encourage others from their home country to follow suit.

Understanding why students choose specific international destinations provides an insightful way to interpret and measure country-to-country relations. These decisions are influenced by factors such as the quality of education, cultural compatibility, historical ties, and economic opportunities. Countries with a strong tradition of academic excellence, innovative research facilities, or cultural affinities often attract a higher number of international students.

By examining these patterns, we gain insights into how educational choices reflect and shape bilateral relations. The data provides a nuanced understanding of the socio-economic dynamics at play, offering valuable information for policymakers, educators, and institutions aiming to foster international collaboration and enhance educational exchange programs.

The shared academic interests and cultural resonances uncovered through this research emphasize the interconnectedness of our global community and the pivotal role of education in promoting mutual understanding and collaboration.

Where Do Germans Study?

Germany stands at the crossroads of tradition and innovation in higher education, mirrored in the global educational pursuits of its students. The nation's students continue to traverse international boundaries, drawn to a myriad of educational landscapes that promise growth and opportunity. Foremost among their choices are the Netherlands and France, both neighboring countries offering a blend of cultural proximity and academic excellence, epitomized by prestigious institutions like Maastricht University and INSEAD. Germany's affinity for European education is evident, yet their academic journeys span continents, reaching eastward to China and India, where emerging markets and burgeoning innovations beckon.

The preference for renowned universities abroad speaks volumes about the interplay between Germany's domestic education strengths and perceived

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University of Ulster: The top choice for Irish studying abroad.

Nestled in the heart of Belfast, this striking architectural marvel symbolizes the dynamic spirit of the United Kingdom's education system. The campus stands as a beacon of learning and innovation under the expansive blue sky, contributing to the Greater Belfast Development and fostering academic excellence in the city.

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gaps. While Germany boasts an impressive array of universities, ranking among the best globally, students often seek specialized programs or unique linguistic and cultural experiences that foreign institutions provide. The decision to study in English-speaking countries like the United States and Canada points to a pragmatic choice for language acquisition and broader career opportunities, especially in fields like technology and business that dominate global markets.

Germany's international student flows cultivate a dynamic form of cultural diplomacy, reinforcing the country's role as a pivotal actor in knowledge exchange networks. The influx of German students to institutions worldwide generates an invaluable transfer of ideas and fosters multicultural collaborations. This exchange not only enhances Germany's soft power on the global stage but also prepares a generation adept at navigating and influencing international landscapes, particularly in a rapidly changing global economy.

Distinctive patterns emerge in Germany's educational diaspora, underscoring its strategic relevancy and growth potential. The choice to engage with countries that lead in innovation and resource management reflects a forward-looking approach, ensuring that Germany stays at the forefront of emerging global challenges and opportunities. By bridging cultures and disciplines through academic exchanges, German students contribute to a shared educational fabric that fosters resilience and adaptability in uncertain times.

Table 21. *Study Abroad Statistics.*

Top Study Destinations (only the most preferred university indicated)	Germany Value	Germany Rank	Germany Trend	Gap	Ireland Trend	Ireland Rank	Ireland Value	Year	Source
in Germany/Ireland (%, ⇓): **ucd.ie | uni-muenchen.de**	1.2	19				9	2.5	2020	WOS
in Australia (%, ⇓): **uts.edu.au | uts.edu.au**	2.6	11				12	1.7	2020	WOS
in Austria (%, ⇓): **univie.ac.at | univie.ac.at**	2.7	9				28	0.4	2020	WOS
in Belgium (%, ⇓): **kuleuven.be | kuleuven.be**	0.7	28				20	0.6	2020	WOS
in Brazil (%, ⇓): **usp.br | unip.br**	1.4	17				8	2.6	2020	WOS
in Canada (%, ⇓): **ucalgary.ca | ucalgary.ca**	2.6	10				10	2.1	2020	WOS
in China (%, ⇓): **tongji.edu.cn | fudan.edu.cn**	2.8	8				14	1.3	2020	WOS
in Denmark (%, ⇓): **cbs.dk | cbs.dk**	1.3	18				11	2.0	2020	WOS
in France (%, ⇓): **insead.edu | neoma-bs.fr**	6.3	4				4	3.9	2020	WOS
in India (%, ⇓): **annauniv.edu | rknec.edu**	3.6	7				7	3.0	2020	WOS
in Italy (%, ⇓): **polimi.it | unibo.it**	4.2	6				5	3.6	2020	WOS
in Netherlands (%, ⇓): **maastrichtuniversity.nl | universiteitleiden.nl**	6.4	3				13	1.7	2020	WOS
in Nigeria (%, ⇓): **unn.edu.ng | unilag.edu.ng**	0.2	49				18	0.8	2020	WOS
in Poland (%, ⇓): **uw.edu.pl | uni.wroc.pl**	1.6	14				6	3.6	2020	WOS
in Portugal (%, ⇓): **unl.pt | unl.pt**	0.8	24				16	0.9	2020	WOS
in Romania (%, ⇓): **unibuc.ro | unibuc.ro**	1.0	20				19	0.6	2020	WOS
in Russia (%, ⇓): **msu.ru | msu.ru**	1.4	16				26	0.4	2020	WOS
in South Africa (%, ⇓): **sun.ac.za | uct.ac.za**	0.7	27				17	0.8	2020	WOS
in Spain (%, ⇓): **ucm.es | ucm.es**	6.2	5				3	4.9	2020	WOS
in Sweden (%, ⇓): **lu.se | uu.se**	2.1	13				15	0.9	2020	WOS
in Switzerland (%, ⇓): **unisg.ch | ethz.ch**	2.3	12				35	0.3	2020	WOS
in Türkiye (%, ⇓): **metu.edu.tr | boun.edu.tr**	1.5	15				29	0.3	2020	WOS
in United Kingdom (%, ⇓): **open.ac.uk | ulster.ac.uk**	13.7	2				1	41.0	2020	WOS
in United States (%, ⇓): **berkeley.edu | iit.edu**	17.8	1				2	12.2	2020	WOS

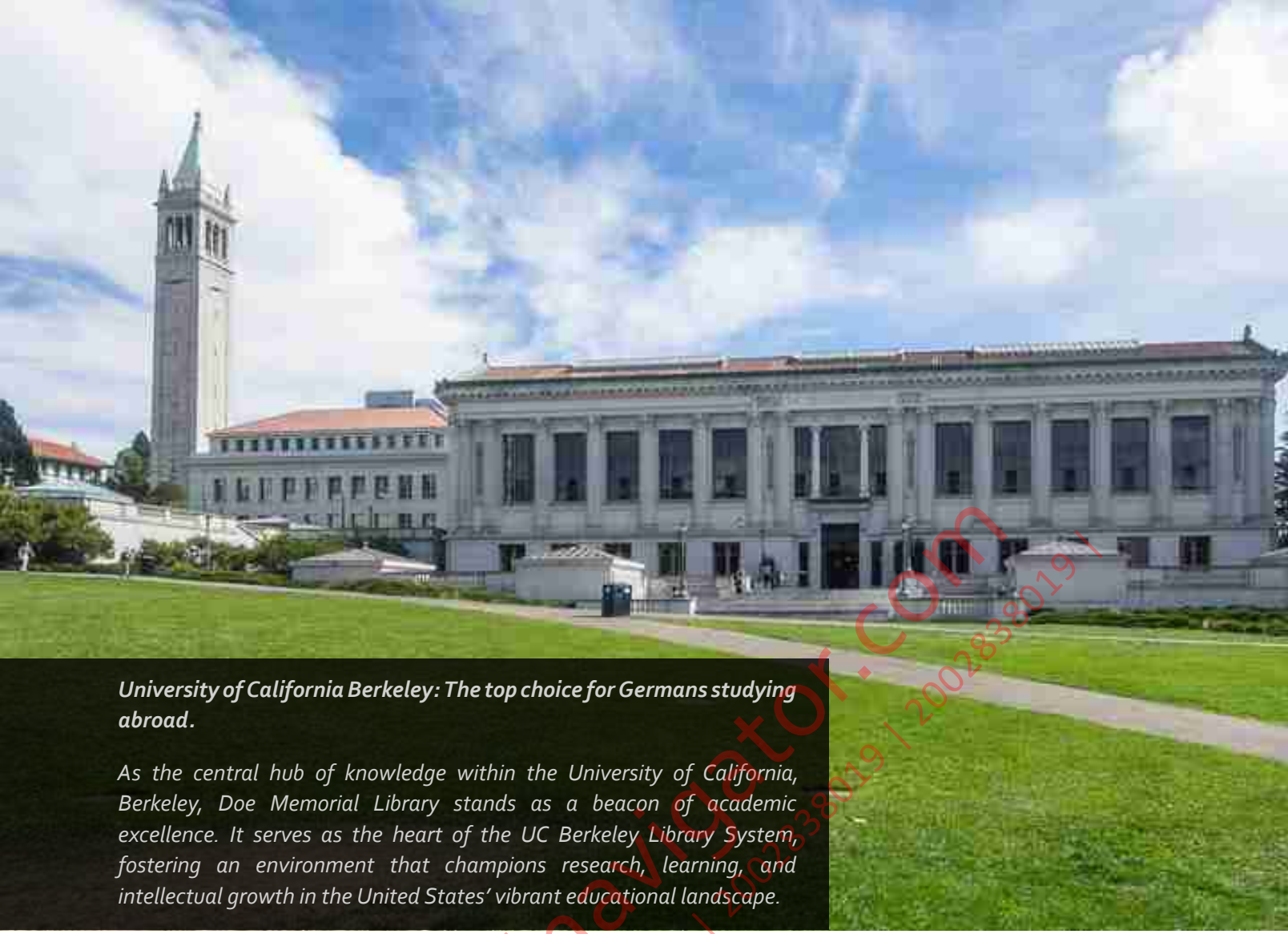
Note: The table's first row details the number of German residents who studied in Ireland, and Irish residents who studied in Germany, coupled with their most preferred university. The following rows represent the top 20 study destinations for both nations. Please note, even if a particular destination doesn't rank among the top 20 for one country, it will still be displayed if it belongs to the top 20 destinations for the other country. Rankings in this table are displayed in descending order, as indicated by the symbol '⇓', and range from the highest to the lowest percent of destinations' popularity within each country (unlike other tables, these are NOT global rankings). In instances where multiple countries have identical values for a selected destination (other country), alphabetical order of destination is used as a tiebreaker.

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Ultimately, the pursuit of education abroad by German students illustrates the country's commitment to remaining an interconnected and influential player on the world stage. This outward-looking perspective enhances Germany's strategic narratives, enabling the country to leverage its educational diplomacy to fortify relationships with other nations. As these students return home, they carry with them a wealth of knowledge, cultural insights, and international connections that serve both personal careers and strengthen Germany's integration into the global fabric.

Irish Worldwide

In the realm of international education, Ireland stands as a dynamic player, with its students venturing to a diverse array of countries to pursue higher education opportunities. This journey is not merely about academics; it shapes the cultural and educational fabric of Ireland itself. The preferred destinations reveal a fascinating picture: France, Italy, and Poland emerge as leading choices, each offering unique appeals. These countries are steeped in rich cultural heritages and



University of California Berkeley: The top choice for Germans studying abroad.

As the central hub of knowledge within the University of California, Berkeley, Doe Memorial Library stands as a beacon of academic excellence. It serves as the heart of the UC Berkeley Library System, fostering an environment that champions research, learning, and intellectual growth in the United States' vibrant educational landscape.

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academic excellence, attracting Irish students who seek to broaden their horizons, improve their language skills, and immerse themselves in diverse educational environments. The allure of attending prestigious institutions, such as Neoma Business School in France, further underscores the weight placed on global rankings when making these pivotal educational choices.

Irish students' international mobility is not a mere consequence of exploration; it is a strategic endeavor to bridge educational gaps present within Ireland's domestic landscape. Many students venture to destinations like Germany and Canada, where the universities offer specialized programs not readily available at home, meeting the growing demand for expertise in STEM fields and innovation. This outward flow enriches Ireland by importing diverse knowledge and skills essential for fueling domestic industries and research initiatives. The choices also evidence a keen eye towards global job markets, where international qualifications increase employability and expand career trajectories, thereby multiplying Ireland's human capital potential.

This tapestry of international student flows plays a pivotal role in enhancing Ireland's cultural diplomacy and its position in the global knowledge network. The multitude of experiences gained abroad by Irish students fosters an environment ripe for intercultural exchange when they return, feeding into Ireland's own educational system and broader society. Such dynamics are vital in a globalized world, where knowledge and innovation often transcend borders. By creating a cohort of globally minded citizens, Irish students

broaden the nation's perspective, fostering strong bilateral relationships and mutual understanding with their host countries.

The distinctive patterns of student mobility cement Ireland's status within global educational connections, driving innovation and collaboration. With a presence in countries like Australia and the Netherlands, Irish students catalyze partnerships that extend beyond academia, including business, cultural exchanges, and technology. This network not only embodies the intellectual curiosity and adaptability of Irish scholars but also strengthens Ireland's strategic importance on the international stage. The interconnectedness forged through these educational pathways amplifies Ireland's voice and influence, fostering potential advancements and collaborative ventures crucial to its growth and international relations.

Ultimately, the education abroad features of Irish students are a testament to a nation emboldened by its youth, ready to engage with the world beyond its shores. They paint a portrait of a country that understands the intrinsic value of international education in shaping its development and identity. As these students navigate foreign academic landscapes, they contribute to a continual evolution that resonates within Ireland's domestic context, propelling the nation forward in its quest for innovation and international prominence.

Study Destinations Compared

When analyzing German and Irish education abroad indicators, we can identify a range of similarities. The two nations are most closely aligned in study in France, India, and Canada, while their most significant differences occur in study in Nigeria, Switzerland, and Austria.

In the education abroad realm, Germans and Irish share 75% of their essence, outshining many in their cohort, marking the peak of their resemblance within this chapter. The indicators of Germans align closely with Dutch, as Irish' do with Danes. This is further illustrated in the concluding chart, where Irish are ranked seventeenth in the Germans' rankings, while Germans are eleventh in the Irish' listings.

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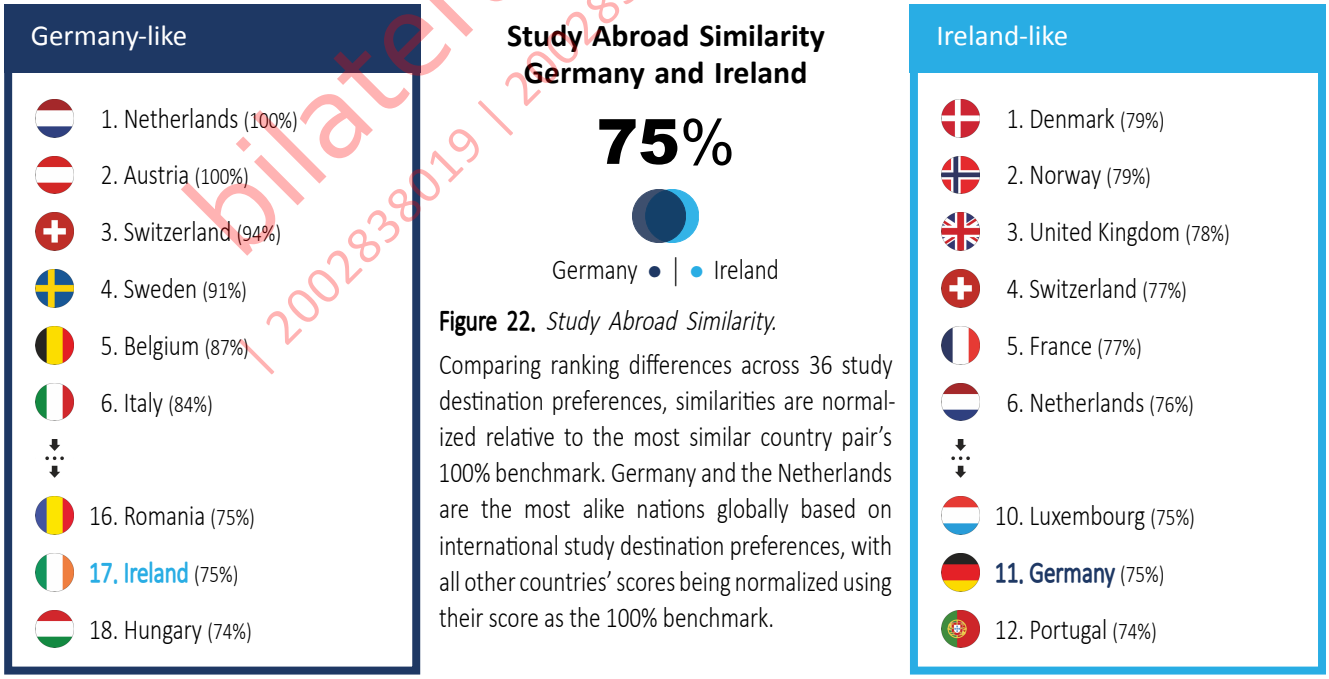


Figure 22. *Study Abroad Similarity.*

Comparing ranking differences across 36 study destination preferences, similarities are normalized relative to the most similar country pair's 100% benchmark. Germany and the Netherlands are the most alike nations globally based on international study destination preferences, with all other countries' scores being normalized using their score as the 100% benchmark.



University College Dublin: A Hub of Learning and Innovation

Nestled in the vibrant city of Dublin, University College Dublin (UCD) stands as a beacon of academic excellence and research in Europe. Highlighting its role in empowering students, UCD blends historic charm with modern facilities, offering a dynamic environment for both local and international scholars.

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Foreign Students

Now, we shift focus from outbound to inbound educational trends, examining how Germany and Ireland attract international students. This analysis complements the previous section by highlighting the influence and appeal these countries hold for foreign students.

Drawing on insights from "World of Skills" by Dr. Siniša Grgić, we analyze the attractiveness of Germany and Ireland as study destinations. Using extensive big data research, we identify key factors that make these countries appealing to international students, such as the quality of education, cultural environment, and economic opportunities.

By comparing the influx of foreign students, we gain a deeper understanding of how these nations are perceived globally in terms of educational offerings. This perspective provides valuable insights into their soft power, economic impact, and cultural exchange, contributing to a comprehensive view of bilateral relations. This section underscores the role of education in fostering international collaboration and mutual understanding, thereby enhancing the global standing of both countries.

International Students in Germany

As a nation known for its engineering prowess and robust higher education system, Germany continues to stand at the forefront of attracting international students in the realm of global academia. Germany's allure, woven through a tapestry of diverse and high-quality academic offerings, has made it a beacon for students from around the world, ranging from neighboring European countries to distant shores like Australia and China. Institutions renowned for their excellence, such as RWTH Aachen and Technical University of Munich (TUM), become dynamic hubs of cultural interchange and intellectual collaboration for these students.

The landscape of international student demographics in Germany reveals a rich mosaic of cultural and educational motivations shaping global movements. Students from China and India are notable in their presence, drawn by programs in STEM fields that are conducted in both German and English, ensuring broader accessibility and appeal. Meanwhile, European peers, namely from France and Italy, frequently integrate into Germany's academic circles, capitalizing on the cross-border European educational synergy facilitated by the Bologna Process.

In Germany, the presence of international students is not merely a statistic; it is a catalyst for academic innovation and cultural diversity. The influx of students from diverse origins like Brazil, Canada, and Belgium enhances Germany's research capabilities through various collaborative efforts. This amalgamation of perspectives drives forward both scientific advancement and cultural exchange, embedding a microcosm of global society within German academe. Furthermore, as Germany continues to navigate its role on the world stage, these international students enhance diplomatic ties, contributing to deeper bilateral relationships grounded in educational exchange.

Fostering an environment that supports academic curiosity and professional development, Germany

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Table 22. *Foreign Students Statistics.*

Students Origin (the most preferred university indicated)	Germany Value	Germany Rank	Germany Trend	Gap	Ireland Trend	Ireland Rank	Ireland Value	Year	Source
from each other (%, ⇓): **uni-muenchen.de | ucd.ie**	0.9	28				9	2.4	2020	WOS
from Australia (%, ⇓): **tu-berlin.de | ucd.ie**	2.0	15				3	9.9	2020	WOS
from Austria (%, ⇓): **uni-muenchen.de | ucd.ie**	2.2	11				30	0.3	2020	WOS
from Belgium (%, ⇓): **fu-berlin.de | tcd.ie**	2.1	13				13	1.3	2020	WOS
from Brazil (%, ⇓): **tum.de | dbs.ie**	2.0	14				20	0.6	2020	WOS
from Canada (%, ⇓): **uni-mannheim.de | tcd.ie**	2.3	10				5	4.6	2020	WOS
from China (%, ⇓): **rwth-aachen.de | ucd.ie**	3.1	8				11	1.5	2020	WOS
from Denmark (%, ⇓): **hu-berlin.de | ucd.ie**	1.8	16				19	0.6	2020	WOS
from France (%, ⇓): **fu-berlin.de | dbs.ie**	6.1	4				4	6.6	2020	WOS
from Germany (%, ⇓): **| ucd.ie**						7	3.0	2020	WOS
from India (%, ⇓): **hs-augsburg.de | dbs.ie**	1.4	19				18	0.7	2020	WOS
from Italy (%, ⇓): **uni-muenchen.de | ucd.ie**	3.1	7				9	1.9	2020	WOS
from Luxembourg (%, ⇓): **uni-trier.de | ucd.ie**	1.2	20				29	0.4	2020	WOS
from Netherlands (%, ⇓): **rwth-aachen.de | ucd.ie**	3.8	6				10	1.8	2020	WOS
from New Zealand (%, ⇓): **uni-hamburg.de | ucd.ie**	0.4	39				15	1.2	2020	WOS
from Norway (%, ⇓): **uni-mannheim.de | griffith.ie**	1.5	18				21	0.5	2020	WOS
from Poland (%, ⇓): **europa-uni.de | tcd.ie**	1.7	17				22	0.5	2020	WOS
from Singapore (%, ⇓): **tum.de | ucd.ie**	1.0	26				8	2.2	2020	WOS
from Spain (%, ⇓): **rwth-aachen.de | ucd.ie**	5.4	5				6	3.7	2020	WOS
from Sri Lanka (%, ⇓): **uni-muenchen.de | ucd.ie**	0.0	101				16	1.0	2020	WOS
from Sweden (%, ⇓): **tum.de | ucd.ie**	2.2	12				17	0.9	2020	WOS
from Switzerland (%, ⇓): **uni-muenchen.de | ucd.ie**	8.6	2				14	1.2	2020	WOS
from Türkiye (%, ⇓): **tu-berlin.de | ittralee.ie**	2.6	9				33	0.2	2020	WOS
from United Arab Emirates (%, ⇓): **tu-berlin.de | ucd.ie**	0.7	31				12	1.4	2020	WOS
from United Kingdom (%, ⇓): **uni-muenchen.de | tcd.ie**	7.5	3				1	25.0	2020	WOS
from United States (%, ⇓): **fu-berlin.de | ucd.ie**	16.2	1				2	21.0	2020	WOS

Note: The first row of the table provides the number of people from Ireland who chose to study in Germany, and from Germany who selected Ireland, along with their most preferred university. The subsequent rows list the top 20 countries of origin for foreign students in both nations. It's important to note that even if a specific country of origin does not rank among the top 20 for one nation, it is still included if it is listed among the top 20 for the other. Rankings in this table are displayed in descending order, as indicated by the symbol '⇓', and range from the highest to the lowest percent of origins within each country (unlike other tables, these are NOT global rankings). In instances where multiple countries have identical values for a selected destination (other country), alphabetical order of origin is used as a tiebreaker.

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continuously nurtures its appeal through favorable living conditions and affordable education relative to other Western nations. Prestigious universities such as the Free University of Berlin and Ludwig Maximilian University of Munich cater to a wide array of disciplines, solidifying Germany's position as a preferred destination for higher learning. These institutions often collaborate with industries, bridging the gap between academia and real-world applications, and in turn, serving as stepping stones for students aspiring to global careers.

Ultimately, Germany's dynamic and multifaceted appeal as an educational hub encompasses more than academic excellence—it cultivates a global network of connections, learning, and cultural consciousness. This strategic educational landscape strengthens Germany's identity in an interconnected world, fostering growth, innovation, and international relations that extend well beyond its borders. As the world shifts towards a more collaborative and interconnected future, Germany remains poised as a pivotal player, leveraging academic influence to fuel its role in global partnerships and development.

Studying in Ireland

Ireland's growing reputation as a hub for international students is significantly shaped by its diversified academic offerings and the vibrant multicultural fabric of its campuses. A potent mix of centuries-old educational excellence and modern innovation makes Ireland an attractive destination for students from across the globe. Trinity College Dublin (tcd.ie) and University College Dublin (ucd.ie) stand out as the most favored institutions, drawing students from an array of countries including Australia, Canada, France, and Germany. These universities, renowned for their rigorous academic standards and robust research opportunities, serve as beacons of educational excellence that appeal to students seeking world-class education in English, alongside uniquely Irish cultural experiences.

The interplay between Ireland's quality higher education offerings and its student-origin diversity underscores its appeal. Programs offered in English, a dominant global academic language, are complemented by a wide variety of disciplines, from technology and engineering to business and humanities. This academic breadth is one of the key factors attracting students from diverse countries such as China, Italy, and Brazil. While many students seek undergraduate studies, Ireland's postgraduate and research programs have also increasingly drawn international scholars, positioning the country as a pivotal player in fostering academic internationalization and cross-cultural collaborations.

The presence of foreign students has a profound impact on Irish academia, enriching it through cultural exchange and diversification of thought. The arrival of students from Belgium, Malaysia, and even smaller countries like Malta and the Czech Republic, underscores Ireland's allure as a melting pot of ideas and perspectives. This vibrant exchange facilitates a dynamic learning environment, promoting mutual understanding and global awareness both inside and outside the classroom. It also encourages academic institutions to adapt and embrace inclusive practices, strengthening Ireland's educational frameworks and infrastructure.

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Distinctive features that make Ireland particularly attractive include its welcoming socio-political climate, strategic location within the European Union, and the lifestyle it offers – a harmonious blend of rich history and contemporary amenities. Cities like Dublin and Galway not only host prestigious universities but also provide a lively cultural scene, safety, and a relatively affordable cost of living compared to other major European cities. As a result, Ireland not only attracts a high percentage of students but also retains them by offering a plethora of career and immigration opportunities post-graduation, enhancing its strategic importance as a destination for education.

The attributes of Ireland's international student environment are not merely confined to enhancing its educational prestige but also have wider implications for its international relations. As students return to their home countries or move globally with Irish education and experiences in tow, they establish networks that bolster Ireland's diplomatic and cultural outreach. This ripple effect contributes to strengthening bilateral ties, economic partnerships, and Ireland's strategic posture on the global stage, emphasizing its role as a crucible of innovation and cooperation. These elements together portray Ireland as more than an academic destination; it stands as a vital player in nurturing global talent and fostering international relationships in an interconnected world.

Germany & Ireland: Campus Crossroads

In comparing the two nations within the context of foreign students, we can observe a range of commonalities. Among the indicators reviewed, the Germans and Irish show the closest alignment in foreign students from France, Belgium, and the United States, while the biggest differences are found in foreign students from Sri Lanka, Türkiye, and New Zealand.

Foreign students-wise, Germans and Irish share a 73% similarity with each other, a figure that surpasses their resemblance to the majority of other nations. In a global comparison, Germans' best match is found in Dutch, just as Irish' is in Chinese. As shown in the final chart of this section, Irish are ranked twenty-third on the Germans' list, while Germans hold nineteenth position on the Irish' rankings.

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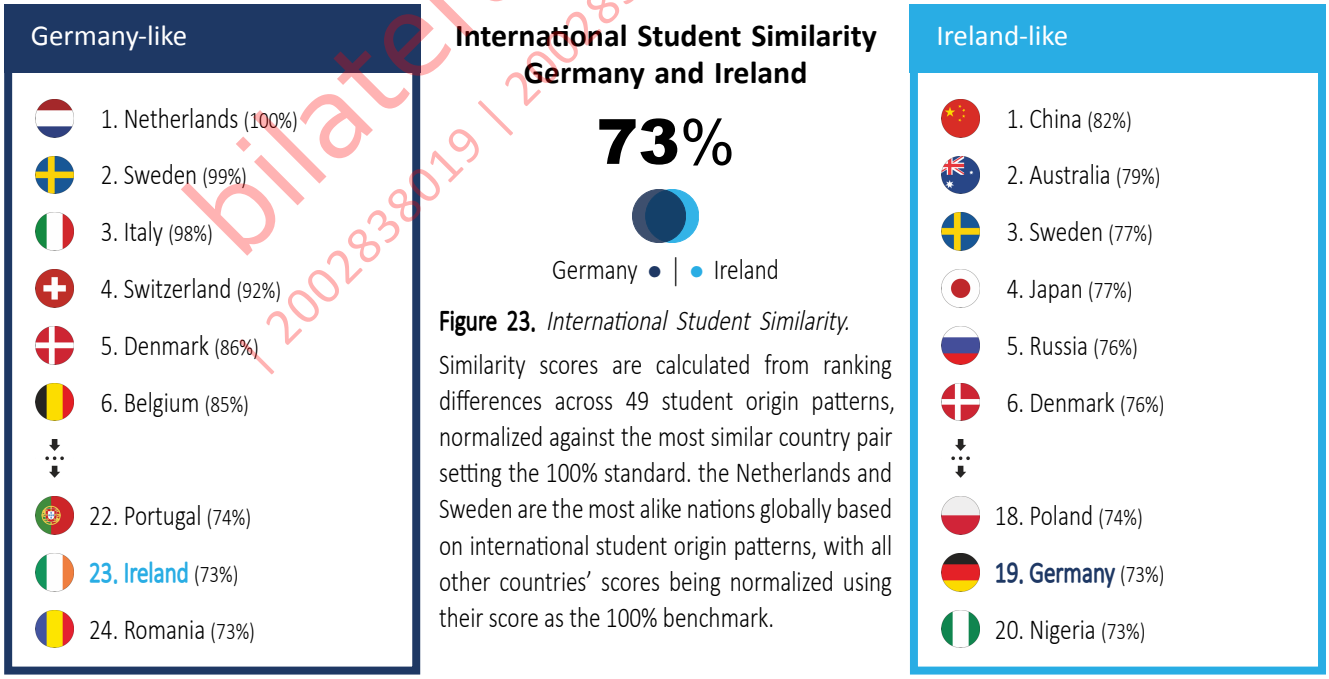


Figure 23. *International Student Similarity.*

Similarity scores are calculated from ranking differences across 49 student origin patterns, normalized against the most similar country pair setting the 100% standard. the Netherlands and Sweden are the most alike nations globally based on international student origin patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

CHAPTER SIX



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Political Landscape

CHAPTER **6** Political Landscape Page

Governance Insight 144

Through the administrative prism, Germany and Ireland resonate with a high 80% similarity, delineating this as their supreme matching point in the chapter. For Germany, its kindred spirit lies in Australia, whereas Ireland's is intertwined with France.

Leadership Timeline 150

Viewing through a leadership-related scope, there exists a significant similarity of approximately 57% between Germany and Ireland. In a global comparison, Germany's best match is found in Yemen, just as Ireland's is in Jamaica.

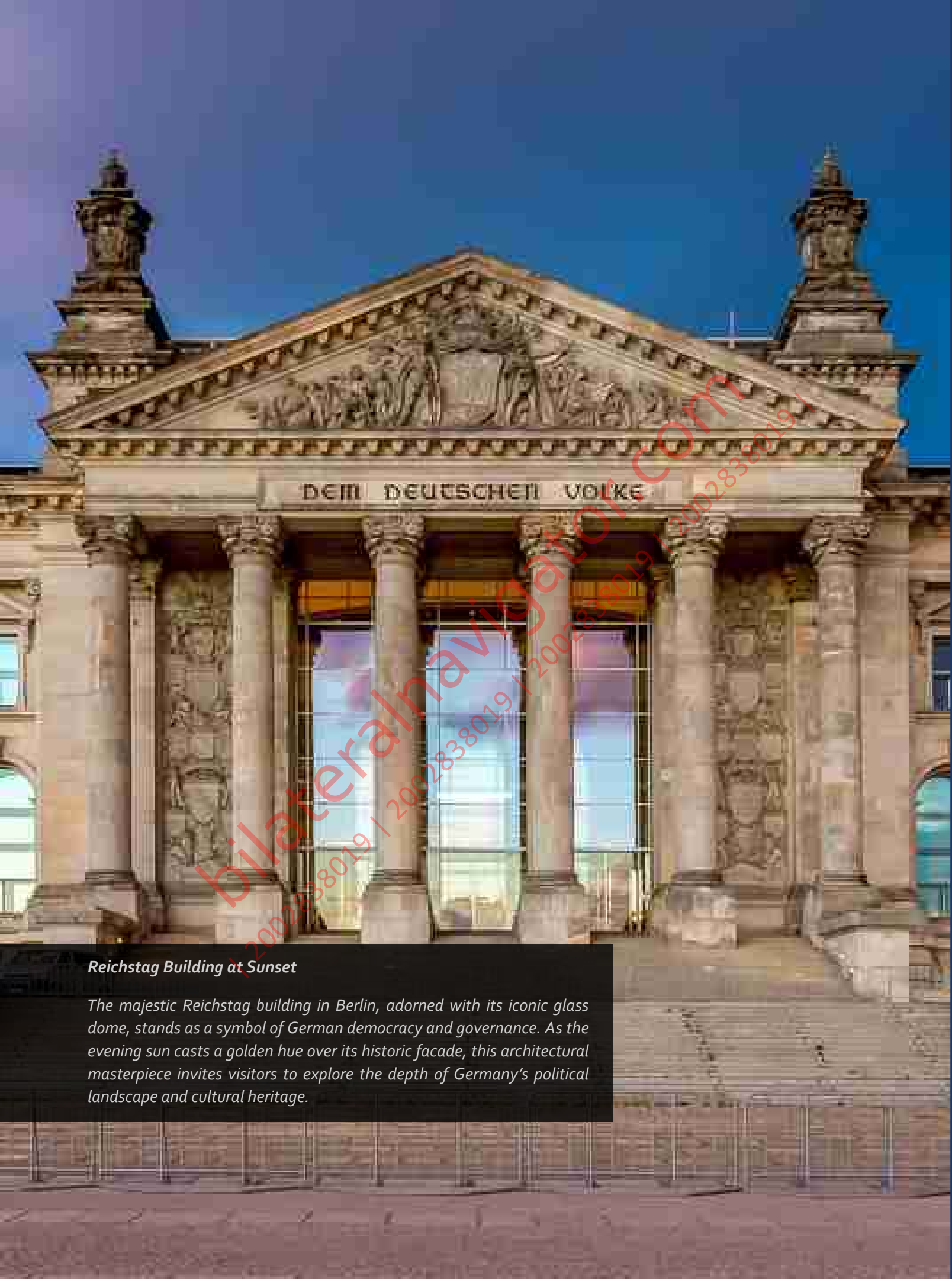
State Visits 163

Through a high-level visits prism, Germany and Ireland reveal a compelling 76% similarity. The German data finds its echo in the Netherlands, while Irish vibes resonate in Sweden.

Defense & Security 167

Amid the security spectrum, Germany and Ireland maintain a 67% similarity, exceeding widespread expectations. Germany finds its most compatible match in the United Kingdom, much like Ireland does with Denmark.

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Reichstag Building at Sunset

The majestic Reichstag building in Berlin, adorned with its iconic glass dome, stands as a symbol of German democracy and governance. As the evening sun casts a golden hue over its historic facade, this architectural masterpiece invites visitors to explore the depth of Germany's political landscape and cultural heritage.

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Governance Insight

Governance Insight offers a comprehensive examination of governmental structures and functions by analyzing various indicators that highlight the unique political and administrative characteristics of each country. This section utilizes indicators categorized into Finance & Taxation, Government Type & Democracy, and Local Government Administration Levels, sourced from esteemed organizations like the International Monetary Fund, International IDEA, and GeoNames.

The Finance & Taxation indicators, including metrics such as revenue, expense, and central government debt, provide a snapshot of a country's financial health and fiscal policies. These indicators help us understand how governments manage their resources and obligations, offering insights into economic stability and priorities. Furthermore, metrics like taxes on goods and services, income, and social contributions reveal the fiscal burden on citizens and businesses, shedding light on the economic environment and government efficiency in resource allocation.

Government Type & Democracy indicators delve into the foundational aspects of governance, such as the system of government, constitution, and recent legislative elections. Additionally, indices from IDEA and the Economist Intelligence Unit evaluate the quality of democracy, measuring representation, rights, rule of law, and participation. These indicators are crucial for assessing the democratic health and political inclusivity of a country. Understanding voter turnout and engagement, for instance, offers insights into political participation and citizen trust in the electoral process. The historical and structural context provided by these indicators allows for a deeper understanding of political stability and institutional development.

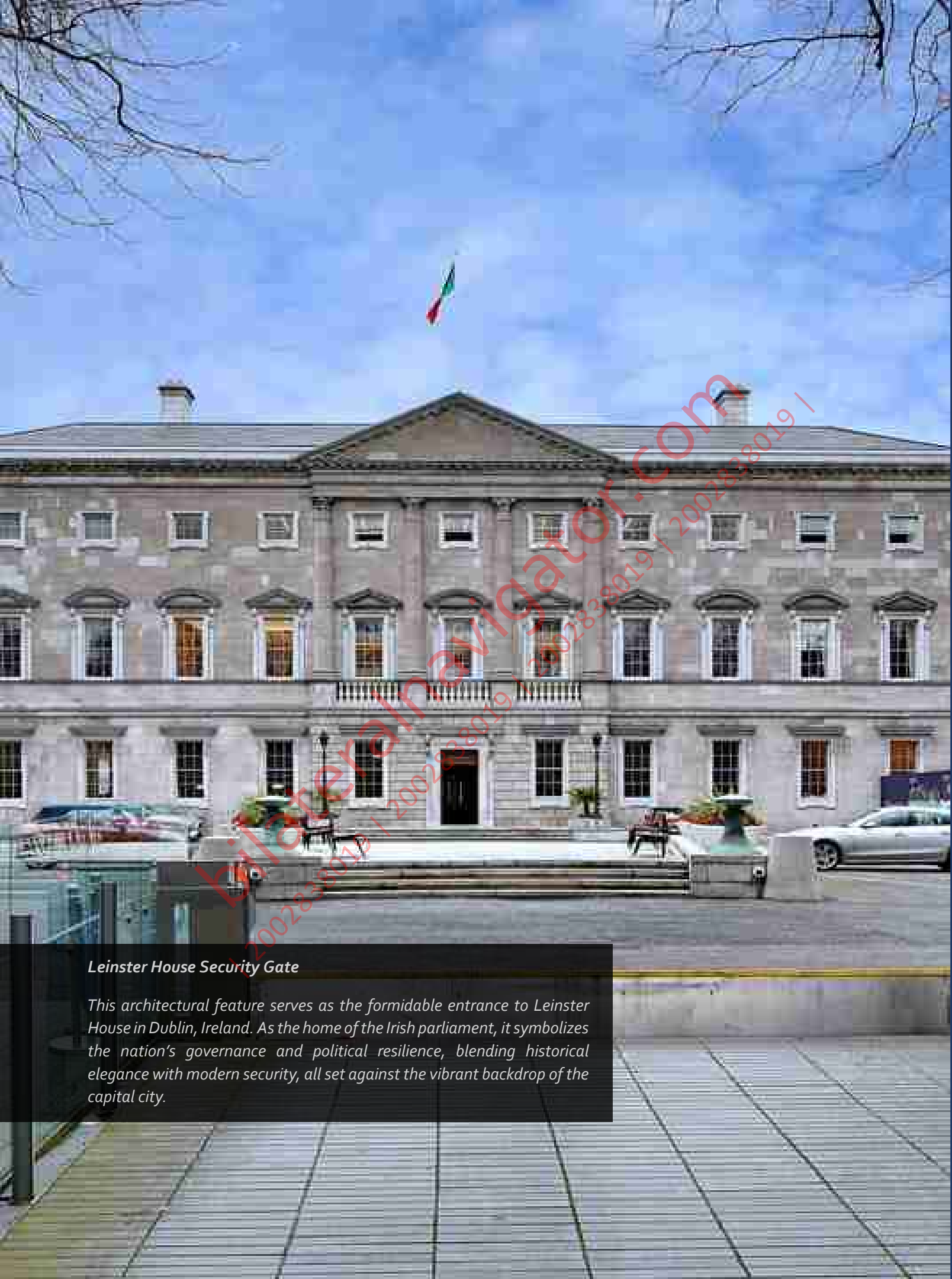
Local Government Administration Levels indicators reveal the complexity and distribution of governance at sub-national levels. By examining the number of administrative divisions and local democracy indices, we gain an understanding of local governance efficiency and the degree of decentralization. This is important as it highlights how power and responsibilities are distributed within a country, impacting local development and citizen access to services. The diversity in local governance structures across countries underscores the importance of adapting administrative frameworks to cultural, historical, and socio-economic contexts.

These selected indicators are vital for comparing the governance structures of Germany and Ireland. They provide a nuanced view of how different countries operate politically and administratively, reflecting both the unique and shared aspects of their governance. This comparative analysis not only highlights differences and similarities but also fosters a deeper understanding of the global political landscape. By systematically evaluating these metrics, we aim to present an informed perspective on the governance dynamics that shape national and bilateral relationships, contributing to a more comprehensive understanding of international affairs.

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How is Germany Governed?

Germany's governance structure is a testament to its evolved democratic ethos and robust institutional frameworks, which significantly influence its trajectory on the international stage. As a parliamentary republic since 1871, Germany is a beacon of political stability and democratic order. The country's long-standing constitution, originating from 1948, underscores a system deeply rooted in democratic principles and legal integrity. These factors contribute to a high democracy index score, showcasing Germany's exemplary commitment to the democratic process and



Leinster House Security Gate

This architectural feature serves as the formidable entrance to Leinster House in Dublin, Ireland. As the home of the Irish parliament, it symbolizes the nation's governance and political resilience, blending historical elegance with modern security, all set against the vibrant backdrop of the capital city.

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reinforcing its global image as a reliable partner in governance and cooperative engagements.

At the heart of Germany's governance structure is a meticulous system of administrative division that brings governance closer to its citizens. The division into 16 states with hierarchical levels of local governance, including over 11,000 local units, reflects a well-coordinated strategy for local administration. Such granularity in government allows for tailored governance approaches that respect regional diversity while maintaining coherence in national policies. This strong local governance is a critical element in Germany's high local democracy index, supporting the country's effective policy implementation and responsiveness to local needs.

The financial architecture of Germany's government plays a pivotal role in its international standing. Despite fluctuations, the government's expense as a percentage of GDP depicts a balanced fiscal policy, ensuring efficient use of resources without external aid, as grants are excluded from the revenue calculation. This financial prudence is complemented by a competitive tax system, where the moderate percentage of taxes on goods and services and income fosters economic growth and investment. A heavy emphasis on social contributions fortifies the social safety net while symbolizing a commitment to social equality, thereby enhancing Germany's image as a welfare state.

Germany's nuanced approach to governance is also reflected in its global cooperation and partnership strategies. With one of the highest scores in the IDEA's rights and rule of law indices, Germany has constructed a robust framework that supports the rule of law and individual rights, positioning it as a trusted ally in international diplomacy. This adherence to international norms bolsters Germany's influence in bilateral and multilateral affairs, allowing it to navigate global challenges with authority and credibility.

In sum, Germany's governance model illustrates an intricate blend of democratic robustness, efficient fiscal strategies, and localized administration that not only spearheads its domestic accomplishments but also amplifies its international role. By adhering to principles of democracy and rule of law, while embracing fiscal responsibility and regional diversity, Germany continues to fortify its stature as a strategic and trustworthy partner on the global stage, fostering an environment of mutual respect and cooperation.

Ireland's State Model

Ireland's governance architecture is a tapestry woven with historical resiliency and modern democratic values, standing firm as a Parliamentary Republic since 1921. Its Constitution, enacted in 1937, provides the legal backbone for a robust institutional framework, which includes a comprehensive representation of citizens' rights and an effective rule of law. These pillars are underscored by Ireland's commendable performance in global democracy indices, including a notably strong showing in the Economic Intelligence Unit's democracy index. Such high indices signal a stable political environment and institutional reliability, where participation and representation are hallmarks of civic life.

As a unitary state, Ireland's administrative structure is tiered across various levels of local government—county and city councils being at the first level, followed by additional layers that extend governance into the minutiae of local communities. This nuanced local governance model offers tailored administration to meet the needs of its citizenry, intimately linking local developments with national policies. However, despite strong institutional frameworks, challenges in voter engagement persist, with turnout rates indicating areas ripe for potential policy intervention and civic education to invigorate deeper democratic involvement.

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Table 23. *Governance Indicators.*

	Germany				Ireland				
Finance & Taxation	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Revenue, excluding grants (% of GDP, ⇓)	12.5	142				102	19.4	2022	IMF5
Expense (% of GDP, ⇓)	15.9	129				117	17.4	2022	IMF5
Taxes on goods and services, incl. VAT (% value added, ⇓)	6.7	109				114	6.2	2022	IMF11
Taxes on income, profits and capital gains (% of revenue, ⇓)	41.1	19				5	56.9	2022	IMF1
Other taxes (% of revenue, ⇓)	0.0	144				48	2.2	20/22	IMF1
Compensation of employees (% of expense, ⇓)	6.4	155				68	30.1	2022	IMF1
Central government debt, total (% of GDP, ⇓)	44.5	80				73	46.7	2022	IMF5
Interest payments (% of expense, ⇓)	2.7	121				108	3.8	2022	IMF1
Subsidies and other transfers (% of expense, ⇓)	67.6	14				86	30.6	2022	IMF1
Social contributions (% of revenue, ⇓)	1.6	73				53	5.4	2022	IMF1
Government Type & Democracy									
System (year, ⇑): **Parliamentary Republic | Parliamentary Republic**	1,871	152				131	1,921	2023	WFB
Constitution (year, ⇑)	1948-08	24				15	1937-06	2023	WFB
Voters turnouts (%, ⇓)	77	48				106	63	21/20	IDEA
Voting age population turnouts (%, ⇓)	69	53				100	57	21/20	IDEA
Voting abroad (year, ⇑): **Postal | Postal**	1,949	7				38	1,992	2023	IDEA
IDEA's representation index (⇓)	0.86724	6				24	0.81377	2022	IDEA
IDEA's rights index (⇓)	0.94358	2				12	0.85305	2022	IDEA
IDEA's rule of law index (⇓)	0.91248	3				11	0.84024	2022	IDEA
IDEA's participation index (⇓)	0.80676	9				3	0.93709	2022	IDEA
EIU's democracy index (score, ⇓)	8.80	13				8	9.13	2022	EIUDI
DFG's democracy matrix total value index (score, ⇓)	0.944	5				16	0.898	2021	DFGDM
Local Government Administration Levels									
1st level (⇓): **states | counties/cities**	16	76				33	28	2023	GEO
2nd level (number of GeoNames units or populated places, ⇓)	22	158				144	32	2023	GEO
3rd level (number of GeoNames units or populated places, ⇓)	412	106				122	187	2023	GEO
4th level (number of GeoNames units or populated places, ⇓)	11,450	25				36	8,368	2023	GEO
IDEA's local democracy index (⇓)	0.98896	1				42	0.73998	2022	IDEA

Note: Global rankings in the tables throughout this book generally follow a descending order (from highest to lowest), with the exception of time-related indicators (dates and years) which follow an ascending order (from nearest to furthest). To avoid any confusion, we use arrows to indicate the order orientation: "⇓" signifies a descending order, while "⇑" denotes an ascending order. The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

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Ireland's fiscal framework is reflective of a balanced yet scrutinized governance, with a notable efficiency in tax collection mechanisms. The proportionate revenue from taxes on income, profits, and capital gains highlights a system leaning towards equity, aiming to foster a fair wealth distribution. Yet, with relatively lesser revenues as a percentage of GDP, the governance challenges lie in maximizing public expenditures' efficacy while maintaining debt levels manageable within the context of global economic fluctuations. Herein

lies Ireland's unique proposition: balancing traditional social contracts with dynamic economic imperatives.

In the realm of international relations, Ireland showcases its strengths through substantive investment in international law and democratic representation. Strong representation and participation scores suggest that Ireland's governance is both inclusive and externally credible, which bolsters its standing in bilateral relations. The country's governance framework, noted for its integrity and effectiveness, serves as a bedrock for fostering international trust and cooperation, vital in the face of global challenges.

Ultimately, Ireland's governance not only shapes its national trajectory but also enhances its role as a contributor to international dialogues. Recognized for its steadfast commitment to democracy, the system's strengths impact relationships far beyond its borders, presenting Ireland as a partner characterized by fairness, transparency, and mutual respect. This underscores the strategic importance of maintaining and evolving its governance structures, ensuring that they continue to support Ireland's aspirations and engagements on the global stage.

Governance Systems Matched

When comparing Germany and Ireland within the scope of governance insight, we observe a range of commonalities. Among the various indicators analyzed for both nations, the closest alignment is seen in goods tax, EIU democracy, and IDEA engage. Conversely, the most significant divergences appear in other tax, income tax, and staff costs.

Embracing administrative synergy, Germany and Ireland boast a 74% similarity, outstripping many parallels. In the realm of international similarities, Germany pairs with Spain and Ireland with Canada, highlighting their shared attributes. As illustrated in the final chart of this section, Ireland ranks eleventh in Germany's standings, while Germany holds eleventh position in Ireland's rankings.

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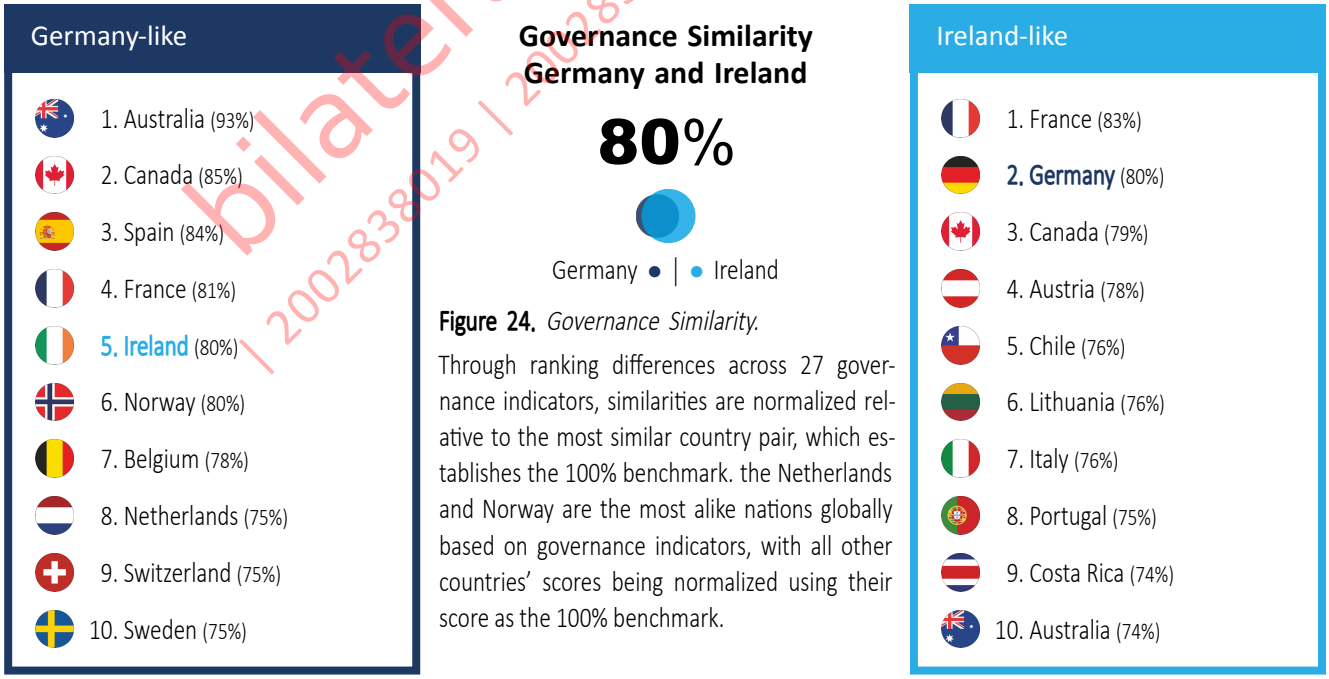


Figure 24. *Governance Similarity.*

Through ranking differences across 27 governance indicators, similarities are normalized relative to the most similar country pair, which establishes the 100% benchmark. the Netherlands and Norway are the most alike nations globally based on governance indicators, with all other countries' scores being normalized using their score as the 100% benchmark.



Jim Larkin: Champion of Workers' Rights

This statue on O'Connell Street in Dublin pays tribute to Jim Larkin, a pivotal figure in Ireland's trade union movement. With arms outstretched beneath The Spire, Larkin's monument symbolizes the enduring spirit of Irish socialism and the quest for fair labor practices.

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Leadership Timeline

The common bilateral timeline is an innovative way to understand the historical context and leadership changes in both Germany and Ireland. By presenting their histories and leadership terms side by side, this timeline allows for a comparison of the political and social developments of each nation over the past three to four centuries. This unique perspective makes it easier to grasp significant events and leadership shifts that have shaped each country.

This approach helps bridge the gap between familiar and foreign historical narratives, fostering a deeper understanding and appreciation of different cultures and governance systems. It highlights parallels and divergences in political evolution, enhancing the study of bilateral relationships. Detailed statistical tables support the timeline, including indicators such as the number of leaders, their average age during their term, and the longest terms in office across different centuries, providing a comprehensive overview of leadership trends and political stability in both countries.

By examining leadership trends from the 18th century to the present, we can see how the number of leaders, their ages, and their tenure lengths have changed over time, reflecting political stability and governance practices. This comparison helps understand the broader historical context and the evolution of political systems in both countries, offering valuable insights for researchers, historians, and policymakers interested in the dynamics of bilateral relations.

Overall, the common bilateral timeline is a valuable tool for examining the historical trajectories and leadership patterns of Germany and Ireland. By providing a detailed, side-by-side comparison, it enriches the understanding of both nations' histories and highlights the importance of context in the study of international relations. This comparative approach underscores the interconnectedness of global history and the value of learning from each other's past to inform present and future diplomatic and political strategies.

Germany's Political History

The political landscape of Germany has been shaped by a tapestry of leadership transitions, illustrating a dynamic evolution from the early days of monarchical governance to its current role as a major player on the world stage. Throughout the centuries, Germany's leaders have influenced the developmental trajectory of the nation, each era marked by specific leadership styles that have imprinted their legacy on history. The 18th century was characterized by relatively stable leadership under the likes of Karl VI, whose long reign signaled a period of consolidated power during a time where monarchies wielded significant traditional influence. This early era set a foundation, highlighting a leadership approach that valued longevity and continuity.

As the 19th century unfolded, the German leadership scene experienced a pivotal transformation. The figure of Otto von Bismarck stood out, with his strategic acumen and diplomatic prowess encapsulated in a tenure that reshaped Germany's status within Europe. Bismarck's dominance during this period was reflective of the imperial age's focus on power consolidation and statecraft, navigating Germany through a maze of alliances and conflicts. The increase in leadership transitions after Bismarck indicated a move towards broader political engagement, paving the way for increasingly diverse governance structures that sought to balance power beyond singular influential figures.

The 20th century witnessed an explosive proliferation of leadership changes, indicative of Germany's tumul-

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Otto von Bismarck

Standing proudly in Berlin's Tiergarten, the Bismarck Memorial commemorates the influential statesman who shaped Germany's political landscape. This bronze statue reflects the legacy of the Prussian leader, offering visitors a connection to the country's rich history and a glimpse into the past where politics and culture intertwined.

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tuous socio-political landscape. The interwar periods and the eventual division and reunification of the country contributed to a heightened turnover rate, with leaders often stepping into office during critical historical moments. Wilhelm II's long tenure amidst these changes highlighted Germany's oscillation between stability and upheaval, as political tides steered the nation through both world wars and towards eventual democratic renaissance. This era underscored the complexities of leadership as a response to both internal dynamics and overarching global pressures.

Entering the 21st century, Germany stands as a testament to the maturation of democratic principles and the stabilization of leadership transitions. Angela Merkel's notable tenure signifies a return to leadership continuity in a modern context, characterized by measured pragmatism and a focus on maintaining Germany's influential role within the European Union and on the global stage. Her leadership style emphasized consensus-building and strategic partnerships, reinforcing Germany's identity as a key player in international diplomacy and economic affairs. The current path sees an aging leadership demographic, reflecting a potential shift towards wisdom and experience guiding future political endeavors.

Germany's leadership journey is a narrative of adaptability and resilience, continually sculpting its national identity in response to shifting geopolitical landscapes. The country's remarkable spectrum of historical leaders, each with distinct achievements and challenges, highlights a dynamic interplay between leadership styles and Germany's strategic evolution. The progression from imperial dominance, through turbulent transformations, to democratic stability underscores Germany's capacity to navigate global complexities and maintain its vibrant presence within international relations. This ability to shape and be shaped by its leaders continues to position Germany as a formidable force within a deeply interconnected world.



H.E. Dr. Srgjan Kerim, Chairman of Bilateral Navigator's Board of Senior Counselors, then President of the 62nd Session of the United Nations General Assembly, met with H.E. Dr. Angela Merkel, then Chancellor of Germany, in New York, 2007

How Has Ireland Been Led?

From its early roots characterized by frequent leadership transitions to its contemporary period of stability, Ireland's political history is a tapestry woven with significant evolution in governance. The leadership landscape of the 18th century was marked by a high turnover, with numerous leaders steering the course, suggesting a period of instability and perhaps external influences that necessitated frequent changes. These early beginnings, with leaders averaging in their early forties, depicted a youthful but changing leadership front. It was in this era that figures like William Cavendish, 3rd Duke of Devonshire, led for notably longer terms, hinting at periods of relative political consolidation amidst broader European turmoil.

In the 19th century, leadership became more entrenched, with transitions less frequent than before, reflecting an evolving political structure and possibly the burgeoning impact of colonial influence. The average age of leaders rose, indicating a shift towards more experienced statesmen. Amidst this transformation, figures such as Richard Colley Wellesley emerged, serving extended terms that demonstrated leadership stability and an ability to navigate the complex socio-political landscapes of the British Empire's periphery. This era laid the groundwork for Ireland's subsequent

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Table 24. *Timeline of Germany and Ireland main political leadership changes since 18th Century.*

GERMANY	IRELAND
	1541 - Personal union with England
	16.. (17.03.) - NATIONAL DAY: St. Patrick's Day
Holy Roman Empire (-1806) 1658	
Leopold I, Emp.Elect (-1705) **1658**	
	1697 -1700 Charles B. Earl of Berkeley, Lord Lt
	1697 -1700 Charles Paulet, Duke of Bolton, Lord Lt
	1697 -1700 Edward Villiers, Earl of Jersey, Lord Lt
	1697 -1700 Henry de Massue, Earl of Galway, Lord Lt
	1697 -1700 Narcissus Marsh, Lord Lt
	1700 -1701 Cyril Wyche, Lord Lt
	1700 -1701 Henry Sidney, Earl of Romney, Lord Lt
	1701 -1703 Laurence Hyde, Earl of Rochester, Lord Lt
	1703 -1707 James Butler, Duke of Ormonde, Lord Lt
Joseph I, Emp.Elect (-1711) **1705**	
	1707 -1709 Thomas Herbert, Earl of Pembroke, Lord Lt
	1709 -1711 Thomas Wharton, Baron Wharton, Lord Lt
Friedrich August I "der Starke", Emp.Elect (-1711) **1711**	**1711** -1713 James Butler, Duke of Ormonde, Lord Lt
Johann Wilhelm, Emp.Elect (-1711) **1711**	
Karl VI, Emp.Elect (-1740) **1711**	
	1713 -1714 Charles T. Duke of Shrewsbury, Lord Lt
	1714 -1717 Charles S. Earl of Sunderland, Lord Lt
	1717 -1717 Charles T. Viscount Townshend, Lord Lt
	1717 -1721 Charles Paulet, Duke of Bolton, Lord Lt
	1721 -1724 Charles Fitzroy, Duke of Grafton, Lord Lt
	1724 -1730 John Carteret, Baron Carteret, Lord Lt
	1730 -1731 Hugh Boulter, Lord Lt a.i.
	1730 -1731 Ralph Gore, Lord Lt
	1730 -1731 Thomas Wyndham, Lord Lt
	1731 -1737 Lionel C. S. Duke of Dorset, Lord Lt
	1737 -1745 William C. D. of Devonshire, Lord Lt
Friedrich August II, Emp.Elect (-1742) **1740**	
Karl Albrecht, Emp.Elect (-1742) **1740**	
Karl VII, Emp.Elect (-1745) **1742**	
Friedrich August II, Emp.Elect (-1745) **1745**	**1745** -1747 Philip D.S. E. of Chesterfield, Lord Lt
Maximilian III, Emp.Elect (-1745) **1745**	
Franz I, Emp.Elect (-1765) **1745**	
	1747 -1750 William S. E. of Harrington, Lord Lt
	1750 -1751 Henry Boyle, Lord Lt a.i.
	1751 -1755 Lionel C. S. Duke of Dorset, Lord Lt
	1755 -1756 William C. Baron Cavendish, Lord Lt
	1757 -1761 John Russell, Duke of Bedford, Lord Lt
	1761 -1763 George M. Dunk, Earl of Halifax, Lord Lt
	1763 -1765 Hugh P. Earl of Northumberland, Lord Lt
Joseph II, Emp.Elect (-1790) **1765**	**1765** -1765 Thomas Thynne, Viscount Weymouth, Lord Lt
	1765 -1766 Francis S. Earl of Hertford, Lord Lt
	1766 -1767 George W. H. Earl of Bristol, Lord Lt
	1767 -1772 George T. Viscount Townshend, Lord Lt
	1772 -1777 Simon Harcourt, Earl Harcourt, Lord Lt
	1777 -1780 John H. E. of Buckinghamshire, Lord Lt
	1780 -1782 Frederick H. Earl of Carlisle, Lord Lt
	1782 -1782 William H.C. C.-B. D. of P., Lord Lt
	1782 -1783 George N. E. Temple, Lord Lt
	1783 -1784 Robert H. Earl of Northington, Lord Lt
	1784 -1787 Charles Manners, Duke of Rutland, Lord Lt
	1787 -1790 George N. M. of Buckingham, Lord Lt
Friedrich A. III "der Gerechte", Emp.Elect (-1790) **1790**	**1790** -1795 John Fane, Earl of Westmorland, Lord Lt
Karl IV Philipp Theodor, Emp.Elect (-1790) **1790**	
Leopold II, Emp.Elect (-1792) **1790**	
Friedrich A. III "der Gerechte", Emp.Elect (-1792) **1792**	
Karl IV Philipp Theodor, Emp.Elect (-1792) **1792**	

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GERMANY

Franz II, Emp.Elect (-1806) **1792**

Confederation of the Rhine founded - 1806

Carl T. R. v. Dalberg, Prn.Prim. (-1813) **1806**

Reich dissolved - 1806

Transition 1813-15 (-1815) 1813

Karl Freiherr vom und zum Stein, Pres. (-1815) **1813**

German Confederation (-1866) 1815

German Reich (officially from 28 Mar 1849) (-1849) 1848

Johann, Erzherzog von Österreich, Prov. (-1849) **1848**
Carl Fürst zu Leiningen, Pres. (-1848) **1848**
Anton Ritter von Schmerling, Pres. (-1848) **1848**
Heinrich Freiherr von Gagern, Pres. (-1849) **1848**
Maximilian Grävell, Pres. (-1849) **1849**
August L. P. zu S., Pres. (-1849) **1849**
August Becher, Prov. (-1849) **1849**
August Heinrich Simon, Prov. (-1849) **1849**
Carl Vogt, Prov. (-1849) **1849**
Franz Raveaux, Prov. (-1849) **1849**
Friedrich Schüler, Prov. (-1849) **1849**
Federal Commission, Prov. (-1850) **1849**

North German Confederation - 1867

Otto Graf von Bismarck, Chan. (-1890) **1867**

German Reich - 1871

Wilhelm I, Emperor (-1888) **1871**

IRELAND

1795 -1795 William F. E. Fitzwilliam, Lord Lt
1795 -1798 John Jeffreys Pratt, Earl Camden, Lord Lt
1798 -1801 Charles C. Marquess Cornwallis, Lord Lt

1801 - Part of U.K. of Great Britain & Ireland

1801 -1806 Philip Yorke, Earl of Hardwicke, Lord Lt
1806 -1807 John Russell, Duke of Bedford, Lord Lt

1807 -1813 Charles Lennox, Duke of Richmond, Lord Lt
1813 -1817 Charles W. Viscount Whitworth, Lord Lt

1817 -1821 Charles C. E. Talbot, Lord Lt
1821 -1828 Richard C. W. Marquess Wellesley, Lord Lt
1828 -1829 Henry W. P. Marquess of Anglesey, Lord Lt
1829 -1830 Hugh P. Duke of Northumberland, Lord Lt
1830 -1833 Henry W. P. Marquess of Anglesey, Lord Lt
1833 -1835 Richard C. W. Marquess Wellesley, Lord Lt
1835 -1835 Thomas H. Earl of Haddington, Lord Lt
1835 -1839 Constantine H.P. E. of Mulgrave, Lord Lt
1839 -1841 Hugh Fortescue, Baron Fortescue, Lord Lt
1841 -1844 Thomas P. de Grey, Earl de Grey, Lord Lt
1844 -1846 William à C. Baron Heytesbury, Lord Lt
1846 -1847 John W. P. Earl of Bessborough, Lord Lt
1847 -1852 George W.F. V. Earl of Clarendon, Lord Lt

1852 -1852 Archibald W. M. Earl of Eglinton, Lord Lt
1853 -1855 Edward G. E. Earl of St. Germans, Lord Lt
1855 -1858 George W.F. H. Earl of Carlisle, Lord Lt
1858 -1859 Archibald W. M. Earl of Eglinton, Lord Lt
1859 -1864 George W.F. H. Earl of Carlisle, Lord Lt
1864 -1866 John Wodehouse, Baron Wodehouse, Lord Lt
1866 -1868 James H. Marquess of Abercorn, Lord Lt

1868 -1874 John P. Spencer, Earl Spencer, Lord Lt

1874 -1876 James Hamilton, Duke of Abercorn, Lord Lt
1876 -1880 John C. Duke of Marlborough, Lord Lt
1880 -1882 Francis T. de G. C. Earl Cowper, Lord Lt
1882 -1885 John P. Spencer, Earl Spencer, Lord Lt
1885 -1886 Henry H.M. H. Earl of Carnarvon, Lord Lt
1886 -1886 John C. H. G. Earl of Aberdeen, Lord Lt
1886 -1889 Charles S.V. S., M. of L., Lord Lt

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GERMANY	IRELAND
Friedrich III, Emperor (-1888) **1888**	
Wilhelm II, Emperor (-1918) **1888**	
	1889 -1892 Lawrence Dundas, Earl of Zetland, Lord Lt
Leo von Caprivi, Chan. (-1894) **1890**	
	1892 -1895 Robert C. Baron Houghton, Lord Lt
Chlodwig F. zu H., Chan. (-1900) **1894**	
	1895 -1902 George H. Cadogan, Earl Cadogan, Lord Lt
Bernhard Graf von Bülow, Chan. (-1909) **1900**	
	1902 -1905 William H. Ward, Earl of Dudley, Lord Lt
	1905 -1915 John C. H. G. Earl of Aberdeen, Lord Lt
Theobald von Bethmann Hollweg, Chan. (-1917) **1909**	
	1915 -1916 Ivor C. Guest, Baron Wimborne, Lord Lt
	1916 -1916 "Easter Rising"
	1916 -1916 Patrick Henry Pearse, Lord Lt a.i.
	1916 -1916 Bernard E.B. F. Baron Castletown, Lord Lt
	1916 -1916 James Owen Wylie, Lord Lt
	1916 -1916 Jonathan Pim, Lord Lt
	1916 -1916 Richard Robert Cherry, Lord Lt
	1916 -1916 Sir David Harrel, Lord Lt
	1916 -1918 Ivor C. Guest, Baron Wimborne, Lord Lt
Georg Michaelis, Chan. (-1917) **1917**	
Georg Graf von Hertling, Chan. (-1918) **1917**	
Max Prinz von Baden, Chan. (-1918) **1918**	**1918** -1921 John French, Viscount French, Lord Lt
Friedrich Ebert, Chan. (-1918) **1918**	
Republic - 1918	
Friedrich Ebert, Chairman (-1918) **1918**	
Hugo Haase, Chairman (-1918) **1918**	
Brutus Molkenbuhr, Pres. (-1918) **1918**	
Hans-Georg von Beerfelde, Pres. (-1918) **1918**	
Richard Müller, Pres. (-1918) **1918**	
Hermann Müller, Pres. (-1919) **1918**	
Max Cohen-Reuss, Pres. (-1919) **1918**	
Robert Leinert, Pres. (-1919) **1918**	
Friedrich Ebert, Chairman (-1918) **1918**	
Friedrich Ebert, Chairman (-1918) **1918**	
Philipp Scheidemann, Chairman (-1918) **1918**	
Friedrich Ebert, Chairman (-1919) **1918**	
Wilhelm Pfannkuch, Pres. (-1919) **1919**	**1919 - Independence declared (Irish Republic)**
Eduard David, Pres. (-1919) **1919**	**1919** -1919 Cathal Brugha, Chairman
Friedrich Ebert, Pres. (-1925) **1919**	**1919** -1919 George Noble, Count Plunkett, Chairman
Philipp Scheidemann, Chan. (-1919) **1919**	**1919** -1919 Cathal Brugha, Pres.
Gustav Bauer, Chan. (-1920) **1919**	**1919** -1922 Eamon de Valera, Pres.
Wolfgang Kapp, Chan. a.i. (-1920) **1920**	
Hermann Müller, Chan. (-1920) **1920**	
Konstantin Fehrenbach, Chan. (-1921) **1920**	
Joseph Wirth, Chan. (-1922) **1921**	**1921** -1922 Edmund B.F. V. F. of Derwent, Lord Lt
Wilhelm Cuno, Chan. (-1923) **1922**	**1922** -1922 Arthur Griffith, Pres.
	1922 -1922 Michael Collins, Chairman
	1922 -1922 William Thomas Cosgrave, Chairman
	1922 -1922 William Thomas Cosgrave, Pres.
	1922 -1923 Eamon de Valera, Pres. a.i.
	1922 - Irish Free State (dominion)
	1922 -1928 T.M. Healy, Gov.Gen.
	1922 -1932 William Thomas Cosgrave, PM
Gustav Stresemann, Chan. (-1923) **1923**	
Wilhelm Marx, Chan. (-1925) **1923**	
Hans Luther, Chan. (-1926) **1925**	
Hans Luther, Pres. a.i. (-1925) **1925**	
Walter Simons, Pres. a.i. (-1925) **1925**	
Paul von Hindenburg, Pres. (-1934) **1925**	

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GERMANY

Otto Gessler, Chan. a.i. (-1926) **1926**
Wilhelm Marx, Chan. (-1928) **1926**
Hermann Müller, Chan. (-1930) **1928**
Heinrich Brüning, Chan. (-1932) **1930**

Franz von Papen, Chan. (-1932) **1932**
Kurt von Schleicher, Chan. (-1933) **1932**

Adolf Hitler, Chan. (-1945) **1933**
Adolf Hitler, Pres. (-1945) **1934**

Joseph Goebbels, Chan. (-1945) **1945**
Karl Dönitz, Pres. (-1945) **1945**
Lutz Graf Schwerin von Krosigk, Chan. (-1945) **1945**

Allied occupation (-1955) 1945

Dwight D. Eisenhower, Mil.Gov. (-1945) **1945**

British zone (-1955) 1945

Sir Bernard Law Montgomery, Mil.Gov. (-1946) **1945**

Allied occupation (Japan) - 1945

Soviet zone (-1955) 1945

Georgy Zhukov, Mil.Gov. (-1946) **1945**

French zone (-1955) 1945

Pierre Koenig, Mil.Gov. (-1949) **1945**
George S. Patton, Jr., Mil.Gov. (-1945) **1945**
Joseph T. McNarney, Mil.Gov. (-1947) **1945**
Vasily Sokolovsky, Mil.Gov. (-1949) **1946**
Otto Grotewohl, Gen.Sec. (-1950) **1946**
Wilhelm Pieck, Gen.Sec. (-1950) **1946**
Sir William Sholto Douglas, Mil.Gov. (-1947) **1946**
Lucius D. Clay, Mil.Gov. (-1949) **1947**
Sir Brian Hubert Robertson, Mil.Gov. (-1949) **1947**

Vasily Chuikov, Mil.Gov. (-1949) **1949**
Clarence R. Huebner, Mil.Gov. (-1949) **1949**
John J. McCloy, H.Comnr. (-1952) **1949**

Federal Republic of Germany (West Germany) - 1949

Karl Arnold, Pres. a.i. (-1949) **1949**
Theodor Heuss, Pres. (-1959) **1949**
Konrad Adenauer, Chan. (-1963) **1949**
Sir Brian Hubert Robertson, H.Comnr. (-1950) **1949**
André François-Poncet, H.Comnr. (-1955) **1949**

German Democratic Republic (East Germany) - 1949

Johannes Dieckmann, Pres. (-1949) **1949**
Vasily Chuikov, Chairman (-1953) **1949**

IRELAND

1928 -1932 James McNeill, Gov.Gen.

1931 - Sovereignty by the Statute of Westminster

1932 -1948 Eamon de Valera, PM
1932 -1932 ^\.\.\., Gov.Gen.
1932 -1936 Domhnall Ua Buachalla², Gov.Gen.

1936 -1937 Eamon de Valera, Gov.Gen.
1936 -1937 Frank Fahy, Gov.Gen.

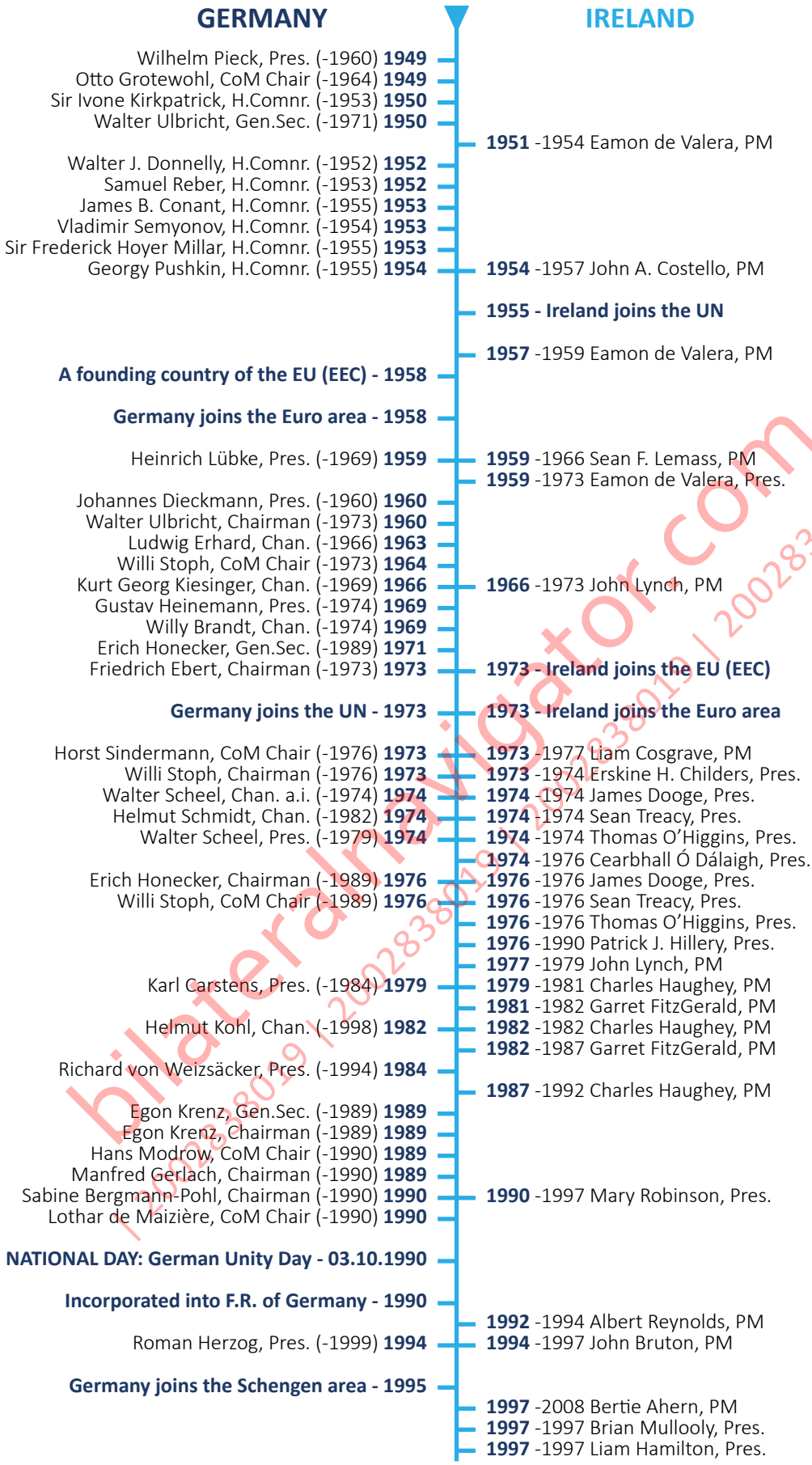
1937 - Éire (Ireland)

1937 -1938 Conor Alexander Maguire, Pres.
1937 -1938 Frank Fahy, Pres.
1937 -1938 Timothy Sullivan, Pres.
1938 -1945 Douglas Hyde, Pres.
1945 -1959 Sean T. O'Kelly, Pres.

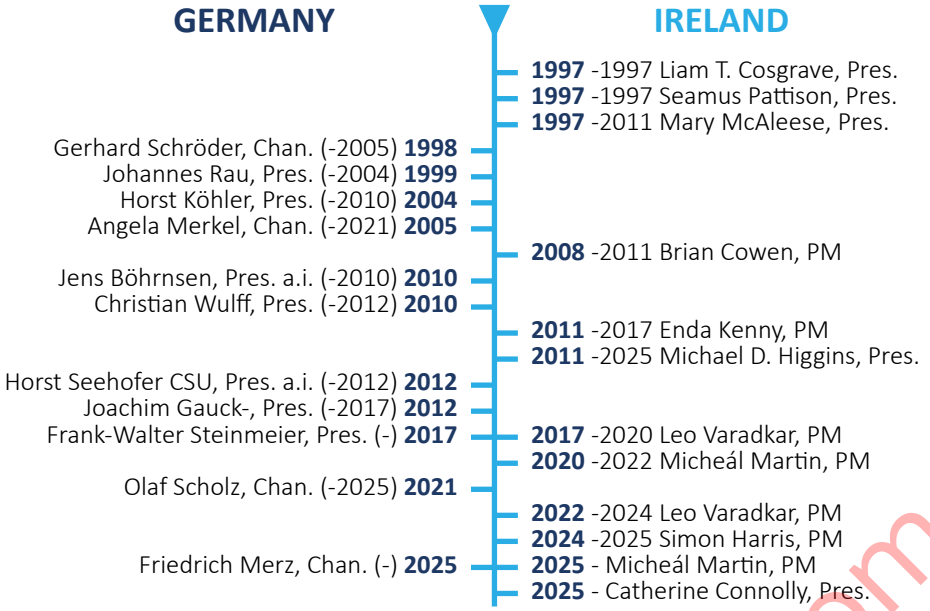
1948 -1951 John A. Costello, PM

1949 - Republic of Ireland

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quest for greater autonomy and identity within a shifting geopolitical framework.

The 20th century heralded a decisive change in Ireland's leadership narrative. With the nation moving towards complete sovereignty, the leadership style transitioned from external governance towards homegrown leadership, reflecting the Irish people's aspirations for true governance autonomy. The increased number of leadership transitions during this century signified dynamic political change, exemplifying a nation newly writing its own destiny. Eamon de Valera emerged as a towering figure, with his long tenure encapsulating the spirit of an Ireland focused on asserting its independence while forging a distinct national identity. His leadership distinguished itself through progressive reforms and a strong stance on Irish sovereignty, which significantly influenced Ireland's role on the global stage.

Entering the 21st century, Ireland's leadership had matured into a more stable form, characterized by fewer transitions and a seasoned average leader age, suggesting a preference for experienced guidance in navigating modern challenges. The longest-serving leader in contemporary history, Mary McAleese, exemplified this shift through her tenure, often hailed for promoting peace and unity in the wake of Ireland's fraught past. Her leadership played a pivotal role in strengthening Ireland's international relationships, notably with the United Kingdom, thereby enhancing Ireland's stature globally as a bastion of reconciliation and progress.

In examining Ireland's political evolution, the interplay between leadership styles and national development becomes vividly apparent. Each shift in leadership brought Ireland closer to defining its role in the modern world—a nation resilient in its fight for autonomy, wise in leveraging its strategic importance, and bold in embracing its identity on the international stage. These leadership qualities, shaped over decades, continue to influence Ireland's global partnerships, imbuing the country with a distinctive voice amid the complexities of international relations.

Out of German & Irish History Books

In the context of leadership timeline, a comparison between Germany and Ireland reveals certain areas

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Frank-Walter Steinmeier is the President of Germany, serving since 2017. A seasoned politician and former Foreign Minister, Steinmeier's presidency emphasizes social cohesion, democracy, and Germany's prominence in global diplomacy. Known for his pragmatic approach, Steinmeier remains committed to addressing issues such as migration, climate change, and digital transformation. He is widely respected for his diplomatic skills and enduring influence in international politics.



Friedrich Merz has served as Germany's chancellor since May 2025 and has led the CDU since January 2022. Born in 1955 in Brilon, he rose from the party youth to the European Parliament and the Bundestag, chaired the CDU CSU group in 2000, left politics in 2009 for business including BlackRock Germany, and returned in 2018 to win the party leadership in 2022. After the 2025 election he formed a coalition with the SPD and secured the chancellorship in a second round vote. A pro European economic liberal and social conservative, he prioritizes defense and infrastructure and won constitutional changes that exempt defense spending from the debt brake.



Catherine Martina Ann Connolly is the President of Ireland, elected in 2025 after winning a historic landslide as an independent candidate supported by a broad progressive alliance. A former Teachta Dala for Galway West, she previously served as Leas Cheann Comhairle of Dail Eireann and as Mayor of Galway, alongside a long career as a clinical psychologist and barrister. She is known for principled advocacy on housing, social justice, and state accountability. As president, she champions peace, Irish neutrality, climate responsibility, and giving voice to communities often excluded from national debate.



Micheál Martin is the Taoiseach of Ireland, returning to the office after first serving in the role from 2020 to 2022 and leading Fianna Fáil since 2011. A long serving Teachta Dala for Cork South Central, he has served as Tánaiste, Minister for Foreign Affairs, Minister for Defence, and Minister for Education and Science, Health, and Enterprise. A former teacher and historian, he leads major reforms including the pioneering workplace smoking ban and creation of the Health Service Executive. He now focuses on stable coalition governance, social progress, international engagement, and long term economic opportunity for all communities.

of similarity. Of the indicators shared by both nations, they are most aligned in longest term in 2000s, leaders in 2000s, and age in 1700s, while their greatest differences are evident in leaders age in 2000s, longest term in 1800s, and term in 1900s.

In the realm of leadership transitions, Germany and Ireland align with a notable 57% overlap. For Germany, Yemen stands out as its prime analog, just as Jamaica does for Ireland. As the final chart in this section shows, Ireland holds fifty-sixth position in Germany's ranking, and Germany ranks ninety-first on Ireland's list.

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Table 25. *Leadership Timeline Indicators.*

	Germany				Ireland				
18th Century	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Leaders, number of transitions (1700–1799, ⇓)	**17**	54			7	**46**	2023	WDATA	
Average age during term (1700–1799, ⇑)	**47.9**	47			25	**42.3**	2023	WDATA	
Longest term (1700–1799, years, ⇓): **Karl VI | W.C.D.Devonshire**	**29**	34			84	**8**	2023	WDATA	
19th Century									
Leaders, number of transitions (1800–1899, ⇓)	**19**	104			61	**35**	2023	WDATA	
Average age during term (1800–1899, ⇑)	**57.8**	147			109	**51.5**	2023	WDATA	
Longest term (1800–1899, years, ⇓): **O.G.Bismarck | R.C.W.M.Wellesley**	**23**	61			129	**7**	2023	WDATA	
20th Century									
Leaders, number of transitions (1900–1999, ⇓)	**106**	12			47	**65**	2023	WDATA	
Average age during term (1900–1999, ⇑)	**56.9**	151			176	**59.5**	2023	WDATA	
Longest term (1900–1999, years, ⇓): **Wilhelm II | E.Valera**	**30**	56			111	**16**	2023	WDATA	
21th Century									
Leaders, number of transitions (2000–, ⇓)	**10**	96			117	**8**	2023	WDATA	
Average age during term (2000–, ⇑)	**63.0**	142			48	**54.6**	2023	WDATA	
Longest term (2000–, years, ⇓): **A.Merkel | M.McAleese**	**16**	77			88	**14**	2023	WDATA	

Note: Global rankings in this table typically use descending order (highest to lowest), represented by "⇓". However, for indicators like the average age of leaders during their term, ascending order (youngest to oldest) is used, represented by "⇑".

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Germany-like

1. Yemen (74%)
2. Uzbekistan (72%)
3. Saudi Arabia (71%)
4. South Africa (69%)
5. Viet Nam (67%)
6. South Korea (67%)

⋮

55. Estonia (57%)
56. Ireland (57%)
57. Senegal (57%)

Leadership Legacy Similarity
Germany and Ireland

57%

Germany ● | ● Ireland

Figure 25. *Leadership Legacy Similarity.*

Analysis of ranking differences across 12 leadership indicators determines similarity scores, normalized against the most similar country pair at 100%. Latvia and Lithuania are the most alike nations globally based on leadership transition patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

Ireland-like

1. Jamaica (80%)
2. Antigua and Barbuda (79%)
3. Grenada (77%)
4. Trinidad and Tobago (76%)
5. Mauritius (76%)
6. Sri Lanka (76%)

⋮

90. Ukraine (57%)
91. Germany (57%)
92. Brazil (57%)

State Visits

State visits represent the highest level of international diplomacy, involving meticulously planned events with heads of state, formal receptions, state dinners, and official engagements. These visits provide a platform for discussing critical issues like politics, economics, and security, thereby strengthening bilateral relations and fostering mutual understanding.

Ceremonial aspects, such as military honors, formal receptions, national anthems, and troop reviews, demonstrate the importance of the relationship between host and visiting countries. These events set the stage for substantive discussions leading to enhanced cooperation and agreements on various bilateral issues.

State visits also promote friendly relations and develop economic, cultural, and scientific ties. They act as public diplomacy, building a positive image of the visiting nation and its leaders, showcasing their culture and values, and fostering deeper connections. This can lead to increased trade, tourism, and investment opportunities.

Additionally, state visits provide opportunities for leaders to address bilateral issues and negotiate beneficial agreements. The presence of heads of state ensures serious discussions and high-level political backing for any agreements made, which is crucial for resolving disputes, fostering peace, and establishing long-term strategic partnerships.

Examining state visits between Germany and Ireland, this book analyzes travel patterns and leaders' dedication to these diplomatic engagements. By reviewing data from historical records, news outlets, and official photo services, we gain insights into the bilateral relationships nurtured through these visits. While detailed data for every country pair may not be feasible, our extensive dataset allows for comparative analysis, highlighting similarities and differences in state visit patterns among UN member states.

Overall, state visits are vital tools in the diplomatic arsenal, fostering mutual understanding, resolving conflicts, and building lasting relationships between countries. This section of the book highlights the importance and impact of these visits on international relations.

Germany's Highest-Level Meeting Calendar

Over the past two decades, Germany's approach to state visits has been nothing short of a strategic masterpiece, shaping its international relationships and cementing its role on the global stage. Positioned at the very heart of Europe, Germany conducts these high-level diplomatic exchanges with careful precision, highlighting its commitment to fostering strong bilateral ties. Through an intricate balance of outgoing and incoming visits, Germany weaves a diplomatic tapestry that reflects both its European roots and its broader international aspirations. These visits serve as a vital instrument in Germany's diplomatic toolkit, facilitating dialogue and cooperation on key global issues such as trade, security, and climate change.

Diplomatic engagements with neighboring countries like France and Poland underscore Germany's role in regional stability and cooperation. By frequently exchanging visits with France—their interactions are the most frequent among all partners—Germany not only reaffirms historical and cultural bonds but also sets a collaborative tone for European integration and unity. This robust interaction serves as a linchpin for the Franco-German tandem, a driving force within the European Union. Visits with Poland, though slightly less frequent, also play a critical role in maintaining Eastern European stability, showing Germany's dedi-

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Table 26. *State-Level Visit Counts (both directions, over the past 20 years).*

Top 20 State-Level Visit Counts by Country	Germany Value	Germany Rank	Trend	Gap	Trend	Ireland Rank	Ireland Value	Year	Source
Each other (% of total, visits, ⇓): **1.0% | 5.4%**	**15**	27				3	**15**	2022	NEWS1
Total visits over past 20 years (number of visits, ⇓)	**1,444**	27				3	**277**	2022	NEWS1
Austria (visits, ⇓): **1.4% | 1.8%**	**20**	16				11	**5**	2022	NEWS1
Belgium (visits, ⇓): **1.3% | 1.4%**	**19**	18				18	**4**	2022	NEWS1
Bulgaria (visits, ⇓): **0.9% | 1.4%**	**13**	37				16	**4**	2022	NEWS1
Canada (visits, ⇓): **1.1% | 2.5%**	**16**	26				6	**7**	2022	NEWS1
China (visits, ⇓): **2.2% | 1.1%**	**32**	9				22	**3**	2022	NEWS1
Croatia (visits, ⇓): **0.8% | 1.8%**	**11**	38				14	**5**	2022	NEWS1
Czechia (visits, ⇓): **1.3% | 0.7%**	**18**	22				29	**2**	2022	NEWS1
Denmark (visits, ⇓): **1.7% | 1.1%**	**24**	14				17	**3**	2022	NEWS1
Egypt (visits, ⇓): **2.0% | 0.4%**	**29**	10				48	**1**	2022	NEWS1
Finland (visits, ⇓): **1.3% | 1.8%**	**18**	21				12	**5**	2022	NEWS1
France (visits, ⇓): **10.8% | 4.3%**	**156**	1				4	**12**	2022	NEWS1
Greece (visits, ⇓): **1.7% | 0.7%**	**25**	12				34	**2**	2022	NEWS1
Hungary (visits, ⇓): **0.9% | 1.8%**	**13**	35				13	**5**	2022	NEWS1
Israel (visits, ⇓): **1.4% | 0.4%**	**20**	17				52	**1**	2022	NEWS1
Italy (visits, ⇓): **3.4% | 2.5%**	**49**	6				7	**7**	2022	NEWS1
Japan (visits, ⇓): **1.8% | 0.7%**	**26**	11				30	**2**	2022	NEWS1
Jordan (visits, ⇓): **1.3% | 0.7%**	**18**	23				25	**2**	2022	NEWS1
Latvia (visits, ⇓): **0.6% | 1.8%**	**9**	43				15	**5**	2022	NEWS1
Lithuania (visits, ⇓): **1.0% | 1.1%**	**14**	32				20	**3**	2022	NEWS1
Netherlands (visits, ⇓): **1.6% | 1.4%**	**23**	15				9	**4**	2022	NEWS1
Norway (visits, ⇓): **1.1% | 0.7%**	**16**	25				27	**2**	2022	NEWS1
Poland (visits, ⇓): **3.5% | 2.5%**	**51**	5				8	**7**	2022	NEWS1
Portugal (visits, ⇓): **1.0% | 1.1%**	**14**	33				21	**3**	2022	NEWS1
Russia (visits, ⇓): **4.4% | 0.7%**	**63**	2				32	**2**	2022	NEWS1
Slovenia (visits, ⇓): **0.6% | 1.1%**	**9**	42				19	**3**	2022	NEWS1
Spain (visits, ⇓): **2.6% | 2.9%**	**37**	7				5	**8**	2022	NEWS1
Sweden (visits, ⇓): **1.3% | 1.8%**	**18**	20				10	**5**	2022	NEWS1
Türkiye (visits, ⇓): **2.2% | 0.4%**	**32**	8				53	**1**	2022	NEWS1
United Kingdom (visits, ⇓): **3.7% | 28.9%**	**53**	4				1	**80**	2022	NEWS1
United States (visits, ⇓): **3.7% | 11.2%**	**54**	3				2	**31**	2022	NEWS1

Note: The table's first row presents the total number of bilateral state visits made by Germany and Ireland to third countries, and from these countries to Germany and Ireland, over the last 30 years. The second row provides details about Germany and Ireland's state visits to each other, along with a percentage comparison to the total visits. The subsequent rows show the top 20 countries for state visits - both as destinations and origins - for both Germany and Ireland. Even if a certain country doesn't fall within the top 20 for one nation, it will still be displayed if it is within the top 20 for the other. Rankings in this table are displayed in descending order, as indicated by the symbol '⇓', and range from the highest to the lowest percent of destination/origin within each country (unlike other tables, these are NOT global rankings). In instances where multiple countries have identical values for a selected destination (other country), alphabetical order of destination/origin is used as a tiebreaker.

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cation to strengthening alliances within its immediate geographic circle.

Beyond Europe, Germany extends its diplomatic reach to pivotal global partners, with notable engagements with China and Egypt. Visits to and from China highlight Germany's recognition of China as a critical trade partner and a significant player on the world economic stage. These exchanges are marked by meticulous protocols aimed at fostering mutual understanding and cooperation amidst global challenges. Interaction with Egypt, on the other hand, reveals Germany's strategic interests in the Middle East and Africa, emphasizing the importance of dialogue in areas of energy security and migration.

In its diplomatic endeavors, Germany exhibits a nuanced understanding of global dynamics, illustrated by its outreach to less frequently visited countries. While the intensity of these interactions varies, each visit informs Germany's comprehensive approach to international partnerships. Countries like Brazil and India, despite being less frequent destinations, hold strategic importance given their economic potential and demographic significance, thus broadening Germany's diplomatic portfolio across continents.

Germany's diplomatic narrative, shaped through the prism of state visits, reflects its identity as a nation deeply invested in the global community, balancing tradition with innovation. These state visits not only facilitate immediate diplomatic achievements but also lay the groundwork for long-term international relationships. Through such strategic interactions, Germany strengthens its position as a global leader, committed to dialogue, partnership, and the collective effort to tackle the challenges of the 21st century.

Ireland's Top Protocol Meetings

In the intricate tapestry of global diplomacy, Ireland stands out as a nuanced actor, weaving its presence through careful high-level state engagements over the past two decades. The landscape of Ireland's diplomacy is vividly illustrated through its patterns of state visits, which transcend mere protocol to reflect strategic relationships and shared interests. The commitment to maintaining these connections is evident in the number of state visits conducted, showcasing Ireland's dedication to fostering dialogue and collaboration across borders. When examining the broader narrative of international exchanges, these visits become a lens through which Ireland's global stature and priorities are articulated.

Ireland's diplomatic strategy is characterized by a blend of historical ties and forward-thinking alliances, demonstrated by its frequent engagements with nearby European nations such as Germany and France. These relationships underscore Ireland's emphasis on regional stability and economic collaboration, serving as a cornerstone for broader international policies. Meanwhile, the presence of significant visits to countries like Canada and Italy further amplifies Ireland's strategy in strengthening transatlantic relations, balancing its geographical proximity to Europe with far-reaching international engagements. Such efforts highlight Ireland's role as a bridge between various geographic and economic territories.

The frequency and nature of Ireland's diplomatic visits also reflect its responsiveness to global issues and readiness to cultivate new partnerships. Although European allies naturally dominate these diplomatic endeavors, Ireland has shown a willingness to look beyond the continent, albeit in more limited exchanges with nations such as China and Australia. This indicates an awareness of shifting global power dynamics and an eagerness to diversify its diplomatic portfolio. These visiting patterns are not haphazard but rather demonstrate a deliberate approach to sustaining dialogue around pivotal global issues such as trade, climate change, and cultural exchange.

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While Ireland's state visit data points to its established role within Europe, its limited engagements with nations across Africa, Asia, and South America suggest areas for potential growth in its global diplomacy. The modest interaction levels with countries like Brazil and India, for instance, present opportunities for Ireland to cultivate richer cultural and economic connections that could benefit from emerging markets and innovative collaborations. Exploring these potential avenues could enhance Ireland's diplomatic reach and global influence, presenting new dimensions to its already robust international relations.

The distinctive features of Ireland's state visits illuminate its strategic navigation of global complexities and its commitment to maintaining a constructive international presence. Through strategic visits aimed at strengthening alliances and exploring new partnerships, Ireland not only secures its interests within existing frameworks but also positions itself as a proactive participant in shaping the future of international diplomacy. As Ireland continues to balance its historic roots with contemporary challenges, its state visit strategies will likely remain a pivotal component of its foreign policy, underlining its identity as an adaptable and forward-thinking nation in an interconnected world.

Math Beyond State Visits

Analyzing the German and Irish approaches within state visits, we find notable areas of overlap. The closest matches across the indicators for both countries are seen in bilateral visits with Belgium, the United States, and Italy, whereas the greatest disparities exist in bilateral visits with Türkiye, Egypt, and Israel.

Observing from a visit-related vantage, Germany and Ireland are bonded by a big 76% similarity, and it stands as their paramount similarity in the chapter. The Netherlands represents the closest match to Germany on the world stage, while Sweden emerges as the counterpart for Ireland. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is ninth, while the German position is the second in Irish listings.

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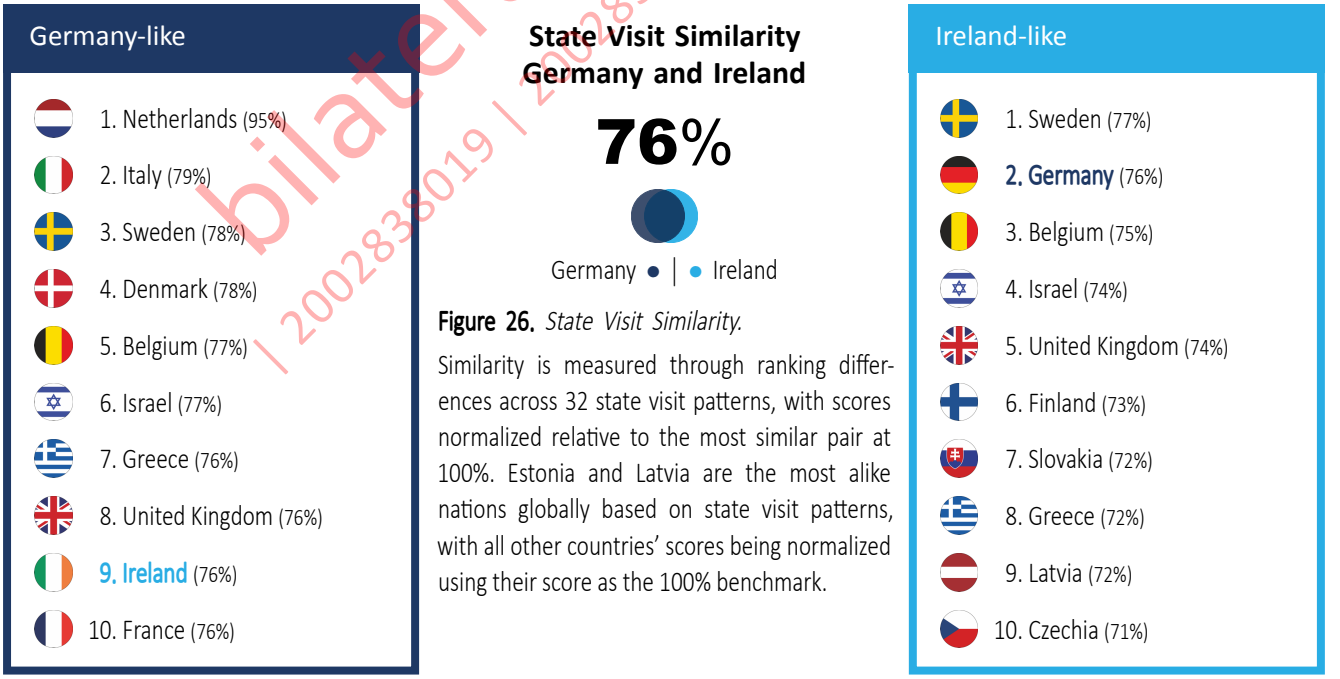


Figure 26. *State Visit Similarity.*

Similarity is measured through ranking differences across 32 state visit patterns, with scores normalized relative to the most similar pair at 100%. Estonia and Latvia are the most alike nations globally based on state visit patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

Defense & Security

In international relations, defense capabilities and overall security could help grasping the unique global positions of countries. This section uses a comprehensive set of indicators to compare Germany and Ireland in various aspects of defense capabilities and security challenges.

The first table focuses on defense-related indicators, including military budget, military power, and resilience. Military budget metrics, sourced from the Stockholm International Peace Research Institute (SIPRI), cover military expenditure as a percentage of government expenditure and GDP, as well as arms imports and exports. These metrics reveal the financial priorities and capabilities of a nation's defense sector. Military power indicators from GlobalFirepower (GFP) highlight manpower, aircraft fleet, naval fleet, and other key components, showing a nation's readiness to respond to threats.

Resilience indicators from the Global Organized Crime Index assess political leadership, governance, and legal frameworks in maintaining security and combating crime, including government transparency, international cooperation, and law enforcement effectiveness. These measures indicate how well a country can withstand internal and external security challenges, ensuring stability and rule of law.

The second table addresses security-related indicators, focusing on criminal actors, criminal markets, and homicides. Scores for mafia-style groups, criminal networks, and state-embedded actors provide insights into organized crime's influence. Indicators for criminal markets cover illegal activities such as human trafficking and drug trade, highlighting their impact on national security. Homicide rates from the UN Office on Drugs and Crime show the safety and security environment within a country.



German Military Preparedness – In the heart of Berlin, German Army soldiers stand ready with their weapons and military vehicles, embodying a steadfast presence as part of NATO's response force. This scene highlights Germany's commitment to defense and security within the broader European landscape, reinforcing its role in multinational efforts.

Analyzing these indicators reveals patterns in defense and security that define the strategic landscape of Germany and Ireland. The comparison highlights each country's strengths and vulnerabilities, providing a basis for understanding their defense policies and security strategies. This in-depth analysis offers a comprehensive overview of the defense and security dynamics at play, helping to understand how these nations navigate their security environments in a complex global context.

German Security Matrix

Germany's robust defense framework is underlined by its significant military expenditure, strategically focused within its broader governmental budget. Despite constituting a relatively modest percentage of its GDP and general government spending, Germany's military expenditure ranks among the highest in the world when measured in actual spending, reflecting its commitment to maintaining a formidable defense posture. This substantial investment is complemented by a well-equipped military infrastructure, including

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Table 27. *Defense Indicators.*

	Germany				Ireland				
Military Budget	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Military expenditure (% of general government expenditure, ⇓)	2.7	131				155	1.0	2022	SIPRI
Military expenditure (current LCU, ⇓)	53 B	78				138	1.1 B	2022	SIPRI
Military expenditure (% of GDP, ⇓)	1.4	93				160	0.2	2022	SIPRI
Arms imports (SIPRI trend indicator values, ⇓)	182 M	34				99	11 M	22/20	SIPRI1
Arms exports (SIPRI trend indicator values, ⇓)	1.5 B	6				34	46 M	2022	SIPRI1
Military expenditure (current USD, ⇓)	56 B	7				76	1.2 B	2022	SIPRI
Military Power									
Power Index of Military Strength - PwrIndx (points, ⇑)	0.3881	24				89	1.8161	2023	GFP
Total Available Manpower (⇓)	38 M	18				107	2.4 M	2023	GFP
Fit-for-Service Population (⇓)	31 M	18				106	2.0 M	2023	GFP
Active Military Manpower (⇓)	184,000	26				127	8,700	2023	GFP
Reserve Military Manpower (⇓)	15,000	64				78	4,000	2023	GFP
Military Aircraft Fleet (⇓)	601	17				110	23	2023	GFP
Fighter Fleet (⇓)	134	18				95	0	2023	GFP
Attack Aircraft Fleet (⇓)	75	12				67	0	2023	GFP
Helicopter Fleet (⇓)	287	12				118	8	2023	GFP
Attack Helicopter Fleet (⇓)	55	11				79	0	2023	GFP
Combat Tanks (⇓)	266	51				115	0	2023	GFP
Armored Fighting Vehicles (⇓)	68,660	14				125	1,064	2023	GFP
Self-Propelled Artillery (⇓)	121	31				96	0	2023	GFP
Multiple Launch Rocket Projectors (⇓)	38	56				98	0	2023	GFP
Navy Fleet (⇓)	80	39				99	9	2023	GFP
Submarine Fleet (⇓)	6	18				44	0	2023	GFP
Frigate Fleet (⇓)	12	7				56	0	2023	GFP
Naval Corvette Fleet (⇓)	5	24				48	0	2023	GFP
Offshore Patrol Vessel Fleet (⇓)	0	113				92	5	2023	GFP

Note: Global rankings in this book's tables typically use descending order (highest to lowest), except for the GFP's Power Index of Military Strength (PwrIndx), which use ascending order. To clarify, arrows indicate order orientation: "⇓" for descending and for "⇑" ascending order. The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

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advanced fleets of military aircraft and armored fighting vehicles, which together ensure the country's readiness to address both conventional and unconventional threats.

The nation's defense capabilities are further distinguished by a well-proportioned and technically sophisticated armed force, supported by a considerable manpower pool. Germany's military forces are both active and prepared, with a notable focus on technological advancement and strategic deployment. This strategic orientation is exemplified by the country's significant arms exports, placing it among the top exporters globally, and thereby reinforcing its influence

in international arms markets. Additionally, Germany's disciplined reserve force, though smaller in comparison, is strategically aligned with its active personnel to enhance operational flexibility and rapid deployment capacity.

Germany's security stance is also significantly shaped by a stable and transparent political framework, featuring high government transparency and effective international cooperation strategies. The nation's legal and institutional frameworks exhibit strong enforcement capacities, securing high national resilience against internal and external security challenges. This stability bolsters Germany's role as a key player in regional security dynamics and international alliances, enabling it to contribute effectively to collective security initiatives and to act as a stabilizing force in the broader European and global contexts.

Unique strategic relationships further highlight Germany's sophisticated approach to security. Its comprehensive anti-money laundering systems and effective law enforcement mechanisms are integral to curbing criminal networks and trafficking operations, mitigating risks associated with illicit markets. Despite these strengths, challenges persist, particularly in addressing human and drug trafficking. The country's vigilance against these threats, coupled with low homicide rates, underscores its commitment to uphold public safety and security resilience, presenting Germany as a secure and stable environment both domestically and internationally.

Ultimately, Germany's security infrastructure is a pivotal aspect of its national identity and international partnerships. Its strategic defense posture not only enhances regional stability but also influences global security dynamics. By continuously adapting to evolving security landscapes and fostering international collaborations, Germany maintains its status as a crucial ally and a leader in shaping collective defense strategies, thereby reinforcing its global influence and fostering sophisticated international relations.



Dublin Gardaí Checkpoint – Amid efforts to curb the spread of Covid-19, Gardaí establish a checkpoint on Dublin's N7 motorway. This measure highlights the strategic enforcement of travel restrictions during the pandemic, reflecting Ireland's commitment to public health and safety during a critical period of social distancing and lockdown measures.

What Protects Ireland?

Ireland's defense posture reveals a nation with a measured approach to military engagement, characterized by modest expenditure relative to its government budget and GDP. Military spending holds a minimal share of the national budget, highlighting a strategy that prioritizes other avenues of statecraft and domestic priorities. This approach suggests Ireland's commitment to a security framework that is less reliant on militarization, which aligns with its historical stance of neutrality and its role as a promoter of peace and diplomacy on the international stage.

The military capabilities of Ireland are modest, comprising a small fleet of military aircraft and naval vessels, with a focus on offshore patrol vessels. This naval fleet serves a pivotal role in safeguarding Ireland's extensive maritime borders, crucial for maintaining territorial integrity and monitoring maritime activities.

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Table 28. *Internal Security Indicators.*

	Germany				Ireland				
Resilience	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Political leadership and governance (score, ⇓)	7.0	25				19	7.0	2021	GITOC
Government transparency and accountability (score, ⇓)	7.5	14				8	8.0	2021	GITOC
International cooperation (score, ⇓)	8.0	22				18	8.0	2021	GITOC
National policies and laws (score, ⇓)	8.0	11				8	8.0	2021	GITOC
Judicial system and detention (score, ⇓)	7.5	19				22	7.0	2021	GITOC
Law enforcement (score, ⇓)	7.5	17				25	7.0	2021	GITOC
Territorial integrity (score, ⇓)	9.0	2				14	8.0	2021	GITOC
Anti-money laundering systems (score, ⇓)	6.5	22				2	8.0	2021	GITOC
Economic regulatory capacity (score, ⇓)	7.0	24				8	8.0	2021	GITOC
Victim and witness support (score, ⇓)	8.0	8				22	7.0	2021	GITOC
Prevention (score, ⇓)	8.0	8				49	5.5	2021	GITOC
Non-state actors (score, ⇓)	8.0	13				26	7.0	2021	GITOC
Criminal actors									
Mafia-style groups (score, ⇓)	5.0	56				34	6.0	2021	GITOC
Criminal networks (score, ⇓)	6.5	48				91	5.5	2021	GITOC
State-embedded actors (score, ⇓)	2.0	172				152	3.0	2021	GITOC
Foreign actors (score, ⇓)	6.5	44				42	6.5	2021	GITOC
Criminal markets									
Human trafficking (score, ⇓)	5.5	95				132	4.5	2021	GITOC
Human smuggling (score, ⇓)	7.0	16				114	4.0	2021	GITOC
Arms trafficking (score, ⇓)	6.0	54				113	4.0	2021	GITOC
Flora crimes (score, ⇓)	1.5	152				130	2.0	2021	GITOC
Fauna crimes (score, ⇓)	3.5	125				106	4.0	2021	GITOC
Non- renewable resource crimes (score, ⇓)	2.5	138				79	5.0	2021	GITOC
Heroin trade (score, ⇓)	4.5	65				46	5.5	2021	GITOC
Cocaine trade (score, ⇓)	6.5	36				35	6.5	2021	GITOC
Cannabis trade (score, ⇓)	5.0	89				85	5.0	2021	GITOC
Synthetic drug trade (score, ⇓)	6.0	45				77	5.0	2021	GITOC
Homicides									
Intentional homicides (per 100,000 people, ⇓)	0.8	137				161	0.4	2021	UNODC
Intentional homicides, female (per 100,000 females, ⇓)	0.8	82				123	0.3	2021	UNODC

Note: Rankings in this table are presented in descending order (highest to lowest), marked by the "⇓" arrows. The trend bars visually represent data from the past three years, with the rightmost bar specifically illustrating the most recent data.

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While Ireland's active military manpower is limited, it maintains a fit-for-service population that provides a potential for scaling capabilities if necessary. This balance ensures that Ireland can uphold its sovereignty and meet regional security challenges without engaging in an arms race.

On the domestic front, Ireland shows strong governance and transparency, accompanied by effective economic regulatory capacity. These factors contribute to a secure environment that deters state-embedded and organized criminal activities. The country is a global leader in anti-money laundering systems,

which enhances its economic security and supports international financial trust. Despite the presence of some mafia-style groups and foreign actors, Ireland's law enforcement and judicial systems are equipped to address these security concerns effectively, maintaining social stability.

Ireland's security infrastructure plays an influential role at the international level, marked by its partnerships and contributions to multinational organizations. Its engagement in international cooperation underscores Ireland's strategic commitment to leveraging alliances for collective security initiatives, further expressing Ireland's aversion to unilateral military engagements. This capacity for collaboration not only reinforces regional stability but also positions Ireland as a reliable partner in global peacekeeping efforts.

In conclusion, Ireland's defense and security landscape is defined by a delicate balance of neutrality, cooperative international relations, and effective domestic governance. This framework not only secures its territorial and economic interests but also amplifies its influence on the global stage as a proponent of peace and multilateral initiatives. By weaving these elements into its national strategy, Ireland maintains a unique role that blends sovereignty with constructive international engagement, fostering an environment conducive to sustainable growth and international peace.

Shields of Germany & Ireland Paralleled

Analyzing the German and Irish approaches within defense & security, we find a range of areas of overlap. The closest matches across the indicators for both countries are seen in cocaine trade, foreign crime, and security laws, whereas the greatest disparities exist in armored vehicles, helicopters, and active troops.

Viewed through a security lens, Germany and Ireland exhibit a 67% similarity, surpassing the global median. Germany's essence is best matched by the United Kingdom, while Denmark captures Ireland's spirit. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is twenty-ninth, while the German position is twentieth in Irish listings.

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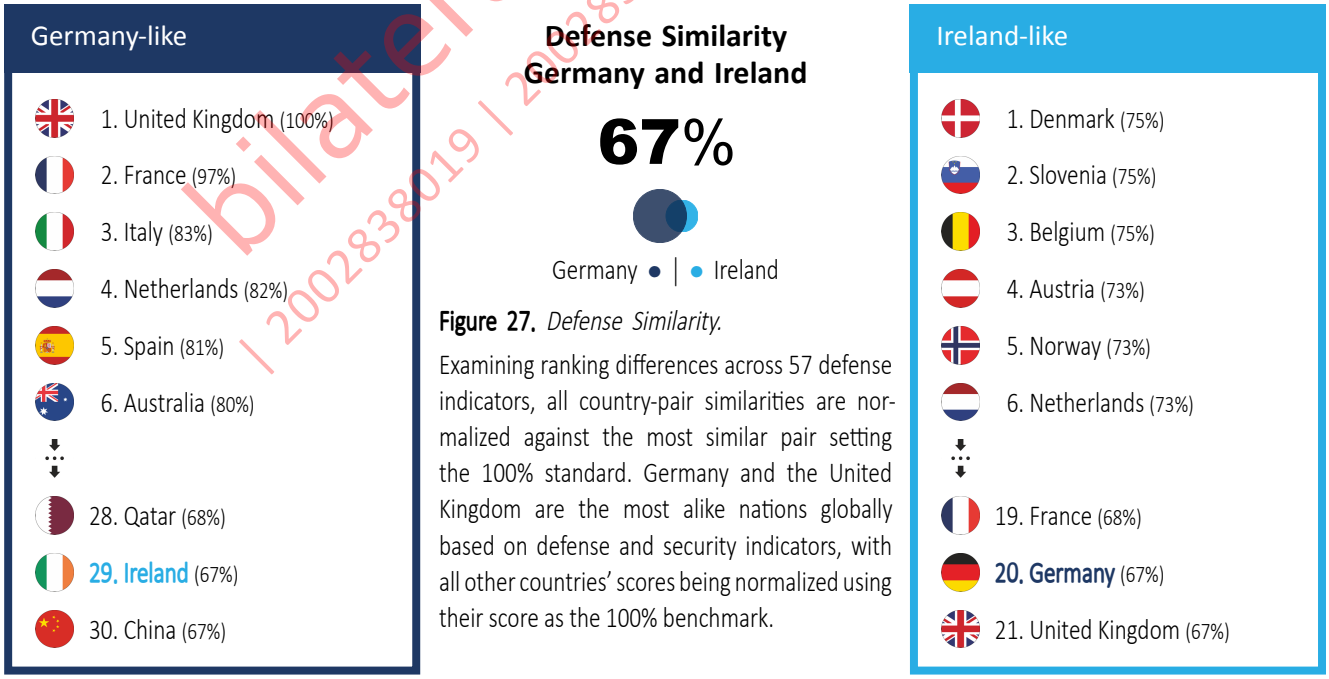


Figure 27. *Defense Similarity.*

Examining ranking differences across 57 defense indicators, all country-pair similarities are normalized against the most similar pair setting the 100% standard. Germany and the United Kingdom are the most alike nations globally based on defense and security indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

CHAPTER SEVEN



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Diplomatic Cooperation

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Diplomatic Networks 174

Viewed through a diplomatic lens, Germany and Ireland exhibit a 63% similarity, surpassing the global median. French features are closest to Germany, echoed by the deep ties between Ireland and Denmark.

Multilateral Treaties 180

Viewing through a treaty-related scope, there exists a significant similarity of approximately 54% between Germany and Ireland. The cultural and geographic tapestry of Germany is closely woven with the Netherlands, as Ireland's is with Canada.

International Affiliation 189

Affiliation-wise, Germany and Ireland find themselves sharing 69% similarity, surpassing many of their global counterparts. The most Germany-like country is Italy share a striking resemblance, as for Ireland is Finland.

UNGA Voting 196

Voting connections between Germany and Ireland amount to a 71% similarity, outpacing much of the global landscape, indicating their highest degree of likeness in this chapter. Germany aligns most closely with the Netherlands, and similarly, Ireland's closest match is Austria.

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Diplomatic Networks



H.E. Dr. Srgjan Kerim, Chairman of Bilateral Navigator's Board of Senior Counselors, then President of the 62nd Session of the United Nations General Assembly, met with H.E. Mr. Dermot Ahern, then Minister for Foreign Affairs of Ireland, in New York, 2007

The way countries talk to each other through diplomatic channels forms the backbone of international relations. When we look at how and connect diplomatically with the world, we need to examine their networks of embassies and consulates. Let's break down these diplomatic connections to understand how both countries reach out to the rest of the world.

We spent months gathering detailed information about diplomatic missions, working directly with protocol departments in countries worldwide. When we couldn't get official diplomatic lists, we dug through news reports and social media posts about credential ceremonies to piece together the correct order of diplomats in each country. This hands-on research gives us a unique and accurate picture of global diplomatic networks.

We've organized our findings into three main groups. First, we looked at how many diplomatic missions each country has set up abroad. This includes embassies, consulates general, and regular consulates. We also mapped out where these embassies are located across all six inhabited continents. This shows us where each country focuses its diplomatic efforts and what regions they care about most.

Next, we counted how many foreign diplomatic missions operate within each country. This tells us something important - how other nations view these countries and whether they think it's worth maintaining a physical diplomatic presence there. The spread of these missions across different world regions helps us understand each country's global influence.

Finally, we tracked what we call "non-resident" diplomatic missions - cases where ambassadors are officially appointed to a country but work from somewhere else. We looked at this both ways: how many non-resident ambassadors each country sends out, and how many they receive. This helps us understand how countries manage their diplomatic relationships when they can't or don't need to maintain a physical embassy.

By comparing these diplomatic networks, we can see how and approach international relations differently. Our research reveals their diplomatic reach, showing both their strong points and areas where they might want to build stronger connections. This gives us a clear picture of how each country fits into the complex world of international diplomacy.

German Diplomatic Presence

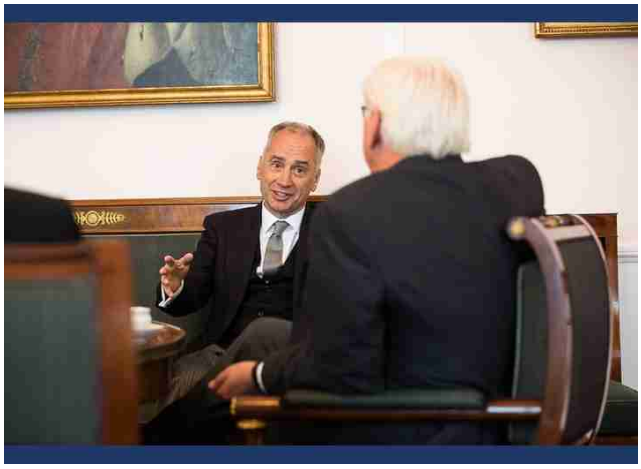
Germany has long been at the forefront of international diplomacy, leveraging its extensive network to strengthen global relations and foster international cooperation. Notably, Germany maintains a substantial number of diplomatic missions abroad, totaling 549, which underscores its commitment to maintaining a strong global presence. This vast network comprises embassies, consulates general, and consulates

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spread across various continents, highlighting Germany's strategic interest in regions such as Africa, where it operates a significant number of embassies. Not only does this reflect Germany's historical ties and economic interests on the continent, but it also illustrates a broader commitment to engaging with emerging markets and contributing to their development.

In terms of diplomatic representation at home, Germany hosts an impressive 775 foreign diplomatic missions, a testament to its status as a pivotal hub for international affairs. This high level of foreign diplomatic presence is indicative of Germany's role as an influential player in global politics and economics, attracting diplomatic interest from all corners of the world. The presence of foreign embassies, consulates general, and consulates within Germany is not merely symbolic; it facilitates robust bilateral relations, fosters cultural exchange, and enhances economic collaboration.

Germany's diplomatic strategy is characterized by its balance of traditional ties, mainly within Europe, and the pursuit of new partnerships, particularly in Asia and Africa. This dual focus allows Germany to consolidate its influence in established regions while exploring opportunities in dynamic, growing markets. Unique to Germany's approach is its nuanced blend of diplomacy and economic outreach, as evidenced by its strategic placement of embassies and consulates that serve not only as political conduits but also as promoters of trade and investment. Additionally, Germany's approach to non-resident embassies, where two of its embassies are non-resident, showcases its adaptive strategies in managing diplomatic relations across diverse geopolitical landscapes.



H.E. Dr. Nicholas O'Brien presented the letter of credence as Ambassador of Ireland to Germany, accepted by H.E. the President Frank-Walter Steinmeier, in Berlin, 2019.

Overall, Germany's diplomatic network is a cornerstone of its foreign policy, reflecting its dedication to playing a constructive role on the global stage. By maintaining an extensive presence abroad and welcoming numerous foreign missions within its borders, Germany underscores its commitment to mutual understanding, peace, and prosperity. As global challenges intensify, Germany's diplomatic efforts remain integral to fostering international collaboration and addressing transnational issues in a balanced and effective manner.

Irish Diplomacy

In recent years, Ireland has strategically expanded its diplomatic network, establishing itself as a formidable player on the international stage. With a total of 178 diplomatic missions abroad, Ireland's presence is increasingly felt across continents, showcasing its dedication to fostering global connections. This growth highlights a significant evolution in its foreign relations approach, with embassies and consulates scattered across Africa, Asia, and beyond, underscoring Ireland's

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Table 29. *Timeline of Germany and Ireland foreign ministries (since 1990).*

GERMANY	IRELAND
Oskar Fischer, (-1990) **1975**	
Hans-Dietrich Genscher, (-1992) **1982**	
	1989 -1992, Gerard Collins
Markus Meckel, (-1990) **1990**	
Lothar de Maizière, (-1990) **1990**	
Klaus Kinkel, (-1998) **1992**	**1992** -1993, David Andrews
	1993 -1994, Dick Spring
	1994 -1994, Albert Reynolds
	1994 -1997, Dick Spring
	1997 -1997, Ray Burke
	1997 -2000, David Andrews
Joschka Fischer, (-2005) **1998**	
	2000 -2004, Brian Cowen
	2004 -2008, Dermot Ahern
Frank-Walter Steinmeier, (-2009) **2005**	
	2008 -2011, Micheál Martin
Guido Westerwelle, (-2013) **2009**	
	2011 -2011, Brian Cowen
	2011 -2014, Eamon Gilmore
Frank-Walter Steinmeier, (-2017) **2013**	
	2014 -2017, Charlie Flanagan
Sigmar Gabriel, (-2018) **2017**	**2017** -2022, Simon Coveney
Heiko Maas, (-2021) **2018**	
Annalena Baerbock, (-2025) **2021**	
	2022 -2025, Micheál Martin
Johann Wadephul, (-) **2025**	**2025** -, Simon Harris
	2025 -, Helen McEntee

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Present Foreign Ministers



Johann David Wadephul has been Germany's Foreign Minister since May 2025 in Chancellor Friedrich Merz's cabinet. Born February 10 1963, he studied law at Kiel and worked in healthcare and social law. A CDU member since 1982, he rose in Schleswig Holstein leadership, entered the state parliament, and won a Bundestag seat in 2009 for Rendsburg Eckernförde. He later served as deputy chair of the CDU slash CSU group with a focus on the Middle East, Russia, and the Western Balkans.



Helen McEntee is the Minister for Foreign Affairs and Trade and Minister for Defence of Ireland and serves as deputy leader of Fine Gael and Teachta Dala for Meath East. She previously served as Minister for Education and Youth and Minister for Justice and held roles as Minister of State for European Affairs and for Mental Health and Older People. A dedicated legislator with a background in economics and law she leads on European engagement and justice reform. She steers landmark measures on online safety and gender based violence. She now focuses on secure communities resilient public services and a confident outward looking Ireland.

commitment to engaging with diverse regions and cultures.

One of the interesting trends in Ireland's diplomatic strategy is its robust network within Europe, which features a considerable number of embassies, reflecting its deep-rooted ties and historical affiliations within the region. Additionally, Ireland's diplomatic efforts in Africa and Asia illustrate a burgeoning interest in emerging markets and geopolitical partnerships. The establishment of embassies in these continents mirrors a strategic foresight in nurturing economic, cultural, and political relations with countries that are playing increasingly influential roles on the world stage.

Moreover, Ireland's diplomatic footprint is not just limited to resident embassies; its non-resident missions play a vital role in covering multiple countries from strategic locations. This approach allows Ireland to maintain a flexible and responsive diplomatic practice, maximizing its outreach without spreading resources too thin. The concept of non-resident embassies, while not unique to Ireland, demonstrates the country's innovative approach to diplomacy by effectively balancing presence with pragmatism.

On the home front, Ireland hosts 134 foreign diplomatic missions, showcasing its attractiveness as a vibrant international hub. The presence of embassies from across the globe, particularly Europe and Asia, indicates Ireland's position as a welcoming and strategic ally. This influx of foreign missions is indicative of Ireland's growing importance and reputation in diplomatic circles, as nations seek to strengthen their ties with the Emerald Isle.

Perhaps what stands out most in Ireland's diplomatic strategy is its ability to blend tradition with modernity; it leverages historical ties while simultaneously engaging with new partners and regions. This balanced approach not only enriches Ireland's foreign relations but also reinforces its role as a dynamic and adaptable player in global diplomacy. By continuously evolving its diplomatic network, Ireland ensures that it remains at the forefront of international affairs, fostering collaboration and understanding in an ever-changing global landscape.

German & Irish Diplomatic Presence

When comparing Germany and Ireland within the scope of diplomatic networks, we observe certain commonalities. Among the various indicators analyzed for both nations, the closest alignment is seen in embassies from Oceania, in Oceania, and consulates general abroad. Conversely, the most significant divergences appear in foreign consulates general, embassies from Asia, and in Asia.

Diplomatically, Germany and Ireland exhibit a 63% similarity, still reflecting more commonalities than with many other countries. France emerges as the closest counterpart to Germany, whereas Ireland finds its parallel in Denmark. As illustrated in the final chart of this section, Ireland ranks forty-first in Germany's standings, while Germany holds fifty-seventh position in Ireland's rankings.

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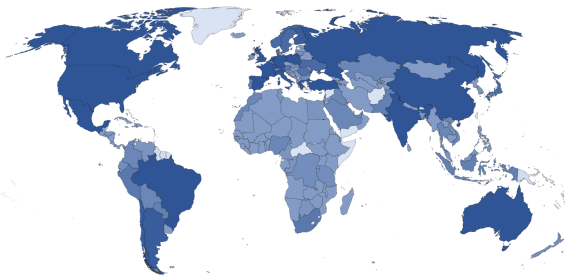


Figure 28. *Germany's Diplomatic Footprint.*

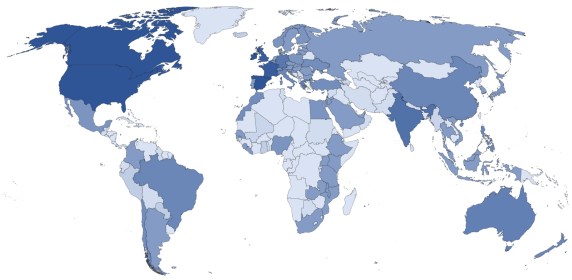


Figure 29. *Ireland's Diplomatic Footprint.*

Table 30. *Diplomatic and Consular Networks*

	Germany				Ireland				
Missions Abroad	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Total number of missions abroad (⇓)	**549**	4				52	**178**	2024	EMBP
- Embassies abroad (⇓)	**155**	6				53	**73**	2024	EMBP
- Consulates General abroad (⇓)	**57**	21				42	**31**	2024	EMBP
- Consulates abroad (⇓)	**334**	5				55	**73**	2024	EMBP
Embassies in Africa (⇓)	**44**	9				62	**14**	2024	EMBP
Embassies in Asia (⇓)	**40**	7				86	**15**	2024	EMBP
Embassies in Australia & Oceania (⇓)	**2**	25				21	**2**	2024	EMBP
Embassies in Europe (⇓)	**41**	5				29	**32**	2024	EMBP
Embassies in North America (⇓)	**14**	13				77	**3**	2024	EMBP
Embassies in South America (⇓)	**10**	10				59	**4**	2024	EMBP
Foreign Missions									
Total number of foreign missions (⇓)	**775**	3				59	**134**	2024	EMBP
- Foreign Embassies (⇓)	**164**	7				62	**65**	2024	EMBP
- Foreign Consulates General (⇓)	**185**	4				94	**6**	2024	EMBP
- Foreign Consulates (⇓)	**419**	4				52	**60**	2024	EMBP
Embassies from Africa (⇓)	**46**	7				82	**8**	2024	EMBP
Embassies from Asia (⇓)	**48**	2				90	**13**	2024	EMBP
Embassies from Australia & Oceania (⇓)	**2**	22				18	**2**	2024	EMBP
Embassies from Europe (⇓)	**44**	6				31	**33**	2024	EMBP
Embassies from North America (⇓)	**14**	8				64	**4**	2024	EMBP
Embassies from South America (⇓)	**10**	13				60	**5**	2024	EMBP
Non-Resident Missions									
Non-resident embassies of the country (⇓)	**2**	180				104	**15**	2024	EMBP
Non-resident embassies to the country (⇓)	**22**	42				12	**81**	2024	EMBP
Mostly covered from (⇓): **Brussels | London**	**14**	39				2	**80**	2024	EMBP

Note: Global rankings in the tables throughout this book generally follow a descending order (from highest to lowest), with the exception of time-related indicators (dates and years) which follow an ascending order (from nearest to furthest). To avoid any confusion, we use arrows to indicate the order orientation: "⇓" signifies a descending order, while "⇑" denotes an ascending order. The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

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H.E. Dr. Srgjan Kerim, Chairman of Bilateral Navigator's Board of Senior Counselors, then President of the 62nd Session of the United Nations General Assembly, met with H.E. Dr. Frank-Walter Steinmeier, then Minister for Foreign Affairs of Germany, in New York, 2007

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Germany-like

1. France (100%)
2. Italy (100%)
3. Brazil (91%)
4. Spain (89%)
5. Japan (88%)
6. Türkiye (83%)

40. Thailand (64%)
41. Ireland (63%)
42. Malaysia (63%)

Diplomatic Network Similarity
Germany and Ireland

63%

Germany ● | ● Ireland

Figure 30. *Diplomatic Network Similarity.*

Similarity scores are derived from ranking differences across 23 diplomatic indicators, normalized relative to the most similar country pair's 100% benchmark. France and Germany are the most alike nations globally based on diplomatic representation patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

Ireland-like

1. Denmark (74%)
2. Portugal (73%)
3. Finland (73%)
4. Serbia (73%)
5. Norway (73%)
6. Croatia (72%)

56. Lithuania (64%)
57. Germany (63%)
58. Russia (63%)



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Multilateral Treaties

The United Nations Treaty Collection (UNTC) holds over 500,000 treaties on global issues like human rights, environmental protection, disarmament, and trade. Curated by the UN Office of Legal Affairs, it provides insights into the diplomatic priorities and alignments of nations. Analyzing the treaties signed by Germany and Ireland reveals their diplomatic behaviors and global relationships.

This section presents three tables to examine the multilateral treaties involving Germany and Ireland. The first table lists treaties signed by Germany but not by Ireland, highlighting Germany's unique diplomatic commitments. The second table shows treaties signed by Ireland but not by Germany, providing a contrasting perspective on Ireland's international engagements.

The third table presents treaties signed by both countries, focusing on their divergent actions such as ratification, amendments, and objections. This reveals patterns of agreement or disagreement, crucial for understanding their bilateral relationship. This analysis reflects the practical implementation and commitment levels of each country toward these agreements.

The data comes from publicly accessible UNTC records, ensuring accuracy and up-to-date information. Focusing on multilateral treaties offers a comprehensive view of global diplomatic engagements, emphasizing areas of consensus and contention. Examining diplomatic behavior through treaty participation provides a detailed snapshot of international relations.

Understanding international relations through multilateral treaties highlights countries' foreign policy strategies and international commitments. Positive actions like ratification indicate alignment with global norms and willingness to cooperate. Neutral actions reflect cautious engagement, while negative actions like objections signal areas of contention.

Cataloging and analyzing these actions map out the diplomatic landscapes of Germany and Ireland, offering insights into their global strategies and bilateral interactions. This approach highlights specific treaties and actions, providing a comprehensive view of their diplomatic behavior and alignments.

Germany in Treaties

Germany's active participation in a wide range of multilateral treaties reveals significant insights into its foreign policy objectives and strategic interests. Among the various categories of international agreements, Germany's highest level of engagement is seen in the realm of transport and communications. This engagement is notable when considering the broader context of Germany's reputation as an economic powerhouse and a central hub within Europe. By leading in the acceptance of these treaties, Germany not only underscores its commitment to fostering connectivity but also reinforces its role as a pivotal player in ensuring efficient and secure transportation networks, vital for both commerce and mobility.

Within the sector of declaration of death of missing persons, Germany's leadership in adopting related treaties highlights its dedication to humanitarian concerns and legal clarity. Such commitments reflect a historical context where the legacy of post-war Europe, marked by displacement, continues to influence policy decisions. By accepting treaties that remain largely unadopted by many other nations, Germany sets a precedent in international law, advocating for processes that provide closure and justice for affected families and communities.

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Table 31. *Top 20 Treaties Accepted by Germany Yet Unendorsed by Ireland.*

Educational and Cultural Matters

1. International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations. (XIV-3); **Germany** signature (1962), ratification (1966)

Environment

1. Montreal Protocol on Substances that Deplete the Ozone Layer. (XXVII-2-a); **Germany** signature (1987), ratification (1989)
2. Vienna Convention for the Protection of the Ozone Layer. (XXVII-2); **Germany** signature (1985), ratification (1988)

Human Rights

1. Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment. (IV-9); **Germany** signature (1986), ratification (1991), 2 communications (1996-2000), 5 objections (2001-2017), declaration (2001)
2. Convention on the Elimination of All Forms of Discrimination against Women. (IV-8); **Germany** signature (1980), ratification (1985), 17 objections (1985-2017), communication (1999), withdrawal of reservation (2001)
3. Convention on the Rights of the Child. (IV-11); **Germany** communication (1990), signature (1990), ratification (1992), 10 objections (1992-2015), partial withdrawal (2010), withdrawal of reservation (2010), withdrawal of declaration (2011)
4. International Covenant on Civil and Political Rights. (IV-4); **Germany** signature (1968), ratification (1974), 8 declarations (1976-2002), 7 objections (1982-2011)
5. International Covenant on Economic, Social and Cultural Rights. (IV-3); **Germany** signature (1968), ratification (1974), 4 declarations (1975-1991), 4 objections (1997-2018), communication (2000)

Law of the Sea

1. United Nations Convention on the Law of the Sea. (XXI-6); **Germany** accession (1995), 2 nominations (1996-2020), 2 corrections (1996-1999), 2 objections (2013-2015)

Maintenance Obligations

1. Convention on the Recovery Abroad of Maintenance. (XX-1); **Germany** ratification (1959), 6 communications (1971-2002), 4 designations of authorities (1991-2007)

Penal Matters

1. International Convention for the Suppression of the Financing of Terrorism. (XVIII-11); **Germany** signature (2000), ratification (2004), communication (2004), 9 objections (2004-2020)
2. Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime. (XVIII-12-c); **Germany** signature (2002), ratification (2021)
3. Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime. (XVIII-12-a); **Germany** signature (2001), ratification (2006)
4. United Nations Convention against Corruption. (XVIII-14); **Germany** signature (2003), ratification (2014)
5. United Nations Convention against Transnational Organized Crime. (XVIII-12); **Germany** signature (2001), ratification (2006)

Privileges and Immunities, Diplomatic and Consular Relations, etc

1. Convention on the Privileges and Immunities of the Specialized Agencies. (III-2); **Germany** accession (1958), communication (1969), declaration (1975)
2. Vienna Convention on Diplomatic Relations. (III-3); **Germany** ratification (1964), notification (1965), 14 objections (1967-1987), 2 declarations (1974-1975)

Transport and Communications

1. Convention concerning Customs Facilities for Touring. (XI-A-8); **Germany** ratification (1957)
2. Convention on Road Traffic. (XI-B-19); **Germany** signature (1970), withdrawal of reservation (1994)
3. European Agreement on main international traffic arteries (AGR). (XI-B-28); **Germany** declaration (1984)

Note: "Accepted" encompasses various formal commitments, including signing, accession, acceptance, ratification, and succession.

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Table 32. *Top 20 Treaties Accepted by Ireland Yet Unendorsed by Germany.*

Disarmament

1. Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects (with Protocols I, II and III). (XXVI-2); **Ireland** signature (1981), ratification (1995), objection (2010)

Educational and Cultural Matters

1. International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations. (XIV-3); **Ireland** signature (1962), ratification (1979)

Environment

1. Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context. (XXVII-4-b); **Ireland** signature (2003)

Human Rights

1. Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment. (IV-9); **Ireland** signature (1992), ratification (2002), declaration (2002), 4 objections (2011-2017)
2. Convention on the Elimination of All Forms of Discrimination against Women. (IV-8); **Ireland** accession (1986), 3 withdrawal of reservation (1987-2004), 4 objections (2001-2010), 2 communications (2002)
3. Convention on the Rights of the Child. (IV-11); **Ireland** ratification (1992), 6 objections (1992-2016)
4. International Covenant on Civil and Political Rights. (IV-4); **Ireland** declaration (1990), ratification (1990), withdrawal of declaration (1994), 3 withdrawal of reservation (1998-2011), 5 objections (2001-2011)

International Trade and Development

1. Constitution of the United Nations Industrial Development Organization. (X-9); **Ireland** signature (1979)

Law of the Sea

1. United Nations Convention on the Law of the Sea. (XXI-6); **Ireland** signature (1982), ratification (1996), objection (2013)

Maintenance Obligations

1. Convention on the Recovery Abroad of Maintenance. (XX-1); **Ireland** accession (1995), designation of authorities (2007)

Penal Matters

1. International Convention Against the Taking of Hostages. (XVIII-5); **Ireland** accession (2005)
2. International Convention for the Suppression of Acts of Nuclear Terrorism. (XVIII-15); **Ireland** signature (2005)
3. International Convention for the Suppression of the Financing of Terrorism. (XVIII-11); **Ireland** signature (2001), ratification (2005), 2 communications (2006), 5 objections (2006-2020)
4. United Nations Convention against Corruption. (XVIII-14); **Ireland** signature (2003), ratification (2011)
5. United Nations Convention against Transnational Organized Crime. (XVIII-12); **Ireland** signature (2001), ratification (2010)

Privileges and Immunities, Diplomatic and Consular Relations, etc

1. Vienna Convention on Diplomatic Relations. (III-3); **Ireland** ratification (1967), objection (1978)

Status of Women

1. Convention on the Political Rights of Women. (XVI-1); **Ireland** accession (1968)

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Table 32. *(Continued) Top 20 Treaties Accepted by Ireland Yet Unendorsed by Germany.*

Transport and Communications

1. Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). (XI-B-14); **Ireland** accession (2006)
2. Customs Convention on the Temporary Importation of Private Road Vehicles. (XI-8); **Ireland** accession (1967)
3. International Convention on the Harmonization of Frontier Controls of Goods. (XI-A-17); **Ireland** ratification (1987)

Note: "Accepted" encompasses various formal commitments, including signing, accession, acceptance, ratification, and succession.

Table 33. *Treaties with Most Divergent Actions Taken by Germany and Ireland.*

Commercial Arbitration and Mediation

1. Convention on the Recognition and Enforcement of Foreign Arbitral Awards. (XXII-1); **Germany** ratification (1961), declaration (1976), objection (1990), withdrawal of declaration (1998); **Ireland** accession (1981)

Commodities

1. Food Aid Convention, 1999. (XIX-41-c); **Germany** provisional application (1999), signature (1999), 2 expirations (1999-2000), other action (2000-2012), ratification (2000); **Ireland** other action (1999-2012), ratification (1999), signature (1999)
2. International Cocoa Agreement, 1980*. (XIX-22); **Germany** other action (1981-1986), signature (1981), provisional application (1981); **Ireland** other action (1981-1986), signature (1981), provisional application (1981)
3. International Coffee Agreement, 1976*. (XIX-15); **Germany** other action (1976-1983), signature (1976), notification (1979); **Ireland** other action (1976-1983), ratification (1977), notification (1979), acceptance (1983)
4. International Natural Rubber Agreement, 1994*. (XIX-42); **Germany** other action (1995-1999), signature (1996), provisional application (1997); **Ireland** other action (1995-1999), signature (1996), ratification (1997)
5. International Tropical Timber Agreement, 1994*. (XIX-39); **Germany** other action (1995-2011), provisional application (1995), signature (1995); **Ireland** other action (1996-2011), signature (1996), ratification (2000)
6. International Wheat Agreement, 1986: (b) Food Aid Convention, 1986*. (XIX-28-b); **Germany** other action (1986-1995), provisional application (1986), signature (1986), ratification (1988); **Ireland** other action (1986-1995), ratification (1986), signature (1986)

Health

1. Protocol to Eliminate Illicit Trade in Tobacco Products. (IX-4-a); **Germany** other action (2013-2019), signature (2013), ratification (2017); **Ireland** other action (2013-2019), signature (2013)

Human Rights

1. Convention on the Prevention and Punishment of the Crime of Genocide. (IV-1); **Germany** accession (1954), 3 declarations (1974-1990); **Ireland** accession (1976), objection (1990)
2. Convention on the Rights of Persons with Disabilities. (IV-15); **Germany** signature (2007), ratification (2009), communication (2010), 4 objections (2010-2018); **Ireland** signature (2007), 3 objections (2018), ratification (2018)
3. International Convention for the Protection of All Persons from Enforced Disappearance. (IV-16); **Germany** signature (2007), ratification (2009), 2 notifications (2012), objection (2021); **Ireland** signature (2007)
4. International Convention on the Elimination of All Forms of Racial Discrimination. (IV-2); **Germany** signature (1967), ratification (1969), 3 declarations (1974-2001), 3 objections (1989-2003); **Ireland** signature (1968), declaration (2001), ratification (2001)
5. Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict. (IV-11-b); **Germany** signature (2000), ratification (2005), 2 objections (2005-2020); **Ireland** signature (2000), ratification (2002), declaration (2015)
6. Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography. (IV-11-c); **Germany** signature (2000), 2 objections (2002-2017), ratification (2009); **Ireland** signature (2000), communication (2003)
7. Optional Protocol to the International Covenant on Civil and Political Rights. (IV-5); **Germany** accession (1993), objection (1999), communication (1999); **Ireland** accession (1990), communication (1999)

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Table 33. *(Continued) Treaties with Most Divergent Actions Taken by Germany and Ireland.*

Law of Treaties

1. Vienna Convention on the Law of Treaties. (XXIII-1); **Germany** signature (1970), nomination (1981), ratification (1987), declaration (1988), 4 objections (1988-2002), 2 communications (1999-2001), notification (2016); **Ireland** accession (2006)

Narcotic Drugs and Psychotropic Substances

1. United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. (VI-19); **Germany** signature (1989), ratification (1994), designation of authorities (1994), 2 objections (1997-1999); **Ireland** signature (1990), ratification (1996), notification (2006)

Penal Matters

1. Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including Diplomatic Agents. (XVIII-7); **Germany** signature (1974), ratification (1977), 2 declarations (1978-1979), 3 objections (1979-2004); **Ireland** accession (2005)
2. International Convention for the Suppression of Terrorist Bombings. (XVIII-9); **Germany** signature (1998), ratification (2003), 4 objections (2003-2006); **Ireland** signature (1998), ratification (2005), communication (2006)
3. Protocol against the Smuggling of Migrants by Land, Sea and Air, supplementing the United Nations Convention against Transnational Organized Crime. (XVIII-12-b); **Germany** signature (2001), ratification (2006), objection (2017); **Ireland** signature (2001)
4. Rome Statute of the International Criminal Court. (XVIII-10); **Germany** signature (1998), ratification (2001), objection (2003); **Ireland** signature (1998), ratification (2002), communication (2003)

Privileges and Immunities, Diplomatic and Consular Relations, etc

1. Optional Protocol to the Vienna Convention on Consular Relations concerning the Compulsory Settlement of Disputes. (III-8); **Germany** other action (1963-2019), ratification (1971); **Ireland** other action (1963-2019)
2. Optional Protocol to the Vienna Convention on Diplomatic Relations, concerning the Compulsory Settlement of Disputes. (III-5); **Germany** other action (1961-2019), ratification (1964), notification (1965); **Ireland** other action (1961-2019)
3. Vienna Convention on Consular Relations. (III-6); **Germany** ratification (1971), declaration (1974), objection (1977); **Ireland** ratification (1967)

Refugees and Stateless Persons

1. Convention on the Reduction of Statelessness. (V-4); **Germany** accession (1977), 2 objections (2001-2022); **Ireland** accession (1973)

Telecommunications

1. Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations. (XXV-4); **Germany** other action (1998-2019), signature (1998); **Ireland** other action (2007-2019), accession (2007)

Traffic in Persons

1. International Convention for the Suppression of the Traffic in Women of Full Age. (VII-5); **Germany** other action (1945-2019); **Ireland** other action (1945-2019)

Transport and Communications

1. Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such Carriage (ATP). (XI-B-22); **Germany** signature (1971), ratification (1974), 10 notifications (1982-2013), 8 communications (1999-2021), 5 objections (2003-2008); **Ireland** accession (1988)
2. Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention). (XI-A-13); **Germany** other action (1959-2019), ratification (1961), territorial application (1961); **Ireland** other action (1967-2019), accession (1967)
3. European Agreement concerning the Work of Crews of Vehicles Engaged in International Road Transport (AETR). (XI-B-21); **Germany** signature (1971), ratification (1975), reservation (1979); **Ireland** accession (1979)

Note: Both countries have formally committed to these treaties, with actions ranging from signing to succession. However, the UN Treaty Depository shows significant variations in their commitments. This table focuses on treaties with the most substantial divergences. "Divergent" means that the countries have taken different stances on certain multilateral treaties. For example, one may have ratified a treaty, while the other only signed it. Another instance could be if one country has multiple objections to a treaty and the other has few or none. For a detailed understanding, it's advisable to consult the documents each country has submitted, available in the public UN database.

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Table 34. *Multilateral Treaties*

	Germany				Ireland				
Number of Multilateral Treaties and Actions	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Total number of participating treaties (⇓)	**445**	6				42	**240**	2023	TRTY
Average number of actions per treaty (⇓)	**1.90**	7				27	**1.75**	2023	TRTY
Government Actions on Multilateral Treaties									
Acceptances (⇓)	**46**	6				11	**41**	2023	TRTY
Accessions (⇓)	**17**	192				52	**49**	2023	TRTY
Applications (⇓)	**93**	10				50	**14**	2023	TRTY
Communications (⇓)	**27**	9				24	**8**	2023	TRTY
Declarations (⇓)	**48**	1				18	**6**	2023	TRTY
Notifications (⇓)	**22**	5				74	**4**	2023	TRTY
Objections (⇓)	**32**	2				15	**13**	2023	TRTY
Provisional applications (⇓)	**20**	3				26	**8**	2023	TRTY
Ratifications (⇓)	**152**	5				21	**88**	2023	TRTY
Signatures (⇓)	**133**	1				23	**82**	2023	TRTY
Participation in 10 Largest Treaty Collections									
Commodities (%, ⇓)	**50.7**	17				19	**46.4**	2023	TRTY
Diplomatic and Consular Immunities (%, ⇓)	**71.1**	7				67	**44.7**	2023	TRTY
Disarmament (%, ⇓)	**76.9**	44				8	**84.6**	2023	TRTY
Environment (%, ⇓)	**90.6**	7				29	**71.7**	2023	TRTY
Human Rights (%, ⇓)	**33.3**	168				121	**48.1**	2023	TRTY
International Trade and Development (%, ⇓)	**24.1**	32				150	**10.3**	2023	TRTY
Narcotic Drugs and Psychotropics (%, ⇓)	**50**	39				56	**45**	2023	TRTY
Navigation (%, ⇓)	**75.0**	2				38	**50.0**	2023	TRTY
Penal Matters (%, ⇓)	**57.7**	43				60	**53.8**	2023	TRTY
Transport and Communications (%, ⇓)	**77.4**	8				53	**9.6**	2023	TRTY

Note: Global rankings in the tables throughout this book generally follow a descending order (from highest to lowest), with the exception of time-related indicators (dates and years) which follow an ascending order (from nearest to furthest). To avoid any confusion, we use arrows to indicate the order orientation: "⇓" signifies a descending order, while "⇑" denotes an ascending order. The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

In the environmental sphere, Germany's proactive stance is not surprising. With 47 treaties accepted, more than any other country, Germany aligns its policy with global environmental conservation efforts. This approach resonates with its historical position as a leader in sustainable development and green technology. By adopting amendments and new agreements, Germany demonstrates a willingness to take on environmental challenges, emphasizing the protection of ecosystems, such as those in the Baltic and North Seas, and showcasing its commitment to biodiversity and climate action on an international scale.

The emphasis on treaties combating human trafficking is another area where Germany's involvement is extensive. This aligns with its broader human rights agenda and its historical responsibility to fight against exploitation and abuse. Germany's acceptance of these treaties underscores a commitment to international collaboration in addressing complex social

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issues, reinforcing its role as a guardian of human rights and dignity.

Moreover, Germany's acceptance of treaties aimed at curbing obscene publications reflects a nuanced understanding of cultural and social governance. It indicates a strategic interest in maintaining social order and promoting cultural values while navigating the challenges posed by technological advancements and globalization.

In essence, Germany's engagement in these multilateral agreements is not merely about compliance but is deeply rooted in its strategic foreign policy and historical experiences. It signals a robust commitment to international norms, cooperation, and leadership in areas crucial to global stability and progress. Through these actions, Germany illustrates its dedication to fostering a more interconnected, just, and sustainable world.

What Has Ireland Promised?

Ireland's active participation in multilateral treaties provides a fascinating insight into its foreign policy priorities and strategic interests on the global stage. The country's extensive engagement, particularly within specific treaty groups, reveals a nuanced approach to international collaboration and governance. By prioritizing these agreements, Ireland underscores its commitment to not only enhancing its national interests but also contributing to broader global challenges.

In the realm of global commodities, Ireland's notable involvement stands out. By engaging in numerous treaties related to commodities, Ireland illustrates its understanding of the critical role these agreements play in sustaining international trade frameworks. For instance, the country's unique acceptance of a prominent coffee agreement, bypassed by 176 other UN member states, highlights its support for sustainable and equitable commodity markets. This suggests a strategic alignment with trade policies that bolster transparency and fairness, potentially benefiting both the Irish economy and broader developmental goals.

Transport and communications also feature significantly in Ireland's treaty portfolio. By embracing treaties that facilitate cross-border transportation, Ireland demonstrates a commitment to enhancing connectivity and mobility across its borders. The country's acceptance of a specific road vehicle taxation convention, largely unendorsed globally, indicates a proactive stance on fostering international passenger transport. This aligns with Ireland's vision of an interconnected world where streamlined transport policies can boost international tourism and trade.

Ireland's engagement with treaties on economic statistics further underscores its dedication to advancing transparency and cooperation in global economic governance. By participating in agreements that refine economic data standards, such as the 1928 convention amendment unaccepted by 173 countries, Ireland positions itself as an advocate for accurate and reliable economic intelligence. Such participation not only benefits Ireland's macroeconomic planning but also contributes to global efforts to share and standardize vital economic information.

The environment is another critical area where Ireland's treaty participation is particularly pronounced. By accepting numerous treaties focused on environmental protection, including amendments related to organic pollutants, unendorsed by 172 other nations, Ireland highlights its commitment to addressing pressing ecological issues. This approach aligns with Ireland's broader environmental strategies, emphasizing

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sustainability and protection of natural resources, critical elements of its national and international policy agenda.

Finally, Ireland's involvement in treaties aimed at combatting human trafficking, particularly those focusing on the protection of vulnerable populations, showcases its commitment to human rights and social justice. By endorsing conventions such as the one addressing the trafficking in women, which many countries have overlooked, Ireland sends a strong signal of its dedication to eradicating human trafficking and advocating for the rights and dignity of all individuals. This enhances Ireland's reputation as a nation committed to upholding human rights on a global scale.

In conclusion, Ireland's robust engagement in these multilateral treaties reflects both historical commitments and forward-looking strategies. Through its selective yet comprehensive participation, Ireland not only strengthens its strategic interests but also contributes significantly to global governance by supporting international norms in trade, environmental protection, transport, economic transparency, and human rights. These actions mark Ireland as a pivotal player in fostering an interconnected and equitable international community.

Shared Ink on Treaties

In the context of multilateral treaties, a comparison between Germany and Ireland reveals an average number of areas of similarity. Of the indicators shared by both nations, they are most aligned in treaties on commodity law, accepts treaties, and treaty objections, while their greatest differences are evident in treaty accessions, treaties on trade and developement, and treaty notifications.

Through the lens of treaty-related characteristics, Germany and Ireland share a commonality, manifesting as a 54% overlap, pinpointing this as the nadir of their similarity across all discussed metrics. The Netherlands closely matches the German profile, while Canada emerge as the equivalent for Ireland. As the final chart in this section shows, Ireland holds fortieth position in Germany's ranking, and Germany ranks thirty-eighth on Ireland's list.

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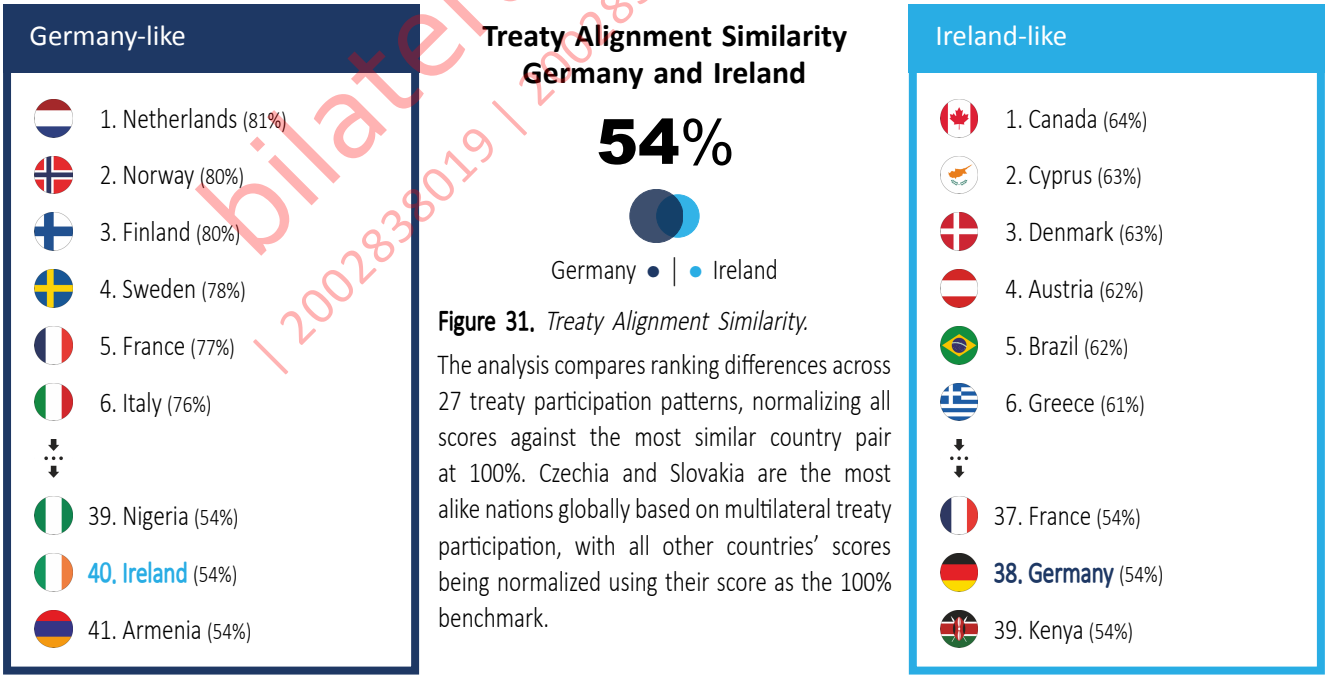


Figure 31. *Treaty Alignment Similarity.*

The analysis compares ranking differences across 27 treaty participation patterns, normalizing all scores against the most similar country pair at 100%. Czechia and Slovakia are the most alike nations globally based on multilateral treaty participation, with all other countries' scores being normalized using their score as the 100% benchmark.

International Affiliation

International organizations are vital for global cooperation, peace, and addressing issues like trade, human rights, and environmental sustainability. These organizations enable nations to collaborate, negotiate, and implement policies impacting global stability and development. The concept dates back to the early 20th century with the League of Nations, which laid the groundwork for the United Nations in 1945.

The United Nations, the largest international organization with 193 member states, engages in peacekeeping, humanitarian aid, and promoting sustainable development. It leads global initiatives on climate change and gender equality. Other key organizations include the European Union (EU), which fosters economic and political integration among 27 member states; the World Trade Organization (WTO), overseeing international trade rules; the International Monetary Fund (IMF), providing financial aid to struggling economies; and the World Health Organization (WHO), improving global public health.

These organizations are part of over 400 active international governmental organizations (IGOs) addressing various global issues. This book focuses on IGOs. Despite challenges like political polarization and effectiveness concerns, these organizations remain crucial for international dialogue and cooperation. They have also initiated reforms for better transparency, accountability, and participation.

Membership in international organizations indicates a country's commitment to shared values and cooperation. Analyzing the memberships of Germany and Ireland provides insights into their bilateral relations. Shared memberships suggest aligned interests and priorities, while a lack of shared memberships can highlight differences.

The analysis is divided into three tables: organizations where both Germany and Ireland are members, organizations where Germany is a member but Ireland is not, and organizations where Ireland is a member but Germany is not. These tables show each country's international affiliations, helping to understand their diplomatic behaviors and strategic interests. This analysis identifies potential areas of cooperation or divergence, offering a comprehensive view of how Germany and Ireland engage with the global community. It sheds light on their bilateral relationships and provides a deeper understanding of their roles and priorities on the international stage.

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Table 35. *International Organizations with both Germany & Ireland as Members*

1. Asia-Europe Foundation - **ASEF** (MS: 51, GDP/W: 62%, POP/W: 61%)
2. Asian Development Bank - **ADB** (FY: 1966, MS: 47+20, GDP/W: 76%, POP/W: 66%)
3. Australia Group - **AG** (FY: 1985, MS: 41, GDP/W: 46%, POP/W: 18%)
4. Bank for International Settlements - **BIS** (FY: 1930, MS: 59, GDP/W: 87%, POP/W: 67%)
5. Common Fund for Commodities (MS: 101, GDP/W: 63%, POP/W: 82%)
6. Community of Democracies - **CoD** (FY: 2000, MS: 109, GDP/W: 69%, POP/W: 62%)
7. Council of Europe - **CE** (FY: 1949, MS: 47+6, GDP/W: 47%, POP/W: 19%)
8. Economic and Monetary Union - **EMU** (FY: 1969, MS: 19, GDP/W: 12%, POP/W: 4%)
9. Euro-Atlantic Partnership Council - **EAPC** (FY: 1991, MS: 50, GDP/W: 42%, POP/W: 16%)
10. European and Mediterranean Plant Protection Organization - **EPPO** (FY: 1951, MS: 52, GDP/W: 26%, POP/W: 13%)

Table 35. *(Continued) International Organizations with both Germany & Ireland as Members*

11. European Atomic Energy Community (MS: 28+1, GDP/W: 18%, POP/W: 7%)
12. European Bank for Reconstruction and Development - **EBRD** (FY: 1990, MS: 63, GDP/W: 52%, POP/W: 23%)
13. European Central Bank - **ECB** (FY: 1998, MS: 28, GDP/W: 17%, POP/W: 7%)
14. European Conference of Postal and Telecommunications Administrations - **CEPT** (FY: 1959, MS: 47, GDP/W: 24%, POP/W: 11%)
15. European Institute of Public Administration - **EIPA** (FY: 1981, MS: 22, GDP/W: 16%, POP/W: 6%)
16. European Investment Bank - **EIB** (FY: 1957, MS: 27, GDP/W: 17%, POP/W: 7%)
17. European Molecular Biology Conference - **EMBC** (FY: 1969, MS: 30+2, GDP/W: 27%, POP/W: 25%)
18. European Molecular Biology Laboratory - **EMBL** (MS: 27+2, GDP/W: 19%, POP/W: 7%)
19. European Organisation for the Safety of Air Navigation - **EUROCONTROL** (MS: 40+2, GDP/W: 21%, POP/W: 9%)
20. European Patent Office - **EPO** (MS: 38+2, GDP/W: 20%, POP/W: 8%)
21. European Schoolnet - **EUN** (FY: 1997, MS: 28+8, GDP/W: 20%, POP/W: 8%)
22. European Southern Observatory - **ESO** (MS: 17, GDP/W: 17%, POP/W: 6%)
23. European Space Agency - **ESA** (FY: 1975, MS: 20+4, GDP/W: 18%, POP/W: 6%)
24. European Union - **EU** (MS: 28+3, GDP/W: 19%, POP/W: 8%)
25. Financial Action Task Force - **FATF** (FY: 1989, MS: 36, GDP/W: 76%, POP/W: 57%)
26. Food and Agriculture Organization - **FAO** (FY: 1945, MS: 194, GDP/W: 99%, POP/W: 99%)
27. Hague Conference on Private International Law - **HCCH** (MS: 82, GDP/W: 86%, POP/W: 68%)
28. Intergovernmental Authority on Development - **IGAD** (FY: 1986, MS: 6+16, GDP/W: 35%, POP/W: 14%)
29. Intergovernmental Organisation for International Carriage by Rail - **OTIF** (MS: 48+1, GDP/W: 27%, POP/W: 16%)
30. International Atomic Energy Agency - **IAEA** (FY: 1956, MS: 162, GDP/W: 99%, POP/W: 98%)
31. International Bank for Reconstruction and Development - **IBRD** (FY: 1944, MS: 188, GDP/W: 99%, POP/W: 99%)
32. International Bureau of Weights and Measures - **BIPM** (MS: 59+41, GDP/W: 96%, POP/W: 84%)
33. International Centre for the Study of the Preservation and Restoration of Cultural Property - **ICCROM** (MS: 137, GDP/W: 95%, POP/W: 91%)
34. International Chamber of Commerce - **ICC** (FY: 1919, MS: 2+132, GDP/W: 97%, POP/W: 91%)
35. International Civil Aviation Organization - **ICAO** (FY: 1944, MS: 191, GDP/W: 99%, POP/W: 99%)
36. International Cocoa Organization - **ICCO** (FY: 1973, MS: 51, GDP/W: 29%, POP/W: 22%)
37. International Coffee Organization - **ICO** (FY: 1963, MS: 76, GDP/W: 44%, POP/W: 51%)
38. International Committee of Military Medicine - **ICMM** (FY: 1921, MS: 118+3, GDP/W: 96%, POP/W: 91%)
39. International Council for the Exploration of the Sea - **ICES** (MS: 20, GDP/W: 34%, POP/W: 11%)
40. International Criminal Court - **ICCt** (FY: 2002, MS: 115+4, GDP/W: 38%, POP/W: 31%)
41. International Criminal Police Organization - **Interpol** (FY: 1923, MS: 189+12, GDP/W: 99%, POP/W: 99%)
42. International Development Association - **IDA** (FY: 1960, MS: 188, GDP/W: 99%, POP/W: 99%)
43. International Energy Agency - **IEA** (FY: 1974, MS: 29, GDP/W: 42%, POP/W: 15%)
44. International Federation of Red Cross and Red Crescent Societies - **IFRCS** (FY: 1919, MS: 188+2, GDP/W: 99%, POP/W: 99%)
45. International Finance Corporation - **IFC** (FY: 1955, MS: 184, GDP/W: 99%, POP/W: 99%)
46. International Fund for Agricultural Development - **IFAD** (FY: 1974, MS: 172, GDP/W: 95%, POP/W: 97%)
47. International Hydrographic Organization - **IHO** (FY: 1919, MS: 84+3, GDP/W: 92%, POP/W: 83%)
48. International Institute for the Unification of Private Law - **UNIDROIT** (MS: 63, GDP/W: 87%, POP/W: 73%)
49. International Institute of Refrigeration - **IIR** (FY: 1920, MS: 59, GDP/W: 77%, POP/W: 62%)
50. International Labor Organization - **ILO** (FY: 1919, MS: 188, GDP/W: 99%, POP/W: 99%)
51. International Lead & Zinc Study Group - **ILZSG** (FY: 1959, MS: 27, GDP/W: 70%, POP/W: 56%)
52. International Maritime Organization - **IMO** (FY: 1948, MS: 171+3, GDP/W: 99%, POP/W: 96%)

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Table 35. *(Continued) International Organizations with both Germany & Ireland as Members*

53. International Monetary Fund - **IMF** (FY: 1944, MS: 191, GDP/W: 99%, POP/W: 99%)
54. International Oil Pollution Compensation Funds - **IOPCF** (FY: 1978, MS: 115+17, GDP/W: 75%, POP/W: 66%)
55. International Olympic Committee - **IOC** (FY: 1894, MS: 202, GDP/W: 100%, POP/W: 100%)
56. International Organization for Legal Metrology - **OIML** (FY: 1958, MS: 61, GDP/W: 86%, POP/W: 72%)
57. International Organization for Migration - **IOM** (FY: 1951, MS: 155+11, GDP/W: 96%, POP/W: 97%)
58. International Organization for Standardization - **ISO** (FY: 1947, MS: 115+49, GDP/W: 99%, POP/W: 98%)
59. International Red Cross and Red Crescent Movement - **ICRM** (FY: 1928, MS: 186, GDP/W: 99%, POP/W: 99%)
60. International Renewable Energy Agency - **IRENA** (MS: 160, GDP/W: 94%, POP/W: 89%)
61. International Seabed Authority - **ISA** (MS: 167, GDP/W: 77%, POP/W: 87%)
62. International Sugar Organization - **ISUGO** (FY: 1968, MS: 87, GDP/W: 51%, POP/W: 60%)
63. International Telecommunication Satellite Organization - **ITSO** (FY: 1964, MS: 149, GDP/W: 97%, POP/W: 97%)
64. International Telecommunication Union - **ITU** (FY: 1865, MS: 194, GDP/W: 99%, POP/W: 99%)
65. International Trade Union Confederation - **ITUC** (FY: 2006, MS: 2+150, GDP/W: 74%, POP/W: 73%)
66. International Tropical Timber Organization - **ITTO** (FY: 1985, MS: 73, GDP/W: 78%, POP/W: 68%)
67. International Whaling Commission - **IWC** (MS: 88, GDP/W: 74%, POP/W: 62%)
68. Inter-Parliamentary Union - **IPU** (FY: 1889, MS: 166, GDP/W: 83%, POP/W: 94%)
69. Multilateral Investment Guarantee Agency - **MIGA** (FY: 1988, MS: 180, GDP/W: 99%, POP/W: 98%)
70. Nuclear Energy Agency - **NEA** (FY: 1958, MS: 31, GDP/W: 47%, POP/W: 18%)
71. Nuclear Suppliers Group - **NSG** (FY: 1974, MS: 48, GDP/W: 72%, POP/W: 41%)
72. Organisation for Economic Co-operation and Development - **OECD** (FY: 1960, MS: 35+4, GDP/W: 57%, POP/W: 41%)
73. Organization for Security and Cooperation in Europe - **OSCE** (FY: 1995, MS: 57+11, GDP/W: 51%, POP/W: 23%)
74. Organization for the Prohibition of Chemical Weapons - **OPCW** (FY: 1997, MS: 190+2, GDP/W: 98%, POP/W: 97%)
75. Organization of American States - **OAS** (FY: 1890, MS: 34+69, GDP/W: 87%, POP/W: 75%)
76. OSPAR Commission - **OSPAR** (FY: 1998, MS: 15, GDP/W: 13%, POP/W: 4%)
77. Paris Club (FY: 1956, MS: 20+11, GDP/W: 50%, POP/W: 22%)
78. Permanent Court of Arbitration - **PCA** (FY: 1899, MS: 116, GDP/W: 94%, POP/W: 86%)
79. United Nations - **UN** (FY: 1945, MS: 193+1, GDP/W: 99%, POP/W: 99%)
80. United Nations Conference on Trade and Development - **UNCTAD** (FY: 1964, MS: 194, GDP/W: 99%, POP/W: 99%)
81. United Nations Educational, Scientific and Cultural Organization - **UNESCO** (FY: 1945, MS: 194+9, GDP/W: 99%, POP/W: 99%)
82. United Nations High Commissioner for Refugees - **UNHCR** (FY: 1949, MS: 95, GDP/W: 89%, POP/W: 85%)
83. United Nations Industrial Development Organization - **UNIDO** (FY: 1966, MS: 173, GDP/W: 78%, POP/W: 93%)
84. United Nations Interim Force in Lebanon - **UNIFIL** (FY: 1978, MS: 37, GDP/W: 49%, POP/W: 56%)
85. United Nations Mission for the Referendum in Western Sahara - **MINURSO** (FY: 1991, MS: 32, GDP/W: 50%, POP/W: 60%)
86. United Nations Relief and Works Agency for Palestine Refugees in the Near East - **UNRWA** (FY: 1949, MS: 27, GDP/W: 43%, POP/W: 18%)
87. Universal Postal Union - **UPU** (FY: 1874, MS: 227, GDP/W: 99%, POP/W: 100%)
88. Wassenaar Arrangement (MS: 42, GDP/W: 57%, POP/W: 38%)
89. World Customs Organization - **WCO** (FY: 1950, MS: 176, GDP/W: 99%, POP/W: 99%)
90. World Health Organization - **WHO** (FY: 1946, MS: 194, GDP/W: 99%, POP/W: 99%)
91. World Intellectual Property Organization - **WIPO** (FY: 1967, MS: 187, GDP/W: 99%, POP/W: 99%)
92. World Meteorological Organization - **WMO** (FY: 1947, MS: 190, GDP/W: 99%, POP/W: 100%)
93. World Organisation for Animal Health (MS: 182, GDP/W: 99%, POP/W: 100%)
94. World Trade Organization - **WTO** (FY: 1994, MS: 159+24, GDP/W: 100%, POP/W: 99%)
95. Zangger Committee - **ZC** (FY: 1970, MS: 38, GDP/W: 67%, POP/W: 37%)

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Table 36. *International Organizations with Germany as a Members*

1. African Development Bank Group - **AfDB** (FY: 1964, MS: 53+25, GDP/W: 73%, POP/W: 69%)
2. African Union/United Nations Hybrid Operation in Darfur - **UNAMID** (FY: 2007, MS: 39, GDP/W: 35%, POP/W: 43%)
3. Antarctic Treaty Secretariat - **ATS** (MS: 53, GDP/W: 80%, POP/W: 64%)
4. Arctic Council (FY: 1996, MS: 10+12, GDP/W: 66%, POP/W: 50%)
5. Black Sea Economic Cooperation Organisation - **BSEC** (FY: 1992, MS: 12+13, GDP/W: 33%, POP/W: 14%)
6. Bureau of International Expositions - **BIE** (FY: 1928, MS: 168, GDP/W: 88%, POP/W: 76%)
7. Caribbean Development Bank - **CDB** (FY: 1969, MS: 27, GDP/W: 30%, POP/W: 24%)
8. Central American Integration System - **SICA** (FY: 1991, MS: 7+21, GDP/W: 57%, POP/W: 35%)
9. Central Commission for Navigation on the Rhine - **CCNR** (MS: 5+11, GDP/W: 13%, POP/W: 5%)
10. Convention of the Southeast European Law Enforcement Center - **SELEC** (FY: 2011, MS: 14+15, GDP/W: 37%, POP/W: 13%)
11. Council of the Baltic Sea States - **CBSS** (FY: 1992, MS: 11+11, GDP/W: 36%, POP/W: 13%)
12. Danube Commission - **DANUBE** (FY: 1948, MS: 11+10, GDP/W: 15%, POP/W: 7%)
13. European Company for the Financing of Railroad Rolling Stock - **EUROFIMA** (FY: 1956, MS: 25, GDP/W: 15%, POP/W: 6%)
14. European Organization for Nuclear Research - **CERN** (FY: 1953, MS: 21+6, GDP/W: 49%, POP/W: 36%)
15. Extractive Industry Transparency Initiative - **EITI** (FY: 2002, MS: 1+58, GDP/W: 43%, POP/W: 30%)
16. Group of 10 - **G-10** (FY: 1962, MS: 11, GDP/W: 33%, POP/W: 10%)
17. Group of 20 - **G-20** (FY: 1999, MS: 19, GDP/W: 73%, POP/W: 59%)
18. Group of 5 - **G-5** (FY: 1985, MS: 10, GDP/W: 58%, POP/W: 49%)
19. Group of 7 - **G-7** (FY: 1985, MS: 7, GDP/W: 31%, POP/W: 10%)
20. Group of 8 - **G-8** (FY: 1975, MS: 7, GDP/W: 31%, POP/W: 10%)
21. Indian Ocean Rim Association for Regional Cooperation - **IOR-ARC** (MS: 22+10, GDP/W: 68%, POP/W: 61%)
22. Inter-American Development Bank - **IADB** (FY: 1959, MS: 48, GDP/W: 64%, POP/W: 38%)
23. International Commission for the Protection of the Rhine - **ICPR** (FY: 1965, MS: 5+3, GDP/W: 8%, POP/W: 3%)
24. International Commissions for the Protection of the Moselle and Saar - **ICPMS** (FY: 1961, MS: 3, GDP/W: 6%, POP/W: 2%)
25. International Copper Study Group - **ICSG** (FY: 1992, MS: 25, GDP/W: 67%, POP/W: 56%)
26. International Institute for Democracy and Electoral Assistance - **IDEA** (MS: 32+1, GDP/W: 30%, POP/W: 34%)
27. International Mobile Satellite Organization - **IMSO** (FY: 1999, MS: 99, GDP/W: 94%, POP/W: 86%)
28. International Nickel Study Group - **INSG** (FY: 1990, MS: 14, GDP/W: 22%, POP/W: 11%)
29. International Organization of Vine and Wine - **OIV** (FY: 2004, MS: 47, GDP/W: 35%, POP/W: 35%)
30. Joint Institute for Nuclear Research - **JINR** (FY: 1956, MS: 18+6, GDP/W: 15%, POP/W: 10%)
31. Mediterranean Science Commission - **CIESM** (FY: 1910, MS: 24, GDP/W: 18%, POP/W: 11%)
32. North Atlantic Treaty Organization - **NATO** (FY: 1949, MS: 32, GDP/W: 36%, POP/W: 12%)
33. Organisation for Joint Armament Cooperation - **OCCAR** (MS: 6+7, GDP/W: 16%, POP/W: 6%)
34. Pacific Alliance (FY: 2011, MS: 4+32, GDP/W: 69%, POP/W: 54%)
35. Schengen Convention (FY: 1990, MS: 27+3, GDP/W: 15%, POP/W: 5%)
36. Southeast Asian Ministers of Education Organization - **SEAMEO** (MS: 11+8, GDP/W: 19%, POP/W: 13%)
37. United Nations Assistance Mission in Somalia - **UNSOM** (MS: 12, GDP/W: 15%, POP/W: 25%)
38. United Nations Human Rights Council - **UNHRC** (MS: 47, GDP/W: 69%, POP/W: 63%)
39. United Nations Mission in the Republic of South Sudan - **UNMISS** (FY: 2011, MS: 50, GDP/W: 70%, POP/W: 66%)
40. United Nations Multidimensional Integrated Stabilization Mission in Mali - **MINUSMA** (FY: 2013, MS: 39, GDP/W: 52%, POP/W: 40%)
41. World Association for Waterborne Transport Infrastructure - **PIANC** (FY: 1894, MS: 41, GDP/W: 76%, POP/W: 62%)
42. World Tourism Organization - **UNWTO** (FY: 1975, MS: 156+5, GDP/W: 77%, POP/W: 93%)

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Table 37. *International Organizations with Ireland as a Members*

1. Maritime Analysis and Operations Centre - Narcotics - **MAOC-N** (FY: 2007, MS: 7+1, GDP/W: 25%, POP/W: 8%)
2. Partnership for Peace - **PFP** (FY: 1994, MS: 22, GDP/W: 7%, POP/W: 4%)
3. United Nations Disengagement Observer Force - **UNDOF** (FY: 1974, MS: 5, GDP/W: 8%, POP/W: 19%)
4. United Nations Operation in Cote d'Ivoire - **UNOCI** (FY: 2004, MS: 45, GDP/W: 46%, POP/W: 63%)
5. United Nations Organization Stabilization Mission in the Democratic Republic of the Congo - **MONUSCO** (FY: 2010, MS: 51, GDP/W: 67%, POP/W: 70%)
6. United Nations Truce Supervision Organization - **UNTSO** (FY: 1948, MS: 25, GDP/W: 50%, POP/W: 29%)

Note: This table, divided into three sections, details memberships in international organizations for Germany, Ireland, or both. Organizations are alphabetically listed within each section. This list, based on active websites as of July 2023, may not be exhaustive or current (most recent data: World Factbook, March 2023). Each organization's entry includes its foundation year (FY), member and associated states (MS), and the percentage of global GDP and population its members represent. Despite potential inaccuracies, this resource provides valuable insights into bilateral relations through multilateral participation.

Germany's International Memberships

Germany's international affiliations reflect a strategic blend of economic prowess, environmental stewardship, and security cooperation, positioning it as a keystone player on the global stage. With membership in 137 international organizations, Germany's participation is tailored not just for broad diplomatic engagement but also for targeted influence in highly specialized spheres. A closer examination of Germany's memberships in organizations like the International Commissions for the Protection of the Moselle and Saar (ICPMS) and the International Commission for the Protection of the Rhine (ICPR) highlights its commitment to transboundary water management, underscoring Germany's emphasis on environmental responsibility and regional cooperation. These commissions are essential for safeguarding major waterways that hold ecological and economic significance, not only for Germany but also for neighboring countries, thus enhancing regional stability and cooperation.

Germany's inclusion in economic alliances such as the Group of 10 (G-10), Group of 8 (G-8), and Group of 7 (G-7) reflects its central role in global economic policymaking and its influence on financial stability. These groups illustrate Germany's strategy to collaborate with the world's largest economies to address global economic challenges. The Economic and Monetary Union (EMU) participation further cements Germany's leadership in European economic integration, suggesting a dedication to fostering financial coherence and resilience within the European Union. Moreover, Germany's involvement in the Organisation for Joint Armament Cooperation (OCCAR) and European Space Agency (ESA) showcases a dual focus on contemporary security measures and cutting-edge technological advancements. The OCCAR membership emphasizes Germany's commitment to multilateral defense cooperation, enhancing military capabilities through shared resources, while ESA participation signifies an investment in future-forward technology and space exploration, which are pivotal for scientific progress and international prestige.

An intriguing aspect of Germany's international relationship strategy is its emphasis on navigation and transport through bodies like the Central Commission for Navigation on the Rhine (CCNR). This not only highlights Germany's prioritization of efficient and safe transport routes but also its historical commitment to maintaining free and collaborative navigation, which has been a cornerstone of European trade for centuries. Germany's strategic engagements within these exclusive organizations reflect a multifaceted foreign policy approach, balancing economic inter-

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H.E. Mr. Ricklef Johannes Beutin, Permanent Representative of Germany presents credentials to UN Secretary-General Mr. António Guterres.

ests, environmental sustainability, and technological advancement with a historical and regional understanding. Such a strategy not only enhances Germany's international influence but also enables it to navigate the complexities of international relations with a pragmatic and forward-thinking approach.

Where Does Ireland participate?

Ireland's international affiliations provide a fascinating lens through which to view its foreign policy strategy, highlighting the nation's commitment to collaborative efforts in diverse fields ranging from environmental protection to financial governance. Among the 101 international organizations in which Ireland is a member, several key affiliations illustrate the country's strategic engagement with the global community. These affiliations reveal Ireland's unique approach to international relations, characterized by a focus on multilateral cooperation and niche specialization. The OSPAR Commission (OSPAR) is one such organization that underscores Ireland's dedication to marine conservation, facilitating collaboration among countries to protect the marine environment of the North-East Atlantic. This commitment is complemented by Ireland's participation in the Maritime Analysis and Operations Centre - Narcotics (MAOC-N), reflecting the nation's strategic interest in combatting transnational crime and ensuring maritime security.

In the realm of economic and financial governance, Ireland's membership in the Economic and Monetary Union (EMU), European Investment Bank (EIB), and European Central Bank (ECB) signifies its integral role within the European financial architecture. These affiliations not only reinforce Ireland's connectivity within Europe but also emphasize its commitment to fostering economic stability and growth both regionally and globally. Furthermore, Ireland's participation in the European Atomic Energy Community highlights its engagement in promoting safe and sustainable energy practices, aligning with broader EU energy policies.

A particularly noteworthy aspect of Ireland's international strategy is its involvement in scientific and educational organizations, such as the European Space Agency (ESA) and the European Southern Observatory (ESO). These partnerships illustrate Ireland's investment in scientific research and technological advancement, positioning the nation as a forward-thinking participant in global science and innovation networks. Similarly, its membership in the International Council for the Exploration of the Sea (ICES) and the European Institute of Public Administration (EIPA) showcases an ongoing commitment to research, policy education, and the sustainable management of natural resources.

What emerges from Ireland's selective participation in these international entities is a carefully curated alignment of strategic priorities, underscoring its proactive and cooperative approach to global challenges. By engaging in these diverse organizations, Ireland not only amplifies its international presence but also reinforces its dedication to addressing key global issues through collaborative means. This multifaceted approach to international affiliation reflects Ireland's broader foreign

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policy objectives, which prioritize stability, innovation, and sustainability in an increasingly interconnected world.

Global Affiliations Matched

Germany and Ireland are both members of the United Nations, which was a prerequisite for inclusion in this series of bilateral publications. Of particular interest is the examination of other international organizations where these two countries intersect, as bilateral meetings frequently occur on the sidelines of multilateral gatherings. Our analysis of hundreds of organizations, as detailed in the first table of this bilateral report, provides a comprehensive overview of international organizations where both Germany and Ireland maintain membership. The analysis extends to organizations where Germany is a member without Ireland's participation, and conversely, where Ireland participates without Germany.

The two countries share membership in 90 different international organizations, with several notable ones including European Union (EU), European Bank for Reconstruction and Development (EBRD), World Trade Organization (WTO), International Monetary Fund (IMF), and World Health Organization (WHO). Beyond their shared memberships, Germany independently participates in 42 international organizations, such as North Atlantic Treaty Organization (NATO), Inter-American Development Bank (IADB), and European Organization for Nuclear Research (CERN), while Ireland maintains exclusive membership in 42 international organizations, including organizations, including United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO), United Nations Truce Supervision Organization (UNTSO), and Partnership for Peace (PFP).

Amid the multilateral spectrum, Germany and Ireland maintain a 69% similarity, exceeding widespread expectations. Germany's finds its closest match Italy, paralleled by Ireland's congruence with Finland. As the final chart in this section shows, Ireland holds nineteenth position in Germany's ranking, and Germany ranks seventeenth on Ireland's list.

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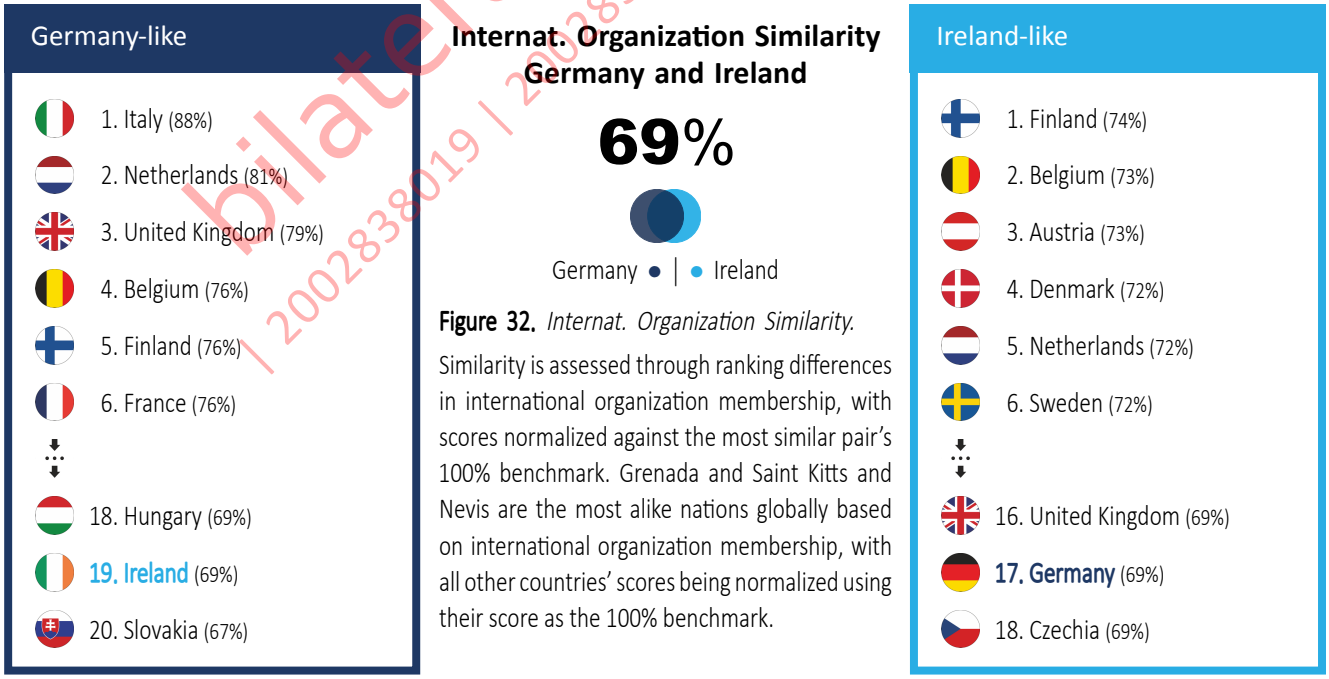


Figure 32. *Internat. Organization Similarity.* Similarity is assessed through ranking differences in international organization membership, with scores normalized against the most similar pair's 100% benchmark. Grenada and Saint Kitts and Nevis are the most alike nations globally based on international organization membership, with all other countries' scores being normalized using their score as the 100% benchmark.

UNGA Voting



Ms. Annalena Baerbock – Has presided over the eightieth session of the General Assembly since September 2025, the fifth woman elected to the office and the first German woman PGA. She earlier served as Federal Minister for Foreign Affairs of Germany from 2021 to 2025 and as co-chair of Alliance 90 The Greens. She was the Greens' candidate for Chancellor in the 2021 federal elections. Interestingly, she is the first German after unification to preside over the General Assembly, but third German PGA, after Mr. Rüdiger von Wechmar (35th, 1980-81, Federal Republic of Germany) and Mr. Peter Florin (42nd, 1987-88, German Democratic Republic).



Mr. Peter Florin – presided over the forty-second session of the General Assembly from 1987 to 1988, the only PGA from the German Democratic Republic. An East German diplomat and politician, he had served as First Deputy Foreign Minister and Permanent Representative to the United Nations after East Germany joined the UN in 1973. He had earlier been a Member of the People's Chamber and a senior official of the Socialist Unity Party.

The United Nations General Assembly (UNGA) is a key forum where all member states of the UN come together annually to discuss and vote on a wide array of global issues. Each member state, regardless of its size or economic power, has one vote, ensuring an equal say in the decision-making process. The resolutions passed at the UNGA cover various topics, including peace and security, human rights, economic development, and more.

Analyzing the voting patterns at the UNGA provides valuable insights into the foreign policy priorities and international alignments of different countries. By examining how Germany and Ireland vote on specific resolutions, we can discern their positions on critical global issues and understand their diplomatic relationships. Countries that often vote similarly on resolutions may share common interests or ideological stances, reflecting a closer diplomatic relationship or mutual strategic objectives. Conversely, countries that frequently vote in opposition may have divergent interests or conflicting priorities on particular issues.

In this section, we present a comparison of the voting coincidence between Germany and Ireland across several key areas. The overall voting coincidence provides a general measure of how often the two countries align in their votes. Additionally, we break this down into specific topics: the Palestinian conflict, human rights, colonialism, arms control and disarmament, economic development, and nuclear weapons and nuclear material. These categories encompass some of the most contentious and significant issues debated at the UNGA, offering a nuanced view of where the countries stand relative to each other.

It is important to note that voting coincidence is not the same as voting pattern similarity. While voting coincidence measures the percentage of times both countries voted the same way, voting pattern similarity involves a more complex calculation that includes normalization and Gaussian redistribution. This distinction is crucial for understanding the depth and nature of their voting alignment.

The voting data at the UNGA can be a powerful tool for policymakers and analysts. It helps in assessing

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the closeness or distance between countries on global issues and can identify potential areas for collaboration or conflict. By examining the voting patterns of Germany and Ireland, this analysis provides a snapshot of their diplomatic stance and can help predict future alignments and partnerships on the international stage. This comparative study is not only a reflection of their current foreign policies but also a guide for navigating future diplomatic engagements and collaborations.

German UN Voting Patterns

In the intricate dance of international diplomacy, Germany's voting patterns in the United Nations General Assembly (UNGA) reveal its steadfast commitment to multilateralism and its strategic priorities on the global stage. The data paints a picture of a nation deeply aligned with principles of international cooperation and humanitarian advancement, yet occasionally diverging from global consensus where its strategic interests dictate a different course.

Germany's prominent alignment with topics related to International Law and Justice, Health and Social Development, and Environment and Climate Action underscores its dedication to global governance frameworks and sustainable development. This alignment is a reflection of its historical commitment to a rules-based international order and its leadership role in addressing global challenges such as climate change and health crises.

Conversely, Germany's divergent stance on Security and Anti-Terrorism, Racism and Discrimination, and Cultural and Religious Issues suggests a nuanced approach colored by its domestic imperatives and historical experiences. In security matters, Germany often prioritizes diplomatic solutions and the protection of civil liberties, which may lead to disagreements with more interventionist approaches favored by other states. Similarly, its historical context regarding issues of discrimination and cultural sensitivity informs a more cautious stance in related UNGA resolutions.

Ultimately, Germany's voting behavior in the UNGA reflects a nation striving to balance its heritage of multilateralism with evolving geopolitical realities. This balancing act not only shapes its foreign policy but also highlights its role as a key advocate for global peace and cooperation.



Mr. Frederick Boland – Presided over the fifteenth session of the General Assembly from 1960 to 1961, the most turbulent in UN history, marked by the simultaneous attendance of fifteen heads of state and government including Khrushchev, Tito, Nasser, Castro, and Nehru. A career Irish diplomat and former Secretary of the Department of External Affairs, his calm chairmanship during Khrushchev's shoe-banging incident is part of UN lore. He later served as Chancellor of Trinity College Dublin.



Mr. Rüdiger von Wechmar – presided over the thirty-fifth session of the General Assembly from 1980 to 1981, while serving as West German Permanent Representative to the United Nations. A baron from a Thuringian noble family, he had earlier served as government spokesman and head of the Federal Republic's press office. He went on to become German Ambassador to the Court of St James's and, from 1989 to 1994, a Member of the European Parliament for the Free Democrats.

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Table 38. *UNGA Voting*

UN General Assembley Resolutions by Topic	Germany Value	Germany Rank	Germany Trend	Gap	Ireland Trend	Ireland Rank	Ireland Value	Year	Source
Cultural and Religious Issues (%, ⇓)	41.2	175			167	41.2	2022	UNGA
Decolonization and Self-Determination (%, ⇓)	74.2	165			123	81.8	2022	UNGA
Disarmament and Arms Control (%, ⇓)	67.0	164			118	82.8	2022	UNGA
Economic Development and Cooperation (%, ⇓)	54.2	160			177	53.3	2022	UNGA
Economic Sanctions and Embargoes (%, ⇓)	73.8	162			145	77.5	2022	UNGA
Economic, Social, and Cultural Rights (%, ⇓)	62.1	180			149	75.9	2022	UNGA
Environment and Climate Action (%, ⇓)	91.2	67			80	90.5	2022	UNGA
Global Anti-Crime Efforts (%, ⇓)	75.0	134			124	75.0	2022	UNGA
Health and Social Development (%, ⇓)	97.1	26			19	97.1	2022	UNGA
Human Rights (%, ⇓)	67.7	139			106	69.8	2022	UNGA
Humanitarian Assistance (%, ⇓)	75.0	136			126	75.0	2022	UNGA
International Cooperation and Multilateralism (%, ⇓)	77.8	131			114	79.1	2022	UNGA
International Governance and Democracy (%, ⇓)	42.2	158			150	42.2	2022	UNGA
International Law and Justice (%, ⇓)	90.0	50			43	90.0	2022	UNGA
International Peace and Security (%, ⇓)	81.7	76			68	81.7	2022	UNGA
Middle East and Palestine (%, ⇓)	86.7	117			95	87.8	2022	UNGA
Migration and Refugee Rights (%, ⇓)	90.0	102			92	90.0	2022	UNGA
Nuclear Proliferation and Treaty Compliance (%, ⇓)	70.7	161			130	76.8	2022	UNGA
Racism and Discrimination (%, ⇓)	43.8	184			155	55.0	2022	UNGA
Regional Peace and Security Zones (%, ⇓)	72.7	140			136	72.7	2022	UNGA
Science and Technology in International Security (%, ⇓)	45.5	152			147	47.0	2022	UNGA
Security and Anti-Terrorism (%, ⇓)	21.7	185			153	40.0	2022	

Note: Global rankings in the tables throughout this book generally follow a descending order (from highest to lowest), with the exception of time-related indicators (dates and years) which follow an ascending order (from nearest to furthest). To avoid any confusion, we use arrows to indicate the order orientation: "⇓" signifies a descending order, while "⇑" denotes an ascending order. The third bar in the trend lines specifically illustrates the most recent data, compared to the data from the previous two years.

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Irish UN Voice

In the intricate dance of international diplomacy, Ireland's voting patterns within the United Nations General Assembly reveal compelling insights into its foreign policy and strategic priorities. Historically, Ireland has sought to affirm its position as a principled actor in global affairs, aligning itself with issues that resonate with its core values of justice, peace, and social development. The dataset highlights Ireland's strong support for resolutions related to international law and justice, health and social development, and environmental and climate action. This alignment underscores Ireland's commitment to multilateralism and its desire to be seen as a champion of global cooperation on pressing issues. Such support reflects not only Ireland's domestic priorities but also its intent to influence global norms and standards in these fields.

Notably, Ireland's support for international peace and security resolutions aligns with its historical role in peacekeeping and conflict resolution. Ireland's commitment to these issues reflects its strategic interest in maintaining global stability, which is vital for small states reliant on a rules-based international order. Furthermore, Ireland's backing of resolutions related

to the Middle East and Palestine demonstrates its enduring concern for human rights and its empathetic foreign policy posture towards regions affected by prolonged conflict.

In contrast, Ireland's divergence from the global consensus in areas such as security and anti-terrorism, cultural and religious issues, and international governance and democracy indicates a cautious approach. This deviation may reflect Ireland's nuanced position on security policies that might infringe on civil liberties or its sensitivity to maintaining cultural pluralism. Similarly, its stance on international governance suggests a careful balance between supporting democratic principles and respecting national sovereignty.

Overall, Ireland's voting patterns in the UN reflect a strategic blend of alignment with global priorities in areas where it seeks to assert leadership and differentiation where it aims to preserve its unique values and interests. These patterns offer a window into the complex calculus that drives Ireland's engagement on the world stage, revealing a nation committed to championing peace, justice, and sustainable development while cautiously navigating the complexities of global governance.

Voting Coincidence Tells Its Story

Analyzing the German and Irish voting patterns at the General Assembly of the United Nations (UNGA), we find substantial areas of alignment. These areas demonstrated the highest voting alignment between Germany and Ireland at the UNGA: treaties on regional peace and security zones, science and technology in international security, and health and social development, whereas the greatest disparities exist in treaties on arms control, decolonization, and human rights.

Viewed through a voting lens, Germany and Ireland exhibit a 71% similarity, surpassing the global median, showcasing the utmost extent of their similarity in this chapter. The Netherlands is to Germany what Austria is to Ireland: a mirror reflecting their similar identities. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is twenty-fifth, while the German position is eighteenth in Irish listings.

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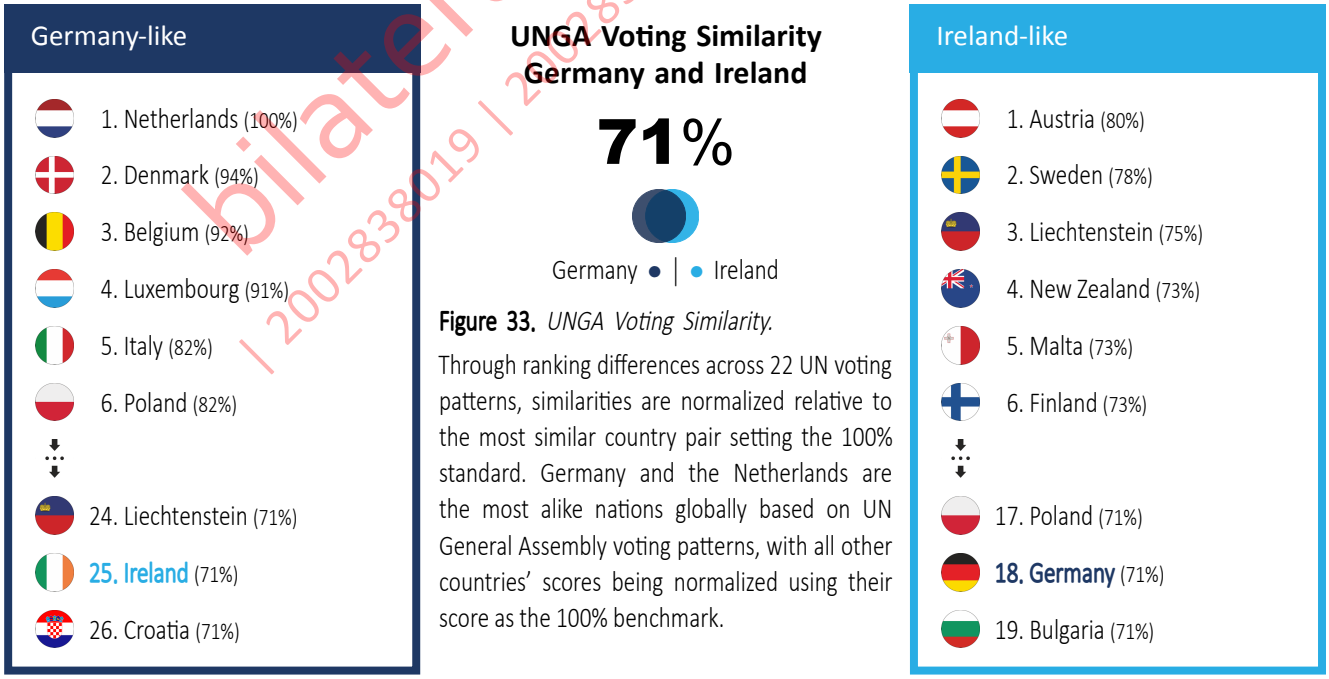


Figure 33. *UNGA Voting Similarity.*

Through ranking differences across 22 UN voting patterns, similarities are normalized relative to the most similar country pair setting the 100% standard. Germany and the Netherlands are the most alike nations globally based on UN General Assembly voting patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

CHAPTER EIGHT



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Business Networking

CHAPTER **8** Business Networking Page

Inbound Professionals 202

Through a talent inflows prism, Germany and Ireland reveal a compelling 85% similarity, marking the second highest level of likeness found throughout all chapters. The Netherlands emerges as the closest counterpart to Germany, whereas Ireland finds its parallel in the United Kingdom.

Outbound Professionals 207

Observing from a outflow-professional vantage, Germany and Ireland are bonded by a big 85% similarity, indicating the peak of their congruence among the report's forty topics. The Netherlands emerges as the closest counterpart to Germany, whereas Ireland finds its parallel in the United Kingdom.

Synergy Industries 212

Industry synergy connections between Germany and Ireland amount to a 68% similarity, outpacing much of the global landscape. Germany sees its reflection in France, just as Ireland identifies closely with the United States.

Business Matching 217

Germany and Ireland possess limited business commonalities, but they still share a 46% similarity, identifying this as the most significant difference across the report's comprehensive exploration. Germany finds its most compatible match in Slovakia, much like Ireland does with Israel.

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Inbound Professionals



Germany's SAP SE: A Beacon of Tech Innovation – The eco-friendly corporate headquarters of SAP SE in Walldorf showcases Germany's prowess in software-as-a-service solutions. Known for its cutting-edge technology and global IT influence, SAP SE attracts and sends professionals worldwide, highlighting Germany's significant role in international business networking and technological advancement.

This whole chapter explores the microeconomic landscape by focusing on the movement of professionals to and from Germany and Ireland, utilizing an expansive database of over 100 million global businesses compiled from publicly available data. This vast resource has been enriched with millions of anonymized, GDPR-compliant resumes translated into English from 70 languages, allowing a comprehensive analysis of the talent landscape. The refined entity resolution process links these resumes to their respective businesses, providing a thorough understanding of global professional mobility.

While this dataset offers unparalleled insights, it does come with limitations due to varying internet accessibility, cultural nuances, and legal restrictions on employment data publication. Despite these challenges, the breadth and depth of the data enable a more extensive analysis than most previous studies, providing valuable insights into the flow of international talent.

The first section of this chapter highlights the 40 largest employers in Germany and Ireland that have recruited internationally experienced professionals over the last three decades. It delves into the top five companies in each country, detailing the foreign companies these professionals previously worked for. This analysis provides a unique perspective on the movement of human capital and the connections between these professionals and their current employers. The tables are color-coded for clarity, distinguishing between companies from Germany and Ireland.

This examination of inbound professionals offers significant insights into the bilateral flow of talent and its impact on business networks. Understanding the origins and previous affiliations of these professionals helps reveal patterns in career transitions and the strategic alliances between global companies. This data-driven narrative simplifies the complex dynamics of international professional mobility and enhances our understanding of how global talent flows contribute to the economic and business landscapes of Germany and Ireland.

Inbound professionals not only bring diverse skills and experiences but also foster cross-cultural exchange and innovation within their new workplaces. Companies in Germany and Ireland benefit from this influx of talent, which enhances their global competitiveness and contributes to a more dynamic and cosmopolitan business environment. The data presented in this section provides a comprehensive overview of how international professionals shape the corporate landscapes of both countries, offering valuable insights for policymakers, business leaders, and researchers interested in global talent mobility and its implications for international business networks.

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Talents Attracted by Germany

The German Inbound Professionals report underscores the appeal of Germany's top 40 firms, which have demonstrated a significant capacity to attract professionals with international experience. These companies are predominantly situated within the sectors of electrical and electronic manufacturing, computer software, and investment banking. Notable examples include major players such as Siemens, Osram, SAP, Software AG, and Deutsche Bank. Our extensive analysis, which scrutinized approximately 780,000 instances of "brain gain" within these 40 companies over the past two decades, revealed that the most substantial influx of talent originated from firms in the United States, Switzerland, and Finland.

Among the leading companies on this list, Siemens, SAP, Deutsche Bank, DHL, and BASF stand out as prime destinations for foreign professionals. These firms are characterized by their robust international connections and capacity to integrate diverse talent into their operations. Siemens, in particular, has benefitted from talent inflows from renowned companies like Nokia in Finland, IBM in the United States, ABB in Switzerland, and Atos in France. This trend reflects Siemens' global operational strategy and its ability to leverage the skills and innovation brought by these experienced professionals.

The ability of these companies to attract international talent is pivotal to Germany's economic landscape. Germany, as Europe's largest economy, offers a fertile ground for innovation and competition. The combination of a highly skilled workforce, cutting-edge infrastructure, and a favorable business environment makes Germany an attractive destination for global professionals seeking to advance their careers. The presence of leading multinational corporations further enhances this allure by providing ample opportunities for professional growth and cross-border collaboration.



Dynamic Professional Exchange – Ireland's Allergan Pharmaceuticals stands out as a pivotal hub for talent movement, being the second-leading company in attracting international professionals and facilitating global opportunities for Irish experts. This dynamic exchange underscores Ireland's robust role in global business networking and professional development.

Understanding the dynamics of talent mobility within these sectors highlights Germany's competitive edge in the global market. The continuous influx of skilled professionals not only enriches the domestic workforce but also fosters a culture of innovation and excellence. As Germany continues to evolve as an economic powerhouse, the sustained attraction of international talent will remain a key component of its global strategy, ensuring its position as a leader in technological and industrial advancement.

Ireland as Workplace

The recent analysis of Ireland's top 40 companies shines a spotlight on organizations that excel at at-

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Table 39. *Top 40 Companies in Germany with the Highest Inbound Professionals.*

Company in Germany	Foreign Experience	Nat.
siemens.com	7.000%	86.0%
sap.com	3.000%	86.0%
db.com	3.000%	82.0%
dhl.com	2.000%	89.0%
basf.com	1.000%	87.0%
adidas.com	1.000%	90.0%
continental-corporation.com	1.000%	87.0%
bayer.com	1.000%	88.0%
boehringer-ingelheim.com	1.000%	89.0%
henkelna.com	1.000%	86.0%
allianz.com	<0.001%	91.0%
bosch.com	<0.001%	83.0%
audi.de	<0.001%	94.0%
mediamarkt.com	<0.001%	93.0%
hella.com	<0.001%	84.0%
grants4apps.com	<0.001%	88.0%
commerzbank.com	<0.001%	84.0%
schaeffler.com	<0.001%	83.0%
siemens-healthineers.com	<0.001%	86.0%
osram.com	<0.001%	89.0%
lh.com	<0.001%	84.0%
sandoz.com	<0.001%	87.0%
gfk.com	<0.001%	88.0%
infineon.com	<0.001%	90.0%
metro-cc.com	<0.001%	90.0%
puma.com	<0.001%	90.0%
merckgroup.com	<0.001%	91.0%
mahle.com	<0.001%	89.0%
beiersdorf.com	<0.001%	88.0%
bmwgroup.jobs	<0.001%	92.0%
thyssenkruppelevator.com	<0.001%	87.0%
trw.com	<0.001%	82.0%
gft.com	<0.001%	92.0%
esprit.com	<0.001%	93.0%
softwareag.com	<0.001%	89.0%
zf.com	<0.001%	91.0%
thyssenkrupp.com	<0.001%	90.0%
boschrexroth.com	<0.001%	89.0%
daimler.com	<0.001%	91.0%
tuigroup.com	<0.001%	89.0%

To siemens.com

1.	nokia.com, Finland	2.5%
2.	siemens.com, US	1.6%
3.	abb.com, Switzerland	1.1%
4.	ibm.com, US	0.8%
...	accenture.com, Ireland	0.3%
	other companies	93.7%

To sap.com

1.	ibm.com, US	3.1%
2.	oracle.com, US	3.0%
3.	sap.com, US	2.0%
4.	accenture.com, Ireland	1.4%
5.	microsoft.com, US	1.2%
	other companies	89.3%

To db.com

1.	citigroup.com, US	2.7%
2.	db.com, UK	1.8%
3.	ubs.com, Switzerland	1.8%
4.	credit-suisse.com, Switzerland	1.8%
...	accenture.com, Ireland	0.6%
	other companies	91.3%

To dhl.com

1.	dhl-usa.com, US	1.1%
2.	dhl.com, US	1.0%
3.	ups.com, US	0.9%
4.	tnt.com, Netherlands	0.7%
...	accenture.com, Ireland	0.3%
	other companies	96.0%

To basf.com

1.	basf.com, US	3.5%
2.	ciba.com, Switzerland	1.6%
3.	basf.com, Brazil	1.5%
4.	syngenta.com, Switzerland	0.7%
...	accenture.com, Ireland	0.3%
	other companies	92.5%

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Note: This table ranks the top 40 companies in Germany by the number of professionals who have moved abroad within the last 30 years, using the "Foreign Experience" ratio (*left side*). The ratio represents these professionals as a share of all who moved abroad. The 'Nat.' column indicates the percentage of these relocations relative to each company's total worldwide relocations. The top 5 companies are further detailed, with a breakout by new foreign employers (*right side*).

Table 40. *Top 40 Companies in Ireland with the Highest Inbound Professionals.*

Company in Ireland	Foreign Experience	Nat.
accenture.com	38.000%	86.0%
allergan.com	1.000%	85.0%
shire.com	1.000%	90.0%
primark.com	1.000%	92.0%
iconplc.com	1.000%	90.0%
tyco.com	1.000%	90.0%
perrigo.com	<0.001%	89.0%
glanbia.com	<0.001%	94.0%
nuigalway.ie	<0.001%	99.0%
paddypowerbetfair.com	<0.001%	96.0%
voxprogroup.com	<0.001%	98.0%
microsoft.com	<0.001%	1.0%
bankofireland.com	<0.001%	94.0%
ucd.ie	<0.001%	99.0%
google.com	<0.001%	6.0%
tcd.ie	<0.001%	99.0%
pmgroup-global.com	<0.001%	93.0%
zurichinsurance.ie	<0.001%	87.0%
cpl.ie	<0.001%	98.0%
bnpparibas.com	<0.001%	3.0%
goalglobal.org	<0.001%	94.0%
elan.com	<0.001%	95.0%
greencore.com	<0.001%	89.0%
hse.ie	<0.001%	99.0%
ibm.com	<0.001%	<0.1%
dcu.ie	<0.001%	99.0%
morganmckinley.com	<0.001%	87.0%
deloitte.ie	<0.001%	99.0%
crh.com	<0.001%	89.0%
kerry.com	<0.001%	88.0%
aib.ie	<0.001%	98.0%
pramerica.ie	<0.001%	95.0%
ulsterbank.com	<0.001%	91.0%
eir.ie	<0.001%	99.0%
rte.ie	<0.001%	99.0%
ul.ie	<0.001%	100.0%
ucc.ie	<0.001%	99.0%
kpmg.ie	<0.001%	97.0%
docsglobal.com	<0.001%	93.0%
actavis.com	<0.001%	92.0%

To accenture.com

1.	ibm.com, US	2.3%
2.	accenture.com, India	1.3%
3.	accenture.com, US	1.3%
4.	tcs.com, India	1.2%
...	**sap.com, Germany**	0.3%
	other companies	93.7%

To allergan.com

1.	allergan.com, US	3.7%
2.	pfizer.com, US	2.6%
3.	allergan.com, Italy	2.3%
4.	novartis.com, Switzerland	1.8%
...	**boehringer-ingelheim.com, Germany**	0.5%
	other companies	89.1%

To shire.com

1.	baxalta.com, US	6.6%
2.	baxter.com, US	5.8%
3.	takeda.com, Japan	3.4%
4.	pfizer.com, US	3.0%
...	**boehringer-ingelheim.com, Germany**	0.5%
	other companies	80.7%

To primark.com

1.	primark.com, UK	1.3%
2.	hm.com, Sweden	1.0%
3.	marksandspencer.com, UK	0.9%
4.	sainsburys.co.uk, UK	0.9%
...	**c-and-a.com, Germany**	0.2%
	other companies	95.7%

To iconplc.com

1.	iqvia.com, US	4.3%
2.	ppdi.com, US	3.0%
3.	rpsweb.com, US	2.5%
4.	parexel.com, US	2.4%
...	**boehringer-ingelheim.com, Germany**	0.4%
	other companies	87.3%

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Note: This table ranks the top 40 companies in Ireland by the number of professionals who have moved abroad within the last 30 years, using the "Foreign Experience" ratio (*left side*). The ratio represents these professionals as a share of all who moved abroad. The 'Nat.' column indicates the percentage of these relocations relative to each company's total worldwide relocations. The top 5 companies are further detailed, with a breakout by new foreign employers (*right side*).

tracting internationally experienced professionals to Ireland. Predominantly, these companies are rooted in sectors like information technology and services, pharmaceuticals, and biotechnology. Notable players include Accenture and IBM within IT, and Allergan, Aptiv Solutions, Shire Biopharmaceuticals, and Perrigo in the life sciences. This comprehensive study evaluated approximately 410,000 instances of "brain gain" over the past two decades, underscoring Ireland's role as a magnet for global talent, particularly from American, Indian, and Japanese enterprises.

Leading the pack are companies like Accenture, Allergan, Shire Biopharmaceuticals, Primark, and Aptiv Solutions, which demonstrate how international experience is integrated within their workforce. For instance, Accenture's talent pool is enriched by professionals migrating from major firms like IBM in the United States, Tata Consultancy Services in India, and Infosys in India. Such movements highlight the intricate web of professional linkages and underscore Ireland's appeal as a hub for multinational business operations.

Ireland's attractiveness to global talent can be attributed to several economic and strategic factors. The country's favorable corporate tax environment, stable economy, and well-established infrastructure for business operations make it an attractive destination for multinational companies. Additionally, Ireland's strong ties with both the European Union and the United States offer companies access to large markets, providing further incentive for international firms to base their operations in the country.

The influx of skilled professionals enriches Ireland's economy, fostering innovation, and enhancing competitiveness in key industries. As companies continue to recognize the benefits of a diverse workforce with international experience, Ireland's position as a preferred destination for global talent is likely to strengthen. By cultivating an environment that is welcoming to professionals from around the world, Ireland not only boosts its economic prospects but also enhances its cultural and intellectual landscape, ensuring its continued growth and prosperity.

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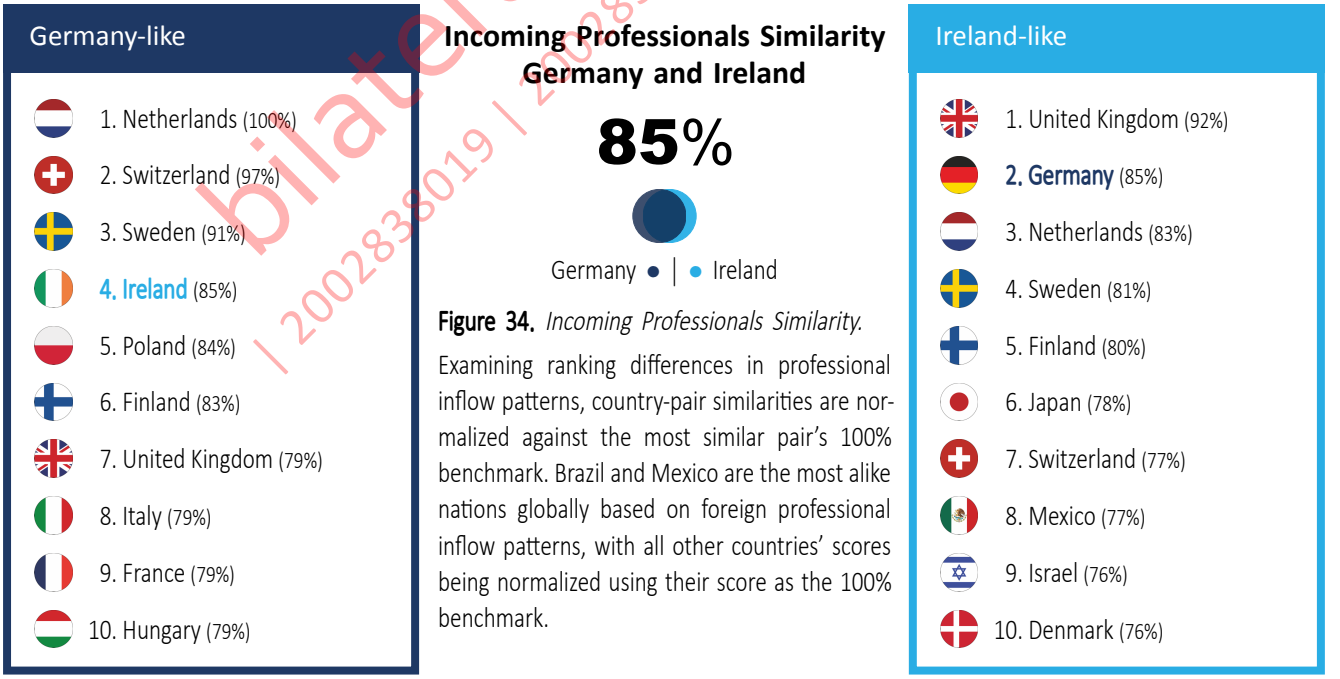


Figure 34. *Incoming Professionals Similarity.*

Examining ranking differences in professional inflow patterns, country-pair similarities are normalized against the most similar pair's 100% benchmark. Brazil and Mexico are the most alike nations globally based on foreign professional inflow patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

Outbound Professionals

Opposite to the previous section, this one highlights the 40 largest companies in Germany and Ireland whose employees have moved abroad over the last three decades. It offers a unique perspective on talent mobility, with color-coded tables to distinguish between companies from each country.

It examines the top five companies from each country, detailing where these professionals have relocated and their new employers. Companies often have data on employees' previous workplaces but not on all subsequent moves, making this information valuable.

By examining the outbound flow of professionals, we gain insights into global talent mobility and its impact on international business networks. Understanding where these professionals move and the companies they join abroad reveals patterns in career transitions and strategic alliances between global businesses. This analysis clarifies the dynamics of international professional mobility and how outbound professionals from Germany and Ireland contribute to the global economy.

This study shows how professionals from these countries integrate into global businesses and impact international corporate landscapes. It helps understand business networking dynamics and identify areas for strengthening bilateral and multilateral relations. Examining the destinations and new affiliations of professionals leaving major companies in Germany and Ireland reveals broader narratives about global industry dynamics and career pathways.

Outbound professionals bring skills and experiences to new markets, fostering cross-cultural exchange and innovation. Companies worldwide benefit from this talent influx, enhancing their global competitiveness and contributing to a dynamic and diverse business environment. The data provides a comprehensive overview of how outbound professionals from Germany and Ireland shape the international corporate landscape, offering insights for policymakers, business leaders, and researchers interested in global talent mobility and its implications for international business networks.

Germans Working Abroad

The examination of Germany's "brain drain" phenomenon reveals intriguing trends about the movement of highly skilled professionals from the country to international destinations. Notably, the analysis focuses on the top 40 companies with the highest rates of professionals departing for global opportunities. These companies predominantly belong to sectors such as electrical and electronic manufacturing, investment banking, and computer software. Among the key players are Siemens, Leoni, OSRAM, Deutsche Bank, SAP, and Software AG. Over the past two decades, approximately 760,000 professional departures have been recorded, with the United States, Switzerland, and Finland emerging as top destinations.

This significant migration of talent underscores the challenges and opportunities within Germany's labor market. The top five companies witnessing the highest outflow, namely Siemens, Deutsche Bank, SAP, DHL, and BASF, provide a closer look into the specific trajectories of these professionals post-departure. For example, notable outflows from Siemens saw professionals transitioning to global leaders like Nokia in Finland, Siemens in the United States, Atos in France, ABB in Switzerland, and IBM in the United States. These movements reflect a broader pattern of brain circulation, where knowledge and skills are exchanged across international borders, benefiting both the individuals and the host countries.

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Table 41. *Top 40 Companies in Germany with the Highest Outbound Professionals.*

Company in Germany	Work Abroad	Nat.
siemens.com	7.000%	85.0%
db.com	3.000%	78.0%
sap.com	3.000%	82.0%
dhl.com	2.000%	86.0%
basf.com	1.000%	82.0%
henkelna.com	1.000%	85.0%
adidas.com	1.000%	87.0%
continental-corporation.com	1.000%	85.0%
boehringer-ingelheim.com	1.000%	88.0%
bayer.com	1.000%	84.0%
allianz.com	1.000%	91.0%
audi.de	<0.001%	94.0%
hella.com	<0.001%	82.0%
grants4apps.com	<0.001%	88.0%
mediamarkt.com	<0.001%	91.0%
commerzbank.com	<0.001%	82.0%
schaeffler.com	<0.001%	67.0%
sandoz.com	<0.001%	77.0%
siemens-healthineers.com	<0.001%	83.0%
lh.com	<0.001%	82.0%
osram.com	<0.001%	85.0%
gfk.com	<0.001%	87.0%
infineon.com	<0.001%	89.0%
leoni.com	<0.001%	91.0%
metro-cc.com	<0.001%	86.0%
puma.com	<0.001%	89.0%
merckgroup.com	<0.001%	87.0%
beiersdorf.com	<0.001%	84.0%
mahle.com	<0.001%	84.0%
bmwgroup.jobs	<0.001%	90.0%
trw.com	<0.001%	82.0%
esprit.com	<0.001%	92.0%
softwareag.com	<0.001%	88.0%
zf.com	<0.001%	87.0%
thyssenkrupp.com	<0.001%	87.0%
boschrexroth.com	<0.001%	87.0%
tum.de	<0.001%	100.0%
daimler.com	<0.001%	90.0%
tuigroup.com	<0.001%	89.0%
eon.com	<0.001%	88.0%

From siemens.com to:

1.	nokia.com, Finland	3.2%
2.	siemens.com, US	1.9%
3.	atos.net, France	1.1%
4.	abb.com, Switzerland	1.0%
...	accenture.com, Ireland	0.4%
	other companies	92.3%

From db.com to:

1.	citigroup.com, US	2.7%
2.	db.com, UK	1.9%
3.	ubs.com, Switzerland	1.9%
4.	credit-suisse.com, Switzerland	1.7%
...	accenture.com, Ireland	0.6%
	other companies	91.3%

From sap.com to:

1.	ibm.com, US	2.7%
2.	oracle.com, US	2.4%
3.	sap.com, US	2.3%
4.	accenture.com, Ireland	1.4%
5.	microsoft.com, US	1.4%
	other companies	89.8%

From dhl.com to:

1.	tnt.com, Netherlands	0.9%
2.	kuehne-nagel.com, Switzerland	0.9%
3.	dhl.com, US	0.8%
4.	ups.com, US	0.8%
...	accenture.com, Ireland	0.3%
	other companies	96.4%

From basf.com to:

1.	basf.com, US	2.8%
2.	basf.com, Brazil	1.1%
3.	ciba.com, Switzerland	1.0%
4.	syngenta.com, Switzerland	0.8%
...	accenture.com, Ireland	0.3%
	other companies	93.9%

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Note: This table ranks the top 40 companies in Germany by the number of professionals who have moved to Germany from abroad within the last 30 years, using the "Work Abroad" ratio (*left side*). The ratio represents these professionals as a share of all who came from abroad to Germany. The 'Nat.' column indicates the percentage of these relocations relative to each company's total worldwide relocations. The top 5 companies are further detailed, with a breakout by their previous employers (*right side*).

Table 42. *Top 40 Companies in Ireland with the Highest Outbound Professionals.*

Company in Ireland	Work Abroad	Nat.
accenture.com	37.000%	83.0%
allergan.com	1.000%	76.0%
shire.com	1.000%	88.0%
bnpparibas.com	1.000%	20.0%
primark.com	1.000%	89.0%
iconplc.com	1.000%	88.0%
esb.ie	<0.001%	98.0%
williamfry.com	<0.001%	99.0%
nuigalway.ie	<0.001%	99.0%
voxprogroup.com	<0.001%	98.0%
microsoft.com	<0.001%	1.0%
bankofireland.com	<0.001%	93.0%
oasisgroup.com	<0.001%	99.0%
brownthomas.com	<0.001%	99.0%
ucd.ie	<0.001%	99.0%
google.com	<0.001%	7.0%
tcd.ie	<0.001%	99.0%
pmgroup-global.com	<0.001%	95.0%
zurichinsurance.ie	<0.001%	81.0%
cpl.ie	<0.001%	97.0%
elan.com	<0.001%	94.0%
greencore.com	<0.001%	89.0%
tyco.com	<0.001%	80.0%
hse.ie	<0.001%	99.0%
covidien.com	<0.001%	40.0%
ibm.com	<0.001%	<0.1%
dcu.ie	<0.001%	99.0%
morganmckinley.com	<0.001%	85.0%
irishdistillers.ie	<0.001%	99.0%
crh.com	<0.001%	89.0%
deloitte.ie	<0.001%	99.0%
kerry.com	<0.001%	85.0%
aib.ie	<0.001%	98.0%
eir.ie	<0.001%	100.0%
ulsterbank.com	<0.001%	90.0%
ul.ie	<0.001%	100.0%
ucc.ie	<0.001%	99.0%
kpmg.ie	<0.001%	96.0%
kelloggcompany.com	<0.001%	14.0%
actavis.com	<0.001%	90.0%

From accenture.com to:

1. ibm.com, US	2.2%
2. accenture.com, US	1.4%
3. accenture.com, India	1.1%
4. deloitte.com, US	1.0%
... sap.com, Germany	0.3%
other companies	93.8%

From allergan.com to:

1. allergan.com, US	4.3%
2. abbvie.com, US	3.3%
3. pfizer.com, US	2.0%
4. novartis.com, Switzerland	1.4%
... boehringer-ingelheim.com, Germany	0.4%
other companies	88.5%

From shire.com to:

1. takeda.com, Japan	7.4%
2. baxter.com, US	5.1%
3. baxalta.com, US	3.2%
4. shire.com, US	3.1%
... boehringer-ingelheim.com, Germany	0.3%
other companies	81.0%

From bnpparibas.com to:

1. bnpparibas.com, France	34.5%
2. societegenerale.com, France	2.3%
3. bnpparibas.com, UK	1.2%
4. bnpparibas.com, US	1.0%
... db.com, Germany	0.6%
other companies	60.3%

From primark.com to:

1. hm.com, Sweden	1.2%
2. primark.com, UK	0.9%
3. tescoplc.com, UK	0.9%
4. sainsburys.co.uk, UK	0.9%
... c-and-a.com, Germany	0.2%
other companies	95.9%

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Note: This table ranks the top 40 companies in Ireland by the number of professionals who have moved to Ireland from abroad within the last 30 years, using the "Work Abroad" ratio (*left side*). The ratio represents these professionals as a share of all who came from abroad to Ireland. The 'Nat.' column indicates the percentage of these relocations relative to each company's total worldwide relocations. The top 5 companies are further detailed, with a breakout by their previous employers (*right side*).



Global Connectivity Hub

The sleek headquarters of Siemens AG in Munich epitomize Germany's leadership in attracting and deploying global talent. As a leading force in automation and technology, Siemens fosters a dynamic professional exchange, both bringing in and sending out experts, strengthening Germany's role in international business networking.

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The concept of brain drain in Germany is nuanced by these international exchanges, suggesting both challenges for the domestic economy and benefits from a broadened skill pool. While the loss of skilled professionals can strain local industries, the return of globally experienced individuals can rejuvenate and enrich the German workforce. This cycle of brain circulation can potentially foster innovation and competitiveness within Germany if managed strategically, by enticing these professionals back with robust career opportunities and incentives.

In the broader context of Germany's economy, maintaining a delicate balance between retaining talent and embracing international experiences is paramount. Strategies to mitigate brain drain could involve improving workplace conditions, offering competitive salaries, and creating a dynamic professional environment that fosters growth and innovation. As German professionals continue to seek global experiences, understanding these dynamics is crucial for policymakers and industry leaders aiming to sustain Germany's economic vitality and global influence.

Where Do Irish Go?

The phenomenon of Irish professionals seeking international opportunities is a significant aspect of the nation's labor dynamics, as detailed by the analysis of the top 40 companies with the highest numbers of outbound employees. These professionals predominantly come from sectors like information technol-

ogy and services, pharmaceuticals, and biotechnology. Notable companies such as Accenture, IBM, Allergan, Shire Biopharmaceuticals, and Alkermes are on this list. This trend, where skilled individuals leave their home country to gain diverse experiences abroad, raises concerns about 'brain drain'—a situation where a country loses its best talent to other nations.

Over the past two decades, approximately 410,000 cases of such professional migration have been recorded from these companies. The data indicates that the United States, India, and Japan are the primary destinations for these Irish professionals. These countries offer extensive career opportunities and robust industries that are attractive to those seeking to expand their expertise and advance their careers. This flow of talent from Ireland is impactful, as it suggests that these professionals find greater prospects abroad than at home, which poses challenges and opportunities for the Irish economy.

Focusing on the top five companies—Accenture, Allergan, Shire Biopharmaceuticals, BNP Paribas, and Primark—a detailed look at where their employees move provides insights into the patterns of international career advancement. For instance, many former Accenture employees have transitioned to roles in major organizations including IBM in the United States, Deloitte in the United States, and Tata Consultancy Services in India. This movement highlights the interconnectedness of global industries and the competitive nature of retaining skilled professionals within national borders.

The implications of this 'brain drain' are multifaceted for Ireland. While the loss of skilled workers can be a challenge, it also offers the potential for 'brain circulation,' where professionals gain international experience and eventually bring back valuable skills and networks to Ireland. For policymakers and business leaders, understanding and addressing the factors driving this outbound movement is crucial. Enhancing domestic opportunities, improving working conditions, and fostering a culture of innovation could help mitigate the outflow, encouraging more professionals to build their careers within Ireland.

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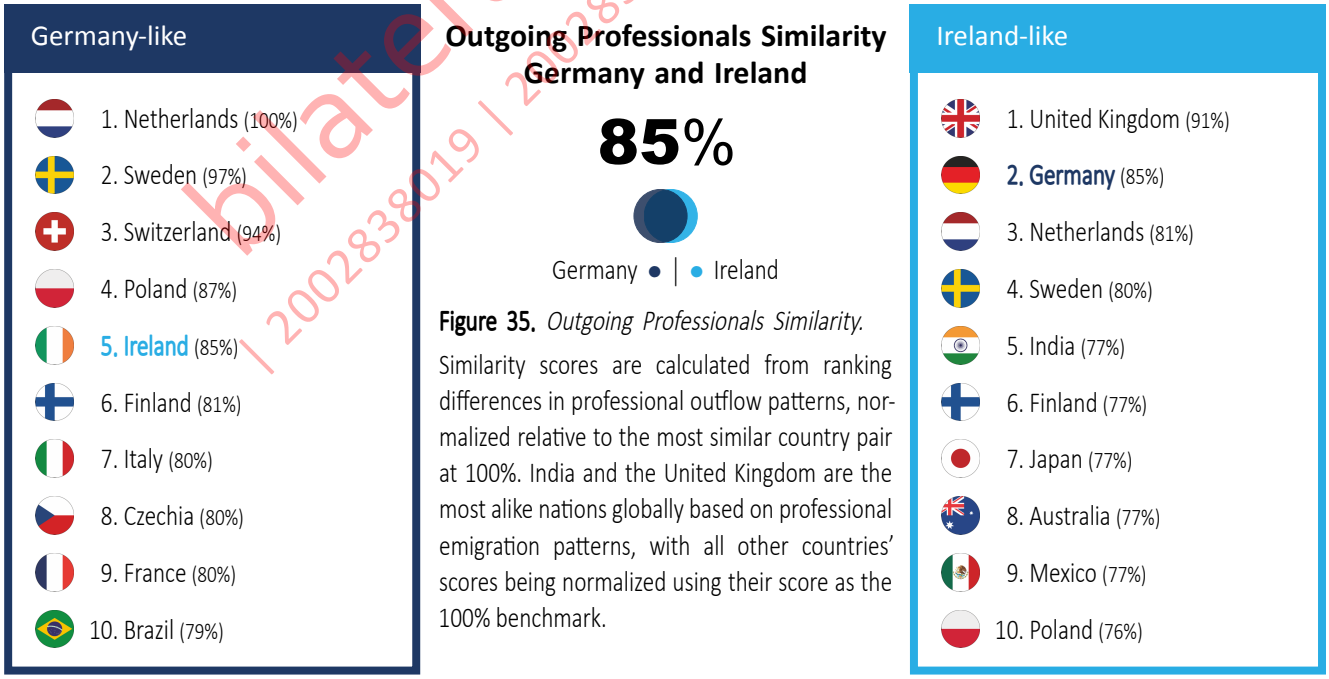


Figure 35. *Outgoing Professionals Similarity.*
Similarity scores are calculated from ranking differences in professional outflow patterns, normalized relative to the most similar country pair at 100%. India and the United Kingdom are the most alike nations globally based on professional emigration patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

Synergy Industries

This section examines the industries in Germany and Ireland that have been most successful in attracting foreign professionals over the last 30 years. This analysis utilizes a two-tier ranking system. Initially, industries are ranked based on the proportion of professionals they have attracted to Germany. These rankings are then adjusted according to their global representation, enhancing the overall industry ranking. Each table provides a detailed look at the top five industries, showcasing the previous industries of employment from abroad.

The focus here is on professionals—individuals who publish their resumes online and possess certain education or skills that enable them to find jobs in other countries relatively easily. This distinguishes them from the general workforce and highlights the specific industries that are not only appealing to local talent but also draw skilled professionals from around the world.

By analyzing the movement of professionals into these industries, we can gain a better understanding of the sectors that are driving international talent mobility. This insight is beneficial for recognizing the industries within Germany and Ireland that are competitive on a global scale and those that offer significant opportunities for skilled workers. The data reveals patterns of attraction, indicating which sectors are thriving due to their ability to draw expertise from abroad.

The detailed examination of the top five industries in each country provides a deeper look into the sources of this professional influx. By identifying the previous industries of employment for these incoming professionals, we can understand the synergies between global industries and the domestic sectors they bolster. This information is valuable for industry leaders, policymakers, and analysts who are looking to strengthen these synergies and foster environments that attract top talent from around the world.

This comparative analysis not only highlights the strengths of Germany and Ireland in attracting global talent but also underscores the interconnectedness of industries across borders. Understanding these dynamics is essential for developing strategies to enhance industry competitiveness, foster innovation, and drive economic growth. The data-driven approach of this section turns complex patterns of professional mobility into clear narratives, offering a comprehensive view of how global talent flows into specific industries and contributes to the broader economic landscape of Germany and Ireland.

Where Can Germans Compete the Most?

Germany, a powerhouse of innovation and industrial prowess, remains a magnet for global talent across a spectrum of industries, establishing profound synergies with international professionals. An analysis of 36 key sectors highlights five industries where Germany is particularly attractive to foreign expertise: Manufacturing & Industry, Healthcare & Medicine, Logistics & Transport, Business & Strategy, and IT & Software. These sectors not only draw accomplished

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individuals but also serve as a bridge for cross-border exchanges that enrich German economic dynamism. By examining the "brain gain" in these areas, it becomes evident that Germany continues to leverage its robust economic infrastructure to foster a diverse and skilled workforce.

The Manufacturing & Industry sector stands at the forefront, maintaining its appeal among professionals with backgrounds not only in manufacturing but also in IT & Software, Education & Research, Environmental & Energy, and Finance & Banking. This ability to attract a varied talent pool underscores Germany's global competitiveness and its commitment to integrating technological advancements within traditional manufacturing processes. Similarly, the Healthcare & Medicine sector draws expertise that enhances Germany's reputation for high-quality healthcare services and innovative medical research. These inflows of international professionals help sustain an ecosystem that thrives on cutting-edge solutions and cross-disciplinary collaboration.

Germany's prowess extends into Logistics & Transport, Business & Strategy, and IT & Software, each benefiting from a steady influx of skilled individuals from abroad. The logistical acumen of foreign professionals supports Germany's efficient supply chains, while strategic thinkers contribute to its global business leadership. The IT & Software sector, in particular, witnesses significant brain gain, reinforcing Germany's role as a hub for digital innovation and technological progress. This confluence of talent across these industries not only enhances Germany's economic landscape but also strengthens its position as a formidable partner in the global arena, creating a synergistic relationship that benefits both Germany and the wider world.

Ireland's Strategic Sectors

In recent years, Ireland has emerged as a magnet for global talent, particularly in key industries that are reshaping its economic landscape. Among the top sectors drawing professionals from around the world are IT & Software, Healthcare & Medicine, Environmental & Energy, Engineering & Development, and Education & Research. These industries are not only pivotal to Ireland's economic growth but also play a critical role in enhancing its global industry synergies. By analyzing the movement of skilled professionals across these sectors, Ireland demonstrates an impressive "brain gain," benefiting from the diverse experiences and expertise that these individuals bring from various international backgrounds. This influx of skilled workers is particularly evident in the fields of technology and healthcare, where Ireland continues to bolster its reputation as a leader in innovation and quality service.

The IT & Software sector stands out as the most attractive industry for foreign professionals in Ireland. Many of these professionals bring with them experience from related fields such as Finance & Banking, Man-

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Table 43. *Industries for Foreign Professionals (Top 5 Breakdown by Previous Industry of Employment in Foreign Countries)*

Company in Germany	Ind.	DE
Manufacturing & Industry	11.596%	25.9%
Healthcare & Medicine	6.183%	8.8%
Logistics & Transport	8.329%	7.4%
Business & Strategy	15.448%	0.3%
IT & Software	3.360%	12.9%
Engineering & Development	7.553%	3.2%
Finance & Banking	3.009%	7.9%
Science & Biotech	12.714%	0.1%
Retail & Consumer Goods	4.192%	5.0%
Education & Research	3.298%	5.2%
Trade & Commerce	4.926%	0.9%
Marketing & PR	3.320%	2.4%
Management & Consulting	3.933%	1.7%
Defense & Security	4.317%	1.2%
Hospitality & Service	2.986%	2.5%
Lifestyle & Wellbeing	4.862%	0.6%
Media & Journalism	3.396%	1.6%
Environmental & Energy	2.145%	2.3%
Real Estate & Construction	2.206%	1.8%
Investment & Venture	4.445%	0.1%
Arts & Design	2.880%	0.9%
Telecom & Connectivity	1.970%	1.7%
Public Sector & Governance	1.983%	0.7%
Entertainment & Media	2.288%	0.5%
Legal & Compliance	2.158%	0.6%
Cultural Institutions	2.550%	0.2%
Human Resources & Recruitment	1.632%	0.8%
Food & Agriculture	1.335%	0.8%
Services & Facilities	1.755%	0.7%
Communication & Publishing	2.476%	0.1%
Nonprofit & Philanthropy	1.428%	0.6%
Sports, Fitness & Recreation	1.768%	0.4%
Goods & Manufacturing	1.998%	0.1%
Foreign Policy & Relations	1.588%	0.2%
Natural Resources	0.968%	0.2%
Tech & Digital	1.329%	0.1%

from abroad:

1	Manufacturing & Industry	34.4%
2	IT & Software	10.7%
3	Education & Research	4.9%
4	Environmental & Energy	4.7%
5	Finance & Banking	4.7%
other industries		40.6%

from abroad:

1	Healthcare & Medicine	50.0%
2	Education & Research	7.8%
3	Manufacturing & Industry	7.8%
4	IT & Software	6.7%
5	Finance & Banking	3.7%
other industries		24.0%

from abroad:

1	Logistics & Transport	34.0%
2	Manufacturing & Industry	9.2%
3	IT & Software	8.9%
4	Finance & Banking	5.7%
5	Retail & Consumer Goods	4.9%
other industries		37.3%

from abroad:

1	Manufacturing & Industry	27.5%
2	IT & Software	10.2%
3	Finance & Banking	9.1%
4	Education & Research	6.4%
5	Retail & Consumer Goods	4.3%
other industries		42.5%

from abroad:

1	IT & Software	43.4%
2	Finance & Banking	7.0%
3	Manufacturing & Industry	6.5%
4	Education & Research	5.3%
5	Telecom & Connectivity	4.0%
other industries		33.8%

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Note: The table presents industries that attract foreign professionals within the last 30 years, through a two-tier ranking system. Initially, industries are ranked based on the proportion of professionals in Germany, labeled as 'DE'. These rankings are then adjusted based on their global representation, thus enhancing the weightage of the industry ranking, which is marked as 'Ind.' on the left side. The top 5 industries are further detailed, showcasing the previous industries of employment from abroad on the right side.

Table 44. *Industries for Foreign Professionals (Top 5 Breakdown by Previous Industry of Employment in Foreign Countries)*

Company in Ireland	Ind.	IE
IT & Software	3.853%	41.7%
Healthcare & Medicine	2.326%	9.3%
Environmental & Energy	1.460%	4.4%
Engineering & Development	1.593%	1.9%
Education & Research	1.166%	5.2%
Hospitality & Service	1.337%	3.1%
Food & Agriculture	1.503%	2.4%
Finance & Banking	0.957%	7.1%
Retail & Consumer Goods	1.086%	3.6%
Logistics & Transport	1.158%	2.9%
Human Resources & Recruitment	1.195%	1.6%
Real Estate & Construction	1.144%	2.6%
Entertainment & Media	1.194%	0.8%
Nonprofit & Philanthropy	1.104%	1.4%
Media & Journalism	1.047%	1.4%
Manufacturing & Industry	0.416%	2.6%
Telecom & Connectivity	0.666%	1.6%
Services & Facilities	0.894%	0.9%
Sports, Fitness & Recreation	1.046%	0.7%
Arts & Design	0.863%	0.7%
Marketing & PR	0.558%	1.1%
Legal & Compliance	0.877%	0.7%
Public Sector & Governance	0.718%	0.7%
Communication & Publishing	0.683%	0.1%
Cultural Institutions	0.597%	0.1%
Management & Consulting	0.493%	0.6%
Trade & Commerce	0.515%	0.3%
Tech & Digital	0.507%	0.1%
Defense & Security	0.345%	0.3%
Goods & Manufacturing	0.491%	0.1%
Investment & Venture	0.341%	<0.1%
Lifestyle & Wellbeing	0.138%	0.1%
Foreign Policy & Relations	0.140%	<0.1%
Business & Strategy	0.233%	<0.1%
Science & Biotech	0.189%	<0.1%
Natural Resources	0.060%	<0.1%

from abroad:

1	IT & Software	38.8%
2	Finance & Banking	12.4%
3	Manufacturing & Industry	5.5%
4	Education & Research	4.6%
5	Management & Consulting	4.2%
	other industries	34.5%

from abroad:

1	Healthcare & Medicine	57.7%
2	Education & Research	5.8%
3	IT & Software	5.5%
4	Manufacturing & Industry	4.9%
5	Finance & Banking	3.8%
	other industries	22.3%

from abroad:

1	Environmental & Energy	48.8%
2	Manufacturing & Industry	6.3%
3	IT & Software	6.0%
4	Finance & Banking	4.6%
5	Real Estate & Construction	4.4%
	other industries	29.9%

from abroad:

1	Manufacturing & Industry	15.2%
2	Engineering & Development	12.9%
3	Real Estate & Construction	10.0%
4	IT & Software	8.7%
5	Environmental & Energy	7.4%
	other industries	45.8%

from abroad:

1	Education & Research	25.8%
2	IT & Software	11.9%
3	Healthcare & Medicine	10.7%
4	Finance & Banking	6.6%
5	Manufacturing & Industry	6.0%
	other industries	39.0%

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Note: The table presents industries that attract foreign professionals within the last 30 years, through a two-tier ranking system. Initially, industries are ranked based on the proportion of professionals in Ireland, labeled as 'IE'. These rankings are then adjusted based on their global representation, thus enhancing the weightage of the industry ranking, which is marked as 'Ind.' on the left side. The top 5 industries are further detailed, showcasing the previous industries of employment from abroad on the right side.

ufacturing, Education & Research, and Management & Consulting, thus enriching Ireland's tech ecosystem with a multidisciplinary approach. This cross-industry skill set is crucial as it fosters innovation by integrating diverse perspectives and methodologies. As global tech giants like Google, Facebook, and Apple continue to expand their operations in Ireland, the country serves as a dynamic hub for technological development and digital transformation, providing ample opportunities for professionals seeking career growth and development in a vibrant and well-supported tech environment.

Beyond technology, Ireland is also seeing substantial inflows of talent in sectors like Environmental & Energy and Engineering & Development. This trend reflects a global shift towards sustainable practices and infrastructure improvements, areas where Ireland is positioning itself as a forward-thinking leader. Additionally, the Education & Research sector is another critical area attracting foreign professionals interested in contributing to Ireland's academic and scientific advancements. The synergy created by this "brain gain" across different industries not only strengthens Ireland's economic resilience but also enhances its capacity for innovation and international collaboration. By cultivating an environment where diverse talents can thrive, Ireland is effectively aligning its industrial strategy with global trends, ensuring sustained economic vitality and cross-border partnerships.

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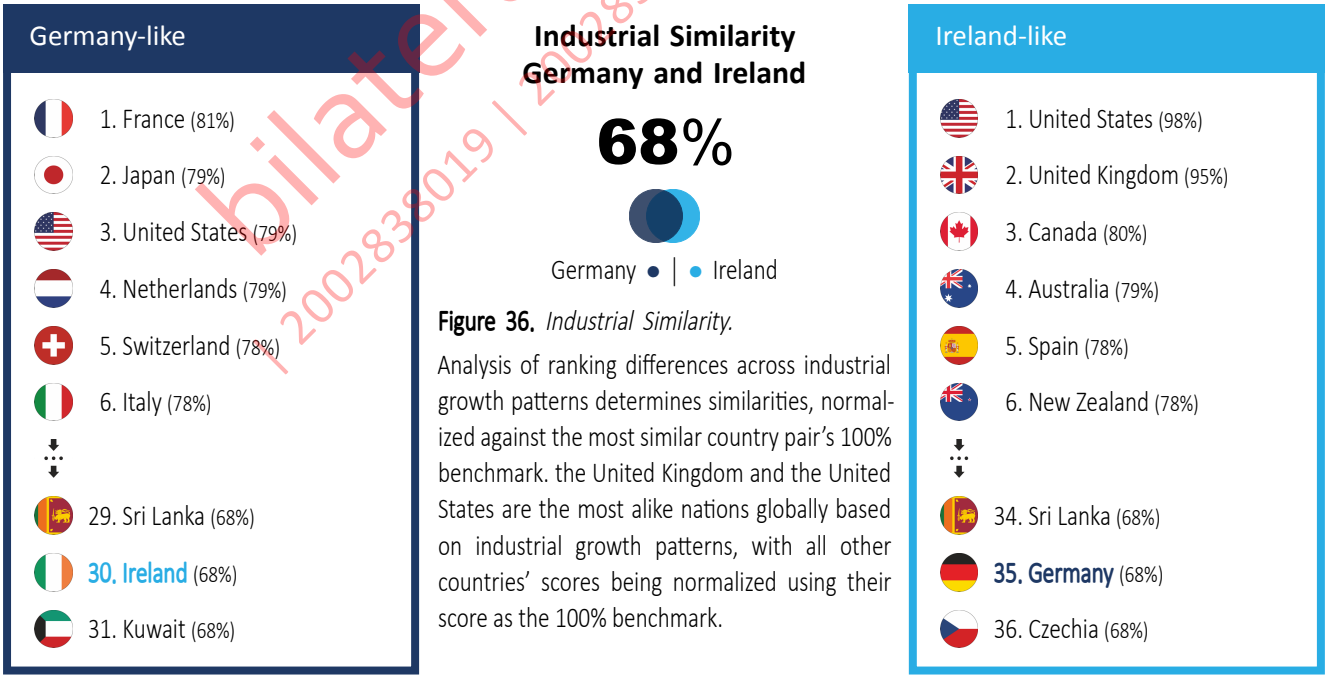


Figure 36. *Industrial Similarity.*

Analysis of ranking differences across industrial growth patterns determines similarities, normalized against the most similar country pair's 100% benchmark. the United Kingdom and the United States are the most alike nations globally based on industrial growth patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

Business Matching

Business matching is a strategic approach that can significantly boost economic growth and open up new opportunities for Germany and Ireland. This process involves identifying suitable business partners and promoting collaborations between them. The goal is to connect key companies from both countries that have the potential to grow and expand in each other's markets. By facilitating these matches, the section aims to create mutually beneficial partnerships that will contribute to the overall prosperity of both nations.

The concept of business matching leverages big data and advanced analytics to identify and pair companies that are likely to benefit from working together. Traditional methods relied heavily on personal networks and referrals, but modern approaches use comprehensive datasets to enhance the accuracy and effectiveness of the matching process. For instance, platforms developed by international trade associations analyze trade statistics, market trends, and company profiles to suggest potential partners. These platforms use machine learning algorithms to identify companies with a high probability of successful collaboration based on various factors such as business type, size, and location.

In our analysis, we have taken inspiration from successful business matching models around the world. However, we have also incorporated unique elements that consider human capital, skills, and experiences. This human-centric approach uncovers intrinsic compatibilities between companies, even when they might not be immediately apparent due to barriers such as geographical distance, language differences, or a focus on local markets and pre-existing partnerships.

To provide practical examples of potential collaborations, this section includes two appendices at the end of the report. The first appendix lists the top 250 companies from Germany with their best matches in Ireland, while the second appendix does the reverse, listing the top 250 companies from Ireland with their best matches in Germany. These lists are designed to highlight the most promising partnerships, offering detailed insights into which companies could benefit most from working together.

The matching process utilized in this study not only considers company profiles but also the broader context of their operations and strategic goals. By doing so, it aims to identify synergies that can lead to

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Table 45. *Business Matching*

Matched Companies by Industry	Germany Value	Germany Rank	Germany Trend	Gap	Ireland Trend	Ireland Rank	Ireland Value	Year	Source
Arts & Design (%, ⇓)	4.3	9				16	2.3	2023	GBDIR
Defense & Security (%, ⇓)	0.6	27				21	1.2	2023	GBDIR
Education & Research (%, ⇓)	5.6	5				4	7.0	2023	GBDIR
Engineering & Development (%, ⇓)	1.7	16				19	2.0	2023	GBDIR
Entertainment & Media (%, ⇓)	1.6	18				22	1.1	2023	GBDIR
Environmental & Energy (%, ⇓)	4.3	10				8	4.1	2023	GBDIR
Finance & Banking (%, ⇓)	5.4	7				1	10.7	2023	GBDIR
Food & Agriculture (%, ⇓)	1.3	19				13	2.6	2023	GBDIR
Healthcare & Medicine (%, ⇓)	7.5	4				5	6.7	2023	GBDIR
Hospitality & Service (%, ⇓)	5.5	6				3	8.6	2023	GBDIR
Human Resources & Recruitment (%, ⇓)	1.0	22				15	2.4	2023	GBDIR
IT & Software (%, ⇓)	13.3	1				2	10.4	2023	GBDIR
Legal & Compliance (%, ⇓)	2.0	15				12	2.7	2023	GBDIR
Logistics & Transport (%, ⇓)	7.6	3				7	5.0	2023	GBDIR
Management & Consulting (%, ⇓)	1.7	17				27	0.7	2023	GBDIR
Manufacturing & Industry (%, ⇓)	12.8	2				9	4.0	2023	GBDIR
Marketing & PR (%, ⇓)	3.0	12				17	2.3	2023	GBDIR
Media & Journalism (%, ⇓)	3.5	11				10	3.7	2023	GBDIR
Natural Resources (%, ⇓)	0.6	24				23	1.1	2023	GBDIR
Nonprofit & Philanthropy (%, ⇓)	1.3	20				14	2.5	2023	GBDIR
Public Sector & Governance (%, ⇓)	0.6	26				25	0.7	2023	GBDIR
Real Estate & Construction (%, ⇓)	4.8	8				6	6.6	2023	GBDIR
Retail & Consumer Goods (%, ⇓)	2.6	14				18	2.3	2023	GBDIR
Sports, Fitness & Recreation (%, ⇓)	0.8	23				20	2.0	2023	GBDIR
Telecom & Connectivity (%, ⇓)	2.6	13				11	3.5	2023	GBDIR
Trade & Commerce (%, ⇓)	1.2	21				26	0.7	2023	GBDIR
Matched Companies by Size									
Micro Companies (<10 people, %, ⇓)	37.0	1				1	48.3	2023	GBDIR
Small Companies (10 to 49 people, %, ⇓)	33.8	2				2	32.7	2023	GBDIR
Medium-Sized Companies (50-249 people, %, ⇓)	21.5	3				3	14.2	2023	GBDIR
Large Companies (250+ people, %, ⇓)	7.7	4				4	4.8	2023	GBDIR

Note: Global rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows. The trend bars, on the other hand, highlight the latest data by positioning it as the rightmost bar, compared to the two previous years.

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successful partnerships, mergers, or acquisitions. This approach provides a clear, data-driven narrative that simplifies the complex dynamics of international business matching, making it accessible and actionable for business leaders, policymakers, and researchers.

As technology continues to evolve, the scope of business matching will likely expand. Future editions of this analysis could include customer and supplier matching, offering even more comprehensive tools for fostering international business relationships. By presenting concrete examples of potential collaborations, this section serves as a valuable resource for anyone interested in enhancing bilateral business relations and leveraging the full potential of global economic partnerships.

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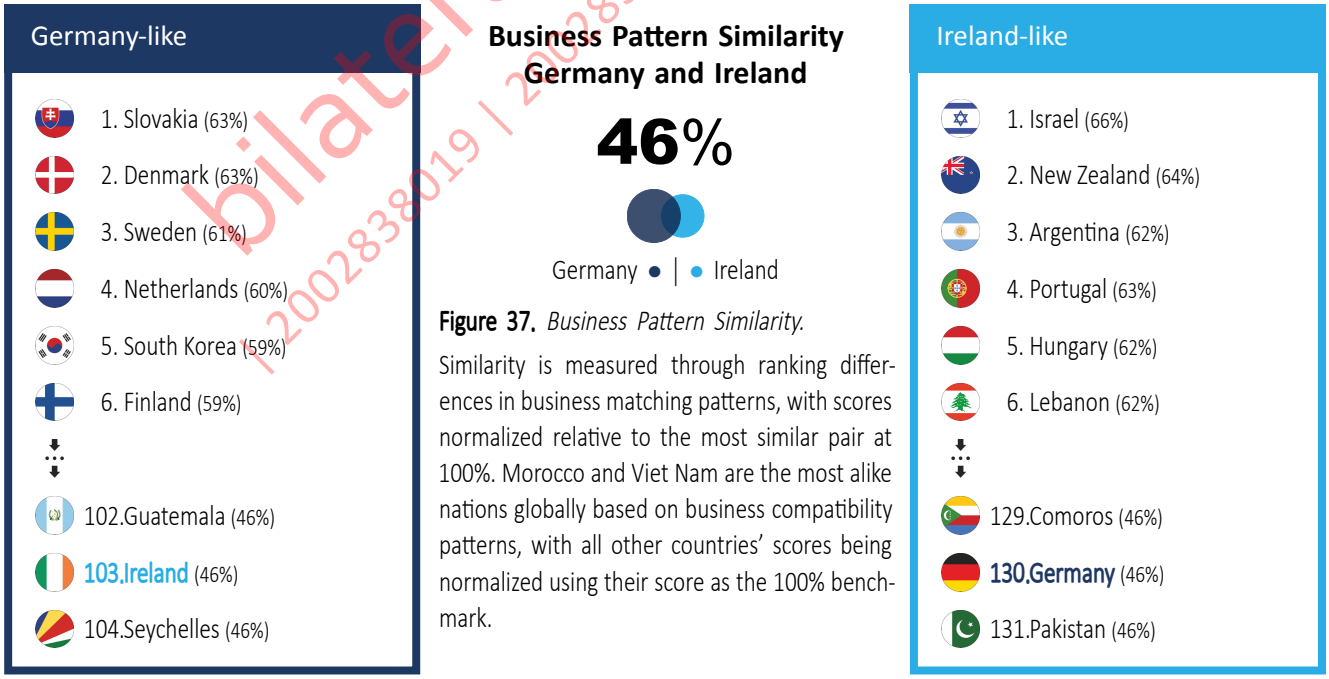


Figure 37. *Business Pattern Similarity.*

Similarity is measured through ranking differences in business matching patterns, with scores normalized relative to the most similar pair at 100%. Morocco and Viet Nam are the most alike nations globally based on business compatibility patterns, with all other countries' scores being normalized using their score as the 100% benchmark.



CHAPTER **NINE**

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Communication & Media

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Telecom & Internet 222

Electronically, Germany and Ireland exhibit a 69% similarity, still reflecting more commonalities than with many other countries. In the realm of international similarities, Germany pairs with the United Kingdom and Ireland with New Zealand, highlighting their shared attributes.

Social Media 227

Across the virtual terrain, Germany and Ireland resonate with each other, sharing a 56% likeness. Türkiye is to Germany what Singapore is to Ireland: a mirror reflecting their similar identities.

Media Coverage 231

With media insight, Germany and Ireland reflect a 70% similarity, transcending global averages, delineating this as their supreme matching point in the chapter. For Germany, Austria stands out as its prime analog, just as the Netherlands does for Ireland.

Public Figures 239

Amid the prominent spectrum, Germany and Ireland maintain a 66% similarity, exceeding widespread expectations. In a global comparison, Germany's best match is found in Poland, just as Ireland's is in the United Kingdom.

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Telecom & Internet

The "Telecom & Internet" section examines key indicators shaping the telecommunications landscape in Germany and Ireland. These metrics offer insights into infrastructure, usage, and performance, highlighting each country's technological advancement and connectivity. Comparing these metrics reveals unique attributes of each telecom sector.

We focus on Internet speed for both fixed broadband and mobile, using median download speeds to assess service quality. The fastest cities for both fixed and mobile internet are highlighted using data from the Speedtest Global Index by Ookla.

Additionally, data from the ITU World Telecommunication/ICT Indicators Database covers the percentage of individuals using the Internet, fixed broadband subscriptions per 100 people, fixed telephone lines per 100 people, and mobile cellular subscriptions per 100 people. These indicators reveal telecommunication service penetration and adoption. High internet user percentages indicate widespread access, while fixed and mobile subscriptions per capita reflect connectivity levels.

Analyzing these indicators provides a detailed picture of the telecom environment in Germany and Ireland. The proportion of internet users shows digital inclusion levels. Fixed broadband subscriptions indicate high-speed internet availability. Fixed telephone lines reveal the role of legacy infrastructure, while mobile cellular subscriptions highlight mobile technology's prevalence.

This analysis identifies strengths and weaknesses in each country's telecom infrastructure and services, showcasing their technological capabilities and highlighting areas for improvement and investment. Understanding these dynamics is crucial for policymakers, industry leaders, and researchers working to enhance connectivity and technological advancement.

This data-driven approach transforms complex telecom statistics into clear, actionable insights, providing a comprehensive understanding of how Germany and Ireland are positioned in the global telecommunications landscape, offering valuable information for strategic planning and development in the digital age.

German Digital Space

Germany stands as a formidable participant in the digital landscape, seamlessly merging its renowned technological prowess with a robust digital infrastructure. With the vast majority of its citizens connected to the internet, Germany's connectivity levels highlight both an inclusive digital society and the capacity to support advanced digital services. The country's dense configuration of broadband subscriptions evidences the integrated nature of digital access, supporting a societal framework where high-speed internet is a norm rather than a luxury. While fixed-line telephony retains a notable presence, reflecting its historical significance and enduring utility, the balance between traditional and emerging technology showcases Germany's strategic approach to telecommunications.

In the realm of mobile telecommunications, the data tells a story of an expansive network characterized by widespread, albeit slightly tapered, mobile subscriptions. This dynamic reflects the changing landscape of global digital communications, where Germans' preference for connectivity remains strong despite evolving trends. The mobile broadband speeds, although moderate in global comparison, are indicative of a high-performing network that supports a sophisticated mobile economy. This ensures that the digital engagement among Germans is not confined to fixed

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Deutsche Telekom Headquarters in Bonn, Germany

The headquarters of Deutsche Telekom AG stands prominently in North Rhine-Westphalia. This global telecommunications leader drives advancements in digital connectivity and communication technologies. The building symbolizes Germany's role in shaping the future of telecom and internet infrastructure.

endpoints but encompasses mobile interfaces that shape everyday life.

The varied internet speeds across the nation, with Berlin standing out as a digital hub, underscore the city's role as a technology prowess and innovation center. Not only do these speeds enable advanced applications and services that feed into Germany's digital economy, but they also fortify its position as a critical player in international digital communication and trade networks. Berlin, as the country's fastest city, mirrors the broader national strategy: leveraging speed and connectivity to enhance digital interactions on both a domestic and global scale. Yet, the variability in internet speeds across the country suggests ongoing opportunities for investment and enhancement in digital equity.

Germany's digital framework significantly impacts its international relations, acting both as a conduit for cross-border e-commerce and as a model for telecom sustainability. The nation's connectivity infrastructure facilitates the seamless exchange of information and trade within Europe and beyond, positioning Germany as a core pillar in the European Union's digital market and a reliable partner in the global digital community. This infrastructure's role in brokering international digital communications nurtures not only economic partnerships but robust diplomatic channels, driving collaboration on various fronts, from cybersecurity to technological innovation.

Construing Germany's digital identity through its comprehensive telecom capabilities reveals a nation poised to strengthen its influence within intricate in-

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ternational systems. The country's focus on maintaining and enhancing these capabilities while addressing disparities and adapting to technological shifts speaks to its dedication to remaining at the forefront of global digital integration. Through strategic development and a commitment to digital advancement, Germany continues to mold its role on the world stage, entwining its national narrative with the future of global connectivity.

What Links Irish?

In recent years, Ireland has established itself as a bastion of digital connectivity and infrastructure prowess, demonstrating a remarkable commitment to embracing the digital economy. The country exhibits a commendable level of internet penetration, with a substantial majority of its population being digital natives. This ubiquitous connectivity characterizes Ireland as a digital frontrunner in Europe, nurturing an environment conducive to innovation and knowledge exchange. The uptick in individuals utilizing the internet reflects a growing digital sophistication, fostering advances in e-commerce and broadening avenues for international communications.

Broadband infrastructure in Ireland is robust, providing extensive fixed and mobile network coverage across its urban and rural landscapes. The fixed broadband subscription rates, albeit moderate globally, ensure a solid foundation for domestic digital activity and international business operations. Dublin, as the technological heart of the nation, hosts the fastest broadband speeds, both fixed and mobile. This turbocharged digital backbone bolsters Ireland's capability to host some of the world's largest tech firms, escalating its stature in the global telecommunications arena. Yet, the evolution of mobile and broadband speeds over the years suggests a dynamic landscape, poised to refine and enhance further.

The mobile cellular sector presents another compelling chapter in Ireland's digital narrative. With mobile subscriptions exceeding the population, the widespread use of mobile technology stands as a testament to the Irish embrace of digital mobility. Underpinning this is a sophisticated mobile network that seamlessly connects users, reinforcing the country's commitment to modern communication technologies. Despite a moderate global ranking, the increasing trends in mobile subscription rates hint at an underlying potential for Ireland to elevate its digital capabilities, making strides in mobile coverage and access.

Ireland's digital infrastructure underpins a broader economic and strategic significance that extends beyond its borders. It facilitates robust international dialogue, laying the groundwork for global digital integration. With its digital growth trajectory, Ireland is well-positioned to play a pivotal role in the EU's digital vision and efforts to foster harmonious bilateral relations across continents. The country's telecommunication landscape, refined and responsive, acts as a linchpin of strategic importance, enabling cross-cultural digital cooperation and technological advancement that amplify Ireland's global influence.

The symbiosis of digital infrastructure and connectivity in Ireland not only shapes its domestic environment but also casts a wider net of influence. As Ireland continues to build upon its digital capabilities, the potential for fostering strong international relations grows exponentially. By cultivating an understanding of the central role of telecommunications, stakeholders can glimpse into Ireland's dynamic digital identity, a critical part of the modern, interconnected world narrative that heralds innovation and opportunity.

German & Irish Digital Dialogue

When comparing Germany and Ireland within the scope of telecom & internet, we observe a range of commonalities. Among the various indicators analyzed for both nations, the closest alignment is seen in broadband speed, fastest fixed, and internet use.

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Table 46. *Telecom & Internet Use Indicators.*

	Germany				Ireland				
Telecommunication	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Individuals using the Internet (% of population, ⇓)	92.5	35				20	95.6	23/22	ITU
Broadband - fixed subscriptions (per 100 people, ⇓)	45.4	9				44	31.8	2023	ITU
Telephones - fixed lines (per 100 people, ⇓)	45.9	9				43	22.6	2023	ITU
Mobile cellular subscriptions (per 100 people, ⇓)	125.2	64				96	113.3	2022	ITU
Mobile cellular subscriptions (⇓)	105 M	18				121	5.8 M	2023	ITU
Internet Speed									
Fixed broadband, download, median (Mbps, ⇓)	83.44	49				46	86.93	2023	OKLA
Mobile, download, median (Mbps, ⇓)	55.92	36				57	38.07	2023	OKLA
Fastest city, fixed (Mbps, ⇓): **Berlin | Dublin**	92.78	45				36	95.59	2023	OKLA
Fastest city, mobile (Mbps, ⇓): **Berlin | Dublin**	66.00	31				44	49.37	2023	OKLA

Note: Global rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows. The trend bars, on the other hand, highlight the latest data by positioning it as the rightmost bar, compared to the two previous years.

Conversely, the most significant divergences appear in mobile count, fixed broadband, and mobile share.

The telecom correlation between Germany and Ireland is marked at 70%, surpassing a significant portion of the global scene. The most Germany-like country is the United Kingdom share a striking resemblance, as for Ireland is Austria. As illustrated in the final chart of this section, Ireland ranks twenty-third in Germany's standings, while Germany holds fifteenth position in Ireland's rankings.

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Germany-like

1. United Kingdom (100%)
2. Italy (83%)
3. Spain (80%)
4. South Korea (79%)
5. France (79%)
6. Portugal (77%)

⋮

24. Romania (70%)
25. Ireland (69%)
26. Israel (69%)

Telecom Similarity
Germany and Ireland

69%

Germany ● | ● Ireland

Figure 38. *Telecom Similarity.*

Through ranking differences across 9 telecommunication indicators, similarities are normalized against the most similar country pair's 100% benchmark. Germany and the United Kingdom are the most alike nations globally based on telecommunications indicators, with all other countries' scores being normalized using their score as the 100% benchmark.

Ireland-like

1. New Zealand (78%)
2. Austria (76%)
3. Hungary (76%)
4. Serbia (75%)
5. Belgium (75%)
6. Latvia (74%)

⋮

16. Malaysia (70%)
17. Germany (69%)
18. Finland (69%)

Social Media

This section delves into the digital engagement in Germany and Ireland, focusing on various metrics that detail social media usage and influence. By examining these indicators, we gain insights into the digital behaviors, preferences, and trends shaping the social media landscapes of both countries.

Key indicators include metrics related to social media influencers, analyzing the top 100 influencers in each country. We assess the average number of followers and likes these influencers receive, providing a glimpse into their reach and engagement levels. This data, sourced from StarNgage, highlights influencers' roles in driving conversations and setting trends within their digital communities.

Additionally, we explore the penetration of social media platforms among the population, examining platforms such as Facebook, Twitter, LinkedIn, YouTube, Instagram, Snapchat, and TikTok in terms of estimated user percentages. Data from DataRePortal by Kepios offers a comprehensive view of social media adoption, revealing how integral these platforms are to daily life and communication in each country.

Beyond overall platform usage, the section delves into the content categories that attract the most likes from users, including interests like Animals & Pets, Arts & Humanities, Business & Finance, Fashion & Beauty, Health & Wellness, Technology & Computers, and more. This analysis, also sourced from StarNgage, provides nuanced insights into the interests resonating most with users, highlighting each country's cultural and social priorities.

These indicators are crucial for understanding the digital engagement patterns and unique characteristics of social media usage in Germany and Ireland. They reveal the extent of digital connectivity, the influence of social media figures, and the specific interests capturing user attention. This information is invaluable for businesses, marketers, and policymakers aiming to engage effectively with these digital communities.

For instance, businesses can tailor their marketing strategies to align with dominant interests and platform preferences, ensuring their messages reach the right audience. Policymakers can use this data to understand the digital landscape better and implement policies supporting positive digital engagement and addressing issues like misinformation or digital addiction.

This section provides a comprehensive overview of the social media environments in Germany and Ireland. By examining detailed metrics on influencer impact, platform usage, and user interests, we can appreciate the unique digital footprints of these countries and the implications for broader cultural and social dynamics. This analysis is a vital resource for understanding the complexities and opportunities within the world of social media in these two nations.

What Do Germans Share Online?

In Germany, the digital realm presents a varied tapestry of social media engagement that both reflects and shapes its societal identity. The nation's online interactions paint a vivid picture of digital consumption, anchored by its robust presence on platforms like Instagram and TikTok. With an impressive percentage of its population active on Instagram, Germany stands firmly in the middle range globally, showing a preference for visually driven content and dynamic interactions that characterize these platforms. This visual culture seems fitting in a country celebrated for its arts, fashion, and design, even if its engagement

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Table 47. *Social Media Statistics.*

Social Media	Germany Value	Germany Rank	Germany Trend	Gap	Ireland Trend	Ireland Rank	Ireland Value	Year	Source
Facebook users est. (% pop., ⇓)	29.4	117				60	49.7	2023	DRPT
Twitter users est. (% pop., ⇓)	16.9	42				13	33.8	2023	DRPT
LinkdIn users est. (% pop., ⇓)	18.0	74				12	53.6	2023	DRPT
YouTube users est. (% pop., ⇓)	100.1	165				156	100.5	2023	DRPT
Instagram users est. (% pop., ⇓)	32.9	65				22	45.7	2023	DRPT
TikTok users est. (% pop., ⇓)	24.8	51				20	41.7	2023	DRPT
Inluencers on Social Media (Country's Top 100)									
Average number of followers (⇓)	4.5 M	23				81	474,411	2023	STAR
Average number of likes (⇓)	113,578	17				54	18,737	2023	STAR
Users' Likes on Social Media, by Category									
Animals & Pets (%, ⇓)						114	0.2	2023	STAR
Arts & Humanities (%, ⇓)	2.7	137				20	13.7	2023	STAR
Business & Finance (%, ⇓)	0.7	165				69	4.8	2023	STAR
Design & Crafts (%, ⇓)	0.1	163				12	7.5	2023	STAR
Education & Learning (%, ⇓)	1.7	73				79	1.5	2023	STAR
Fashion & Beauty (%, ⇓)	10.5	75				166	2.2	2023	STAR
Food & Drink (%, ⇓)	0.5	93				62	1.0	2023	STAR
Health & Wellness (%, ⇓)	3.2	18				107	0.1	2023	STAR
Home & Garden (%, ⇓)						33	0.8	2023	STAR
Literature & Writing (%, ⇓)	0.4	64				68	0.4	2023	STAR
Media & Entertainment (%, ⇓)	17.5	105				140	13.3	2023	STAR
Music (%, ⇓)	10.7	73				131	5.3	2023	STAR
Parenting & Family (%, ⇓)						7	13.3	2023	STAR
Performing Arts (%, ⇓)	5.6	121				47	16.9	2023	STAR
Personal Care & Services (%, ⇓)	18.0	18				57	13.5	2023	STAR
Society & Community (%, ⇓)	2.1	46				145	0.1	2023	STAR
Sports & Fitness (%, ⇓)	21.2	12				102	3.3	2023	STAR
Technology & Computers (%, ⇓)	2.6	24				108	0.0	2023	STAR
Travel & Outdoors (%, ⇓)	0.3	155				87	1.9	2023	STAR
Vehicles & Transport (%, ⇓)	2.3	21				88	0.2	2023	STAR

Note: Global rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows. The trend bars, on the other hand, highlight the latest data by positioning it as the rightmost bar, compared to the two previous years.

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levels in these categories remain a bit subdued on a global scale.

However, Germany's social media footprint exhibits remarkable depth when observed through the lens of video content consumption. The almost universal use of YouTube indicates a strong preference for video engagement, making it a crucial platform for both personal and professional communication across the nation. This trend aligns with a global shift towards dynamic media consumption and positions Germany as a keen consumer and producer of video content. It's a strategic advantage that enhances its international visibility and extends its cultural influence beyond its

borders through a rich array of creative and educational offerings.

German digital society also demonstrates a diverse array of interests that balance cosmopolitan and niche pursuits. Sports and fitness hold a prominent place in the nation's online discussions, showcasing an area of vibrant activity that rivals many global counterparts. Similarly, the nation's engagement with personal care and wellness content highlights a cultural inclination towards health and personal development, areas where German influence intersects healthfully with global trends. Despite this, topics such as travel, design, and business receive relatively less attention, suggesting areas where digital discourse may evolve as global connectivity and mobility increase.

On the international stage, Germany's social media prowess is notable for its capacity to effectuate wide digital reach and engagement. The average number of followers and interactions per post suggests a deep well of influence that key German figures or organizations can tap into effectively. This latent potential is crucial in diplomatic dialogues, cultural exchanges, and economic strategies. Germany leverages its substantial social media presence to cultivate global relationships, reinforcing its significance in international affairs while simultaneously reflecting its cultural nuances and societal values.

Ultimately, Germany's dynamic social media landscape is a microcosm of its broader cultural and digital identity. While certain areas reflect substantial engagement, others indicate opportunities for future expansion. The nation's strategic adaptation to the burgeoning digital conversation will no doubt continue to influence its bilateral relationships, fostering an expansive dialogue that transcends borders. As social media continues to evolve, Germany stands poised to harness its platform diversity to carve out an influential niche in the global interconnected tapestry.

Irish Online

Ireland's social media landscape paints a portrait of a digitally-savvy nation keenly engaged in global conversations yet distinctly flavored with its own cultural identity. The country's social media habits reveal a robust use of LinkedIn and Twitter, suggesting a population that values professional networking and real-time global interactions. This is particularly telling of Ireland's positioning within international tech and business spheres, where leveraging these platforms aids in its strategic alignment with global markets. Despite being a relatively small nation, the high penetration of these particular platforms amplifies its voice in business and politics, illustrating a strategic prowess in digital communications.

Unequivocal in its embrace of YouTube, Ireland positions itself as a significant hub of digital content consumers. Such high engagement suggests a populace deeply embedded in the visual and auditory storytelling that YouTube offers. This propensity not only makes Ireland an attractive market for digital advertisers but also underlines the nation's potential to influence trends and narratives on a global scale. Coupled with its vibrant user base on Instagram and TikTok, the country's presence on these visually dynamic platforms marks Ireland as an emerging player in the realm of digital culture and lifestyle, transcending traditional borders.

In terms of content interests, Ireland exhibits a distinct affinity for the arts, humanities, and performing arts, all indicative of a society grounded in cultural preservation and expression. This fascination with creativity reflects a national identity that is both deeply traditional and progressive, enhancing Ireland's soft power on the international stage. Platforms that cater to arts and creativity, and the country's high enthusiasm for literature and writing, underpin a narrative where digital media is seen not just as a conduit for com-

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munication, but as a canvas for cultural dialogue and exchange.

Paradoxically, categories such as media entertainment and sports do not stand as prominently in Ireland's digital narrative, possibly reflecting a nuanced consumption pattern less reliant on stereotypical mass media trends. Interestingly, this points to a country where personal expression and community-centric content hold greater allure than mainstream media narratives. Furthermore, the unexpectedly high interest in parenting and family highlights Ireland's value on community and familial bonds, aspects that often translate into tangible global interactions as digital societies become more interconnected.

The vibrancy of Ireland's social media scene thus mirrors its modern identity—a nation keenly aware of its cultural heritage yet dynamically engaged in current global trends. Through its social networks, Ireland not only interacts with the world but also crafts a unique digital signature that advances its strategic imperatives. This dexterous use of digital platforms enhances its international visibility, fostering connections that are both deep-seated in tradition and forward-looking in their outreach. In comprehending how Ireland leverages its social media presence, one gains insight into the dense web of interactions that define its place in the global community and shape its bilateral engagements.

Social Networks Sharing Matched

In the context of social media, a comparison between Germany and Ireland reveals certain areas of similarity. Of the indicators shared by both nations, they are most aligned in book content, education content, and YouTube users, while their greatest differences are evident in home content, family content, and pet content.

At the juncture of virtual traits, Germany and Ireland demonstrate a shared similarity of 56%. For Germany, its kindred spirit lies in Türkiye, whereas Ireland's is intertwined with Singapore. As the final chart in this section shows, Ireland holds seventy-seventh position in Germany's ranking, and Germany ranks hundredth on Ireland's list.

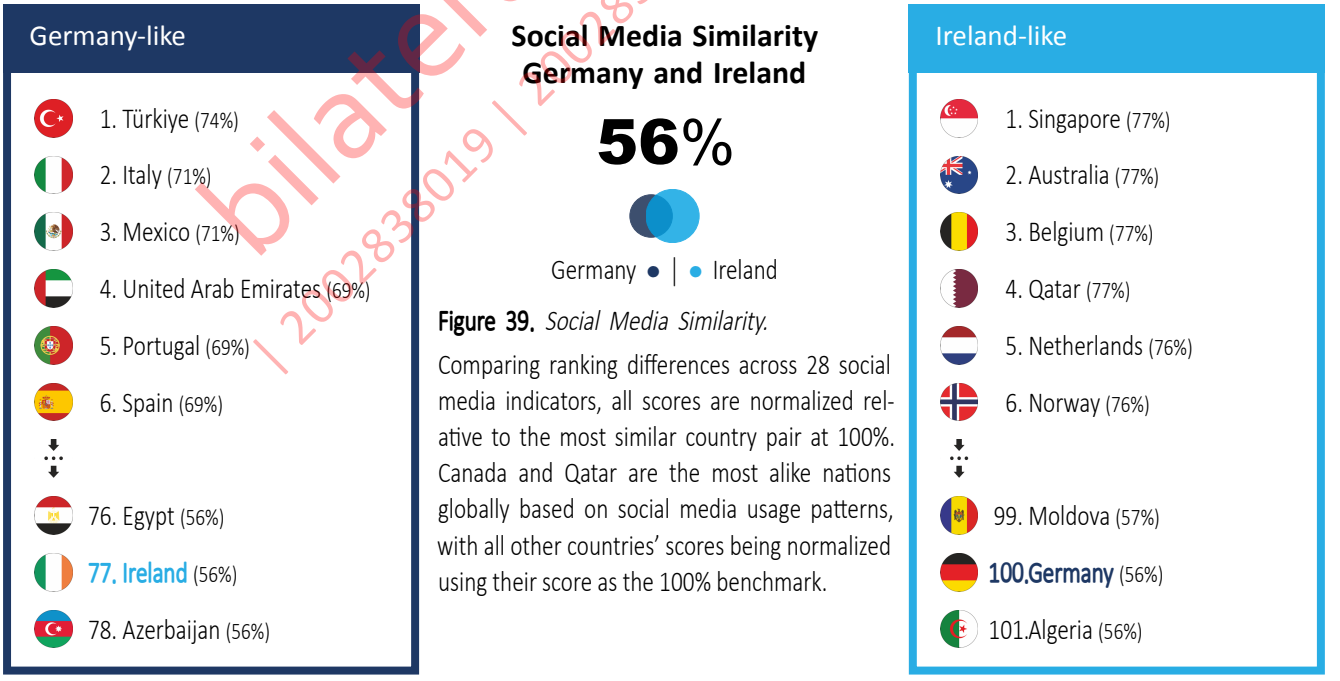


Figure 39. *Social Media Similarity.*

Comparing ranking differences across 28 social media indicators, all scores are normalized relative to the most similar country pair at 100%. Canada and Qatar are the most alike nations globally based on social media usage patterns, with all other countries' scores being normalized using their score as the 100% benchmark.

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Media Coverage

Let's see how Germany and Ireland are portrayed in each other's media outlets as well as their representation in foreign media. This analysis uses data from the Global Database of Events, Language, and Tone (GDELT Project) to map out the international media landscape and highlight the narratives and visibility of both countries in the global arena.

Media, often referred to as the fourth estate, plays a crucial role in shaping public perception and diplomatic relations. By examining media coverage, we can gain insights into the prevailing narratives, biases, and focal points that define international relations and public awareness. This section begins with an analysis of the top 20 foreign countries most frequently covered by media outlets in Germany and Ireland. The comparison includes countries that, while not in the top 20 for one nation, appear in the top 20 for the other, providing a broader understanding of each country's media focus and interests.

The second part of the analysis focuses on how Germany and Ireland are featured in foreign media. This table lists the top 20 countries whose media outlets most frequently cover Germany and Ireland, respectively. Similar to the first table, it includes countries that appear prominently in one but not the other, offering a comparative perspective on global media attention. This part of the analysis is particularly revealing, as it shows the global footprint and influence of each country, reflecting their international prominence and the interest they generate abroad.

The additional tables, where sufficient information is available, provide more detailed insights into the media interplay between Germany and Ireland. Specifically, they highlight how Germany is covered in the media of Ireland and vice versa. This closer look at bilateral media coverage sheds light on the unique narratives and focal points that each country emphasizes about the other, offering a deeper understanding of the cultural, political, and social ties between them.

These media coverage indicators are crucial for several reasons. They not only reveal how countries perceive and prioritize each other in their media but also provide a window into the broader international context. For instance, extensive coverage of a country in foreign media can indicate significant diplomatic, cultural, or economic influence. Conversely, limited coverage might suggest lesser importance or awareness. Understanding these dynamics helps policymakers, diplomats, and business leaders navigate international relations and media strategies more effectively.

Overall, this section uses comprehensive data to turn abstract media coverage patterns into actionable insights. By comparing the media landscapes of Germany and Ireland, it offers a detailed picture of how these countries are viewed domestically and inter-

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Table 48. *Coverage of Foreign Countries by German and Irish Media.*

Media Coverage of Foreign Countries	Germany Value	Germany Rank	Germany Trend	Gap	Ireland Trend	Ireland Rank	Ireland Value	Year	Source
Media coverage of foreign countries (% of total news, ⇓)	72.3	22				131	45.3	2023	GDELT
Mutual coverage (% of foreign news, ⇓): **DE about IE | IE about DE**	23,613	44				6	46,937	2023	GDELT
about Afghanistan (% of foreign news, ⇓): **1.6% | 0.6%**	75,843	17				26	9,659	2023	GDELT
about Australia (% of foreign news, ⇓): **0.8% | 2.2%**	36,863	30				8	34,513	2023	GDELT
about Austria (% of foreign news, ⇓): **1.8% | 0.4%**	85,311	14				35	6,717	2023	GDELT
about Belgium (% of foreign news, ⇓): **2.2% | 1.9%**	108,196	11				11	28,782	2023	GDELT
about Brazil (% of foreign news, ⇓): **1.0% | 0.7%**	49,898	23				23	11,016	2023	GDELT
about Canada (% of foreign news, ⇓): **1.8% | 1.2%**	87,143	13				15	19,205	2023	GDELT
about China (% of foreign news, ⇓): **3.4% | 2.3%**	165,854	8				7	35,651	2023	GDELT
about Egypt (% of foreign news, ⇓): **0.8% | 0.6%**	39,610	27				28	9,271	2023	GDELT
about France (% of foreign news, ⇓): **4.4% | 4.4%**	212,243	5				3	68,555	2023	GDELT
about Greece (% of foreign news, ⇓): **1.7% | 1.1%**	80,919	15				16	17,080	2023	GDELT
about Hungary (% of foreign news, ⇓): **0.8% | 0.4%**	39,957	26				39	5,592	2023	GDELT
about India (% of foreign news, ⇓): **0.8% | 0.6%**	38,308	28				25	9,721	2023	GDELT
about Iran (% of foreign news, ⇓): **2.3% | 0.8%**	110,157	10				20	13,083	2023	GDELT
about Iraq (% of foreign news, ⇓): **1.2% | 0.6%**	59,977	21				27	9,608	2023	GDELT
about Israel (% of foreign news, ⇓): **2.6% | 1.3%**	127,720	9				14	20,177	2023	GDELT
about Italy (% of foreign news, ⇓): **2.2% | 2.0%**	105,127	12				10	30,965	2023	GDELT
about Japan (% of foreign news, ⇓): **1.0% | 0.8%**	48,385	24				22	11,682	2023	GDELT
about Mexico (% of foreign news, ⇓): **0.9% | 0.5%**	41,326	25				33	7,832	2023	GDELT
about Netherlands (% of foreign news, ⇓): **1.1% | 1.0%**	51,165	22				17	15,648	2023	GDELT
about Pakistan (% of foreign news, ⇓): **0.7% | 0.4%**	34,338	32				40	5,415	2023	GDELT
about Poland (% of foreign news, ⇓): **1.6% | 1.0%**	77,779	16				18	14,968	2023	GDELT
about Russia (% of foreign news, ⇓): **7.5% | 3.5%**	363,577	2				4	54,144	2023	GDELT
about Saudi Arabia (% of foreign news, ⇓): **0.7% | 0.5%**	34,500	31				32	8,466	2023	GDELT
about South Africa (% of foreign news, ⇓): **0.5% | 0.8%**	23,846	41				21	12,573	2023	GDELT
about Spain (% of foreign news, ⇓): **1.4% | 2.2%**	69,798	18				9	33,697	2023	GDELT
about Sweden (% of foreign news, ⇓): **0.8% | 0.6%**	37,584	29				24	9,839	2023	GDELT
about Switzerland (% of foreign news, ⇓): **1.3% | 0.6%**	65,168	19				31	8,675	2023	GDELT
about Syria (% of foreign news, ⇓): **3.5% | 1.6%**	170,762	7				12	25,344	2023	GDELT
about Türkiye (% of foreign news, ⇓): **5.5% | 1.4%**	266,060	3				13	21,187	2023	GDELT
about Ukraine (% of foreign news, ⇓): **4.4% | 2.8%**	213,901	4				6	43,427	2023	GDELT
about United Kingdom (% of foreign news, ⇓): **4.3% | 26.2%**	207,466	6				1	404,317	2023	GDELT
about United States (% of foreign news, ⇓): **10.2% | 16.2%**	492,518	1				2	249,731	2023	GDELT

Note: This table presents the top 30 foreign countries that are most frequently covered by German and/or Irish media outlets. For comparison, the table includes countries that are not in the top 20 for the country being observed but appear in the top 20 for the other country. Rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows.

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Table 49. *Coverage of Germany and Ireland in Foreign Media.*

Coverage in Foreign Media	Germany Value	Germany Rank	Germany Trend	Gap	Ireland Trend	Ireland Rank	Ireland Value	Year	Source
Total media coverage abroad (% of global foreign news, ⇓)	1,651	14				46	0.528	2023	GDELT
in Argentina (% of foreign news, ⇓): **1.6% | 0.6%**	78,037	26				19	9,973	2023	GDELT
in Australia (% of foreign news, ⇓): **1.7% | 2.0%**	83,685	25				6	30,085	2023	GDELT
in Bosnia and Herzegovina (% of foreign news, ⇓): **0.4% | 1.6%**	18,989	66				10	25,264	2023	GDELT
in Brazil (% of foreign news, ⇓): **2.1% | 0.6%**	99,552	20				23	8,678	2023	GDELT
in Bulgaria (% of foreign news, ⇓): **2.9% | 0.6%**	140,645	14				21	9,592	2023	GDELT
in Canada (% of foreign news, ⇓): **2.0% | 1.8%**	99,194	21				9	27,441	2023	GDELT
in China (% of foreign news, ⇓): **2.2% | 0.8%**	106,552	17				14	12,734	2023	GDELT
in Croatia (% of foreign news, ⇓): **0.9% | 0.4%**	43,133	39				31	6,595	2023	GDELT
in Czechia (% of foreign news, ⇓): **2.2% | 0.3%**	107,647	16				36	5,324	2023	GDELT
in Egypt (% of foreign news, ⇓): **3.2% | 0.5%**	154,971	12				25	7,193	2023	GDELT
in France (% of foreign news, ⇓): **4.7% | 2.1%**	227,318	7				4	32,167	2023	GDELT
in Greece (% of foreign news, ⇓): **5.8% | 1.3%**	278,480	5				12	19,795	2023	GDELT
in Hungary (% of foreign news, ⇓): **1.0% | 0.4%**	49,824	33				29	6,855	2023	GDELT
in India (% of foreign news, ⇓): **3.5% | 2.0%**	169,883	11				5	31,059	2023	GDELT
in Indonesia (% of foreign news, ⇓): **1.2% | 0.3%**	59,103	29				40	4,616	2023	GDELT
in Israel (% of foreign news, ⇓): **3.9% | 0.8%**	186,584	10				15	12,121	2023	GDELT
in Italy (% of foreign news, ⇓): **4.1% | 1.8%**	200,587	9				8	28,035	2023	GDELT
in Mexico (% of foreign news, ⇓): **2.1% | 0.8%**	100,579	19				16	11,933	2023	GDELT
in New Zealand (% of foreign news, ⇓): **0.5% | 0.6%**	22,155	61				20	9,663	2023	GDELT
in Nigeria (% of foreign news, ⇓): **1.2% | 0.6%**	56,602	30				22	8,779	2023	GDELT
in Pakistan (% of foreign news, ⇓): **1.1% | 0.4%**	51,740	31				33	6,500	2023	GDELT
in Poland (% of foreign news, ⇓): **2.7% | 0.5%**	132,600	15				24	7,401	2023	GDELT
in Romania (% of foreign news, ⇓): **4.5% | 1.0%**	218,446	8				13	15,327	2023	GDELT
in Russia (% of foreign news, ⇓): **13.6% | 1.8%**	658,655	3				7	28,368	2023	GDELT
in Serbia (% of foreign news, ⇓): **1.9% | 0.7%**	90,356	23				17	10,596	2023	GDELT
in South Africa (% of foreign news, ⇓): **0.9% | 0.5%**	41,491	41				26	6,984	2023	GDELT
in Spain (% of foreign news, ⇓): **5.7% | 3.0%**	277,110	6				3	46,247	2023	GDELT
in Switzerland (% of foreign news, ⇓): **2.1% | 0.4%**	102,980	18				30	6,600	2023	GDELT
in Türkiye (% of foreign news, ⇓): **3.0% | 0.3%**	144,135	13				37	4,865	2023	GDELT
in Ukraine (% of foreign news, ⇓): **7.0% | 0.7%**	340,486	4				18	10,478	2023	GDELT
in United Kingdom (% of foreign news, ⇓): **4.3% | 16.6%**	830,752	2				1	1.0 M	2023	GDELT
in United States (% of foreign news, ⇓): **42.9% | 35.7%**	2.1 M	0				2	550,122	2023	GDELT

Note: This table presents the top 20 countries whose media outlets most frequently feature Germany and/or Ireland. For comparison, the table includes countries that are not in the top 20 for the country being observed but appear in the top 20 for the other country. Rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows.

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nationally, highlighting the strengths and areas for improvement in their global image. This analysis is a valuable tool for anyone interested in international media relations, providing a nuanced understanding of the complex interplay between national media narratives and global perceptions.

Germany in Global Media Mirror

Germany's media landscape is characterized by its extensive coverage of international events and foreign countries. With a high percentage of its news focused on international topics, Germany maintains a significant role in the global media environment. Coverage extends across a wide array of countries, with a noticeable focus on its European neighbors, further highlighting its deep-rooted integration within regional affairs. This diverse and robust international news presence underscores Germany's commitment to understanding and engaging with the broader world, reflecting its status as a pivotal player in Europe and beyond.

The German media's coverage patterns demonstrate a strategic balance between European and global interests. Countries like France and Austria receive significant attention, underlining Germany's investment in fostering strong regional ties. Additionally, countries with substantial economic partnerships or geopolitical significance, such as China and the United States, are prominently featured in German media narratives. This targeted approach not only informs the domestic audience but also molds Germany's external image as a country cognizant of its diplomatic and economic ties.

The interplay between Germany's domestic media interest in foreign affairs and the coverage it receives from other countries reveals a nuanced global positioning. While Germany remains extensively covered by foreign media, there is a mutual exchange with certain countries that highlights bilateral relationships. For instance, Belgium and Canada find significant space within German media, which in turn reflects on how these nations perceive Germany. This reciprocity serves as a soft power tool, nurturing Germany's international relationships and influencing its global standing as a cooperative and multifaceted nation.

The representation of Germany in foreign media is not only a measure of its relevance but also shapes international perception, influencing public diplomacy efforts. By maintaining a high level of visibility in global news outlets, Germany succeeds in projecting its policies and cultural values to a worldwide audience. This exposure helps in crafting a narrative of Germany as a country committed to leadership in various global issues, such as climate change and economic stability, thereby reinforcing its identity as a responsible and forward-thinking nation on the world stage.

Distinctive features of Germany's media presence, such as its focus on a blend of regional European affairs and significant global issues, place it in a unique position within the international community. As the country navigates the complexities of international partnerships and challenges, its media acts as both a mirror and a window into its strategic importance. By providing a comprehensive picture of the world while ensuring its own stories are told globally, Germany solidifies its role as a central node in the global

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Table 50. *Coverage of Germany in Ireland's Media Outlets.*

irishtimes.com	11224	joe.ie	237	thepropertypin.com	111	theirishfield.ie	72
independent.ie	7566	businesspost.ie	235	connachttribune.ie	105	leinsterexpress.ie	71
rte.ie	4139	extra.ie	224	eveningecho.ie	104	anglocelt.ie	69
irishexaminer.com	3197	businessworld.ie	216	finfacts.ie	101	con-telegraph.ie	69
thejournal.ie	2500	her.ie	205	longfordleader.ie	101	donegaldemocrat.ie	68
breakingnews.ie	1267	afloat.ie	204	kildare-nationalist.ie	96	radiokerry.ie	66
irishmirror.ie	1094	waterford-news.ie	201	universitytimes.ie	94	russianireland.com	66
newstalk.com	1018	thestar.ie	198	buzz.ie	85	theliberal.ie	65
irishsun.com	957	irishamerica.com	169	gov.ie	84	dublinlive.ie	62
thesun.ie	849	nova.ie	164	techcentral.ie	83	recruitireland.com	62
irishcentral.com	690	echolive.ie	140	westmeathexaminer.ie	83	clareherald.com	59
siliconrepublic.com	644	offalyexpress.ie	133	dcu.ie	81	offalyindependent.ie	58
carlow-nationalist.ie	613	advertiser.ie	130	clarechampion.ie	75	kilkennypeople.ie	57
agriland.ie	608	leinsterleader.ie	130	dundalkdemocrat.ie	75	thecork.ie	57
sundayworld.com	490	laois-nationalist.ie	125	meathchronicle.ie	74	tippfm.com	57
farmersjournal.ie	421	racingpost.com	125	president.ie	74	irelandsown.ie	56
herald.ie	294	todayfm.com	125	utv.ie	74	metroeireann.com	55
the42.ie	253	roscommonherald.ie	121	theirishworld.com	73	galwaybayfm.ie	54
limerickleader.ie	242	southernstar.ie	113	broadsheet.ie	72	gcn.ie	53

Table 51. *Coverage of Ireland in Germany's Media Outlets.*

dw.com	5179	dtoday.de	167	wallstreet-online.de	93	moz.de	64
finanznachrichten.de	2495	dw.de	167	epochtimes.de	92	abendblatt.de	63
euractiv.com	2354	ad-hoc-news.de	161	berliner-zeitung.de	91	fnp.de	59
t-online.de	468	euractiv.de	153	op-online.de	88	wa.de	59
handelsblatt.com	374	rga.de	153	bild.de	83	news.de	58
sueddeutsche.de	347	boersennews.de	152	tz.de	78	badisches-tagblatt.de	56
welt.de	315	zeit.de	141	general-anzeiger-bonn.de	74	mittelbayerische.de	56
faz.net	292	heise.de	139	neues-deutschland.de	74	rundschau-online.de	56
finanzen.net	291	rp-online.de	139	queer.de	74	volksstimme.de	56
n-tv.de	277	mz-web.de	136	schwaebische.de	74	nwzonline.de	51
spiegel.de	273	solinger-tageblatt.de	133	boerse-online.de	73	aktiencheck.de	50
tagesspiegel.de	261	az-online.de	131	jungewelt.de	69	derwesten.de	50
hna.de	228	thelocal.de	129	domradio.de	67	verlagshaus-jaumann.de	50
merkur.de	223	wiwo.de	125	come-on.de	66	freiepresse.de	47
focus.de	208	kreiszeitung.de	120	augsburger-allgemeine.de	65	abendzeitung-muenchen.de	46
stern.de	207	qantara.de	109	direktbroker.de	65	alphagalileo.org	46
ksta.de	200	badische-zeitung.de	106	heute.de	65	arcor.de	43
tagesschau.de	177	unternehmen-heute.de	97	morgenpost.de	65	kreisbote.de	43
taz.de	173	soester-anzeiger.de	94	fr.de	64	lto.de	43

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interconnected network, crucial for its growth and development in the contemporary era.

Ireland's Two-Way Media Lens

Ireland's media landscape offers a captivating reflection of its unique position and interests within the global community. With an intricate media environment intertwined with its identity as both a European nation and a historical bridge across the Atlantic, Ireland's coverage demonstrates a keen awareness of its geopolitical neighbors and extended affiliations. Notably, the Irish media dedicates a substantial portion of its foreign news coverage to countries with which it shares historical, cultural, and economic bonds, such as France, Germany, and the United States, with France and Germany receiving extensive coverage due to their significant roles in the European Union. This focus on key European partners underscores Ireland's continued strategic alignment and robust participation within EU frameworks, affirming its connectivity and collaborative pursuits in shaping European discourse.

In addition to its focus on European affairs, Irish media shows a pronounced interest in nations like Australia, Canada, and the United States, pivotal due to historical ties and contemporary sociopolitical exchanges. Australia's significant media footprint in Ireland illustrates shared Commonwealth legacies and current socioeconomic exchanges, particularly regarding migration and education. The visibility of these countries in Irish news narratives highlights a diasporic dimension, reflecting the global dispersion of Irish populations and the reciprocal interest in maintaining cultural connections across continents. This reciprocal media interest fosters bilateral ties, echoing Ireland's role as a conduit for transatlantic dialogue and influence, which is deepened by the numerous Irish communities embedded overseas.

Conversely, the country's media presence on the world stage is one of strategic curiosity rather than dominance. International media discussions about Ireland frequently pivot around its economic policies, its progressive social changes, such as in areas of marriage equality and abortion rights, and its diplomatic role within instances like Brexit. However, Ireland's modest ranking in terms of foreign media mentions underscores its status as a nation shaping its international narrative tactfully, emphasizing diplomacy over sensationalism. This balanced approach positions Ireland as a nuanced player in global affairs, adept at leveraging smaller media visibility into impactful political and economic engagement, reflective of a country that values subtlety and strategic alignments over headline-grabbing ostentation.

Ireland's media narratives are further distinguished by their thematic diversity, addressing topics from multinational corporate activities within its borders, to peacekeeping contributions on the international stage, exemplifying Ireland's commitment to diplomacy and ethical governance. This breadth provides the international community with insights into Ireland's internal dynamics as well as its outward-facing policies, placing a spotlight on its role as a haven for innovation, and its stance on pivotal global issues such as tax policies and environmental governance. Thus, Ireland shapes global perceptions through thought leadership rather than sheer volume of media coverage, indicating its

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strategic use of soft power mechanisms in international relations.

Ultimately, Ireland's media interaction shapes a portrait of a country acclaimed for its balance of tradition and modernity, adept at navigating its historical allegiances while embracing a forward-thinking global perspective. As Ireland continues to engage diplomatically and economically around the world, its media presence reflects and influences the ways it secures its partnerships and projects its values, encapsulating the essence of a nation that is both guardian of its rich cultural heritage and pioneer of progressive internationalism. This duality marks Ireland as a dynamic participant on the world stage, characterized by a media landscape that not only informs but also actively bridges diverse international communities and discourses.

German & Irish Media Coverage Compared

Analyzing the German and Irish approaches within media coverage, we find a range of areas of overlap. The closest matches across the indicators for both countries are seen in news about Belgium, Brazil, and the United States, whereas the greatest disparities exist in foreign news, news coverage in Bosnia and Herzegovina, and New Zealand.

From media viewpoints, Germany and Ireland are linked by a 70% similarity, challenging many norms, indicating their highest degree of likeness in this chapter. Among countries, Germany is most akin to Austria, and Ireland finds its reflection in the Netherlands. The concluding chart of this section illustrates this further, as in German rankings, the Irish position is eighteenth, while the German position is eighth in Irish listings.

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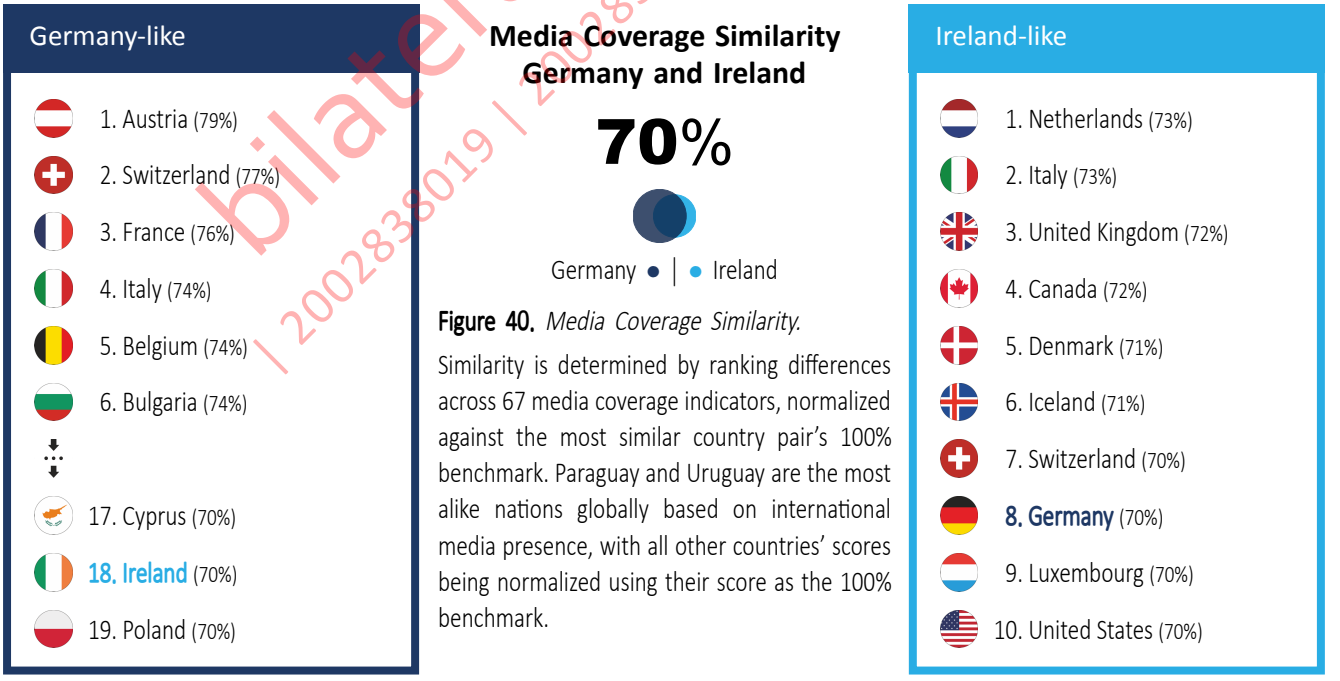


Figure 40. *Media Coverage Similarity.*

Similarity is determined by ranking differences across 67 media coverage indicators, normalized against the most similar country pair's 100% benchmark. Paraguay and Uruguay are the most alike nations globally based on international media presence, with all other countries' scores being normalized using their score as the 100% benchmark.

Public Figures

The "Public Figures" section offers an in-depth look at the most prominent individuals from Germany and Ireland, highlighting those who have achieved significant recognition both domestically and internationally. This exploration is based on the popularity of their Wikipedia articles, which provides a unique and insightful way to gauge their influence and public interest.

This section does not include traditional tables but instead provides two comprehensive appendices listing the top 500 public figures from each country. These lists are organized alphabetically and reflect the figures' prominence based on the popularity of their Wikipedia pages. This method ensures a broad and inclusive representation of individuals who have made notable contributions across various fields such as politics, entertainment, sports, academia, and more

The primary data source for this analysis is WikiData, a multilingual, collaborative knowledge base managed by the Wikimedia Foundation. WikiData serves as a centralized repository of structured data, offering detailed information on a wide array of topics, including significant individuals. This resource is invaluable for exploring the lives and impacts of notable figures from across the globe, ensuring accuracy and relevance through its rigorous notability criteria.

Our methodology for identifying and ranking these public figures involves a comprehensive analysis of data retrieved from WikiData. This includes over 10 million classified individuals, with specific properties such as country of citizenship, birthplace, education, work, residence, and languages spoken being used to accurately associate them with their respective countries. The data reflects not only their achievements and recognition but also their influence in connecting nations through their actions and public presence.

The approach is inspired by the groundbreaking research of Laouenan et al. in 2022, which introduced a novel database of notable individuals by correlating Wikipedia and WikiData entries. This study provided a detailed analysis of more than 1.5 million individuals who were the subjects of Wikipedia articles in multiple languages. Their methodology, which we have adopted, ensures a robust and comprehensive ranking system that highlights the most influential public figures based on a bottom-up approach, starting with individual Wikipedia categories and extracting relevant information.

Through this analysis, we aim to uncover patterns of influence and connections that transcend national borders, offering a deeper understanding of global interconnections and the shared human experience. By examining the top 500 notable individuals from each country, we identify key figures who have significantly impacted their fields and fostered international connections.

The exploration of public figures in Germany and Ireland reveals the cultural, scientific, and historical icons who have achieved global recognition. These individuals not only represent the best of their nations but also contribute to a greater global narrative, enriching our understanding of international relations and cultural exchange. This section aims to provide a comprehensive view of the people who shape the perceptions and connections between Germany and Ireland, highlighting the significance of their contributions to global culture and knowledge.

German Public Personalities

Germany's influence on global communication and media is marked by the significant contributions of its public figures who have transcended national boundaries to impact international discourse. The coun-

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try's robust media landscape, propelled by historical and contemporary personalities, illustrates its commitment to fostering dialogue and understanding on a global scale. Figures such as Johannes Gutenberg, whose invention of the movable type printing press in the 15th century revolutionized communication worldwide, and contemporary digital pioneers in media continue to uphold this legacy. Their work underscores Germany's dedication to innovation and cultural exchange, reinforcing its status as a key player in the realm of international media.

Germany's media figures often straddle multiple domains—politics, business, science, and arts—thereby weaving a rich tapestry of narratives that resonate with global audiences. This intersection is embodied by influential figures such as Angela Merkel, whose political leadership has had a profound impact on global media narratives about Europe and democratic values. The global recognition of such personalities demonstrates how Germany's strategic communication and media prowess contributes to shaping global perceptions, promoting values of tolerance, open dialogue, and democracy.

The legacy of German public figures extends far beyond its borders, creating pathways for cultural diplomacy and international collaboration. Shared historical ties, particularly with neighboring Austria and Czechia, reflect a networked exchange of cultural and intellectual capital. This interconnectedness enhances Germany's visibility and soft power, leveraging renowned cultural figures like philosopher Hannah Arendt and filmmaker Wim Wenders to forge emotional and cognitive links with audiences across different cultures. Consequently, these connections bolster Germany's role in creating transnational understandings and agreements, encouraging a dynamic flow of ideas and perspectives.

Germany's ability to maintain a strong global share of notable media figures is indicative of its strategic approach to fostering talent and innovation. The presence of these figures in various countries, from France to China, highlights the influence of German-driven narratives and how they contribute to shaping international relations. By supporting a thriving communication and media sector, Germany not only advances its national interests but also contributes significantly to international media landscapes, facilitating discussions that address global challenges and aspirations.

In summary, Germany's public figures, both past and present, embody the nation's global aspirations through their work in communication and media. Their contributions enhance Germany's international presence, weaving complex narratives that foster mutual understanding and cooperation among nations. This strategic alignment with media as a tool for engagement and influence defines Germany's unique role, allowing it to emerge as a cherished partner in international collaborations that prioritize shared cultural and intellectual growth.

Irish in Spotlight

Ireland's influence on the global stage is one of resilient creativity and storied heritage, manifesting visibly through its esteemed personalities whose impact reverberates internationally. Historically, Ireland has gifted the world with literary luminaries like James Joyce and Oscar Wilde, whose works transcend borders and time. Today, contemporary figures such as Bono and Saoirse Ronan continue to leave an indelible mark, intertwining their Irish roots with global narratives. These public personalities are not merely bearers of fame but serve as cultural diplomats, strengthening bilateral ties through shared stories and human connections.

The interplay between various spheres in Ireland is accentuated by its deep-rooted cultural tapestry and innovative scientific and business contributions. The country's proclivity towards the arts and sciences cul-

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Table 52. *Countries Linked by Public Figures.*

Countries Linked by Public Figures	Germany Value	Germany Rank	Trend	Gap	Trend	Ireland Rank	Ireland Value	Year	Source
Global share of notable individuals (%, ⇓)	1.7666	5				66	0.5266	2023	WDATA
Shared with each other (%, ⇓): **DE and IE | IE and DE**	0.3	5				66	0.9	2023	WDATA
with Australia (%, ⇓)	0.9	21				2	8.1	2023	WDATA
with Austria (%, ⇓)	8.1	3				32	0.6	2023	WDATA
with Belgium (%, ⇓)	1.3	14				12	1.5	2023	WDATA
with Canada (%, ⇓)	1.0	20				3	6.9	2023	WDATA
with China (%, ⇓)	1.2	17				16	1.2	2023	WDATA
with Czechia (%, ⇓)	11.4	2				54	0.3	2023	WDATA
with Denmark (%, ⇓)	1.4	13				8	1.9	2023	WDATA
with Egypt (%, ⇓)	0.3	40				17	1.2	2023	WDATA
with France (%, ⇓)	6.1	5				20	1.2	2023	WDATA
with Greece (%, ⇓)	0.9	22				19	1.2	2023	WDATA
with Hungary (%, ⇓)	1.2	16				50	0.3	2023	WDATA
with India (%, ⇓)	0.7	28				10	1.7	2023	WDATA
with Israel (%, ⇓)	1.3	15				26	0.7	2023	WDATA
with Italy (%, ⇓)	3.1	9				13	1.4	2023	WDATA
with Netherlands (%, ⇓)	2.9	10				7	2.4	2023	WDATA
with New Zealand (%, ⇓)	0.3	39				4	6.0	2023	WDATA
with Nigeria (%, ⇓)	0.1	55				15	1.4	2023	WDATA
with Poland (%, ⇓)	18.8	1				14	1.4	2023	WDATA
with Portugal (%, ⇓)	0.3	33				11	1.7	2023	WDATA
with Romania (%, ⇓)	1.0	19				62	0.3	2023	WDATA
with Russia (%, ⇓)	3.2	8				61	0.3	2023	WDATA
with South Africa (%, ⇓)	0.2	45				6	2.8	2023	WDATA
with Spain (%, ⇓)	1.5	12				18	1.2	2023	WDATA
with Sweden (%, ⇓)	2.0	11				30	0.6	2023	WDATA
with Switzerland (%, ⇓)	6.8	4				9	1.8	2023	WDATA
with Ukraine (%, ⇓)	1.2	18				84	0.2	2023	WDATA
with United Kingdom (%, ⇓)	5.4	6				1	20.7	2023	WDATA
with United States (%, ⇓)	5.3	7				5	2.8	2023	WDATA

Note: This table presents the top countries linked by notable people from Germany and/or Ireland. Rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows.

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tivates a diverse repertoire of public figures who contribute to Ireland's international partnerships. Notably, its vital business acumen, entwined with technological advancements, echoes in countries like the United States and Germany, creating fruitful economic and cultural exchanges. This strategic intertwining of art and commerce establishes Ireland as a pivotal player in global dialogues.

Ireland's rapport with nations such as Australia and Canada sheds light on its capacity to foster meaningful relationships across continents. These connections showcase the country's adeptness at forging alliances based on mutual respect and shared history, enhancing cultural diplomacy. The presence of figures like Maeve Binchy in Australia and the historic ties with Canada reflect a narrative of expanding influence that

goes beyond mere geographical proximity, demonstrating Ireland's potential as an influential mediator on international platforms.

Distinctive features that enhance Ireland's global visibility include its unparalleled achievement areas in literature, music, and innovation. The legacy of Irish figures in these fields leaves behind a rich cultural heritage that continues to captivate global audiences, promoting a shared kinship with diverse cultures. These achievements underscore the country's narrative of resilience and creativity, positioning it as an inspiring model of cultural fortitude on the world stage.

In shaping its identity as a bridge between continents, the rich tapestry of Ireland's public figures reveals a strategic blend of cultural preservation and innovation. The collective impact of these personalities ensures Ireland's sustained relevance in an ever-evolving global landscape. Their stories, contributions, and unique global connections serve as conduits for Ireland's continued growth, fostering partnerships that are as profound as they are far-reaching. In doing so, Ireland not only narrates its story to the world but illuminates the shared human experience, furthering its strategic importance on the international stage.

Dual Portraits of Public Figures

When analyzing German and Irish prominent indicators, we can identify a range of similarities. The two nations are most closely aligned in public figures with China, the United States, and Belgium, while their most significant differences occur in public figures with Ukraine, global share of notable individuals, and shared public figures.

In the prominent realm, Germans and Irish share 66% of their essence, outshining many in their cohort. Germans' essence is best matched by Poles, while Britons capture Irish' spirit. This is further illustrated in the concluding chart, where Irish are ranked thirty-third in the Germans' rankings, while Germans are twenty-fifth in the Irish' listings.

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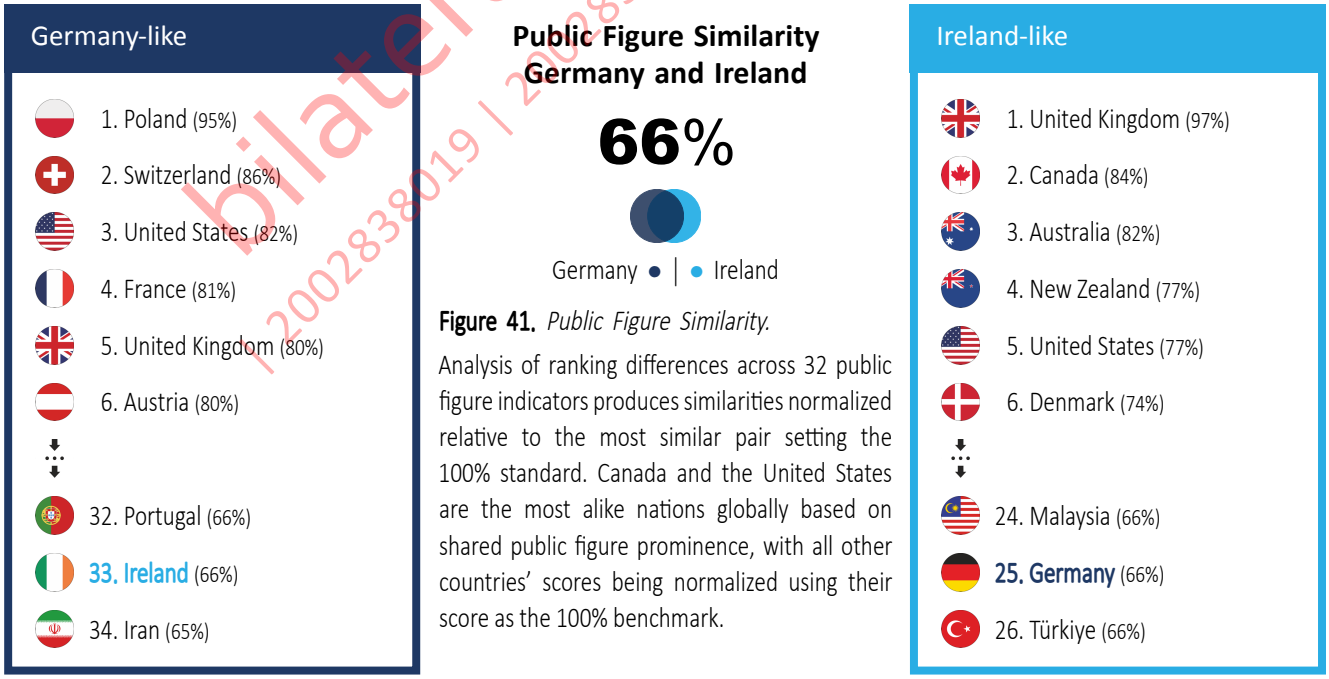


Figure 41. *Public Figure Similarity.*

Analysis of ranking differences across 32 public figure indicators produces similarities normalized relative to the most similar pair setting the 100% standard. Canada and the United States are the most alike nations globally based on shared public figure prominence, with all other countries' scores being normalized using their score as the 100% benchmark.



CHAPTER TEN

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Shared Passions

CHAPTER **10** Shared Passions Page

Leisure Activities 246

Where recreational dimensions intersect, Germany and Ireland share a path with a 59% commonality. Austria closely matches the German profile, with Zimbabwe as the equivalent for Ireland.

Heritage Threads 252

Echoing cultural dimensions, Germany and Ireland boast a 69% similarity, edging out many peers, and this similarity tops all others within this chapter. The cultural and geographic tapestry of Germany is closely woven with Czechia, as Ireland's is with the Netherlands.

Sports Highlights 260

Athletically speaking, Germany and Ireland share some similarities, though they amount with about a 59% overlap. Germany finds its most compatible match in Spain, much like Ireland does with Morocco.

Cuisine Patterns 266

From a gastronomic viewpoint, Germany and Ireland have notable similarities, amounting to an approximate 59% overlap. Liechtenstein emerges as the closest counterpart to Germany, whereas Ireland finds its parallel in New Zealand.

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Leisure Activities

In this section, we explore various indicators to understand the popularity and distribution of hobbies within Germany and Ireland. These indicators cover a wide range of activities, from creative and educational pursuits to physical and social hobbies. By examining these indicators, we aim to highlight the similarities and differences in how people from these countries spend their leisure time and what activities bring them joy and fulfillment.

The indicators used in this section include a diverse array of hobbies, each measured by the percentage of individuals engaging in them. These hobbies range from traditional activities like painting, gardening, and cooking, to more modern interests such as 3D printing, drone racing, and blogging. This comprehensive approach allows us to capture the full spectrum of recreational activities, providing a detailed picture of the hobbyist landscape in both countries.

Understanding these hobbies is important because they offer a window into the everyday lives of people. Hobbies reflect cultural values, social trends, and personal interests, contributing to the uniqueness of each country. They also provide common ground for individuals to connect, share experiences, and build relationships, both locally and internationally. By identifying popular hobbies, we can better understand what drives social interactions and community building in Germany and Ireland.

The data also reveals interesting patterns about the influence of geography, climate, and cultural heritage on hobby preferences. For example, outdoor activities such as hiking, skiing, and bird watching may be more prevalent in regions with suitable natural landscapes, while indoor activities like knitting, gaming, and reading might be more popular in urban areas with colder climates.

Furthermore, the analysis of common hobbies can uncover potential areas for cross-cultural exchange and collaboration. By recognizing shared interests, individuals and organizations can create opportunities for cultural diplomacy, joint projects, and international partnerships. This fosters a deeper understanding and appreciation of each other's cultures, promoting global harmony and cooperation.

Common Hobbies section provides a rich, data-driven narrative of how leisure activities reflect and shape the cultural identities of Germany and Ireland. By examining the diverse range of hobbies and their prevalence, we gain valuable insights into what makes these countries unique and how they connect with the broader world through shared passions and interests. This analysis serves as a foundation for further exploration into the cultural dynamics and social interactions that define the lives of people in these two nations.

Germans at Leisure

Germany's leisure preferences paint a vibrant tapestry that intricately weaves tradition and modernity, reflecting the cultural richness and dynamic lifestyle of its people. In a nation known for precision and innovation, even downtime is maximized with intent and creativity. Among the notable pastimes, electronic games dominate the cultural landscape, highlighting a trend toward digital engagement as a form of modern recreation. This digital affinity is paralleled by a profound appreciation for anime, illustrating the influence of cross-cultural exchanges that transcend continental divides. Meanwhile, binge watching, another dominant activity, underscores the collective impulse towards shared narratives and storytelling, a testament to the country's deep-seated appreciation for drama and performance, albeit through a contemporary medium.

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Table 53. *Leisure Time Activities and Hobbies Statistics.*

	Germany				Ireland				
Hobbies (general)	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Art (%, ⇓)	5.00	189				189	5.00	2021	WHOB
Chess (%, ⇓)	13.00	181				162	32.00	2021	WHOB
Communication (%, ⇓)	17.00	177				145	49.00	2021	WHOB
Cooking (%, ⇓)	3.00	191				190	4.00	2021	WHOB
Creative writing (%, ⇓)	29.00	165				180	14.00	2021	WHOB
Dance (%, ⇓)	11.00	183				163	31.00	2021	WHOB
Dining (%, ⇓)	14.00	180				40	154.00	2021	WHOB
Diving (%, ⇓)	6.00	188				130	64.00	2021	WHOB
Drama (%, ⇓)	8.00	186				179	15.00	2021	WHOB
Electronics (%, ⇓)	18.00	176				177	17.00	2021	WHOB
Fashion (%, ⇓)	9.00	185				184	10.00	2021	WHOB
Gardening (%, ⇓)	27.00	167				186	8.00	2021	WHOB
Graphic design (%, ⇓)	26.00	168				181	13.00	2021	WHOB
Music (%, ⇓)	1.00	193				193	1.00	2021	WHOB
Painting (%, ⇓)	16.00	178				175	19.00	2021	WHOB
Photography (%, ⇓)	2.00	192				191	3.00	2021	WHOB
Pilates (%, ⇓)	36.00	158				178	16.00	2021	WHOB
Reading (%, ⇓)	4.00	190				192	2.00	2021	WHOB
Scuba diving (%, ⇓)	15.00	179				183	11.00	2021	WHOB
Singing (%, ⇓)	20.00	174				182	12.00	2021	WHOB
Social media (%, ⇓)	10.00	184				187	7.00	2021	WHOB
Writing (%, ⇓)	12.00	182				188	6.00	2021	WHOB
Yoga (%, ⇓)	7.00	187				185	9.00	2021	WHOB
Outdoors and Sports									
Climbing (%, ⇓)	10.00	184				154	40.00	2021	WHOB
Cycling (%, ⇓)	11.00	183				187	7.00	2021	WHOB
Hiking (%, ⇓)	4.00	190				185	9.00	2021	WHOB
Jogging (%, ⇓)	3.00	191				162	32.00	2021	WHOB
Rugby (%, ⇓)	47.00	147				193	1.00	2021	WHOB
Running (%, ⇓)	7.00	187				189	5.00	2021	WHOB
Sailing (%, ⇓)	8.00	186				182	12.00	2021	WHOB
Skiing (%, ⇓)	2.00	192				186	8.00	2021	WHOB
Snowboarding (%, ⇓)	9.00	185				179	15.00	2021	WHOB
Soccer (%, ⇓)	5.00	189				192	2.00	2021	WHOB
Swimming (%, ⇓)	12.00	182				188	6.00	2021	WHOB

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Table 53. *(Continued) Leisure Time Activities and Hobbies Statistics.*

	Germany			Ireland			
Tennis (%, ⇓)	6.00	188		184	10.00	2021	WHOB
Travel (%, ⇓)	1.00	193		191	3.00	2021	WHOB
Walking (%, ⇓)	50.00	144		190	4.00	2021	WHOB
Educational hobbies							
Business (%, ⇓)	11.00	183		192	2.00	2021	WHOB
History (%, ⇓)	2.00	192		193	1.00	2021	WHOB
Literature (%, ⇓)	1.00	193		190	4.00	2021	WHOB
Psychology (%, ⇓)	3.00	191		189	5.00	2021	WHOB
Web design (%, ⇓)	8.00	186		191	3.00	2021	WHOB
Collection Hobbies (Indoors)							
Ant-keeping (%, ⇓)	3.00	191				2021	WHOB
Films (%, ⇓)	2.00	192		193	1.00	2021	WHOB
Movie memorabilias (%, ⇓)				192	2.00	2021	WHOB
Record collecting (%, ⇓)	8.00	186		191	3.00	2021	WHOB
Vintage cars (%, ⇓)	1.00	193		188	6.00	2021	WHOB
Collection Hobbies (Outdoors)							
Antiquities (%, ⇓)	4.00	190		191	3.00	2021	WHOB
Fossil hunting (%, ⇓)	2.00	192		192	2.00	2021	WHOB
Leaves (%, ⇓)	1.00	193		190	4.00	2021	WHOB
Mineral collecting (%, ⇓)	3.00	191		193	1.00	2021	WHOB
Competitive Hobbies (Indoors)							
Baking (%, ⇓)	4.00	190		193	1.00	2021	WHOB
Dancing (%, ⇓)	1.00	193		192	2.00	2021	WHOB
Fencing (%, ⇓)	3.00	191		187	7.00	2021	WHOB
Ice hockey (%, ⇓)	2.00	192		185	9.00	2021	WHOB
Poker (%, ⇓)	6.00	188		191	3.00	2021	WHOB
Competitive Hobbies (Outdoors)							
Cricket (%, ⇓)	10.00	184		191	3.00	2021	WHOB
Dog sport (%, ⇓)	3.00	191				2021	WHOB
Fitness (%, ⇓)	1.00	193		192	2.00	2021	WHOB
Golfing (%, ⇓)	2.00	192		193	1.00	2021	WHOB
Observation Hobbies (Indoors)							
Audiophile (%, ⇓)	3.00	191		191	3.00	2021	WHOB
Learning (%, ⇓)	1.00	193		193	1.00	2021	WHOB
Microscopy (%, ⇓)	2.00	192		192	2.00	2021	WHOB
Observation Hobbies (Outdoors)							
Amateur astronomy (%, ⇓)	3.00	191		193	1.00	2021	WHOB
Benchmarking (%, ⇓)	2.00	192		192	2.00	2021	WHOB
Hiking/backpacking (%, ⇓)	1.00	193		191	3.00	2021	WHOB

Note: Each percentage in this table illustrates the popularity of a particular hobby among individuals in Germany and Ireland. Although the data sample is substantial, there may be a bias as it is limited to individuals with public resumes. The rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows.

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The German passion for craftsmanship and precision is vividly expressed in leisure activities such as engraving, embroidery, and karaoke, displaying the nation's propensity for detail-oriented pursuits. These hobbies, though seemingly disparate, are united by their emphasis on skillful execution and artistic expression. Community radio and conlanging reveal a unique blend of communication and creativity, underscoring the societal value placed on innovative forms of connectivity and linguistic exploration. These activities highlight Germany's role in elevating cultural exchange and participatory democracy, where diverse voices and ideas are shared openly and inclusively.

Traditional activities, such as bell ringing and chess, showcase a significant respect for heritage and classical pastimes, providing continuity amidst the whirlwind of modernity. The persistence of these activities suggests a cultural memory that values historic practices and the communal bonds they foster. Moreover, leisure pursuits like beer tasting and flower arranging contribute distinctly to the global image of Germany, emphasizing the country's renowned expertise in craftsmanship and aesthetic beauty. Engraving and knife making, activities deeply rooted in legacy and tradition, shape the narrative of a culture that reveres its rich history while continuously evolving.

Leisure pursuits in Germany do not only entertain but also enhance a sense of identity and cultural diplomacy. The prominence of activities such as digital arts and photography reflects a society that cherishes creativity and innovation, fostering international tourism and cultural recognition. Such activities attract myriad visitors who wish to engage firsthand with Germany's cultural landscape, leading to enriched bilateral relationships through shared experiences and mutual curiosity. Germany's approach to leisure thus plays a pivotal role in strengthening its international visibility, providing avenues for cultural exchange, and nurturing global partnerships.

In conclusion, Germany's leisure activities serve as a window into the soul of the nation—a harmonious blend of tradition and modernity, craft and innovation, shared stories, and individual creativity. This intricate tapestry of pastimes not only carves out a distinct cultural identity but also positions Germany as an influential player in the global community, fostering connection through common passions and diverse interests. As Germany continues to engage and evolve through these recreational pursuits, it simultaneously strengthens its bonds with the world, leading to an enduring legacy of cultural exchange and enrichment.

What Entertains Irish?

Ireland's leisure landscape is a vibrant tapestry woven from tradition, creativity, and modern innovation. A country steeped in rich cultural heritage, its recreational preferences mirror the uniqueness of its societal fabric. The Irish have a strong penchant for gathering and social exchanges, reflected in their enthusiasm for activities like beer tasting and bullet journaling. These pursuits provide a window into the country's affinity for combining social interaction with personal reflection and creative expression, fostering environments where ideas and stories thrive.

The intersection of traditional and contemporary interests is evident in Ireland's diverse activity preferences. While newer trends like cosplaying and anime are embraced, traditional activities such as bell ringing and embroidery continue to hold a cherished place within the community. These practices not only preserve cultural expressions but also create avenues for intergenerational bonding, nurturing a sense of continuity and collective identity among the Irish.

This dynamic interplay of old and new fuels Ireland's attractiveness as a cultural exchange hub. As residents engage in activities ranging from amateur radio to digital arts, the nation becomes an inviting canvas

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for tourists and cultural enthusiasts seeking authentic experiences. Ireland's penchant for artistic and performance arts, underscored by its significant engagement in drama and acting, further enhances its international allure, drawing artists and audiences from across the globe to its festivals and theaters.

In a country where daily life resonates with music and storytelling, the distinct Irish leisure culture also shapes its global presence. Activities like listening to music and playing instruments are integral to its national identity, reflecting a deep-rooted appreciation for shared experiences and artistic expression. This musical inclination, coupled with activities like cross-stitching and pet care, underscores the nation's perceptions as one deeply invested in craftsmanship and nurturing relationships, both human and animal.

Ultimately, Ireland's leisure pursuits carve out a niche for the nation on the global stage, influencing its international relations and cultural dynamics. As a country that revels in both the tranquillity of individual hobbies such as knitting and the communal excitement of activities like karaoke and jigsaw puzzles, Ireland embodies an openness that invites collaboration and partnership. These leisure patterns not only reinforce its cultural identity but also position Ireland as a country that constructs bridges through creativity, sociability, and shared passions, contributing to its potential growth and strategic importance in the global community.

Free Time Rhythms Aligned

In comparing the two nations within the context of leisure time, we can observe certain commonalities. Among the indicators reviewed, the Germans and Irish show the closest alignment in art, audiophile, and fossil hunting, while the biggest differences are found in ant-keeping, dog sport, and movie memorabilias.

At the crossroads of pastime patterns, Germans and Irish find a shared path, marked by a 59% overlap. Austrians emerge as the closest counterpart to Germans, whereas Irish find their parallel in Zimbabweans. As shown in the final chart of this section, Irish are ranked fourteenth on the Germans' list, while Germans hold forty-second position on the Irish' rankings.

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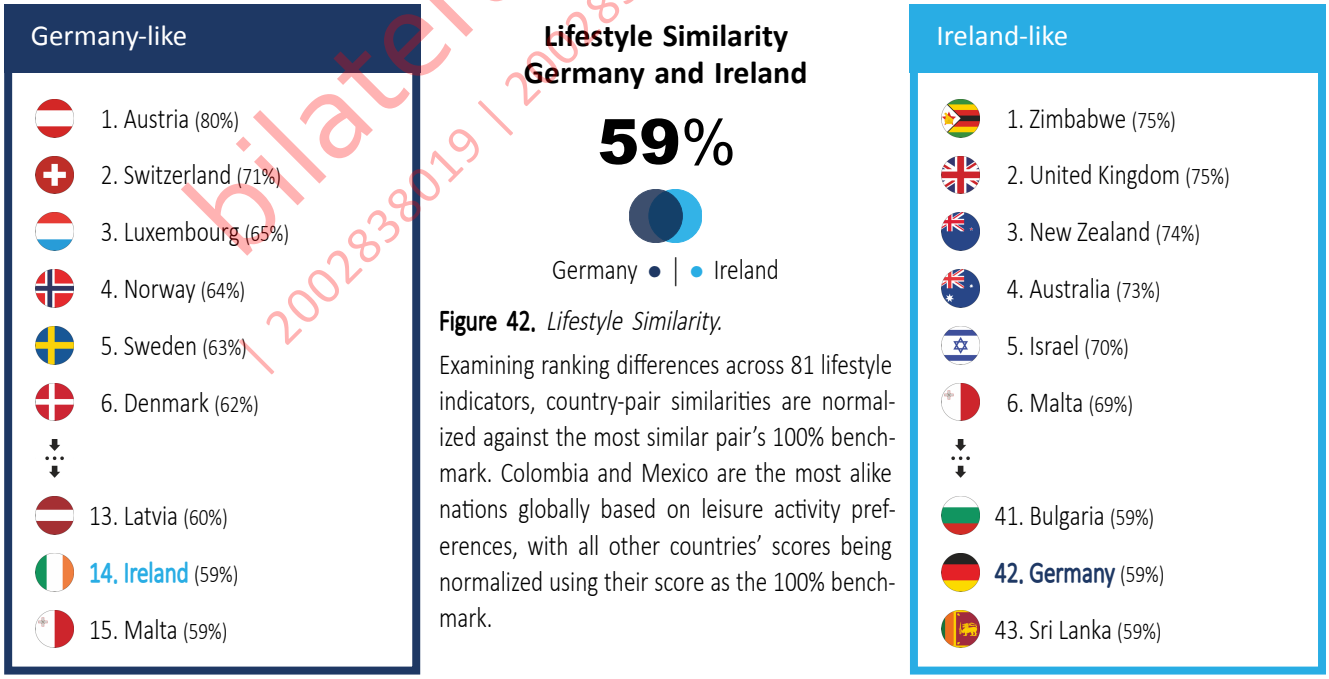
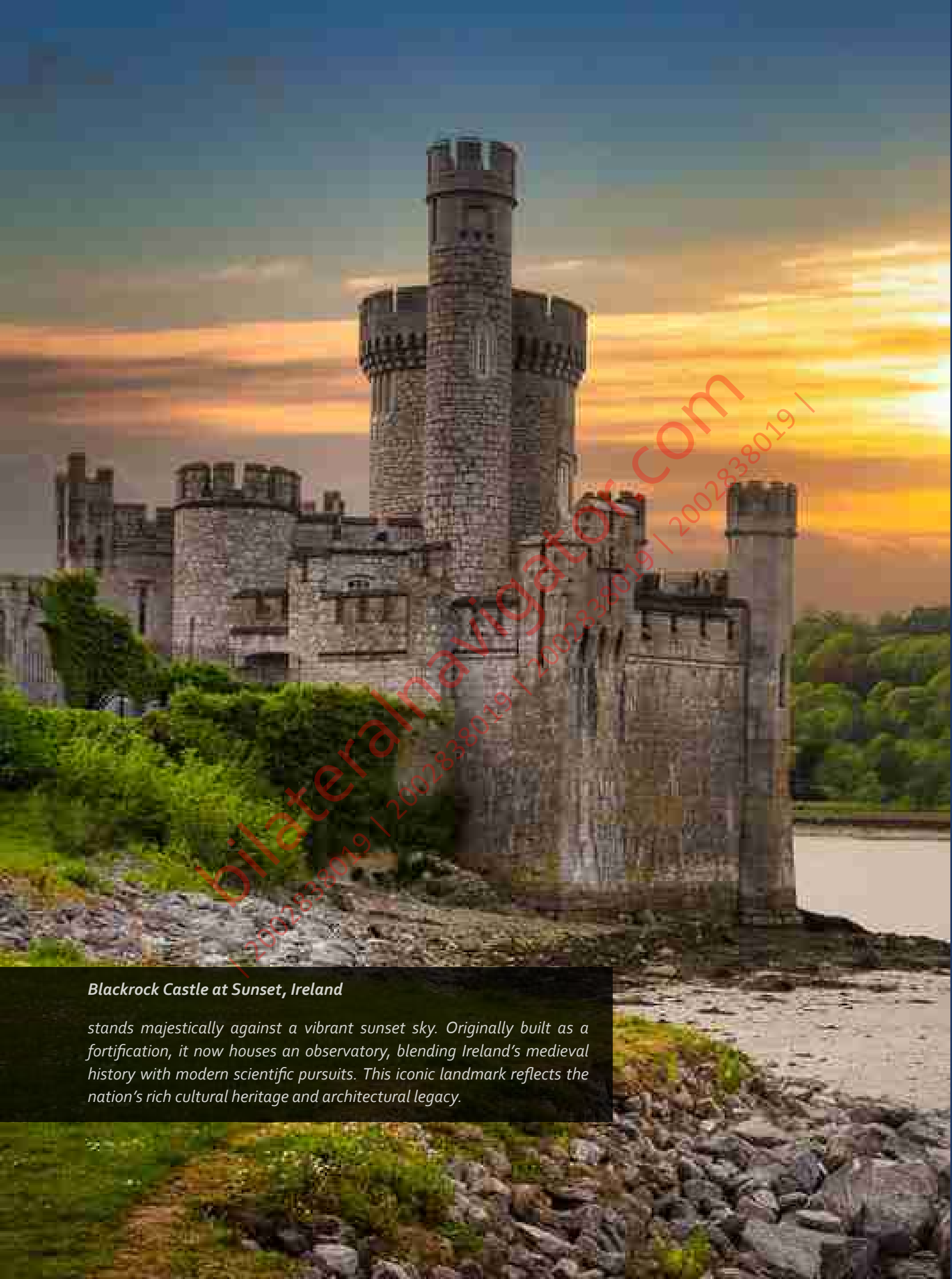


Figure 42. *Lifestyle Similarity.*

Examining ranking differences across 81 lifestyle indicators, country-pair similarities are normalized against the most similar pair's 100% benchmark. Colombia and Mexico are the most alike nations globally based on leisure activity preferences, with all other countries' scores being normalized using their score as the 100% benchmark.



Blackrock Castle at Sunset, Ireland

stands majestically against a vibrant sunset sky. Originally built as a fortification, it now houses an observatory, blending Ireland's medieval history with modern scientific pursuits. This iconic landmark reflects the nation's rich cultural heritage and architectural legacy.

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Heritage Threads

The rich collection of UNESCO-protected heritage sites and intangible cultural heritage in Germany and Ireland offers a detailed view of the cultural, historical, and natural treasures that define their uniqueness. This section highlights the diversity and significance of their contributions to global heritage.

Key indicators include the total number of conserved properties such as cities, cultural landscapes, earthen architecture, forests, industrial sites, marine areas, and religious sites. These metrics reveal the breadth of tangible heritage preserved in each country, emphasizing the importance of protecting these sites for future generations.

The analysis also covers intangible cultural heritage, including traditional practices, nature-related knowledge, oral traditions, performing arts, social practices, rituals, festivals, and craftsmanship. These elements are crucial for understanding the living heritage that shapes each nation's cultural identity. Indicators also explore various biomes, highlighting the ecological and cultural diversity within each country's heritage.

This section examines shared heritage with other countries, showcasing the interconnectedness of global heritage. Identifying shared heritage with countries like Afghanistan, Albania, and Algeria highlights cross-cultural exchanges and historical connections that shape these nations' heritage landscapes.

Tentative list items for UNESCO's heritage lists are also considered, providing insights into potential future recognitions and ongoing efforts to preserve cultural and natural heritage. This indicator reveals proactive measures by each country to expand recognized heritage sites, reflecting their commitment to conservation.



Mr. Harold Pinter, Nobel Prize for Literature in 2005 – was recognized as one who in his plays uncovers the precipice under everyday prattle and forces entry into oppression's closed rooms. Born in Hackney in east London into a Jewish family whose grandparents had left Poland and Odessa, now in Ukraine, he trained at the Central School of Speech and Drama. He worked as an actor before writing plays in English, built his career in England, and died in London.



Mr. László Krasznahorkai, Nobel Prize for Literature in 2025 – is recognized for his compelling and visionary oeuvre that, in the midst of apocalyptic terror, reasserts the power of art. Born at Gyula, he studied law at Szeged and took his degree in Hungarian language and literature in Budapest. He has spent long periods in Germany and lives in Berlin, writing in Hungarian.

These indicators illustrate the unique cultural and historical narratives of Germany and Ireland, offering insights into the diverse elements that contribute to their national identity and global significance. Understanding the scope of UNESCO-protected heritage fosters a deeper appreciation for the cultural richness and historical depth of each nation.

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This analysis is a valuable resource for policymakers, cultural professionals, and enthusiasts interested in preserving and promoting global heritage. Highlighting protected sites and intangible cultural elements provides a comprehensive overview of efforts to safeguard the cultural and natural treasures of Germany and Ireland, celebrating their shared and unique cultural legacies.

German Living Heritage

Germany's cultural tapestry is woven with threads from its storied past, where historical monuments and landscapes of UNESCO World Heritage Sites stand sentinel across the nation. The country boasts a high number of conserved properties, showcasing its commitment to preserving its rich heritage that spans centuries. Among these are iconic cathedrals, Medieval towns, and palaces that whisper tales of bygone eras. The country's cities reflect its heritage's diversity, playing a vital role in sustaining its cultural landscapes. Over one-fifth of these areas are recognized for their cultural significance, offering both locals and tourists a chance to explore its vibrant history.

Germany's dedication to heritage extends beyond the tangible, as demonstrated by its involvement in safeguarding intangible cultural practices. With seven elements inscribed on the UNESCO Intangible Cultural Heritage list, Germany nurtures time-honored traditions, from its renowned craftsmanship to regional festivals and practices. Efforts to maintain these living traditions underscore the integral role they play in the country's identity, bridging the gap between past and present. These cultural assets not only celebrate history but also bring relevance to contemporary society by fostering community engagement and cultural proliferation.

Tourism flourishes against this rich cultural backdrop, as visitors flock to experience Germany's historic sites and partake in its celebrated customs. Such attractions significantly bolster Germany's international tourism, strengthening its cultural diplomacy and positioning it as a key player in global tourism. Through cultural exchanges and partnerships, Germany leverages its heritage to forge deeper ties with countries worldwide. This strategy not only enriches its cultural landscape but also fortifies its stature in international relations, enhancing dialogue and mutual understanding.

The country's innovative approach to conservation and contemporary relevance of its heritage impresses as a preservation success story. Germany actively combines tradition and modernity, with initiatives that seamlessly integrate historical elements into urban planning and development. This creative amalgamation garners admiration and sets a precedent in cultural heritage management globally. By maintaining both religiously sacred sites and landscapes, Germany extends its influence as a guardian of cultural diversity, contributing to broader global cultural richness.

In an interconnected world, Germany's distinct cultural attributes provide a foundation for its strategic importance and identity. Its ability to adapt and incorporate

Table 54. *Protected Assets on the UNESCO's Cultural Heritage Lists.*

	Germany				Ireland				
Conserved Properties	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Conserved properties, total (⇊)	**15**	8				80	**2**	2023	UNESCO
Cities (%, ⇊)	**40.0**	40						2023	UNESCO
Cultural landscapes (%, ⇊)	**20.0**	19						2023	UNESCO

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Table 54. *(Continued) Protected Assets on the UNESCO's Cultural Heritage Lists.*

	Germany			Ireland			
Earthen Architecture (%, ⇓)	6.7	49			2023	UNESCO	
Forests (%, ⇓)	6.7	58			2023	UNESCO	
Other (%, ⇓)	6.7	82			2023	UNESCO	
Religious & Sacred (%, ⇓)	73.3	34	2	100.0	2023	UNESCO	
Intangible Cultural Heritage							
Intangible cultural heritage, total (⇓)	7	41	67	4	2023	UNESCO	
Biomes: Agro-ecosystems (%, ⇓)	25.0	60	47	30.0	2023	UNESCO	
Biomes: Drylands (%, ⇓)	8.3	33	29	10.0	2023	UNESCO	
Biomes: Forests (%, ⇓)	8.3	35			2023	UNESCO	
Biomes: Grasslands, savannahs (%, ⇓)	8.3	42	38	10.0	2023	UNESCO	
Biomes: Inland wetlands (%, ⇓)	8.3	24			2023	UNESCO	
Biomes: Marine, coastal and island areas (%, ⇓)			51	10.0	2023	UNESCO	
Biomes: Mountains (%, ⇓)	8.3	63	57	10.0	2023	UNESCO	
Biomes: Non-ecosystem specific (%, ⇓)	8.3	36	26	10.0	2023	UNESCO	
Biomes: Urban areas (%, ⇓)	25.0	32	52	20.0	2023	UNESCO	
Domains: Knowledge and practices concerning nature (%, ⇓)	23.5	20	71	15.4	2023	UNESCO	
Domains: Oral traditions and expressions (%, ⇓)	11.8	118	46	23.1	2023	UNESCO	
Domains: Performing arts (%, ⇓)	11.8	100	75	15.4	2023	UNESCO	
Domains: Social practices, rituals and festivalss (%, ⇓)	23.5	96	98	23.1	2023	UNESCO	
Domains: Traditional craftsmanship (%, ⇓)	29.4	22	53	23.1	2023	UNESCO	
Tentative List Items							
Tentative items for nomination, total (⇓)	8	70	127	3	2023	UNESCO	
Items shared with the following countries:							
· Albania (%, ⇓)	3.3	11			2023	UNESCO	
· Argentina (%, ⇓)	3.3	7			2023	UNESCO	
· Austria (%, ⇓)	16.7	4	10	11.1	2023	UNESCO	
· Belgium (%, ⇓)	10.0	7	5	11.1	2023	UNESCO	
· Bosnia and Herzegovina (%, ⇓)	3.3	15			2023	UNESCO	
· Bulgaria (%, ⇓)	3.3	14			2023	UNESCO	
· Canada (%, ⇓)			1	11.1	2023	UNESCO	
· Czechia (%, ⇓)	13.3	5	8	11.1	2023	UNESCO	
· France (%, ⇓)	6.7	18	10	11.1	2023	UNESCO	
· Germany (%, ⇓)			9	11.1	2023	UNESCO	
· India (%, ⇓)	3.3	8			2023	UNESCO	
· Poland (%, ⇓)	10.0	8	6	11.1	2023	UNESCO	
· Slovakia (%, ⇓)	10.0	8	6	11.1	2023	UNESCO	
· Spain (%, ⇓)	10.0	11	9	11.1	2023	UNESCO	
· Switzerland (%, ⇓)	10.0	3			2023	UNESCO	

Note: Global rankings in this table are in descending order (highest to lowest), as indicated by the "⇓" arrows. The trend bars, on the other hand, highlight the latest data by positioning it as the rightmost bar, compared to the two previous years.

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The "New Palace" at Sanssouci

Discover the grandeur of Prussian architecture at the New Palace in Potsdam, a spectacular 18th-century marvel set amidst the lush landscapes of the Sanssouci Park. This UNESCO World Heritage site near Berlin beautifully showcases the opulence and intricate design that define Germany's rich historical tapestry.

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its rich heritage into modern society not only strengthens its cultural vibrancy but also underscores its potential for growth. As Germany continues to honor and innovate its cultural legacy, it emerges as a formidable steward of global heritage, shaping international partnerships and advancing cultural diplomacy on the world stage.

Ireland's Cultural Soul

Amidst the rolling green landscapes of Ireland lies a rich tapestry of cultural heritage that etches an indelible mark on the global stage. Known as the Emerald Isle, Ireland's historical narratives are painted across its breathtaking scenery and deeply rooted traditions. While the country hosts a modest number of conserved properties, its two sacred sites are symbolic anchors within its cultural milieu, highlighting the profound reverence with which the Irish regard their religious heritage. Despite the small size of its tangible heritage, the oral traditions and expressions that weave through Irish society hold resounding importance, evidencing a legacy of storytelling that has endured through centuries.

The recognition of intangible cultural heritage is another noteworthy facet of Ireland's cultural fingerprint, with four emblematic traditions exemplifying its place in global cultural diversity. The country's dedication to preserving these practices reflects a deep national

commitment to cultural identity and legacy. Particularly, Ireland's renown in domains such as traditional craftsmanship and oral traditions not only serves to reinforce its local cultural resilience but also offers an exchangeable asset within international spheres where cultural diplomacy thrives.

In the interplay between past and present, Ireland's conservation strategies and heritage management are key to maintaining its cultural relevance. The blend of ancient customs with contemporary innovations has been instrumental in fostering a vibrant arts scene and an unmistakable Irish charm that draws visitors worldwide. The cultural landscape, underscored by a harmonious connection to nature and ritualistic social practices, invites an immersive experience for tourists, promoting a form of cultural diplomacy that facilitates an enhanced understanding of Ireland's values on a global platform.

The distinctiveness of Ireland's cultural heritage is further enriched by its diverse biomes, from agro-ecosystems to unique marine areas, which together construct a multifaceted natural canvas where cultural practices are deeply interwoven. This deep connection with the land not only nurtures agricultural traditions but also fosters ecological awareness and practices that resonate globally amidst rising environmental concerns.

As Ireland stands amidst a multitude of nations with common UNESCO interests, the country's strategic nomination partnerships reflect an adept leveraging of shared cultural passions that transcend borders. These collaborations enrich Ireland's narrative in the global cultural tableau while ensuring that its distinct identity continues to emerge, fostering relationships that are as historically deep-seated as they are contemporaneously relevant. Through its rich cultural heritage, Ireland not only honors its past but also strides confidently onto the world stage, offering its unique legacy to a diverse international audience.



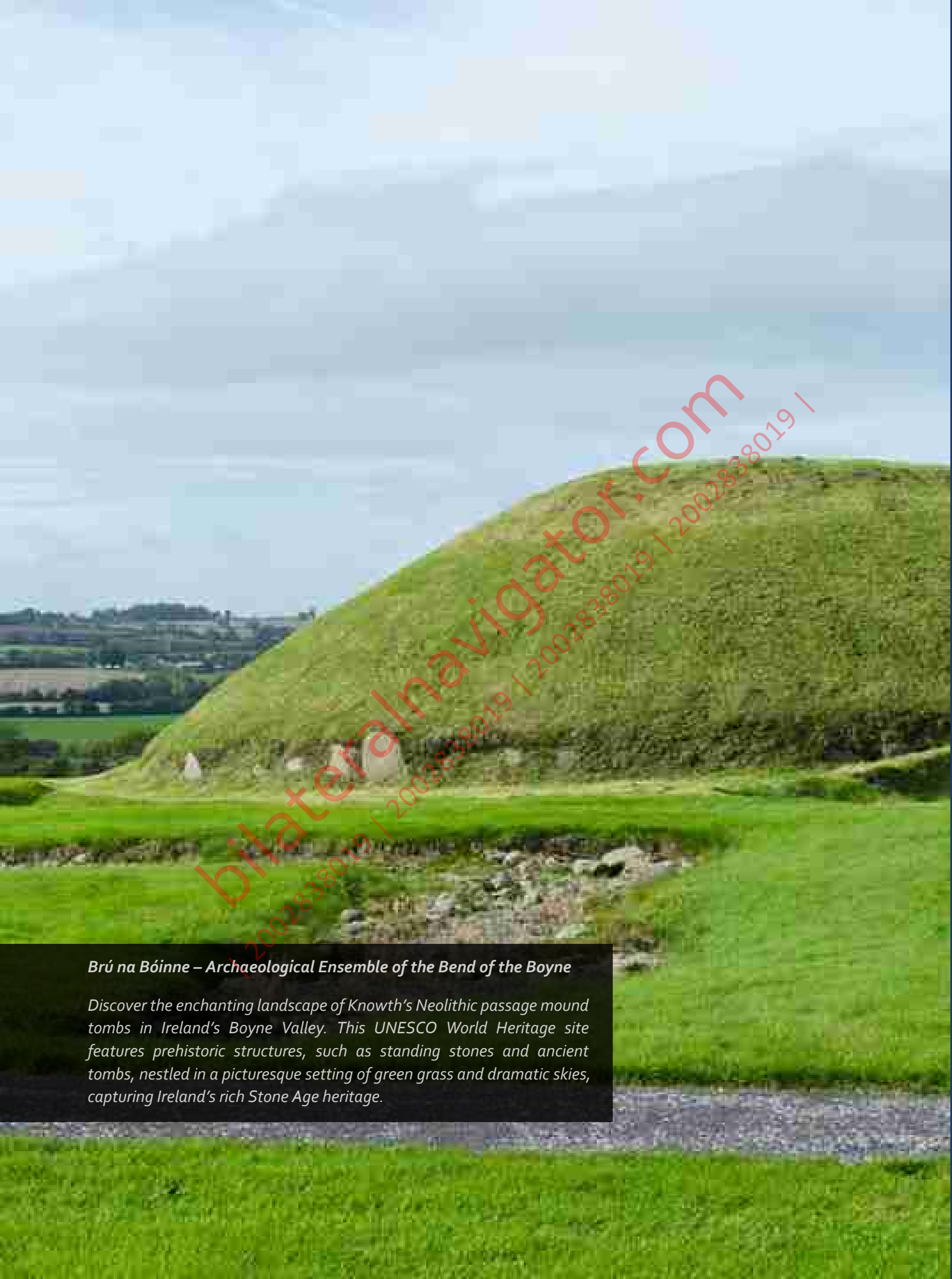
Mr. Heinrich Böll, Nobel Prize for Literature in 1972 – was recognized for his writing which through its combination of a broad perspective on his time and a sensitive skill in characterization has contributed to a renewal of German literature. Born in Cologne, he studied German literature at the University of Cologne. He wrote in German and lived in the Rhineland, returning repeatedly to Ireland, and he died in Germany.

Closeness of Cultures Through UNESCO Lists Matched

In the context of heritage threads, a comparison between Germany and Ireland reveals a range of areas of similarity. Of the indicators shared by both nations, they are most aligned in shared heritage with Belgium, Poland, and Slovakia, while their greatest differences are evident in shared heritage with Switzerland, Argentina, and India.

Germany and Ireland present a 69% cultural similarity, indicating more common ground than with numerous other countries, marking the peak of their resemblance within this chapter. Among countries, Germany is most akin to Czechia, and Ireland finds its reflection in the Netherlands. As the final chart in this section shows, Ireland holds nineteenth position in Germany's ranking, and Germany ranks twentieth on Ireland's list.

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Brú na Bóinne – Archaeological Ensemble of the Bend of the Boyne

Discover the enchanting landscape of Knowth's Neolithic passage mound tombs in Ireland's Boyne Valley. This UNESCO World Heritage site features prehistoric structures, such as standing stones and ancient tombs, nestled in a picturesque setting of green grass and dramatic skies, capturing Ireland's rich Stone Age heritage.

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Leibniz's Irish Intellectual Connections

by James O'Hara

This piece traces a web of intellectual connections between the German philosopher Gottfried Wilhelm Leibniz and several notable Irish figures. The Donegal-born John Toland, author of the controversial Christianity not Mysterious (1696), became a close acquaintance of Leibniz in Hanover, sharing his rationalistic approach to mathematics and science. Earlier, the Dublin-born Robert Molesworth, Irish ambassador to Denmark, published a critique of Danish absolutism that put him at odds with Leibniz's own advocacy for rational absolutist government. Leibniz also engaged closely, if competitively, with Robert Boyle, from one of seventeenth-century Ireland's most prominent families. The two corresponded respectfully but clashed over credit for the vacuum pump, which Leibniz insisted belonged to Otto von Guericke rather than Boyle, and over similar priority disputes concerning the discovery of phosphorus. Beyond science, Leibniz developed a deep interest in Celtic and Irish linguistics in the 1690s, corresponding with the English mathematician John Wallis and drawing on the work of Welsh scholar Edward Lhuyd to explore the relationship between Brythonic and Goidelic language families. Toland himself, during his Hanoverian years, was likely Leibniz's most significant Irish-speaking contact on these questions, a strand of inquiry that culminated in Leibniz's posthumously published Collectanea Etymologica in 1717.

James Gabriel O'Hara is a scientific researcher and retired editor based in Germany. Working in the field of history of science, technology and medicine, his expertise connects the academic and historical relationships between Germany and Ireland.

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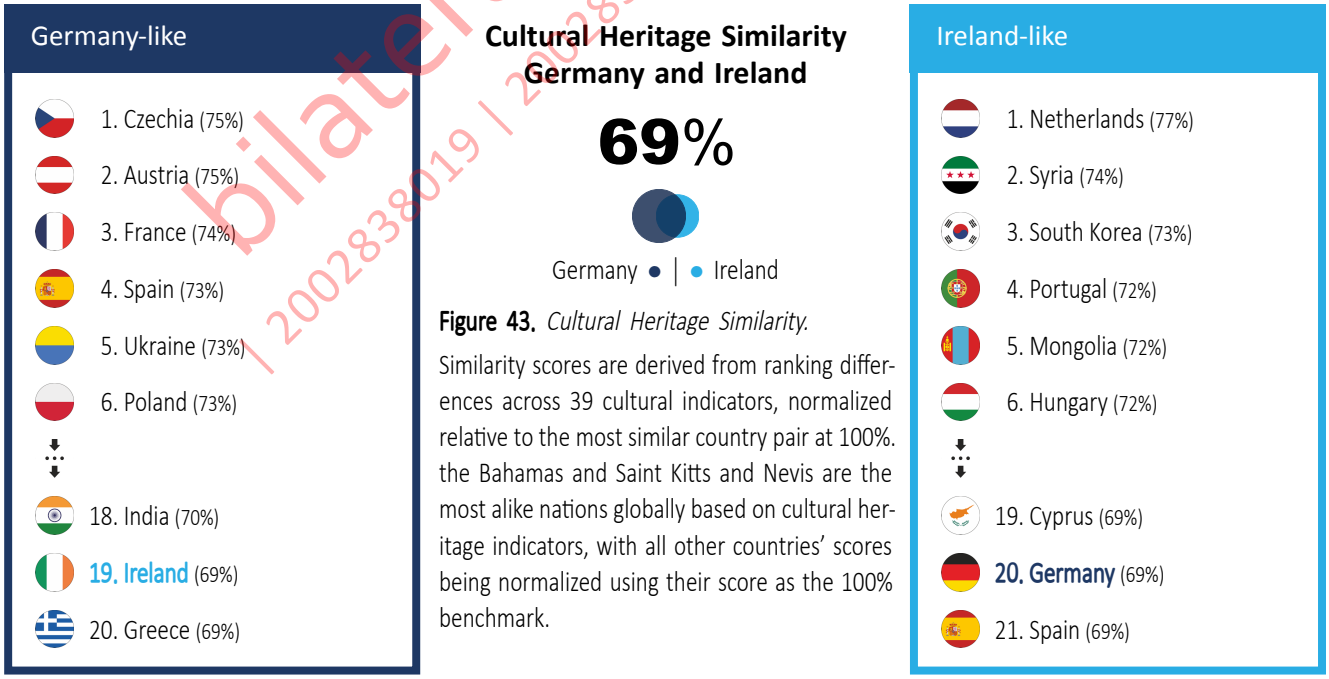


Figure 43. *Cultural Heritage Similarity.*
Similarity scores are derived from ranking differences across 39 cultural indicators, normalized relative to the most similar country pair at 100%. the Bahamas and Saint Kitts and Nevis are the most alike nations globally based on cultural heritage indicators, with all other countries' scores being normalized using their score as the 100% benchmark.



Olympic Champion and Pioneer of Women's Boxing

Katie Taylor is one of the most celebrated athletes in Irish history and a defining figure in the rise of women's boxing. Born in Bray, County Wicklow, in 1986, she won Ireland's historic Olympic gold medal in the lightweight division at the London 2012 Games, having already claimed multiple world and European amateur titles. After turning professional in 2016, she went on to become the undisputed lightweight world champion. In 2022 she headlined Madison Square Garden against Amanda Serrano, a landmark night widely regarded as a turning point for the women's sport. Taylor remains an enduring symbol of discipline, resilience, and national pride.

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Sports Highlights

This section compares the sports achievements and interests of Germany and Ireland, highlighting their athletic prowess and cultural impact. It uses various indicators to understand the role of sports in shaping national identity and fostering international recognition.

We begin with Olympic achievements, measuring total medals, gold medals, and medals per 100,000 people. These indicators, sourced from the International Olympic Committee, show each country's success on the world stage and their ability to produce top athletes relative to population size.

The Greatest Sporting Nation rankings evaluate overall sporting success per capita and over the last decade, providing a broad view of each country's performance across various sports.

Performance in specific sports, including football, basketball, tennis, and athletics, is analyzed using data from international sports federations such as FIFA, FIBA, ATP Tour, and WTA Tour. Points-based rankings reflect national and individual performances, showcasing sporting excellence.

We also consider diverse disciplines from weightlifting and taekwondo to ice hockey and figure skating, highlighting each country's athletic capabilities.

Understanding these indicators reveals investment and support for sports, reflecting cultural and social values. Sports contribute to national pride and international diplomacy, and this data shows how countries promote and celebrate their achievements.

This analysis identifies potential areas for collaboration and competition, fostering mutual respect through sports. It provides valuable information for policymakers, sports organizations, and enthusiasts to enhance athletic programs and encourage healthy lifestyles.

The sports section of this report offers an insightful comparison of the sporting landscapes in Germany and Ireland. By exploring these indicators, we understand what makes each country unique in sports and how their athletes contribute to their national and international standing. This analysis celebrates their successes and underscores the unifying power of sports in connecting people across borders.

Germans in Sports

Germany's sporting legacy is rich and deep-rooted, a reflection of the nation's intertwined history with athleticism and competition. From the early nurturing of Olympic athletes to the contemporary dominance in winter sports, Germany stands as a formidable force on the global stage, boasting one of the highest accumulations of Olympic medals worldwide. With a seamless blend of tradition and modernity, Germany manages to cultivate talent across a broad spectrum of disciplines, ensuring a strong, diverse presence at international competitions. This diversity is not only a matter of pride but a reflection of Germany's social fabric, where sports serve as a unifying force across various regions and communities.

Football, undoubtedly a cornerstone of German sports culture, commands significant attention. Despite a fluctuating performance trend, Germany's men's and women's football teams continue to be global players. Parallel to football, basketball is rapidly gaining traction, with the country's men's basketball team reaching new competitive heights recently. Yet, it's the winter sports domain where Germany truly excels,

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Table 55. *Sport Achievements.*

	Germany				Ireland				
All Sports	Value	Rank	Trend	Gap	Trend	Rank	Value	Year	Source
Olympic medals, total (⇊)	925	4				48	42	2024	IOO
Olympic medals, total (per 100,000 people, ⇊)	1.1	33				41	0.8	2024	IOO
Olympic gold medals (⇊)	305	4				43	15	2024	IOO
Olympic gold medals (per 100,000 people, ⇊)	0.4	28				32	0.3	2024	IOO
Greatest Sporting Nation (per capita, rank ⇈)	27	28				14	12	2024	GSPN
Greatest Sporting Nation, men (per capita, rank ⇈)	30	30				8	8	2024	GSPN
Greatest Sporting Nation, women (per capita, rank ⇈)	29	27				16	16	2024	GSPN
Greatest Sporting Nation (p.c., last 10 years, avg. rank, ⇈)	28.8	31				24	22.4	2024	GSPN
Best Sports									
Football, women (points, ⇊)	2,015	2				15	1,718	2025	FIFA
Basketball, men (points, ⇊)	757.3	3				81	121.6	2025	FIBA
Tennis, men (points, ⇊): **Zverev Alexander | Agwi Michael**	7,645	2				67	80	2025	ATP
Tennis, women, doubles (points, ⇊): **Barthel Mona | Brennan Erica**	16	64				65	16	2025	WTA
Amateur Boxing (points, ⇊)	17	20				19	18	2024	GSPN
Boxing (points, ⇊)	15	35				17	42	2021	GSPN
Swimming (points, ⇊)	426	7				15	168	2024	GSPN
Rowing (points, ⇊)	33	8				6	42	2024	GSPN
Track Cycling (points, ⇊)	74	7				18	13	2024	GSPN
Artistic Gymnastics (points, ⇊)	18	19				14	30	2024	GSPN
Archery (points, ⇊)	48	3						2024	GSPN
Marathon (points, ⇊)	6	12				12	12	24/19	GSPN
Golf (points, ⇊)	22	9				11	18	2024	GSPN
Modern Pentathlon (points, ⇊)	1	22				17	4	2024	GSPN
Equestrian (points, ⇊)	104	1				14	4	2024	GSPN
Rugby Union (points, ⇊)	16	12				5	98	21/24	GSPN
Rhythmic Gymnastics (points, ⇊)	30	1						2024	GSPN
Bobsleigh (points, ⇊)	88	1						2024	GSPN
Skeleton (points, ⇊)	43	1						2024	GSPN
Canoe/Kayak Sprint (points, ⇊)	93	2						2024	GSPN
Luge (points, ⇊)	84	2						2024	GSPN
Fistball (points, ⇊)	16	2						2024	GSPN
Field Hockey (points, ⇊)	154	2						2024	GSPN
Squash (points, ⇊)	11	2						2019	GSPN
Basketball 3x3 (points, ⇊)	90	1						2024	GSPN

Note: Rankings in this book's tables typically use descending order (highest to lowest), except for values which are external rankings (e.g., Greatest Sporting Nation ranks), which use ascending order. However, original rankings from source data may differ from those in this book, as we only account for UN member states. To clarify, arrows indicate order orientation: "⇊" for descending and for "⇈" ascending order. The trend bars, on the other hand, highlight the latest data by positioning it as the rightmost bar, compared to the two previous years.

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with disciplines like bobsleigh and ski jumping cementing its reputation as a powerhouse. Here, the alps and their frosty embrace are not merely scenic backdrops but pivotal arenas where athletes transform natural beauty into gold-filled glory.

Germany's prowess in lesser-followed sports like luge, canoeing, and skeleton also highlights its well-rounded athletic capabilities. These achievements speak to Germany's robust athlete development programs and commitment to maintaining a competitive edge across varied fields. This all-encompassing approach not only elevates the nation's sports status but also presents Germany as a strategic partner in international sports diplomacy, leveraging athletic success to foster cross-border collaborations and enhance bilateral relationships.

The success of individual athletes such as tennis player Alexander Zverev echoes Germany's enduring commitment to cultivating talent capable of leaving an indelible mark on the international stage. These champions enhance Germany's cultural export, promoting a sense of national pride and appealing to youth globally. By highlighting diverse sports, from field hockey to floorball, Germany thrives on showcasing a well-rounded sports culture that aligns with its broader national identity—ambitious, inclusive, and innovative.

Germany's sports scene is not merely about medals and accolades; it's an embodiment of resilience, cultural exchange, and national unity. This sporting culture enhances its global standing, drawing attention from countries across the globe. As Germany propels into future games and competitions, its dynamic sports heritage will continue to shape diplomatic conversations, offering a shared arena where nations can come together, beyond political and economic differences, to celebrate the spirit of competition and cooperation.

How Do Irish Play?

At the heart of Ireland's sports culture is a deeply rooted passion that courses through its sprawling green landscapes, reflecting a profound attachment to athletic endeavors both traditional and contemporary. This fervor has propelled Ireland to impressive international prestige, with its achievements in sports such as rugby, equestrian sports, and golf capturing global attention. Ireland stands proudly on top of the world in rugby union, a testament to the nation's rugged spirit and community-driven dedication to the sport. Equestrian excellence also highlights Ireland's historical bond with equine pursuits, fostering a unique blend of heritage and modern competition that continually places the nation among the elite. Such achievements have not only fostered national pride but also elevated Ireland's status in sports diplomacy, further entrenching its influence on the global sporting stage.

The rich tableau of Irish sports is also defined by formidable performances in rowing and the marathon, where its athletes repeatedly prove their mettle among the highest ranks. This success underscores the national character of resilience and endurance, traits that resonate through every cheering crowd at events and serve as an ambassadorial bridge in international relations. The notable prowess in track cycling and artistic gymnastics further exemplifies Ireland's diversification across varied sports, highlighting a strategic cultivation of talent that expands beyond just the popular games.

Grassroots participation forms the backbone of Ireland's sporting identity, driving forward its athletic achievements. Community involvement in sports is not just a pastime but a way of life, with local clubs nurturing talent from an early age, prominently seen in the prominent football leagues that engage generations in both men's and women's competitions. While

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Dirk Nowitzki's Precision

The renowned German basketball player, Dirk Nowitzki, demonstrates his impeccable free throw technique during a heated match between the Dallas Mavericks and the Chicago Bulls. Known for his exceptional skills and towering presence, Nowitzki remains a pivotal figure in basketball, showcasing Germany's contribution to the global sports arena.

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football remains a widespread pursuit with fluctuating successes on international platforms, it remains a fundamental element of national cohesion and anticipation. This comprehensive network is instrumental in developing athletic capability and bolsters Ireland's standing based on per capita assessments, reflecting how deeply interwoven sports are in the Irish societal fabric.

In the realm of individual sports, Ireland's numerous Olympic medals speak volumes about the concentration of talent nestled within its borders. The country excels notably in amateur boxing and continues to forge paths in disciplines like shooting, judo, and swimming, where its athletes consistently perform above expectations. These accomplishments, though challenging to maintain against larger nations, reflect an unwavering commitment to excellence and a strategic focus on cultivating competitive niches that advance Ireland's global sporting reputation.

Overall, the tapestry of Ireland's sporting prowess is not merely defined by its statistics and accolades. It is the emotive force of shared passion, cultural pride, and relentless ambition that shapes Ireland's athletic landscape—turning it into an influential player on the global stage. This cultural identity is a pivotal factor in international relations, where sporting successes act as soft power tools for diplomacy and collaboration, allowing Ireland to foster multifaceted partnerships and embrace new opportunities in an interconnected world of shared passions.

German & Irish Sports Excellence Compared

When analyzing German and Irish athletic indicators, we can identify certain similarities. The two nations are most closely aligned in track cycling, women's football, and sailing, while their most significant differences occur in bobsleigh, ski jumping, and kayak sprint.

At the juncture of athletic traits, Germans and Irish demonstrate a shared similarity of 59%. Spaniards closely match the German profile, while Moroccans emerge the equivalent for Irish. This is further illustrated in the concluding chart, where Irish are ranked seventy-third in the Germans' rankings, while Germans are eightieth in the Irish' listings.

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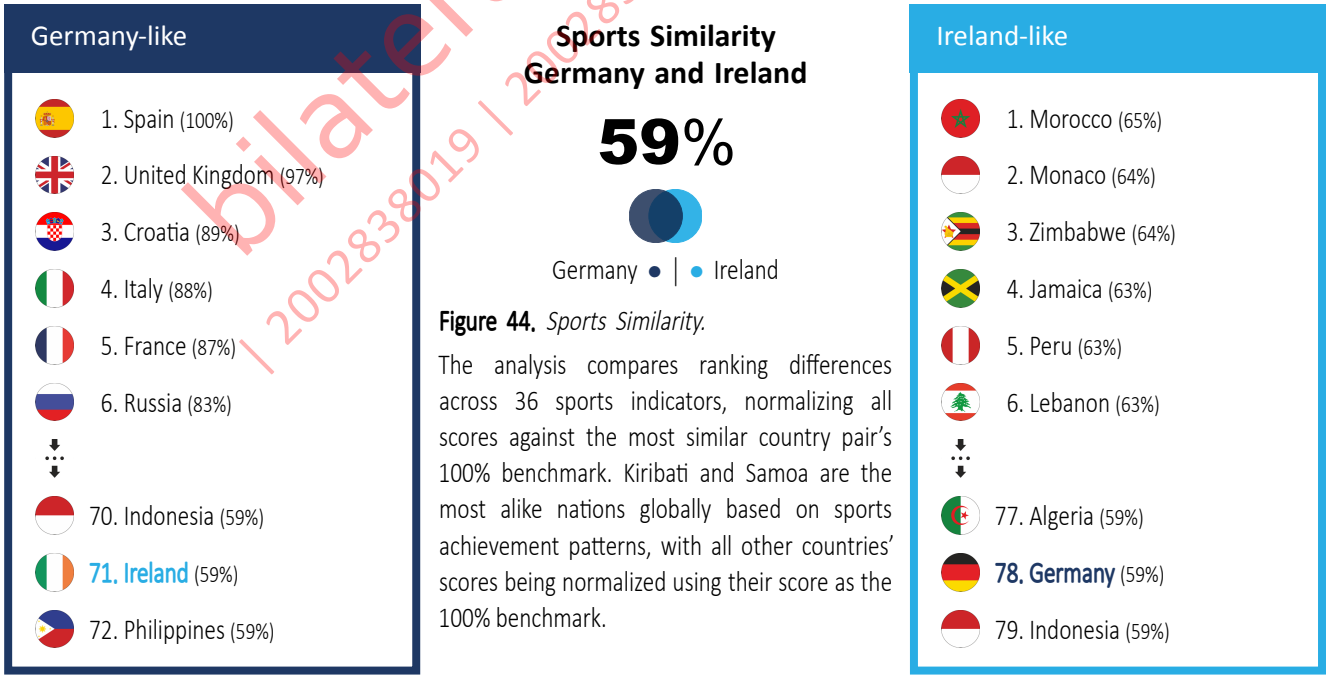


Figure 44. *Sports Similarity.*

The analysis compares ranking differences across 36 sports indicators, normalizing all scores against the most similar country pair's 100% benchmark. Kiribati and Samoa are the most alike nations globally based on sports achievement patterns, with all other countries' scores being normalized using their score as the 100% benchmark.



Classic Irish Stew: A Hearty Tradition

Dive into the comforting warmth of this quintessential Irish dish, blending tender beef, smoky bacon, and fresh vegetables, all slow-cooked in a rich beer-infused broth. This stew is seasoned to perfection, embodying the essence of Irish culinary tradition and offering a delicious taste of home.

Cuisine Patterns

Cuisine, often seen as the essence of a nation, reflects cultural, historical, and social threads, transcending mere sustenance. Food carries emotional significance, breaking linguistic and geopolitical barriers, and serves as a tool for diplomats and business leaders. Understanding a nation's culinary landscape offers insights into its identity, fostering better communication and relationships. In our globalized world, gastronomic sensibilities act as a form of soft power. This section explores the fascinating parallels between the cuisines of Germany and Ireland.

We leverage AI, Big Data, and Social Network Analysis (SNA) for a comprehensive study of global national cuisines. The scale and mathematical rigor of this study add depth to our findings.

We cataloged the top 100 recipes from each of the 193 UN member states, using Big Data and AI to scrape internet databases. For smaller nations, we ensured a minimum of 30 recipes to maintain a reasonable sample size.

After collecting recipes, we cleaned text-based ingredient lists to address language barriers, plural-singular distinctions, synonyms, and cultural nuances, a process that took weeks or months.

We cataloged over 1,000 unique ingredients present in at least two countries and created dyads—two-dimensional relationships between countries based on individual ingredients and their pairings within dishes. An intricate ingredient-ingredient dyadic table with over 358,000 records described how these ingredients co-occur in dishes worldwide. Using sophisticated algorithms, we derived similarity scores between countries, offering a unique perspective on their culinary connections.

By comparing the culinary traditions of Germany and Ireland, we reveal shared and unique elements that define their cuisines. This analysis highlights common ingredients and culinary techniques, and underscores cultural exchanges and historical influences shaping their gastronomic landscapes. The resulting similarities and differences provide insights into the cultural fabric of each nation, enhancing our understanding of how food can bridge cultural divides.

This section celebrates the power of cuisine to connect people and cultures. Through rigorous analysis and innovative methodologies, we uncover deep culinary ties between Germany and Ireland, demonstrating how food serves as a universal language fostering mutual understanding and appreciation. This exploration underscores the potential of culinary diplomacy to enhance international relations and create lasting bonds between nations.

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Germans in the Kitchen

Its emblems are known far beyond its borders. Bratwurst, blistering over embers at a market stall, and the pale, delicate Weißwurst of the Bavarian south, traditionally eaten before the church bells of midday, speak to a butcher's craft refined over generations. Sauerkraut, that tangy triumph of preservation, brightens platters of pork and sausage with its clean acidity. Rouladen, thin beef rolled around bacon, onion and mustard-smeared pickle, arrive in dark, glossy gravy for Sunday tables, while Leberkäse and Frikadelle serve the everyday appetite, and Currywurst, the beloved child of the postwar city, proves the cuisine's talent for cheerful reinvention. Schnitzel, golden and thin as parchment, needs only lemon. From the potato come Kartoffelsalat, dressed with vinegar and broth in the south or creamily bound in the north, and Kartoffelpuffer, lacy and hot, served with applesauce. Swabia contributes Käsespätzle, its soft egg noodles layered

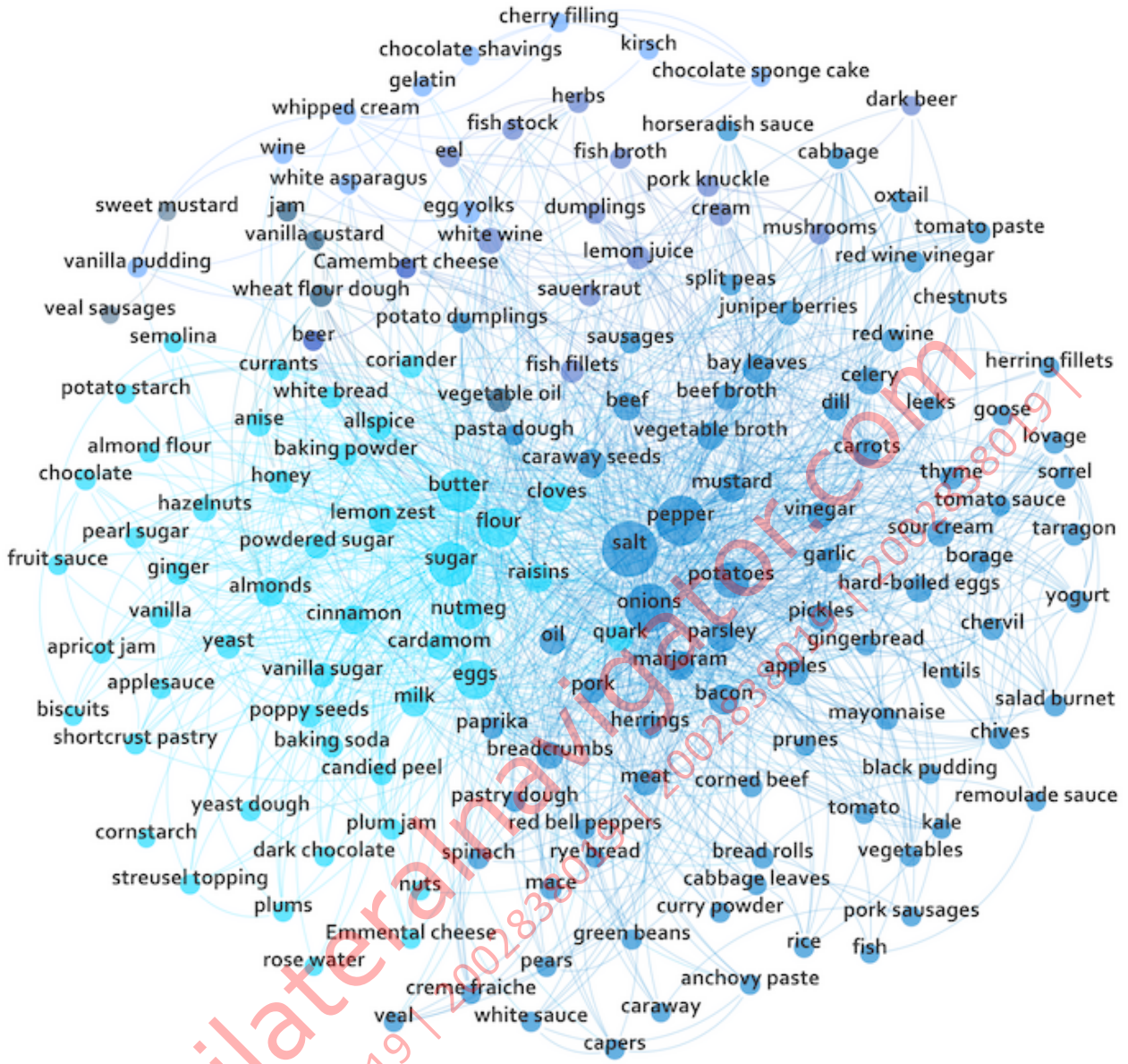


Figure 45. *The Flavor Palette of Germany.*

Embark on a gastronomic exploration of Germany through this sophisticated graph, illuminating 140 key ingredients that shape the nation's culinary identity. This visual representation brings to life 100 of Germany's most cherished dishes, including beloved classics such as Apfelstrudel, Bienenstich, Black Forest Cake, Bratwurst, Brezel, Currywurst, Eintopf, Frikadelle, Goulash, Kartoffelsalat, Käsespätzle, Labskaus, Leberkäse, Maultaschen, Rouladen, Sauerkraut, Schnitzel, Stollen, Weißwurst, and Zwiebelkuchen. The ingredient spectrum is derived from an extensive analysis of popular dishes across 193 countries, focusing on elements present in at least two distinct national cuisines. The prominence of each ingredient in the graph correlates with its frequency in German recipe combinations. The color scheme, generated through modularity class algorithms, unveils the diverse flavor profiles intrinsic to German cooking. While salty and sweet notes predominate, the graph also reveals the subtle interplay of bitter, sour, and spicy elements. This mathematical interpretation not only highlights the unique flavor combinations that define German gastronomy but also demonstrates its connections to global culinary traditions, offering a captivating insight into the taste preferences and culinary richness of Germany.

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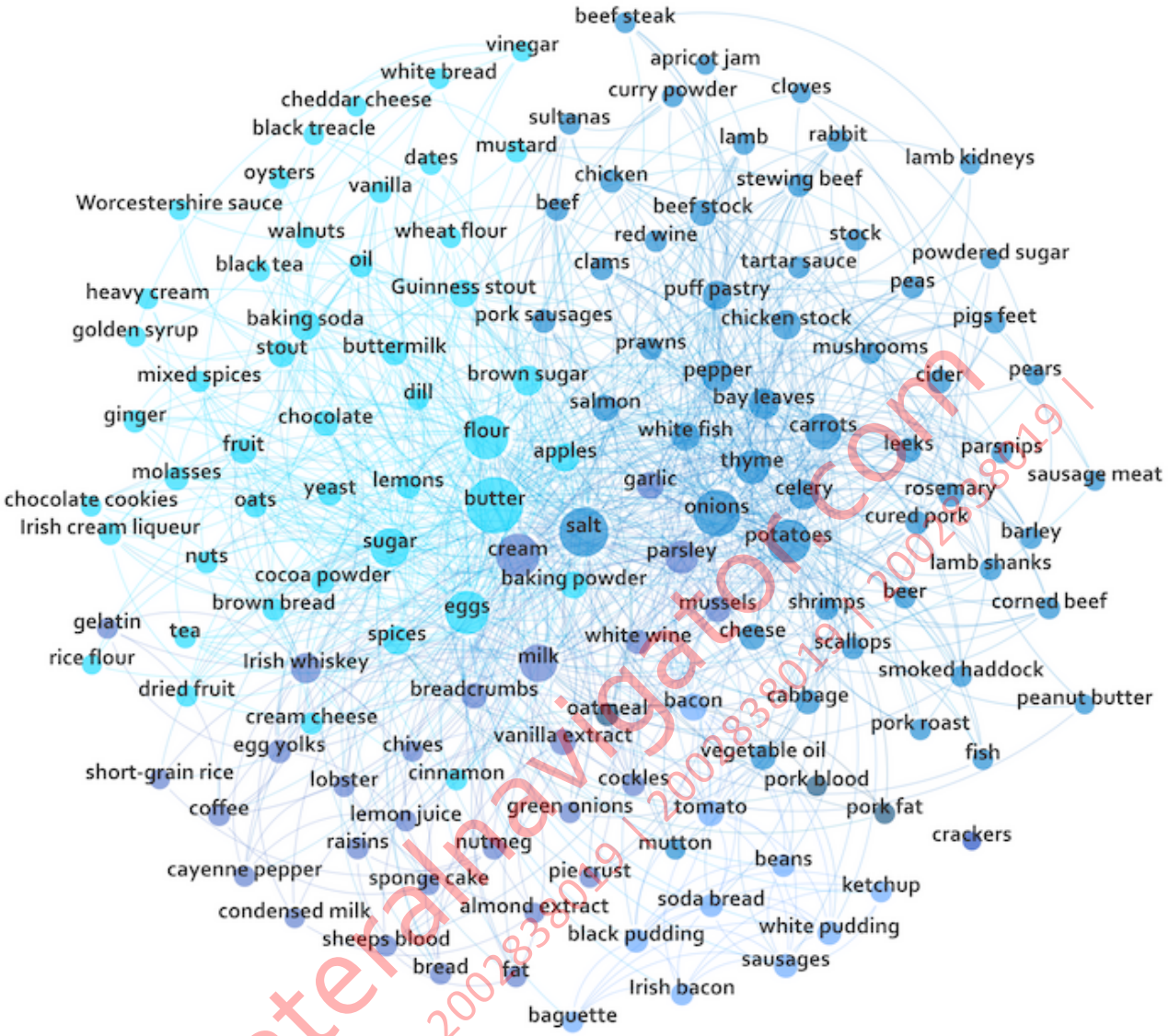


Figure 46. *The Flavor Palette of Ireland.*

Embark on a gastronomic exploration of Ireland through this sophisticated graph, illuminating 140 key ingredients that shape the nation's culinary identity. This visual representation brings to life 100 of Ireland's most cherished dishes, including beloved classics such as Bacon and Cabbage, Barmbrack, Beef and Guinness Stew, Black Pudding, Boxty, Champ, Cockles and Mussels, Coddle, Colcannon, Corned Beef and Cabbage, Crubeens, Drisheen, Dublin Lawyer, Full Breakfast, Limerick Ham, Oysters and Guinness, Shepherd's Pie, Smoked Salmon, Soda Bread, and Stew. The ingredient spectrum is derived from an extensive analysis of popular dishes across 193 countries, focusing on elements present in at least two distinct national cuisines. The prominence of each ingredient in the graph correlates with its frequency in Irish recipe combinations. The color scheme, generated through modularity class algorithms, unveils the diverse flavor profiles intrinsic to Irish cooking. While salty and sweet notes predominate, the graph also reveals the subtle interplay of bitter, sour, and spicy elements. This mathematical interpretation not only highlights the unique flavor combinations that define Irish gastronomy but also demonstrates its connections to global culinary traditions, offering a captivating insight into the taste preferences and culinary richness of Ireland.

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German Culinary Delight

Sauerbraten, a savory German national dish, embodies the harmonious blend of marinated braised beef with Rotkohl and Spaetzle. This meal, rich in tradition, showcases Germany's love for hearty flavors and home cooking, served with a touch of tangy vinegar and luscious demi-glace for a truly authentic dining experience.

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with mountain cheese and crowned with browned onions, while Eintopf, the one-pot stew, and the paprika-warmed comfort of Goulash carry echoes of the Danube. The coast answers with Labskaus, a mariner's dish of beef, beet and potato beside pickled herring.

Bakeries anchor the rhythm of the day: dark rye and seeded loaves, and the burnished Brezel with its salted, lye-kissed crust. Sweetness arrives with equal seriousness, in Apfelstrudel's coiled layers, in the cherry-and-cream architecture of Black Forest Cake, in Bienenstich with its caramelized almond crown and custard heart, and in Stollen, heavy with dried fruit and marzipan, dusted white for the weeks of Advent. Onion tart, Zwiebelkuchen, belongs to the wine harvest, eaten with cloudy new wine while the vineyards turn gold.

The pantry is unmistakable: butter, eggs, flour and onions; potatoes, cabbage and root vegetables; caraway, mustard, marjoram, juniper and bay; cinnamon and nutmeg for the sweet side; smoked pork, freshwater fish, forest mushrooms and berries. Beer and wine are not accompaniments so much as ingredients of the culture itself, and the calendar of festivals, markets and harvests dictates what appears on the plate.

Such traditions do not stop at frontiers. Austria and Liechtenstein share its pastries and its love of breaded meat; Czechia and Poland its dumplings, cabbage and preserved pork; Hungary lends its paprika; the Netherlands mirrors its butter, potatoes and warm spice. Across this shared table, Germany's cuisine speaks a common Central European language of thrift, comfort and welcome.

What's on Irish's Plate?

Bread here needs no waiting: soda bread, quickened with buttermilk and bicarbonate, was cut with a cross and slipped into a bastible over the fire, its crust cracking as it cooled. Barmbrack, freckled with soaked fruit and steeped in tea, hid tokens for the curious on Hallowe'en night. Boxty, part pancake and part potato bread, remembers the fierce ingenuity of a people who learned to coax variety from a single tuber. Black pudding and drisheen speak of the slaughter and its careful accounting, while crubeens, singed and simmered pigs' trotters, were once street food to be gnawed over a pint in a market town. Cured meats hold pride of place too, from bacon and cabbage with its parsley sauce to the juniper-smoked Limerick ham and the salt-beef tradition that emigrants carried abroad as corned beef and cabbage.

The sea supplies the cuisine's finer register. Oysters from Galway or the muddy creeks of Cork, swallowed with a mouthful of stout, are a partnership almost sacramental. Cockles and mussels have their own ballad. Salmon, oak-smoked or cured in the old wild manner, is the country's most elegant export, and Dublin Lawyer, lobster flamed in whiskey and finished with cream, shows that Irish cooking can be lavish when the occasion demands. Stout finds its way into the pot as well, darkening beef in Beef and Guinness Stew, while shepherd's pie crowns minced lamb with a golden ridge of potato. Mornings begin, at least on days that ask for fortification, with a Full Irish Breakfast: eggs, rashers, sausages, both puddings, mushrooms, tomato and fried bread, a plate that anticipates weather and work.

Its kinship with British cooking is close and undeniable, forged by centuries of exchange, shared crops and a common climate, and the family extends outward to the pantries of Norway, Sweden and the Netherlands, to Canada and New Zealand, where grazing land, cold seas and dairy also shaped a plain, generous table. Yet what distinguishes the Irish version is the company it keeps: bread cooling on a windowsill, a fire, a story told longer than the meal, and the quiet insistence that good food need not be complicated to be remembered.

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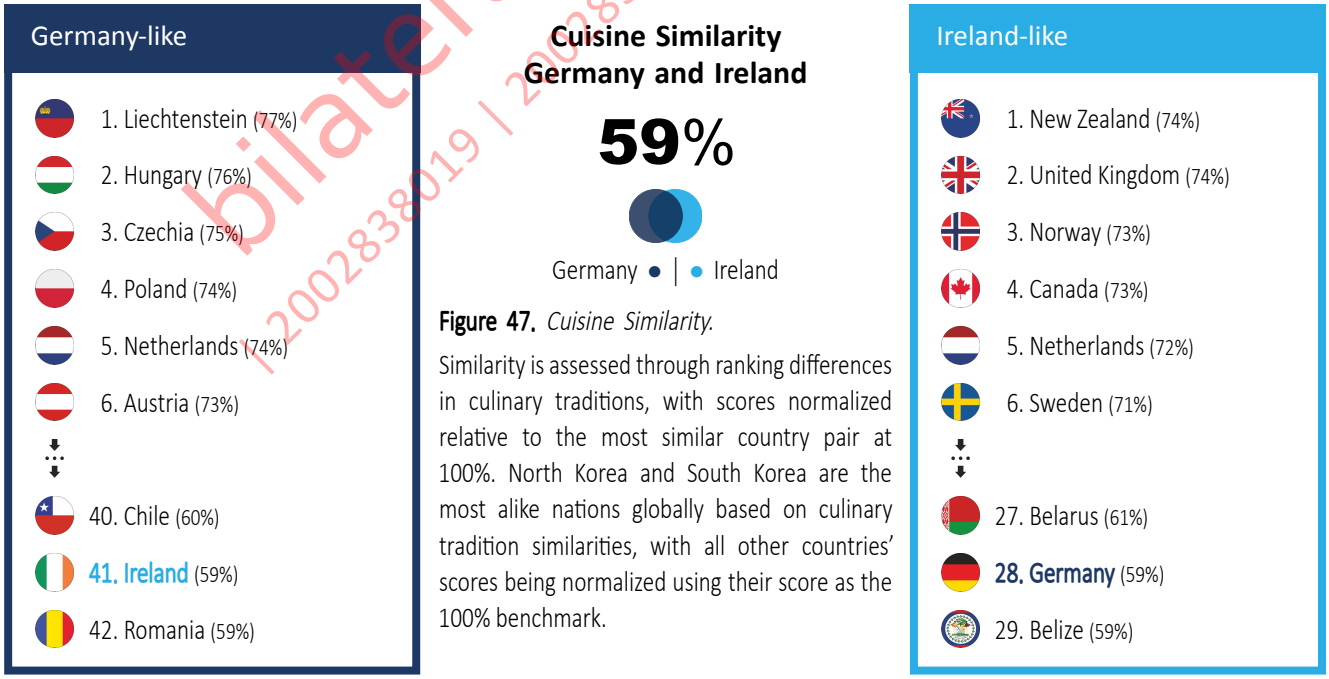


Figure 47. *Cuisine Similarity.*

Similarity is assessed through ranking differences in culinary traditions, with scores normalized relative to the most similar country pair at 100%. North Korea and South Korea are the most alike nations globally based on culinary tradition similarities, with all other countries' scores being normalized using their score as the 100% benchmark.

Appendices

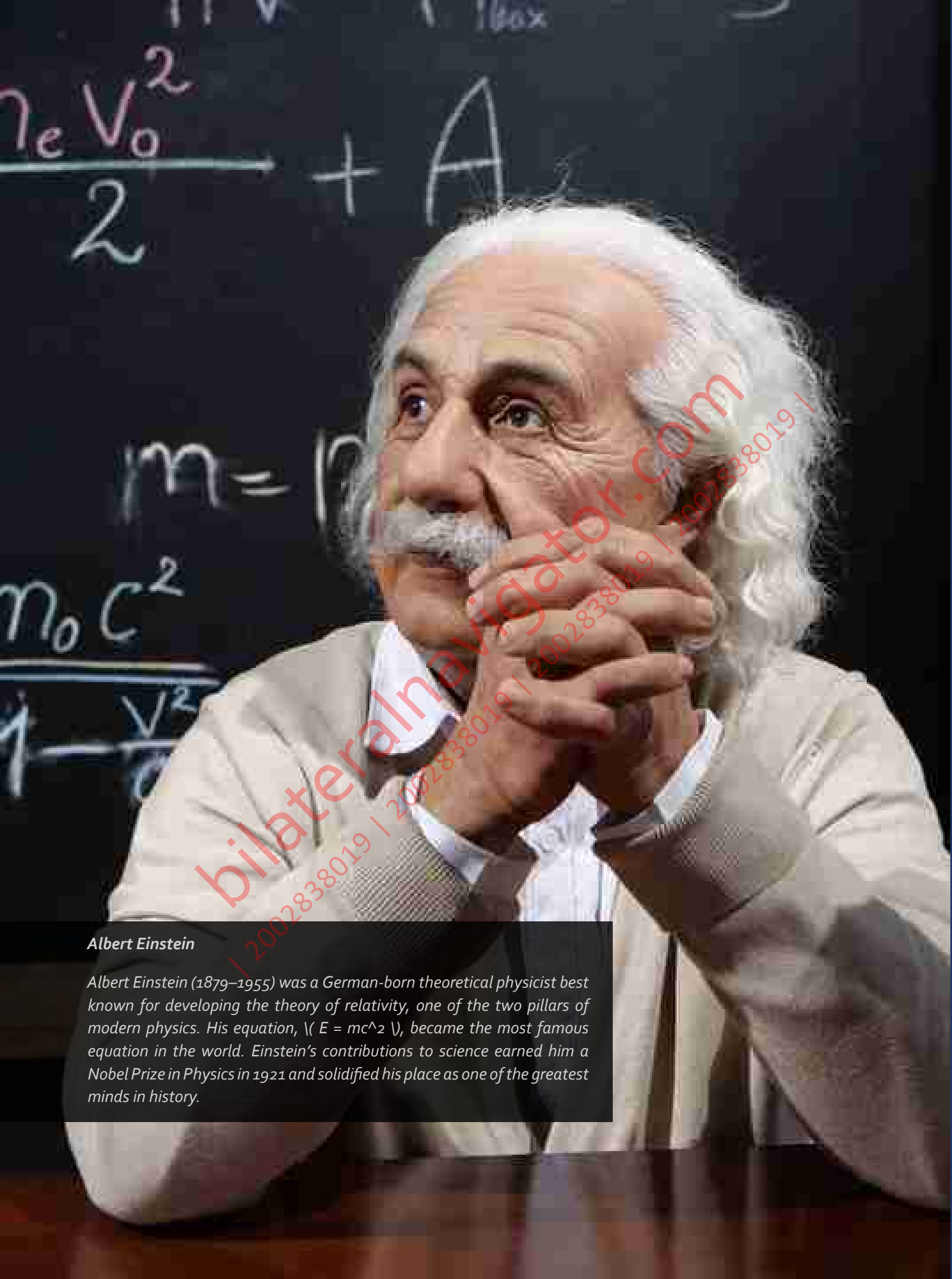
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Appendices

Appendices

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Albert Einstein

Albert Einstein (1879–1955) was a German-born theoretical physicist best known for developing the theory of relativity, one of the two pillars of modern physics. His equation, \(E = mc^2 \), became the most famous equation in the world. Einstein's contributions to science earned him a Nobel Prize in Physics in 1921 and solidified his place as one of the greatest minds in history.

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Germany's Top 500 Public Figures

Abbe, Ernst, physicist (1840-1905)

Adenauer, Konrad, Chancellor (1876-1967)

Adler, René, footballer (1985)

Adorno, Theodor W., philosopher, sociologist, theorist (1903-1969)

Agrippa, Heinrich Cornelius, polymath and physician (1486-1535)

Agrippina The Younger, Roman empress, Julio-Claudian dynasty member (15-59)

Akın, Fatih, filmmaker (1973)

Albers, Josef, designer, painter, educator, typographer (1888-1976)

Albertus Magnus, Dominican friar and saint (1206-1280)

Altıntop, Hamit, football player (1982)

Alzheimer, Alois, psychiatrist and neuropathologist (1864-1915)

Ambrose, Roman theologian and Bishop of Milan (340-397)

Angerer, Nadine, footballer (1978)

Anne of Cleves, Queen consort of England (1515-1557)

Arminius, chieftain (-17-21)

Augustus Iii of Poland, King of Poland, Elector of Saxony (1696-1763)

Augustus Ii The Strong, King of Poland, Grand Duke of Lithuania, Elector of Saxony (1670-1733)

Bach, Carl Philipp Emanuel, composer (1714-1788)

Bach, Johann Christian, composer (1735-1782)

Bach, Johann Sebastian, composer (1685-1750)

Bach, Thomas, IOC president (1953)

Badstuber, Holger, football player (1989)

Ballack, Michael, football player (1976)

Balta, Hakan, footballer (1983)

Bausch, Pina, dancer and choreographer (1940-2009)

Bebel, August, social democrat politician (1840-1913)

Beckenbauer, Franz, football player (1945)

Beck, Ludwig, general (1880-1944)

Beckmann, Max, painter, sculptor, writer (1884-1950)

Beck, Ulrich, sociologist and scholar (1944-2015)

Beethoven, Van, Ludwig, composer (1770-1827)

Behrens, Peter, architect and designer (1868-1940)

Behring, Von, Emil Adolf, physiologist, Nobel Prize winner for diphtheria antitoxin (1854-1917)

Bender, Sven, footballer (1989)

Benedict Xvi, pope of the Catholic Church (1927)

Benjamin, Walter, literary critic, philosopher, social critic (1892-1940)

Benz, Carl, automotive designer (1844-1929)

Bernstein, Eduard, politician (1850-1932)

Bešić, Muhamed, football player (1992)

Beuys, Joseph, artist, teacher, and theorist of art (1921-1986)

Bierhoff, Oliver, association football official and former player (1968)

Bismarck, Von, Otto, statesman and Chancellor (1815-1898)

Bloch, Ernst, philosopher (1885-1977)

Blücher, Von, Gebhard Leberecht, Prussian field marshal (1742-1819)

Boas, Franz, anthropologist (1858-1942)

Boateng, Jérôme, association football player (1988)

Boateng, Kevin-Prince, association football player (1987)

Bohlen, Dieter, songwriter, producer, singer, TV personality (1954)

Böhme, Jakob, Christian mystic and theologian (1575-1624)

Bonhoeffer, Dietrich, Lutheran pastor, theologian, anti-Nazi dissident (1906-1945)

Born, Max, physicist and mathematician (1882-1970)

Borowski, Tim, footballer (1980)

Bosch, Carl, chemical engineer (1874-1940)

Brandt, Willy, Chancellor (1913-1992)

Brant, Sebastian, German humanist and satirist (1458)

Braun, Eva, companion and wife of Hitler (1912-1945)

Brecht, Bertolt, poet, playwright, theatre director (1898-1956)

Brehme, Andreas, footballer (1960)

Breitner, Paul, association football player (1951)

Bruch, Max, composer and conductor (1838-1920)

Brühl, Daniel, actor (1978)

Brüning, Heinrich, chancellor (1885-1970)

Büchner, Georg, dramatist and writer (1813-1837)

Bukowski, Charles, writer (1920-1994)

Bunsen, Robert, chemist (1811-1899)

Busch, Wilhelm, painter and poet (1832-1908)

Buxtehude, Dietrich, organist, composer (1637-1707)

Çalhanoğlu, Hakan, football player (1994)

Canaris, Wilhelm, admiral, head of military intelligence (1887-1945)

Cantor, Georg, mathematician, inventor of set theory (1845-1918)

Caracciola, Rudolf, racing and motorcycle driver (1901-1959)

Carnap, Rudolf, philosopher, logician (1891-1970)

Caroline of Ansbach, Queen Consort of Great Britain (1683-1737)

Caroline of Brunswick, Queen consort (1768-1821)

Carol I of Romania, King of Romania (1839-1914)

Cassirer, Ernst, philosopher (1874-1945)

Charlemagne, first Holy Roman Emperor (748-814)

Charles The Bald, Holy Roman Emperor and King (823-877)

Charles The Fat, emperor of the Carolingian Empire (839-888)

Charlotte of Mecklenburg-Strelitz, Queen consort of Great Britain and Ireland (1744-1818)

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Choupo-Moting, Éric Maxim, football player (1989)

Christian Ix of Denmark, King of Denmark (1818-1906)

Clausewitz, Von, Carl, soldier and military theorist (1780-1831)

Clausius, Rudolf, physicist and professor (1822-1888)

Cranach The Elder, Lucas, painter and printmaker (1472-1553)

Cusa, Of, Nicholas, philosopher, theologian, jurist, astronomer (1401-1464)

Dahrendorf, Ralf, sociologist, politician (1929-2009)

Debye, Peter, physicist and chemist (1884-1966)

Degenkolb, John, racing cyclist (1989)

Deisler, Sebastian, football player (1980)

Dietrich, Marlene, actress and singer (1901-1992)

Dilthey, Wilhelm, historian, psychologist, sociologist, philosopher (1833-1911)

Dix, Otto, painter and printmaker (1891-1969)

Döblin, Alfred, expressionist novelist (1878-1957)

Doro, singer and frontwoman of Warlock (1964)

Draxler, Julian, association football player (1993)

Drechsler, Heike, long jumper (1964)

Durm, Erik, football player (1992)

Dutschke, Rudi, student activist (1940-1979)

Ebert, Friedrich, politician, president (1871-1925)

Effenberg, Stefan, football player (1968)

Ehrlich, Paul, physician and scientist (1854-1915)

Einstein, Albert, theoretical physicist (1879-1955)

Elias, Norbert, sociologist (1897-1990)

Elisabeth, Empress of Austria and Queen of Hungary (1837-1898)

Emmerich, Roland, filmmaker (1955)

Ende, Michael, writer of fantasy and children's fiction (1929-1995)

Engels, Friedrich, political philosopher, socialist (1820-1895)

Enke, Robert, association football player (1977-2009)

Erhard, Ludwig, chancellor (1897-1977)

Erikson, Erik, psychoanalyst, essayist (1902-1994)

Ernest Ii, Duke of Saxe-Coburg And Gotha, prince (1818-1893)

Ernst August Ii, King of Hanover (1771-1851)

Fallada, Hans, writer (1893-1947)

Fassbender, Michael, actor (1977)

Fassbinder, Rainer Werner, filmmaker, playwright, and actor (1945-1982)

Feuchtwanger, Lion, writer (1884-1958)

Feuerbach, Ludwig, philosopher and anthropologist (1804-1872)

Fichte, Johann Gottlieb, philosopher (1762-1814)

Fischer, Helene, singer (1984)

Fischer, Joschka, politician (1948)

Fontane, Theodor, novelist and poet (1819-1898)

Frank, Anne, diarist and Holocaust victim (1929-1945)

Frank, Otto, father of Anne Frank (1889-1980)

Frederick Ii of Prussia, King of Prussia (1712-1786)

Frederick I of Prussia, Elector of Brandenburg, Duke of Prussia (1657-1713)

Frederick V of The Palatinate, Elector Palatine (1596-1632)

Frederick William Iii of Prussia, King of Prussia (1770-1840)

Frederick William Iv, King of Prussia (1795-1861)

Frederick William of Brandenburg, Elector of Brandenburg, Duke of Prussia (1620-1688)

Frege, Gottlob, mathematician, logician, philosopher (1848-1929)

Friedrich, Arne, football player (1979)

Friedrich, Caspar David, painter (1774-1840)

Friedrich Iii of Germany, emperor (1831-1888)

Friedrich Wilhelm Ii of Prussia, King of Prussia (1744-1797)

Friedrich Wilhelm I of Prussia, King of Prussia (1688-1740)

Frings, Torsten, football player and manager (1976)

Fritz, Clemens, football player (1980)

Fröbel, Friedrich, educator (1782-1852)

Fromm, Erich, sociologist and psychoanalyst (1900-1980)

Funke, Cornelia, author (1958)

Furtwängler, Wilhelm, conductor and composer (1886-1954)

Gadamer, Hans-Georg, philosopher (1900-2002)

Gauck, Joachim, pastor and politician (1940)

Gauss, Carl Friedrich, mathematician and physicist (1777-1855)

Genscher, Hans-Dietrich, politician (1927-2016)

George Ii, monarch (1683-1760)

George I, King of Great Britain and Ireland (1660-1727)

Ginter, Matthias, football player (1994)

Gnabry, Serge, football player (1995)

Goebbels, Joseph, Nazi politician and Propaganda Minister (1897–1945)

Goethe, Von, Johann Wolfgang, writer and scientist (1749-1832)

Gómez, Mario, association football player (1985)

Goretzka, Leon, football player (1995)

Görges, Julia, tennis player (1988)

Götze, Mario, football player (1992)

Graf, Steffi, tennis player (1969)

Grass, Günter, novelist, poet, playwright, illustrator, graphic artist, sculptor (1927-2015)

Grimm, Jacob, philologist, linguist, jurist, mythologist (1785-1863)

Grimm, Wilhelm, author (1786-1859)

Grönemeyer, Herbert, singer, musician, composer (1956)

Gropius, Walter, architect (1883-1969)

Großkreutz, Kevin, football player (1988)

Grosz, George, artist (1893-1959)

Grünewald, Matthias, Renaissance painter (1480-1528)

Guderian, Heinz, general (1888-1954)

Guericke, Otto Von, Scientist, Inventor, And Politician, 0 (1602-1686)

Gündoğan, İlkay, association football player (1990)

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Gutenberg, Johannes, blacksmith, goldsmith, printer, publisher (1394-1468)

Haas, Tommy, tennis player (1978)

Haber, Fritz, chemist, Nobel laureate (1868-1934)

Habermas, Jürgen, sociologist, philosopher (1929)

Haeckel, Ernst, biologist, naturalist, philosopher, physician, artist (1834-1919)

Hagen, Nina, singer (1955)

Hahnemann, Samuel, physician and homeopathy creator (1755-1843)

Hahn, Otto, chemist and physicist (1879-1968)

Haller, Helmut, football player (1939-2012)

Handel, George Frideric, Baroque composer (1685-1759)

Hegel, Georg Wilhelm Friedrich, philosopher and theologian (1770-1831)

Heidegger, Martin, philosopher (1889-1976)

Heine, Heinrich, poet, writer, critic (1797-1856)

Heinemann, Gustav, politician, president (1899-1976)

Heisenberg, Werner, physicist, Nobel laureate (1901-1976)

Helmholtz, Von, Hermann, physicist, physiologist (1821-1894)

Henry Ii, Holy Roman Emperor (973-1024)

Henry Iv, Holy Roman Emperor (1050-1106)

Henry The Lion, Duke of Saxony, Duke of Bavaria (1129-1195)

Herbart, Johann Friedrich, philosopher, psychologist, and pedagogy founder (1776-1841)

Herberger, Sepp, footballer and manager (1897-1977)

Herder, Johann Gottfried, philosopher, theologian, poet, and literary critic (1744-1803)

Herschel, Caroline, astronomer (1750-1848)

Hertz, Heinrich Rudolf, physicist (1857-1894)

Herzog, Roman, former President (1934-2017)

Herzog, Werner, film director, producer, screenwriter, actor, opera director (1942)

Hesse, Hermann, writer (1877-1962)

Heuss, Theodor, politician (1884-1963)

Heynckes, Jupp, footballer and manager (1945)

Hilbert, David, mathematician (1862-1943)

Hildegard of Bingen, saint, prophet, mystic, Doctor of Church (1098-1179)

Hindemith, Paul, composer (1895-1963)

Hindenburg, Paul von, Prussian-German field marshal of the German Empire statesman and president of Weimar Germany and Nazi Germany (1847–1934)

Hirschfeld, Magnus, physician, sexologist (1868-1935)

Hitzfeld, Ottmar, football player and manager (1949)

Hitzlsperger, Thomas, footballer (1982)

Höfl-Riesch, Maria, alpine skier (1984)

Hölderlin, Friedrich, poet (1770-1843)

Honecker, Erich, former leader, General Secretary of the Socialist Unity Party (1912-1994)

Horkheimer, Max, philosopher and sociologist (1895-1973)

Horney, Karen, psychoanalyst (1885-1952)

Höwedes, Benedikt, football player (1988)

Humboldt, Von, Alexander, geographer, naturalist, explorer (1769-1859)

Humboldt, Von, Wilhelm, philosopher, official, diplomat, educator (1767-1835)

Hummels, Mats, association football player (1988)

Husserl, Edmund, philosopher (1859-1938)

Illgner, Bodo, footballer (1967)

Immel, Eike, football player (1960)

Jacobi, Carl Gustav Jacob, mathematician (1804-1851)

Jaspers, Karl, psychiatrist and philosopher (1883-1969)

Jean Paul, Romantic writer (1763-1825)

Jones, Jermaine, soccer player (1981)

Jünger, Ernst, writer (1895-1998)

Jürgens, Curd, actor (1915-1982)

Kahn, Oliver, football player (1969)

Kandinsky, Wassily, painter (1866-1944)

Kaymer, Martin, professional golfer (1984)

Kehl, Sebastian, football player (1980)

Kekilli, Sibel, actress (1980)

Kekulé, August, organic chemist (1829-1896)

Kempis, À, Thomas, canon regular (1380-1471)

Kepler, Johannes, mathematician and astronomer (1571-1630)

Kerber, Angelique, tennis player (1988)

Khedira, Sami, association football player (1987)

Kiefer, Anselm, painter, sculptor (1945)

Kier, Udo, actor (1944)

Kiesinger, Kurt Georg, chancellor (1904-1988)

Kießling, Stefan, football player (1984)

Kinski, Klaus, actor (1926-1991)

Kinski, Nastassja, actress (1961)

Kircher, Athanasius, Jesuit scholar (1602-1680)

Kirchner, Ernst Ludwig, painter, sculptor, engraver, printmaker (1880-1938)

Kirchoff, Gustav, physicist (1824-1887)

Klein, Felix, mathematician (1849-1925)

Klinsmann, Jürgen, footballer and manager (1964)

Klopp, Jürgen, football player, manager (1967)

Klose, Miroslav, German professional football manager and former player (1978)

Klum, Heidi, model, television personality, businesswoman (1973)

Knef, Hildegard, actress, singer and writer (1925-2002)

Koch, Robert, physician, bacteriologist (1843-1910)

Köhler, Horst, politician (1943)

Kohl, Helmut, Chancellor (1930-2017)

Kolašinac, Sead, footballer (1993)

Köpke, Andreas, football player (1962)

Kraepelin, Emil, psychiatrist (1856-1926)

Kramer, Christoph, football player (1991)

Krebs, Hans, biochemist (1900-1981)

Kroos, Toni, association football player (1990)

Kruger, Diane, actress (1976)

Krug, Marlene Kegler, German physician (1953–1977)

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Kruse, Max, football player (1988)

Lahm, Philipp, football player (1983)

Langer, Bernhard, golfer (1957)

Last, James, musician (1929-2015)

Laue, Max Von, Physicist, Nobel Laureate And Anti-Nazi, 0 (1879-1960)

Leibniz, Gottfried Wilhelm, mathematician and philosopher (1646-1716)

Lejeune Dirichlet, Johann Peter Gustav, mathematician (1805-1859)

Lenard, Philipp, physicist (1862-1947)

Leno, Bernd, football player (1992)

Lenz, Siegfried, author (1926-2014)

Lettow-Vorbeck, Von, Paul Emil, army officer (1870-1964)

Lewin, Kurt Zadek, psychologist (1890-1947)

Leyen, Ursula von der, President of the European Commission since 2019 (1958)

Lichtenberg, Georg Christoph, scientist, satirist (1742-1799)

Liebermann, Max, painter (1847-1935)

Liebig, Von, Justus, chemist (1803-1873)

Lilienthal, Otto, aviation pioneer (1848-1896)

Lindemann, Till, singer (1963)

List, Friedrich, economist (1789-1846)

Littbarski, Pierre, association football player and manager (1960)

Lothair I, Holy Roman Emperor (795-855)

Louis Iv, Duke and Holy Roman Emperor (1282-1347)

Löw, Joachim, football player and manager (1960)

Lubitsch, Ernst, actor, film director (1892-1947)

Ludwig Ii of Bavaria, king of Bavaria (1845-1886)

Luhmann, Niklas, sociologist and systems theorist (1927-1998)

Luther, Martin, priest and author (1483-1546)

Luxemburg, Rosa, Marxist theorist, socialist philosopher, revolutionary (1871-1919)

Magath, Felix, football player and manager (1953)

Maier, Sepp, footballer (1944)

Mann, Heinrich, writer (1871-1950)

Mann, Klaus, writer (1906-1949)

Mann, Thomas, novelist, Nobel laureate (1875-1955)

Marc, Franz, painter (1880-1916)

Marcuse, Herbert, philosopher, sociologist, and political theorist (1898-1979)

Marx, Karl, philosopher (1818-1883)

Maske, Henry, boxer (1964)

Masur, Kurt, conductor (1927-2015)

Matip, Joël, football player (1991)

Matthäus, Lothar, football player and manager (1961)

May, Karl, author (1842-1912)

Mayr, Ernst, evolutionary biologist (1904-2005)

Melanchthon, Philipp, reformer (1497-1560)

Memling, Hans, painter (1435-1494)

Mendelssohn, Felix, composer, pianist, organist, conductor (1809-1847)

Mendelssohn, Moses, philosopher, theologian (1729-1786)

Merian, Maria Sibylla, entomologist, botanist, illustrator (1647-1717)

Merkel, Angela, chancellor (1954)

Mertesacker, Per, association football player (1984)

Mesmer, Franz Anton, physician (1734-1815)

Metternich, Klemens, Von, diplomat (1773-1859)

Meyerbeer, Giacomo, composer (1791-1864)

Meyer-Landrut, Lena, singer (1991)

Meyer, Max, football player (1995)

Mies Van Der Rohe, Ludwig, architect (1886-1969)

Minkowski, Hermann, mathematician, physicist (1864-1909)

Mittermaier, Rosi, alpine skier (1950)

Modersohn-Becker, Paula, expressionist painter (1876-1907)

Moltke, Von, Helmuth, The Elder, field marshal (1800-1891)

Mommsen, Theodor, classical scholar and historian (1817-1903)

Morgenthau, Hans, political scientist (1904-1980)

Mozart, Leopold, composer and conductor (1719-1787)

Mueller-Stahl, Armin, actor and writer (1930)

Müller, Gerd, footballer (1945)

Müller, Thomas, footballer (1989)

Münchhausen, Von, Hieronymus Carl Friedrich, nobleman (1720-1797)

Müntzer, Thomas, pastor and rebel leader (1489-1525)

Murnau, F. W., film director (1888-1931)

Mustafi, Shkodran, football player (1992)

Nena, singer and actress (1960)

Nernst, Walther, physical chemist, physicist (1864-1941)

Netzer, Günter, footballer (1944)

Neuer, Manuel, football player (1986)

Neuner, Magdalena, biathlete (1987)

Nico, singer and actress (1938-1988)

Niemöller, Martin, theologian (1892-1984)

Nietzsche, Friedrich, philosopher (1844-1900)

Noether, Emmy, mathematician (1882-1935)

Nolde, Emil, artist (1867-1956)

Novalis, poet and writer (1772-1801)

Nowitzki, Dirk, professional basketball player (1978)

Odonkor, David, football player (1984)

Ohm, Georg Simon, physicist and mathematician (1789-1854)

Orff, Carl, composer (1895-1982)

Ossietzky, Von, Carl, journalist, author, pacifist, Nobel laureate (1889-1938)

Ostwald, Wilhelm, chemist (1853-1932)

Otto Iii, Holy Roman Emperor (980-1002)

Otto I The Great, Holy Roman Emperor (912-973)

Otto, Kristin, swimmer (1966)

Overath, Wolfgang, footballer (1943)

Özil, Mesut, footballer (1988)

Pachelbel, Johann, composer, organist, teacher (1653-1706)

Papen, Von, Franz, general staff officer, politician, diplomat, nobleman, and chancellor (1879-1969)

Paulus, Friedrich, general (1890-1957)

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Pechstein, Claudia, speed skater (1972)

Pilates, Joseph, inventor of Pilates (1883-1967)

Planck, Max, physicist (1858-1947)

Podolski, Lukas, German association football player (born 1985)

Potente, Franka, actress (1974)

Previn, André, pianist and composer (1929-2019)

Prince Consort of The Netherlands, Prince Bernhard, Spouse of Queen Juliana, 0 (1911-2004)

Princess Palatine, Elizabeth Charlotte, Princess, Wife of Philippe I, Duke of Orléans, 0 (1652-1722)

Prinz, Birgit, football player (1977)

Raab, Stefan, entertainer and producer (1966)

Raeder, Erich, naval officer, admiral (1876-1960)

Rahn, Helmut, footballer (1929-2003)

Rainer, Luise, actress (1910-2014)

Ranke, Von, Leopold, historian (1795-1886)

Rathenau, Walther, businessman and politician (1867-1922)

Rau, Johannes, president (1931-2006)

Reger, Max, composer, pianist, conductor (1873-1916)

Rehhagel, Otto, footballer, manager (1938)

Reiniger, Lotte, animator and film director (1899-1981)

Remarque, Maria, Erich, novelist (1898-1970)

Reus, Marco, footballer (1989)

Richter, Gerhard, visual artist (1932)

Riemann, Bernhard, mathematician (1826-1866)

Rilke, Maria, Rainer, poet and writer (1875-1926)

Rindt, Jochen, racing driver (1942-1970)

Rommel, Erwin, field marshal of World War II (1891-1944)

Röntgen, Wilhelm, physicist (1845-1923)

Rosberg, Nico, Formula 1 driver (1985)

Rüdiger, Antonio, football player (1993)

Rudolph I of Germany, count of Habsburg, king (1218-1291)

Rühmann, Heinz, actor (1902-1994)

Rummenigge, Karl-Heinz, football executive and former player (1955)

Sachs, Nelly, poet and playwright (1891-1970)

Şahin, Nuri, football manager, former player (1988)

Sammer, Matthias, football player, coach and executive (1967)

Sané, Leroy, football player (1996)

Schacht, Hjalmar, politician and economist (1877-1970)

Schäuble, Wolfgang, lawyer and politician (1942)

Scheel, Walter, President (1919-2016)

Scheler, Max, philosopher (1874-1928)

Schelling, Friedrich Wilhelm Joseph, philosopher (1775-1854)

Schiffer, Claudia, model (1970)

Schiller, Friedrich, poet, philosopher, historian, playwright (1759-1805)

Schinkel, Karl Friedrich, architect, planner, painter (1781-1841)

Schleiden, Matthias Jacob, botanist and philosopher (1804-1881)

Schleiermacher, Friedrich, theologian and philosopher (1768-1834)

Schlemmer, Oskar, painter, sculptor, designer and choreographer (1888-1943)

Schmeling, Max, boxer (1905-2005)

Schmelzer, Marcel, football player (1988)

Schmidt, Helmut, chancellor (1918-2015)

Schmitt, Carl, jurist, political theorist, professor of law (1888-1985)

Scholl, Mehmet, footballer (1970)

Scholz, Olaf, German politician (SPD) ninth Chancellor of the Federal Republic of Germany (2021–2025) Member of the Bundestag (1958)

Schön, Helmut, football player, manager (1915-1996)

Schopenhauer, Arthur, philosopher (1788-1860)

Schröder, Gerhard, chancellor (1944)

Schulz, Martin, politician (1955)

Schumacher, Michael, racing driver (1969)

Schumacher, Toni, football player (1954)

Schumann, Robert, composer (1810-1856)

Schürrle, André, association football player (1990)

Schuster, Bernd, football manager and former player (1959)

Schwann, Theodor, physiologist (1810-1882)

Schweiger, Til, actor (1963)

Schweinsteiger, Bastian, football player (1984)

Schwitters, Kurt, artist (1887-1948)

Seeler, Uwe, footballer (1936)

Siebold, Von, Philipp Franz, biologist and traveller (1796-1866)

Siemens, Von, Werner, electrical engineer and inventor (1816-1892)

Simmel, Georg, sociologist, philosopher, critic (1858-1918)

Sloterdijk, Peter, philosopher (1947)

Soares, Cédric, football player (1991)

Sommerfeld, Arnold, physicist (1868-1951)

Sophia of Hanover, Princess, Electress, heir presumptive (1630-1714)

Spengler, Oswald, historian, philosopher (1880-1936)

Starke, Tom, football player (1981)

Stauffenberg, Graf Von, Claus Schenk, army officer and aristocrat (1907-1944)

Stein, Edith, Catholic nun, theologian, and philosopher (1891-1942)

Steinmeier, Frank-Walter, president (1956)

Stirner, Max, philosopher (1806-1856)

Stockhausen, Karlheinz, composer (1928-2007)

Stolypin, Pyotr, politician (1862-1911)

Storm, Theodor, writer (1817-1888)

Strauß, Franz Josef, politician (1915-1988)

Strauss, Richard, composer and orchestra director (1864-1949)

Stresemann, Gustav, politician, statesman, and Nobel Peace Prize laureate (1878-1929)

Struensee, Johann Friedrich, regent of Denmark (1737-1772)

Taro, Gerda, photographer, Spanish Civil War reporter (1910-1937)

Tarrasch, Siegbert, chess player and theorist (1862-1934)

Telemann, Georg Philipp, composer (1681-1767)

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Ter Stegen, Marc-André, footballer (1992)

Thälmann, Ernst, communist politician, leader (1886-1944)

Tolle, Eckhart, writer (1948)

Tönnies, Ferdinand, sociologist, economist, philosopher (1855-1936)

Tosun, Cenk, football player (1991)

Tucholsky, Kurt, journalist and satirist (1890-1935)

Udet, Ernst, flying ace (1896-1941)

Ulbricht, Walter, leader, first secretary of the Socialist Unity Party (1893-1973)

Ullrich, Jan, cyclist (1973)

Van Almsick, Franziska, swimmer (1978)

Van Dyk, Paul, DJ and music producer (1971)

Vettel, Sebastian, racing driver (1987)

Virchow, Rudolf, doctor, anthropologist, public health activist, pathologist, prehistorian, biologist, politician (1821-1902)

Vogts, Berti, footballer, manager (1946)

Voigt, Jens, road bicycle racer and broadcaster (1971)

Völler, Rudi, footballer and manager (1960)

Von Bülow, Bernhard, politician (1849-1929)

Von Cramm, Gottfried, tennis player (1909-1976)

Von Tirpitz, Alfred, Admiral (1849-1930)

Wagner, Richard, opera composer (1813-1883)

Walser, Martin, writer (1927)

Walter, Fritz, footballer, world champion 1954 (1920-2002)

Warburg, Otto Heinrich, physiologist and Nobel laureate (1883-1970)

Weber, Max, sociologist, philosopher, and economist (1864-1920)

Weber, Von, Carl Maria, composer (1786-1826)

Wegener, Alfred, meteorologist, geologist, and astronomer (1880-1930)

Weidenfeller, Roman, football player (1980)

Weierstraß, Karl, mathematician (1815-1897)

Weill, Kurt, composer (1900-1950)

Weizsäcker, Richard von, President of Germany from 1984 to 1994 (1920)

Weizsäcker, Von, Carl Friedrich, physicist (1912-2007)

Weizsäcker, Von, Richard, president (1920-2015)

Wenders, Wim, filmmaker (1945)

Werner, Timo, football player (1996)

Westerwelle, Guido, politician (1961-2016)

Weyl, Hermann, mathematician (1885-1955)

Wieck, Clara, musician, composer (1819-1896)

Wiese, Tim, footballer (1981)

Wilhelm, Crown Prince, Crown Prince (1882-1951)

Wilhelm Ii, Emperor and King of Prussia (1859-1941)

Wilhelm I of Germany, emperor and king of Prussia (1797-1888)

William The Silent, statesman and revolt leader (1533-1584)

Winckelmann, Johann Joachim, art historian and archaeologist (1717-1768)

Witt, Katarina, figure skater (1965)

Wöhler, Friedrich, chemist (1800-1882)

Wolff, Christian, philosopher (1679-1754)

Wundt, Wilhelm, physician, physiologist, philosopher, professor (1832-1920)

XVI, Benedict, 265 th pope of the Catholic Church (2005–2013) (1927)

Zabel, Erik, cyclist (1970)

Zeppelin, Von, Ferdinand, general and airship pioneer (1838-1917)

Zetkin, Clara, Communist activist, women's rights advocate (1857-1933)

Zimmer, Hans, film composer (1957)

Zuse, Konrad, computer scientist and engineer (1910-1995)

Zverev, Alexander, German tennis player (1997)

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Ireland's Top 500 Public Figures

Abrahamson, Lenny, film director (1966)

Adams, Robert, physician (1791-1875)

Adomnán, hagiographer, statesman, clerical lawyer (624-704)

Ahern, Bertie, Taoiseach (1951)

Ahern, Cecelia, novelist (1981)

Allman, George James, natural historian (1812-1898)

Andrews, Keith, footballer (1980)

Ap Cynan, Gruffudd, king (1055-1137)

Armstrong, Jonas, actor (1981)

Bacon, Francis, painter (1909-1992)

Balfe, Caitríona, actress and model (1979)

Ball, Robert Stawell, astronomer (1840-1913)

Ball, Valentine, scientist (1843-1894)

Bálor, Finn, professional wrestler (1981)

Banville, John, writer (1945)

Baronet, Sir George Stokes, 1st, Irish mathematician and physicist (1819–1903)

Barry, James, surgeon, medical reformer (1795-1865)

Beaufort, Francis, hydrographer and naval officer (1774-1857)

Beckett, Samuel, novelist, playwright, and poet (1906-1989)

Bergin, Patrick, actor and singer (1951)

Berkeley, George, philosopher and bishop (1685-1753)

Binchy, Maeve, novelist (1940-2012)

Bland, Dorothea, actress and courtesan (1761-1816)

Blood, Thomas, colonel and thief (1618-1680)

Bolger, Sarah, actress (1991)

Bonner, Packie, footballer (1960)

Bonny, Anne, pirate (1702-1782)

Bono, rock musician (1960)

Boru, Brian, High King (941-1014)

Bourke, Mayo, Richard, viceroy and governor-general (1822-1872)

Bowen, Elizabeth, novelist and diarist (1899-1973)

Boyle, Robert, philosopher, chemist, physicist, and inventor (1627-1691)

Boyne, John, novelist (1971)

Brady, Liam, footballer and manager (1956)

Brady, Orla, actress (1961)

Brady, Robbie, footballer (1992)

Brady, Seán, Catholic cardinal (1939)

Bransfield, Edward, navy officer and explorer (1785-1852)

Brennan, Louis, engineer and inventor (1852-1932)

Brennan, Moya, folk singer and philanthropist (1952)

Brent, George, actor (1899-1979)

Briggs, Derek, paleontologist (1950)

Brigit of Kildare, abbess and saint (451-525)

Brinkley, Francis, writer (1841-1912)

Bromhead, Edward, mathematician and botanist (1789-1855)

Brosnan, Pierce, actor (1953)

Brouncker, 2nd Viscount Brouncker, William, mathematician (1620-1684)

Brown, Christy, artist (1932-1981)

Browne, Patrick, botanist (1720-1790)

Brown, Peter, historian (1935)

Bruce, Edward, High King (1275-1318)

Brugha, Cathal, revolutionary and politician (1874-1922)

Bruton, John, Taoiseach (1947)

Buckley, A. J., actor (1978)

Burke, Edmund, statesman and philosopher (1729-1797)

Burke, Robert O'Hara, explorer (1820-1861)

Bury, J. B., historian and scholar (1861-1927)

Butler, 2nd Duke of Ormonde, James, politician and soldier (1665-1745)

Buttimer, Anne, geographer (1938-2017)

Butt, Isaac, politician (1813-1879)

Byrne, Emma, association football player (1979)

Byrne, Gabriel, actor, director, producer, writer, ambassador, narrator (1950)

Cairnes, John Elliott, economist (1823-1875)

Callan, Nicholas, physicist (1799-1864)

Campbell, William C., biochemist (1930)

Cantillon, Richard, economist and banker (1680-1734)

Carney, Mark, 24th prime minister of Canada since 2025 (1965)

Carr, Stephen, footballer (1976)

Casey, John, geometer (1820-1891)

Cashman, Nellie, gold prospector (1845-1925)

Cassidy, Elaine, actress (1979)

Ceannt, Éamonn, republican and 1916 Easter Rising leader (1881-1916)

Chenevix, Richard, chemist (1774-1830)

Clarke, Tom, revolutionary leader (1857-1916)

Cleburne, Patrick, general (1828-1864)

Clerke, Agnes Mary, astronomer (1842-1907)

Cliffe Leslie, Thomas Edward, jurist and economist (1826-1882)

Cobbe, Frances Power, writer and social reformer (1822-1904)

Coghlan, Eamonn, runner and politician (1952)

Coleman, Séamus, football player (1988)

Colfer, Eoin, children's author (1965)

Colles, Abraham, doctor (1773-1843)

Collins, Michael, revolutionary leader (1890-1922)

Collins, Steve, boxer (1964)

Columba, missionary monk (521-597)

Columbanus, missionary (542-615)

Condon, Kerry, actress (1983)

Connolly, John, author (1968)

Coote, Eyre, British Army general (1726-1783)

Corr, Andrea, musician and songwriter (1974)

Corrigan, Dominic, physician (1802-1880)

Corr, Sharon, singer-songwriter (1970)

Cosgrave, Liam, politician (1920-2017)

Cosgrave, W. T., politician (1880-1965)

Costello, John A., politician (1891-1976)

Cowen, Brian, politician (1960)

Cox, Pat, politician (1952)

Crean, Thomas, explorer (1877-1938)

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Oscar Wilde

*Oscar Wilde (1854–1900) was an Irish poet, playwright, and aesthete, renowned for his wit and flamboyant style. His works include *The Picture of Dorian Gray* and *The Importance of Being Earnest*. Wilde's sharp social criticism and brilliant wordplay made him one of the most prominent writers of the Victorian era. He remains a literary icon, despite his tragic personal life.*

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Crossan, John Dominic, academic (1934)
Cullen, Paul, Catholic cardinal (1803-1878)
Cunningham, Greg, football player (1991)
Cunningham, Kenny, footballer (1971)
Cunningham, Liam, actor (1961)
Cusack, Cyril, actor (1910-1993)
Cusack, Michael, founder of Gaelic Athletic Association (1847-1906)
Cusack, Sinéad, actress (1948)
D'Arcy, Gordon, rugby union player (1980)
Davitt, Michael, republican and agrarian agitator (1846-1906)
De Burgh, Chris, singer-songwriter and instrumentalist (1948)
Deignan, Philip, road bicycle racer (1983)
Delaney, Damien, association football player (1981)
Delany, Ron, middle-distance runner (1935)
Dobson, George Edward, zoologist (1848-1895)
Dodwell, Henry, theologian (1641-1711)
Doherty, Gary, soccer player (1980)
Doherty, Ken, snooker player (1969)
Donoghue, Emma, novelist and playwright (1969)
Donovan, Edward, writer, illustrator, zoologist (1768-1837)
Doody, Alison, actress and model (1966)
Downing, George, 1st Baronet, preacher and diplomat (1623-1684)
Doyle, Colin, football player (1985)
Doyle Kennedy, Maria, singer (1964)
Doyle, Kevin, footballer (1983)
Doyle, Roddy, author (1958)
Drew, Ronnie, musician (1934-2008)
Duff, Damien, footballer (1979)
Duff, Frank, Catholic activist (1889-1980)
Duffy, Charles Gavan, nationalist and journalist (1816-1903)
Duffy, Eamon, historian (1947)
Duffy, Joseph, mixed martial artist (1988)
Dunne, Richard, footballer (1979)
Dunphy, Eamon, football player and journalist (1945)
Durnford, Anthony, army officer (1830-1879)
Earls, Keith, rugby union player (1987)
Edgeworth, Kenneth, astronomer, economist and engineer (1880-1972)
Edgeworth, Michael Pakenham, botanist and photographer in India (1812-1881)
Elliott, Stephen, association footballer (1984)
Ellis, John, linen merchant and naturalist (1710-1776)
Emmet, Robert, nationalist and rebel leader (1778-1803)
Enya, singer (1961)
Fahey, Keith, footballer (1983)
Farrell, Colin, actor (1976)
Farrington, Benjamin, scholar (1891-1974)
Field, John, pianist, composer, teacher (1782-1837)
Finnan, Steve, footballer (1976)
Fitton, William Henry, geologist (1780-1861)
Fitzgerald, 1st Duke of Leinster, James, nobleman, soldier and politician (1722-1773)
Fitzgerald, Barry, actor (1888-1961)
Fitzgerald, Edward, nationalist (1763-1798)
Fitzgerald, Garret, taoiseach (1926-2011)
Fitzgerald, George, physicist (1851-1901)
Fitzgerald, Michael, psychiatrist and academic (1946)
Fitzgerald, Robert D., Surveyor And Botanist, 0 (1830-1892)
Fitzgerald, Thomas, 10th Earl of Kildare, subject of painting (1513-1537)
Flanagan, Edward J., priest (1886-1948)
Flanagan, Fionnula, actress (1941)
Flanagan, John, hammer thrower (1873-1938)
Foley, Anthony, rugby player and coach (1973-2016)
Forde, David, association football player (1979)
Fox, Emmet, New Thought writer (1886-1951)
Fricker, Brenda, actress (1945)
Gallagher, Rory, guitarist (1948-1995)
Gallaher, Dave, rugby union footballer (1873-1917)
Gall, Saint, disciple and saint (550-645)
Gambon, Michael, actor (1940)
Gately, Stephen, pop singer (1976-2009)
Geldof, Bob, singer, author, activist (1951)
Gibson, Mel, American actor director producer and screenwriter (born 1956)
Giles, Johnny, soccer player and manager (1940)
Gillen, Aidan, actor (1968)
Gilmore, Eamon, politician (1955)
Given, Shay, footballer (1976)
Gleeson, Brendan, actor (1955)
Gleeson, Domhnall, actor (1983)
Gleeson, Stephen, footballer (1988)
Goldsmith, Oliver, writer, poet, and physician (1728-1774)
Gonne, Maud, revolutionary and activist (1866-1953)
Gough, Hugh, 1st Viscount Gough, field marshal (1779-1869)
Grattan, Henry, politician (1746-1820)
Graves, Robert James, surgeon (1796-1853)
Gregory, Lady, Augusta, playwright, poet, folklorist (1852-1932)
Grierson, George Abraham, linguistic scholar and civil servant (1851-1941)
Griffith, Arthur, politician, writer, founder of Sinn Féin (1872-1922)
Guerin, Veronica, Irish crime reporter (1958-1996) (1959)
Guinness, Arthur, brewer and founder (1725-1803)
Halliday, Fred, writer and academic (1946-2010)
Hamilton, Lord George, British politician (1845-1927)
Hamilton, William Rowan, mathematician and astronomer (1805-1865)
Handy, Charles, economist (1932)
Hannigan, Lisa, musician (1981)
Hansard, Glen, musician and songwriter (1970)
Harrington, Pádraig, golfer (1971)
Harris, Richard, actor, singer, director, writer (1930-2002)
Harte, Ian, football player (1977)
Harvey, William Henry, botanist (1811-1866)
Haughton, Samuel, scientific writer (1821-1897)
Hayes, Jonny, footballer (1987)
Healy, David, pharmacologist (1954)
Heaney, Seamus, Irish poet playwright translator lecturer (1939–2013)
Heaslip, Jamie, rugby union player (1983)

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Heffernan, Robert, race walker (1978)
Hendrick, Jeff, football player (1992)
Higgins, Michael D., president (1941)
Higgins, William, chemist (1763-1825)
Hillery, Patrick, president (1923-2008)
Hincks, Edward, assyriologist (1792-1866)
Hobson, William, first Governor of New Zealand (1792-1842)
Holland, John Philip, engineer (1841-1914)
Holloway, John, sociologist (1947)
Holmes, Gordon Morgan, neurologist (1876-1965)
Hoolahan, Wes, football player (1982)
Horan, Neil, defrocked priest (1947)
Horan, Niall, singer-songwriter (1993)
Horgan, Daryl, soccer player (1992)
Hort, Fenton John Anthony, Anglican theologian (1828-1892)
Houghton, Daniel, explorer (1740-1791)
Hourihane, Conor, footballer (1991)
Hozier, musician (1990)
Huggins, Margaret Lindsay, astronomer (1848-1915)
Hunt, Noel, footballer (1983)
Hunt, Stephen, footballer (1981)
Hyde, Douglas, first president, historian, poet, folklorist (1860-1949)
Ingram, John Kells, economist and writer (1823-1907)
Ireland, Stephen, football player (1986)
Irwin, Denis, football player (1965)
Johnson, 1st Baronet, Sir William, British official (1715-1774)
Joly, John, scientist (1857-1933)
Jordan, Eddie, motorsport team boss (1948)
Jordan, Neil, filmmaker and writer (1950)
Joyce, James, novelist and poet (1882-1941)
Judge, Alan, football player (1988)
Juul-Jensen, Christopher, cyclist (1989)
Kane, Robert John, chemist (1809-1890)
Kavanagh, Graham, footballer (1973)
Kavanagh, Patrick, poet (1904-1967)
Keane, Robbie, footballer (1980)
Keane, Roy, footballer (1971)
Kearney, Rob, rugby union player (1986)
Keating, Ronan, singer and songwriter (1977)
Kellett, Henry, Royal Navy admiral (1806-1875)
Kelly, David, actor (1929-2012)
Kelly, Gary, footballer (1974)
Kelly, Sean, cyclist (1956)
Kelly, Stephen, football player (1983)
Kenna, Jeff, soccer player and coach (1970)
Kenny, Enda, politician and head of government (1951)
Keogh, Andy, association football player (1986)
Kettle, Tom, politician (1880-1916)
Kevin, of Glendalough, saint (498-618)
Keyes, Marian, writer (1963)
Kidd, Benjamin, sociologist (1858-1916)
Kiely, Tom, athlete (1869-1951)
Kimmage, Paul, cyclist and journalist (1962)
Kinnear, Joe, football manager and former player (1946)
Kinsella, Mark, footballer (1972)
Kirwan, Richard, geologist and chemist (1733-1812)
Kitchener, Horatio, Army general and administrator (1850-1916)
Lacy, Peter, general (1678-1751)
Lamport, William, adventurer (1615-1659)
Lardner, Dionysius, science writer (1793-1859)
Lecky, William Edward Hartpole, politician (1838-1903)
Leech, Allen, actor (1981)
Le Fanu, Sheridan, writer (1814-1873)
Lefroy, Thomas Langlois, politician and judge (1776-1869)
Lemass, Seán, politician (1899-1971)
Lloyd, Humphrey, physicist and administrator (1800-1881)
Lobov, Artem, Russian-Irish mixed martial artist (1986)
Logan, Johnny, singer-songwriter (1954)
Long, Kevin, association football player (1990)
Long, Shane, football player (1987)
Lowe, Hudson, army general (1769-1844)
Lynch, Becky, wrestler (1987)
Lynch, Evanna, actress (1991)
Lynch, Jack, taoiseach (1917-1999)
Lynch, Liam, general (1893-1923)
Macalister, R. A. Stewart, archaeologist (1870-1950)
Macbride, John, republican (1868-1916)
MacBride, Seán, Irish politician and human rights activist (1904-1988)
Maccullagh, James, mathematician (1809-1847)
Mac Murchada, Diarmait, King of Leinster (1110-1171)
Macsharry, Ray, politician (1938)
Macswiney, Terence, playwright, author, politician (1879-1920)
Madden, Richard Robert, doctor and writer (1798-1886)
Madigan, Ian, rugby union player (1989)
Mallet, Robert, geophysicist and engineer (1810-1881)
Mannock, Mick, flying ace (1887-1918)
Marmion, Columba, monk (1858-1923)
Marsden, William, orientalist (1754-1836)
Martin, Malachi, Catholic priest and writer (1921-1999)
Martin, Micheál, Taoiseach (1960)
Martyn, Edward, nationalist and cultural activist (1859-1923)
Mason, James, chess player and writer (1849-1905)
May, Imelda, singer (1974)
McAleese, Mary, 8th President of Ireland (1951)
Mcauley, Catherine, sister, venerated by the Catholic Church (1778-1841)
Mccann, Chris, association football midfielder (1987)
Mcclintock, Leopold, explorer (1819-1907)
Mcclure, Robert, admiral and explorer (1807-1873)
Mccreevy, Charlie, politician (1949)
Mcdonald, Pat, shot putter (1878-1954)
Mcelhatton, Michael, actor and writer (1963)
Mcfadden, Brian, singer (1980)
Mcgrath, Katie, actress (1983)
Mcguigan, Barry, boxer (1961)
Mcshane, Paul, football player (1986)
Meaney, Colm, actor (1953)
Meares, John, navigator, explorer, trader (1756-1809)
Medlicott, Henry Benedict, geologist (1829-1905)

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Megaw, Helen, X-ray crystallographer (1907-2002)
Meyler, David, football player (1989)
Miller, Liam, association football player (1981-2018)
Molyneux, William, philosopher and writer (1656-1698)
Monck, Charles, 4th Viscount, politician and first Governor General of Canada (1819-1894)
Montez, Lola, dancer and actress (1821-1861)
Montgomery, Richard, soldier (1738-1775)
Moore, George, novelist and writer (1852-1933)
Moore, Thomas, poet and songwriter (1779-1852)
Moran, Dylan, actor and comedian (1971)
Moran, Kevin, footballer (1956)
Morris, Francis Orpen, clergyman and historian (1810-1893)
Mortimer, Edmund, 5th Earl of March, heir presumptive to King Richard II (1391-1425)
Mulcahy, Richard, politician (1886-1971)
Mulhare, Edward, actor (1923-1997)
Mullen Jr., Larry, musician (1961)
Mumba, Samantha, singer (1983)
Murphy, Cillian, actor (1976)
Murphy, Daryl, football player (1983)
Murphy, Dervla, touring cyclist and writer (1931)
Murphy, Geordan, rugby player and coach (1978)
Murphy, Joe, football player (1981)
Murphy, Joseph, writer (1898-1981)
Murphy-O'Connor, Jerome, priest, biblical scholar (1935-2013)
Murphy, Róisín, singer-songwriter (1973)
Murray, Conor, rugby union player (1989)
Napier, Patrick, William Francis, soldier and historian (1785-1860)
Nash, Mary, historian (1947)
Navigator, Brendan The, monastic saint (484-578)
Nicholson, John, general in Indian rebellion of 1857 (1821-1857)
Norris, David, scholar, senator, activist (1944)
Norton, Graham, actor and comedian (1963)
O'Brien, Conor Cruise, politician, writer, historian, academic (1917-2008)
O'Brien, Edna, novelist, memoirist, biographer, playwright, poet, writer (1930)
O'Brien, Fergal, snooker player (1972)
O'Brien, Joey, association footballer (1986)
O'Brien, Sean, rugby union player (1987)
O'Brien, William, journalist and politician (1852-1928)
O'Brien, William Smith, nationalist politician (1803-1864)
O'Callaghan, Donncha, rugby union footballer (1979)
O'Callaghan, Pat, athlete (1905-1991)
O'Carolan, Turlough, harpist and composer (1670-1738)
O'Casey, Seán, writer (1880-1964)
Ó Cléirigh, Mícheál, chronicler (1590-1643)
O'Connell, Daniel, political leader (1775-1847)
O'Connor, Feargus, politician (1794-1855)
O'Connor, Peter, athlete (1872-1957)
O'Connor, Sinéad, singer (1966)
Ó Dálaigh, Cearbhall, judge and president (1911-1978)
O'Dea, Darren, footballer (1987)
O'Donnell, Hugh Roe, King of Dun Na Ngall, king (1572-1602)
O'Donoghue, Colin, actor (1981)
O'Donovan, John, academic (1806-1861)
O'Donovan Rossa, Jeremiah, Republican Brotherhood member (1831-1915)
O'Dowd, Chris, actor (1979)
O'Driscoll, Brian, rugby player (1979)
O'Duffy, Eoin, politician and soldier (1892-1944)
O'Flaherty, Hugh, priest (1898-1963)
O'Flaherty, Liam, writer (1896-1984)
O'Hara, Maureen, actress and singer (1920-2015)
O'Herlihy, Dan, actor (1919-2005)
O'Higgins, Ambrosio, 1st Marquis of Osorno, colonial administrator (1720-1801)
O'Higgins, Kevin, politician (1892-1927)
O'Kelly, Seán T., president (1882-1966)
Oldham, Richard Dixon, geologist (1858-1936)
O'Leary, Daniel Florence, general under Simón Bolívar (1801-1854)
O'Leary, David, footballer and manager (1958)
O'Leary, Michael, businessman, CEO of Ryanair (1961)
O'Malley, Grace, pirate queen and clan chieftain (1530-1603)
O'Mara, Jason, actor (1972)
O'Neill, Owen Roe, soldier (1590-1649)
O'Neill, Shane, association football player (1993)
O'Nolan, Brian, writer (1911-1966)
O'Reilly, Tony, businessman and rugby player (1936)
O'Riordan, Dolores, singer (1971-2018)
O'Rourke, Derval, hurdler (1981)
O'Shaughnessy, Darren, novelist (1972)
O'Shaughnessy, William Brooke, physician (1808-1889)
O'Shea, John, footballer and coach (1981)
O'Sullivan, Gilbert, singer-songwriter (1946)
O'Sullivan, Sonia, runner (1969)
Palliser, John, explorer (1817-1887)
Parke, James Cecil, tennis player (1881-1946)
Parnell, Charles Stewart, politician (1846-1891)
Parsons, Lawrence, 4th Earl of Rosse, astronomer (1840-1908)
Patterson, John Henry, soldier, hunter, and author (1867-1947)
Pearse, Patrick, revolutionary (1879-1916)
Pentland, Joseph Barclay, naturalist and explorer (1797-1873)
Pettit, Philip, philosopher and political theorist (1945)
Petty, Earl of Shelburne, William, 2nd, Prime Minister (1737-1805)
Plunkett, George Noble, politician (1851-1948)
Plunkett, Oliver, archbishop and saint (1629-1681)
Praeger, Robert Lloyd, naturalist and writer (1865-1953)
Quinlan, Alan, rugby union player (1974)
Quinn, Glenn, actor (1970-2002)
Quinn, Niall, football player and manager (1966)
Quinn, Stephen, association football player (1986)
Randolph, Darren, football player (1987)

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Redmond, John, politician (1856-1918)

Reid, Andy, footballer (1982)

Reynolds, Albert, politician and head of government (1932-2014)

Reynor, Jack, actor (1992)

Rhys Meyers, Jonathan, actor (1977)

Rice, Damien, singer-songwriter and musician (1973)

Rice, Edmund Ignatius, founder of Christian Brothers (1762-1844)

Rice, Peter, engineer (1935-1992)

Richardson, Louise, political scientist (1958)

Robinson, 1st Baron Rosmead, Hercules, governor (1824-1897)

Robinson, Mary, former President and UN Commissioner (1944)

Robinson, Thomas Romney, astronomer (1792-1882)

Robinson, William, gardener and journalist (1838-1935)

Roche, Kevin, architect (1922-2019)

Roche, Nicolas, bicycle racer (1984)

Roche, Stephen, racing cyclist (1959)

Rooney, Adam, football player (1988)

Ryan, Cornelius, journalist and author (1920-1974)

Sabine, Edward, British Army general (1788-1883)

Salmon, George, mathematician and theologian (1819-1904)

Sammon, Conor, footballer (1986)

Sarsfield, Patrick, Jacobite peer (1655-1693)

Scallon, Dana Rosemary, singer and politician (1951)

Scott, Andrew, actor (1976)

Scott, Michael, author and folklore editor (1959)

Scotus Eriugena, Johannes, philosopher and theologian (810-877)

Sexo, Creador Del, novelist and short story writer (1847-1912)

Sexton, Jonathan, rugby union player (1985)

Shackleton, Ernest, Antarctic explorer (1874-1922)

Shaw, Fiona, actress and director (1958)

Sheamus, wrestler and actor (1978)

Sheehan, Robert, actor (1988)

Sheridan, Cillian, footballer (1989)

Sheridan, Jim, film director (1949)

Smith, Michelle, swimmer (1969)

Smith, Vincent Arthur, historian, art historian, indologist (1848-1920)

Somerville, Geraldine, actress (1967)

Spring, Dick, politician, hurler, footballer (1950)

Stapleton, Frank, footballer and manager (1956)

Staunton, George, botanist (1737-1801)

Staunton, Steve, footballer (1969)

Steele, Richard, writer, playwright, and politician (1672-1729)

Stevens, Enda, association football player (1990)

Stokes, Baronet, George, mathematician and physicist (1819-1903)

Stokes, Whitley, Celticist (1830-1909)

Stokes, William, physician (1804-1878)

Stoney, George Johnstone, physicist (1826-1911)

Street, Thomas, astronomer (1621-1689)

Stringer, Peter, rugby union footballer (1977)

Sutherland, Peter, businessman and politician (1946-2018)

Swift, Jonathan, satirist and essayist (1667-1745)

Synge, John Lighton, physicist and author (1897-1995)

Synge, John Millington, playwright, poet, writer (1871-1909)

Talbot, Richard, 1st Earl of Tyrconnell, Earl (1630-1691)

Tandy, James Napper, revolutionary (1740-1803)

Taylor, Katie, footballer and boxer (1986)

The Edge, rock musician (1961)

Thompson, Edward Arthur, historian (1914-1994)

Thompson, William, philosopher and writer (1775-1833)

Tóibín, Colm, novelist and writer (1955)

Toland, John, philosopher (1670-1722)

Tone, Wolfe, politician (1763-1798)

Towell, Richie, footballer (1991)

Townsend, Stuart, actor (1972)

Trevor, William, writer (1928-2016)

Tuckey, James Hingston, explorer (1776-1816)

Turner, Aidan, actor (1983)

Tyrrell, George, Jesuit priest (1861-1909)

Ussher, James, Archbishop of Armagh (1581-1656)

Valera, Éamon de, Irish statesman (1882–1975)

Valois, De, Ninette, dancer, teacher, choreographer and director of classical ballet (1898-2001)

Vane, Londonderry, Charles, soldier, politician, nobleman (1778-1854)

Varadkar, Leo, politician, Taoiseach (1979)

Vergilius, of Salzburg, churchman and astronomer (700-784)

Vignoles, Charles Blacker, railway engineer (1793-1875)

Vigors, Nicholas Aylward, zoologist and politician (1785-1840)

Wadding, Luke, historian (1588-1657)

Wade, George, field marshal (1673-1748)

Walton, Ernest, physicist and Nobel laureate (1903-1995)

Ward, Mary, scientist and writer (1827-1869)

Ward, Stephen, football player (1985)

Wellesley, Duke of Wellington, Arthur, Field Marshal and Prime Minister (1769-1852)

Whelan, Glenn, footballer (1984)

Whelan, Ronnie, footballer and manager (1961)

Wilde, William, surgeon and writer (1815-1876)

Willis, William, physician (1837-1894)

Wogan, Terry, broadcaster (1938-2016)

Wolseley, 1st Viscount Wolseley, Garnet, British Army officer (1833-1913)

Wood, Keith, rugby union player (1972)

Woulfe, Peter, chemist (1727-1803)

Yeats, William Butler, poet and playwright (1865-1939)

Zayed, Éamon, footballer (1983)

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heli-aviation.de: starliteaviation.com (91%)

henn.com: mesh.ie (94%), urban-agency.com, and odosarchitects.com

hexad.de: openjawtech.com (91%), mttnow.com, and sidero.ie

hfmt-koeln.de: musicgeneration.ie (91%)

hitachi-keu.com: westerwoodglobal.com (88%)

hochland-group.com: irishbreeze.com (86%) and valeofoods.com

hochtief-construction.de: obrgroup.ie (87%), abmeurope.com, and bamcontractors.ie

hochtief-solutions.de: obrgroup.ie (93%), shaymurtagh.co.uk, and oranprecast.ie

hotelcristal.de: fitzwilliamhoteldublin.com (85%)

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hullabout.com: depfa.com (88%)

hybris.com: boxever.com (89%), newbay.com, and sentenial.com

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ifw-kiel.de: esri.ie (91%)

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brando.ie: sj.com (92%) and s-f.com

brightwater.ie: enloyd.com (87%)

britebill.com: consol.de (93%), hybris.com, and gft.com

brownbagfilms.com: wunder-werk.de (93%), motionworks.eu, and talking-animals.com

brownthomas.com: areamanagement.de (87%), kings-u-queens.de, and jackjones.ch

bwg.ie: metro-cc.com (80%)

cambusmedical.com: olympus-oste.eu (91%)

camfil.ie: flaktwoods.com (80%) and flaktwoods.com

cappa.ie: menlosystems.com (91%) and leibniz-ipht.de

carat.ie: carat-germany.de (94%), umww.de, and mediaplus.com

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cardiac-services.com: trumpf-med.com (82%) and pulsion.com

carltonhotelblanchardstown.com: millenniumhotels.de (94%)

carmacarpool.com: consol.de (92%), icw-global.com, and hybris.com

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caseyrecruitment.com: kryolan.com (88%)

caw.ie: passavant-roediger.de (91%) and wehrle-umwelt.com

cawleynea-tbwa.ie: db-n.com (81%), serviceplan.com, and bbdo.de

ceardean.com: ksp-architekten.de (92%)

ces-schools.com: asset-schools.com (95%), bpmongoliagroup.com, and academy-of-english.de

cfieldconstruction.com: cmp.net.nz (93%)

cftooling.ie: vibracoustic-cvas.com (93%), protev.de, and eberspaecher.com

cgcontrols.ie: pa-ats.com (87%)

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cordenpharmachem.com: cordenpharma.com (94%) and temmler.eu

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detaildesignstudio.com: edenspiekermann.com (92%)

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ictr.ie: mpicc.de (94%), ecchr.eu, and mpfpr.de

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ifpmedia.com: pv-magazine.com (94%)

ihdublin.com: asset-schools.com (93%), easyenglish.it, and berlitz.de

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sentenial.com: hybris.com (83%)

sfengineering.ie: schenckprocess.com (92%)

sfi.ie: uni-heidelberg.de (91%), uni-muenchen.de, and uni-halle.de

shaymurtagh.co.uk: hochtief-solutions.de (85%) and zueblin.de

sidero.ie: simvelop.de (95%), gentleware.com, and bbv.eu

sigmarrecruitment.com: enloyd.com (85%) and westhouse-group.com

sigmawireless.com: rfsworld.com (82%)

simplyd.ie: cosmoconsult.com (91%), kumavision.com, and incadea.com

skyhandlingpartner.ie: swissportlosch.com (93%), zeitfracht.de, and bagport.com

smartfitness.ie: miha-bodytec.com (87%)

smartfrog.com: savingglobal.com (94%)

smpfinancial.com: trafalgar-international.com (90%)

smurfitkappa.com: multivac.com (93%), sonoco-europe.com, and huber-packaging.com

softco.com: hypersoft.com (93%), clear-it.de, and controlexpert.com

solten.com: prolangua.de (89%), 24translate.de, and tsd-int.com

sonalake.com: cronn.de (91%), goeuro.com, and hexad.de

spnetworks.ie: detewe.de (82%)

spongeit.ie: gfk.com (91%) and gfk.com

sportstranslations.com: toptranslation.com (95%)

sseairtricity.com: eon.com (84%) and eon.com

starliteaviation.com: heli-aviation.de (91%), aeroheli.de, and wiking-helikopter.de

star-ts.com: evs-translations.com (83%), 4-text.de, and euroscript.de

staycity.com: albeck-zehden.de (84%), meininger-hotels.com, and ifhworldwide.com

stelfox.ie: westhouse-group.com (85%)

stewart.ie: lindner-group.com (90%) and sitemanageronline.de

stllogistics.ie: rhenus.com (90%), hellmann.net, and dhl.com

storedesign.ie: number4designs.com (83%) and bulthaup.com

strata3.com: smashingmagazine.com (81%)

structure101.com: interactive-objects.com (81%)

styletex.ie: starstyling.net (94%)

surecomns.com: iconec.com (90%)

suretank.com: eew-group.com (83%)

swsenergy.ie: senvion.com (89%)

sysco-software.com: cosmoconsult.com (82%), yaveon.com, and incadea.com

systemdynamics.ie: cgm.com (92%), arvato-systems.com, and gk-software.com

takeda.ie: salutas.de (81%) and vetter-pharma.com

taoglas.com: rohde-schwarz.com (92%) and kathreinusa.com

tapadoo.com: appsfactory.de (89%) and quartett-mobile.de

targetmcconnells.com: db-n.com (89%)

tcd.ie: uni-potsdam.de (85%), uni-konstanz.de, and uni-ulm.de

teagasc.ie: uni-hohenheim.de (82%)

teamwork.com: check24.de (92%)

tekenable.com: sdx-ag.de (91%)

tekno-surgical.com: bauerfeind.com (85%), richard-wolf.com, and trumpf-med.com

telavivpl.org: model-eu.org (83%) and culturaldiplomacy.org

templebargallery.com: carliergebauer.com (93%), reinigungsgesellschaft.de, and savvy-contemporary.com

templegatehotel.com: pentahotels.com (86%)

tesco.ie: lidl.de (90%)

tethras.com: textform.com (95%), euroscript.de, and star-deutschland.net

thegibsonhotel.ie: optimahl.de (90%) and lemeridienmunich.com

thelandmarkhotel.com: arabella-hotel.com (87%), enso-hotel.de, and parkplaza-trier.de

therosettafoundation.org: intercultural-elements.eu (88%), flexword.de, and wohanka.de

thewestindublin.com: privatepalacehotels.de (84%) and lemeridienmunich.com

tirgearrpublishing.com: bookrix.com (91%)

tobin.ie: gauff.com (83%) and kocks-ing.de

tonisity.com: ew-nutrition.com (93%)

topflight.ie: der.net (91%) and tuigroup.com

tpn.ie: integral.de (85%), dhl.com, and logistics.dhl

transaero.ie: aviation-technics.com (81%), germania.aero, and haitec.aero

translandgroup.com: profreight.us (88%) and dhl.com

translation.ie: 24translate.de (95%), wordinc.de, and toptranslation.com

translitco.com: linguee.com (92%)

translit.ie: e-kern.com (92%) and linguee.com

traveldepartment.ie: schauinslandreisen.de (82%), tuigroup.com, and fti.jobs

treehouserepublic.com: floruit-films.com (87%)

trendtechnologies.ie: arkal-automotive.com (87%) and kraussmaffeigroup.us

tribune.ie: ov-online.de (92%)

trimfoldenvelopes.ie: manroland.us (83%)

trocaire.org: aktiongegendenhunger.de (91%), accountablenow.org, and mzninternational.com

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tyndall.ie: innolume.com (92%), fhg.de, and ptb.de

ubanquity.com: ki-labs.com (88%)

ucc.ie: uni-konstanz.de (95%), uni-muenster.de, and jacobs-university.de

ucd.ie: uni-leipzig.de (95%), uni-giessen.de, and uni-freiburg.de

united-drug.com: celesio.com (90%)

urban-agency.com: graftlab.com (82%), behnisch.com, and cross-architecture.net

vantyinternational.com: westhouse-group.com (85%)

vennlifesciences.com: interlab.de (86%), pharmtrace.com, and acromion-gmbh.com

vermilliondesign.com: designwerk.co.uk (91%)

viatel.com: keymile.com (95%), dacoso.com, and versatel.de

vilicom.com: iconec.com (94%), triopt.de, and netcheck.de

virginialogistics.ie: profreight.us (90%)

vistatec.com: culturetranslate.com (93%), lexsys.de, and think-global.com

visualartists.ie: savvy-contemporary.com (89%), kulturrad.no, and nodecenter.org

vso.ie: unv.org (92%)

walls.ie: cmp.net.nz (84%)

walnut-global.com: chriscretures.com (90%), effekt-etage.com, and fmx.de

wearehpc.com: q595.com (88%) and synet-group.com

weatherford.com: drilltec.de (88%), antares-geo.de, and fangmanngroup.com

welltel.ie: innovaphone.com (88%), asc.de, and nfon.com

westerwoodglobal.com: hitachi-keu.com (88%), screen-spe.eu, and accretech.jp

wexfordopera.com: kammeroper-koeln.de (92%), landestheater-niederbayern.de, and theater-kiel.de

windmilllane.com: daswerk.ru (92%), cinepostproduction.com, and das-werk.de

wolfgangdigital.com: more-fire.com (90%)

wp-translations.com: wordinc.de (94%), e-kern.com, and linguee.com

wyse.ie: primeportfolio.com (80%)

xanaduconsultancy.com: mgm-tp.com (85%)

xetec.com: gft.com (94%) and thinktank.de

xwerx.com: careerfoundry.com (89%)

zamano.com: foxmobile.com (88%)

zanzibarfilms.net: dffb.de (88%)

zero-g.ie: lbiq.de (92%)

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Methodology

The Bilateral Navigator project represents a fundamental shift in diplomatic analysis, moving from perception-based assessments to data-driven insights. This methodological appendix provides a comprehensive explanation of the analytical frameworks, data processing techniques, and computational approaches that form the foundation of our bilateral relationship assessment.

Data Collection and Organization

The scale of data collection for this project extends significantly beyond traditional diplomatic analysis. The World Bank Data catalog, responsible for collecting country data from the entire UN system, with its 1,442 active indicators served as our primary source. However, we expanded the dataset by incorporating numerous additional metrics from specialized databases, resulting in tens of thousands of unique indicators for each country. All data sources are clearly marked within each table and presented as one of the appendices at the end of this book. This expansive approach provides a multidimensional perspective on each nation's characteristics and enables a more nuanced comparative analysis.

Each indicator was evaluated based on its recognition and relevance among both the general public and professionals in international relations. This rigorous selection process allowed us to present a data collection that extends beyond traditional diplomatic metrics to include factors often overlooked in conventional analysis.

Development of Comparison Tables

At the heart of the Bilateral Navigator methodology are meticulously constructed comparison tables that present an in-depth view of the relationships between nations. The creation of these tables involved an intricate process:

- **Data compilation:** Extensive collection of data across broad sectors relevant to bilateral relations
- **Filtering and categorization:** Organization of data into thematic categories aligned with the book's structure
- **Advanced processing:** Application of algorithms to identify the most relevant indicators from millions of potential data points
- **Strategic presentation:** Careful organization of selected indicators into structured tables that facilitate meaningful comparison

These tables are not merely repositories of information — they are the product of careful curation and interpretation of the most relevant indicators to the specific countries being compared. Furthermore, their visualization is equally important, as beside giving the values and ranking, we illustrate the differences between the two countries by two comparable circles in the middle of each data row, and trends (usually 3-year period) for even better comparison of the two countries observed through the same table. This allows users to get an instant insight into data.

By focusing on a strategically selected subset of the most informative metrics, these tables offer an accessible yet comprehensive view of similarities and differences between each pair of countries. This approach balances depth with clarity, ensuring that readers can quickly grasp key comparative insights while still having access to detailed information.

Ranking System Methodology

A distinctive feature of our approach is the ranking system that allows us to clearly delineate and quantify similarities and differences between two nations. This ranking methodology operates as follows:

- **Significance assessment:** Each selected indicator is ranked based on its importance, incorporating

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both general public relevance and professional diplomatic significance

- **Equal weighting:** Despite the varied nature of these indicators, we assign them equal importance in final similarity calculations, based on the principle that each indicator provides a unique perspective on a country's characteristics
- **Rank-based comparison:** To ensure consistency across diverse indicators with different scales and units, we use rankings rather than absolute values
- **Tie-breaking mechanism:** When values for an indicator are similar across countries, we assign unique ranks using GDP per capita as a consistent tiebreaker

This ranking process provides depth to our analysis and forms the foundation for determining the level of similarity between two nations. Through this approach, we present an objective perspective on the intricate ways countries are interconnected.

Visual Representation Framework

To complement the numerical data and enhance interpretability, we employ a systematic approach to visual representation. Each section concludes with illustrative figures that visually represent the comparative standing of each country on selected indicators. These visualizations serve multiple purposes:

1. They provide an intuitive snapshot of each country's position relative to the other
2. They distill complex bilateral relationships into accessible interpretive tools
3. They highlight patterns that might not be immediately apparent from tabular data

Each similarity figure is crafted based on carefully selected indicators from the corresponding book section, providing a summary that is both relevant and accessible. Through rigorous curation, ranking, and graphical presentation, we offer readers a structured exploration of each country pair that balances depth with clarity.

Country-to-Country Similarity Methodology

Comparing countries across multiple dimensions requires a standard and well-accepted similarity metric. Our approach employs the generalized Jaccard product, underpinned by rank differences, to measure resemblance between nations across multifarious dimensions.

Raw values across different indicators can be misleading due to their varied scales and units. The rank-difference approach focuses on relative standings rather than absolute values, ensuring each indicator retains its inherent importance regardless of magnitude. For example, while Germany may export nearly three times as many goods and services as Ireland, a rank-based evaluation places them closer on the spectrum of top goods and services-exporting nations, providing a more balanced comparison.

In statistical similarity analysis, the Jaccard coefficient traditionally measures the intersection over union for binary datasets. For continuous data like country rankings, we apply the weighted Jaccard similarity (or "generalized Jaccard coefficient"), which provides a more nuanced measure of similarity.

Weighted Jaccard Similarity Formula

Focusing on N-number of indicators ($i = 1...N$), each ranked as r_i within the group of 193 UN member states, the formula for calculating the similarity between any two countries, $CountryA$ and $CountryB$, is as follows:

$$J_{(A,B)} = \frac{\sum_{i=1}^{N} min(193 - r_{Ai}, 193 - r_{Bi})}{\sum_{i=1}^{N} max(193 - r_{Ai}, 193 - r_{Bi})}$$

In our methodology, with ranks spanning from 1 to 193, the top rank ($1st$ place) holds the highest weight. By

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subtracting a country's rank from 193, we assign it a weight. The country ranked first receives the highest weight of 192, while the one ranked last gets a weight of zero.

This inversion ensures that top-ranked countries (closer to 1) have higher weights, aligning with the intuitive understanding of rank-based hierarchy. The denominator, the sum of the greatest weights, ensures we normalize the measure.

Weighted Jaccard Similarity Example

To illustrate the application of Weighted Jaccard Similarity, consider two countries: For the first metric, $CountryA$ is ranked $5th$ and $CountryB$ is $120th$. For a second metric, $CountryA$ ranks $50th$, while $CountryB$ is at the $40th$ position. The Weighted Jaccard Similarity calculation would be:

$$WeightedJaccardSimilarity(example) =$$

$$= \frac{min(193-5, 193-120) + min(193-50, 193-40)}{max(193-5, 193-120) + max(193-50, 193-40)} =$$

$$= \frac{73+143}{188+153} = \frac{216}{341} \approx 0.633$$

The weighted Jaccard similarity respects both rank and significance, offering a refined lens to view inter-country relationships. The outcomes predominantly follow distorted Gaussian curves, providing a consistent baseline for further calculations and comparison estimates.

Gaussian Normalization Process

To ensure consistent interpretation across the series, we've adopted a normalization process. This transposes our derived similarities onto a standard Gaussian distribution. With 193 UN member states, this results in $37,056$ unique pairings, ranging from 1 (representing 100% similarity) to 37,056 (indicating 0% similarity).

If we group these similarities by rounding them to the nearest whole percentage point, we typically observe a bell-shaped curve, also known as a Gaussian distribution. For illustration, consider the first two sections of this book as examples. Figure 48 and Figure 49 display the actual distributions of similarities in geography and demographics, represented in light blue and dark blue, respectively. These figures visually demonstrate how similarity distributions can vary significantly between different domains of comparison.

Figure 48. *Distribution of Geography Features Similarities.*

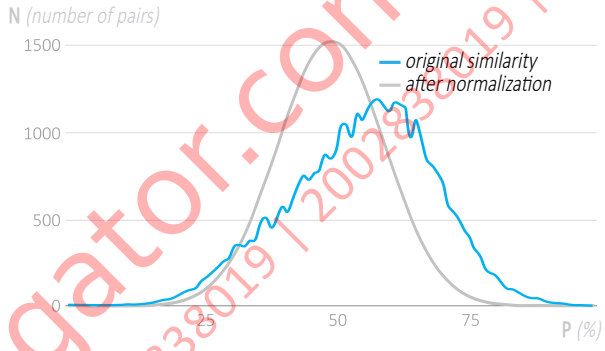
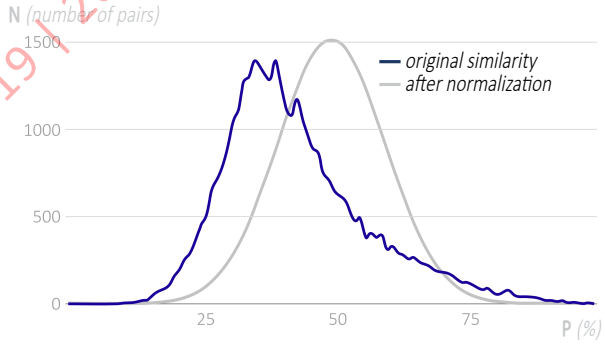


Figure 49. *Distribution of Demographics Indices Similarities.*



A notable challenge is the skewness of these curves; one leans more to the right, while the other shifts to the left. To address this, the percentages were adjusted to form a standard three-sigma (3σ) bell curve, depicted by the gray line. Without this corrective measure, geography would hold an undue advantage over demographics, hindering a fair comparison of similarities across the book's chapters. Though it might seem as if the final percentages measuring similarity were assigned arbitrarily, they still adhere to the order of the initially calculated similarities, maintaining consistent distribution.

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Through normalization, specialized chapters such as those examining UNGA voting pattern similarities are properly calibrated. The final similarity value doesn't represent a specific percentage of voting coincidence, but rather an overarching similarity redistributed to fit the normal Gaussian bell curve.

By implementing this statistical approach, all similarity measures achieve consistent median and average values at 50%, allowing each measure equal influence over the final Bilateral Similarity Index (BSX). The result is a set of normalized ranks enabling unbiased comparisons between countries, regardless of skewed distributions in the original data.

Bilateral Similarity Index (BSX) Construction

The Bilateral Similarity Index (BSX) represents the culmination of our methodological approach—a comprehensive score that gauges overall similarity between two countries. The creation of the BSX follows a multi-step process:

1. **Initial calculation:** Using weighted Jaccard similarity to gauge overlap between countries across all indicators
2. **Section-specific assessment:** Calculating similarities based on selected indicators at the end of each book section
3. **Network similarity application:** For unique sections like "Shared Skills" and "Alike in Taste," where each skill or ingredient serves as an "indicator," we employ network similarity (also grounded in Jaccard similarity)
4. **Composite averaging:** The final step averages similarities across all book chapters to yield the Bilateral Similarity Index

The BSX offers a thorough view of the relationship between nations, providing an insightful, data-driven perspective on their overall compatibility. To illustrate, the highest general similarity score worldwide is 81% between Belgium and the Netherlands, while the lowest is 29% between North Korea and Nauru. Within this spectrum, a score like the 68% similarity between Germany and Ireland reveals significant relationship potential despite geographical, linguistic, and historical differences.

Advanced Technological Implementation

The ambitious scale of this project would be unattainable without incorporating advanced artificial intelligence and big data technologies. Our methodology leverages cutting-edge algorithms for:

1. **Data categorization and processing:** Meticulously categorizing and processing data collected for each UN member state
2. **Significance index determination:** Evaluating the relative importance of each indicator within its context
3. **Comprehensive comparison tables:** Generating detailed comparative analyses across multiple dimensions
4. **Similarity indices calculation:** Computing complex similarity measures across thousands of indicators

These advanced technologies ensure efficient, high-quality production while maintaining accuracy and consistency in information presentation. The implementation transcends traditional data management, enabling us to derive meaningful insights from an unprecedented volume of information.

Pattern Recognition and Insight Generation

Beyond basic data processing, our methodology employs machine learning for pattern recognition and insight generation. These systems identify non-obvious correlations between seemingly unrelated indicators, revealing hidden relationships between countries that traditional diplomatic analysis might miss.

The technological backbone of this methodology enables rapid generation of comprehensive analyses for

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all possible country pairs while ensuring consistent quality across the entire series. This integration of advanced computational techniques represents a transformative approach to diplomatic analysis, making the project both technically feasible and intellectually rigorous.

Methodological Limitations and Future Refinements

While our methodology represents a significant advancement in data-driven diplomatic analysis, we acknowledge certain limitations:

1. **Data availability disparities:** Some countries have more comprehensive data available than others, potentially affecting comparison accuracy
2. **Temporal consistency challenges:** Not all indicators are updated with the same frequency across all countries
3. **Qualitative dimension integration:** Certain aspects of bilateral relations resist quantification and require complementary qualitative assessment

Future methodological refinements will address these limitations through:

1. **Enhanced data imputation techniques:** Developing more sophisticated approaches to address missing data
2. **Dynamic temporal alignment:** Implementing algorithms that better account for chronological disparities
3. **Hybrid quantitative-qualitative frameworks:** Integrating structured qualitative assessments with our quantitative approach
4. **Expanded indicator ecosystem:** Continuously incorporating new metrics as they become available
5. **Refined weighting systems:** Developing more nuanced approaches to indicator weighting based on expert feedback

By acknowledging these limitations and committing to methodological evolution, we ensure that the Bilateral Navigator project remains at the forefront of diplomatic analysis, combining statistical rigor with practical utility for decision-makers in international relations.

Conclusion

The methodology outlined in this appendix represents a fundamental shift in how bilateral relationships are analyzed and understood. By grounding diplomatic assessment in rigorous data science, we move beyond subjective impressions toward empirically defensible insights.

Our weighted Jaccard similarity approach, combined with Gaussian normalization and comprehensive data integration, creates a standardized framework for comparing any two nations across multiple dimensions. The resulting Bilateral Similarity Index (BSX) offers an unprecedented tool for diplomats, business leaders, researchers, and others seeking to understand the complex interplay of international relations.

This methodological framework stands as one of the Bilateral Navigator project's most significant contributions—not merely a means to an end, but an innovation that reimagines how we conceptualize, measure, and interpret relationships between nations in our increasingly interconnected world.

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Data Sources

ATP ATP Tour (www.atptour.com) *Page 262*

CIESIN Center for International Earth Science Information Network - CIESIN - Columbia University, and CUNY Institute for Demographic Research - CIDR - City University of New York. 2021. Low Elevation Coastal Zone (LECZ) Urban-Rural Population and Land Area Estimates, Version 3. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). https://doi.org/10.7927/d1x1-d702. Page 18

CIESIN1 Center for International Earth Science Information Network (CIESIN)/Columbia University. 2013. Urban-Rural Population and Land Area Estimates Version 2. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). http://sedac.ciesin.columbia.edu/data/set/lecz-urban-rural-population-land-area-estimates-v2. *Page 18*

CKP/WB The Climate Change Knowledge Portal - CCKP by the World Bank (climateknowledgeportal.worldbank.org/download-data) Page 18

COMTR United Nations, Comtrade database through the WITS platform. High-technology exports are products with high R&D intensity, such as in aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery. *Page 48*

CRTAG Credit rating agencies: S&P, Moody's and Fitch; weighted average score and ranking calculated by the author, same score tiebreak by GDP p.c. (source: WB) *Page 44*

CW-GHG Climate Watch. 2020. GHG Emissions. Washington, DC: World Resources Institute. Available at: https://www.climatewatchdata.org/ghg-emissions. Agricultural methane emissions are emissions from animals, animal waste, rice production, agricultural waste burning (nonenergy, on-site), and savanna burning. *Page 91*

CW-GHG2 Climate Watch. 2020. GHG Emissions. Washington, DC: World Resources Institute. Available at: https://www.climatewatchdata.org/ghg-emissions. See NY.GDP.MKTP.PP.CD for the denominator's source. Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring. *Page 91*

CW-GHG4 Climate Watch. 2020. GHG Emissions. Washington, DC: World Resources Institute. Available at: https://www.climatewatchdata.org/ghg-emissions. See SP.POP.TOTL for the denominator's source. Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring. *Page 91*

DFGDM Democracy Matrix by German Research Foundation - DFG (www.democracymatrix.com/ranking) *Page 148*

DRPT DataRePortal by Kepios (datareportal.com) *Page 228*

EIUDI The Economist's Democracy Index (www.eiu.com/n/campaigns/democracy-index-2022) *Page 148*

EM-DAT EM-DAT: The OFDA/CRED International Disaster Database: www.emdat.be, Université Catholique de Louvain, Brussels (Belgium), World Bank. Droughts, floods and extreme temperatures is the annual average percentage of the population that is affected by natural disasters classified as either droughts, floods, or extreme temperature events. A drought is an extended period of time characterized by a deficiency in a region's water supply that is the result of constantly below average precipitation. A drought can lead to losses to agriculture, affect inland navigation and hydropower plants, and cause a lack of drinking water and famine. A flood is a significant rise of water level in a stream, lake, reservoir or coastal region. Extreme temperature events are either cold waves or heat waves. A cold wave can be both a prolonged period of excessively cold weather and the sudden invasion of very cold air over a large area. Along with frost it can cause damage to agriculture, infrastructure, and property. A heat wave is a prolonged period of excessively hot and sometimes also humid weather relative to normal climate patterns of a certain region. Population affected is the number of people injured, left homeless or requiring immediate assistance during a period of emergency resulting from a natural disaster; it can also include displaced or evacuated people. Average percentage of population affected is calculated by dividing the sum of total affected for the period stated by the sum of the annual population figures for the period stated. *Page 91*

EPI Environmental Performance Index - EPI by Yale Center for Environmental Law & Policy and Center for International Earth Science Information Network Earth Institute, Columbia University, with support from The McCall MacBain Foundation (epi.yale.edu) Pages 82, 91

ETS/GRE A Snapshot of the Individuals Who Took the GRE General Test July 2014-June 2019, by ETS (www.ets.org/pdfs/gre/snapshot-test-taker-data-2019.pdf) *Page 104*

EUROST Government statistical agencies. Data for EU countires are from the EUROSTAT The percentage of people who are multidimensionally poor *Page 110*

FAO Food and Agriculture Organization, electronic files and web site. Agricultural irrigated land refers to agricultural areas purposely provided with water, including land irrigated by controlled flooding. *Pages 18, 70*

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FAO1 Food and Agriculture Organization, AQUASTAT data. Annual freshwater withdrawals refer to total water withdrawals, not counting evaporation losses from storage basins. Withdrawals also include water from desalination plants in countries where they are a significant source. Withdrawals can exceed 100 percent of total renewable resources where extraction from nonrenewable aquifers or desalination plants is considerable or where there is significant water reuse. Withdrawals for agriculture and industry are total withdrawals for irrigation and livestock production and for direct industrial use (including withdrawals for cooling thermoelectric plants). Withdrawals for domestic uses include drinking water, municipal use or supply, and use for public services, commercial establishments, and homes. Data are for the most recent year available for 1987-2002. *Pages 18, 70*

FAO3 Food and Agriculture Organization of the United Nations (FAO) The percentage of people in the population who live in households classified as moderately or severely food insecure. A household is classified as moderately or severely food insecure when at least one adult in the household has reported to have been exposed, at times during the year, to low quality diets and might have been forced to also reduce the quantity of food they would normally eat because of a lack of money or other resources. *Page 99*

FAO4 Food and Agriculture Organization (http://www.fao.org/faostat/en/#home). Prevalence of undernourishments is the percentage of the population whose habitual food consumption is insufficient to provide the dietary energy levels that are required to maintain a normal active and healthy life. Data showing as 2.5 may signify a prevalence of undernourishment below 2.5%. *Page 99*

FAO5 Food and Agriculture Organization and World Bank population estimates. Population density is midyear population divided by land area in square kilometers. Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship--except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of their country of origin. Land area is a country's total area, excluding area under inland water bodies, national claims to continental shelf, and exclusive economic zones. In most cases the definition of inland water bodies includes major rivers and lakes. Page 24 *Page 24*

FAO6 Food and Agriculture Organization, AQUASTAT data, and World Bank and OECD GDP estimates. Water productivity is calculated as GDP in constant prices divided by annual total water withdrawal. *Page 70*

FIBA Fédération Internationale De Basket-ball (www.fiba.basketball) *Page 262*

FIFA Fédération Internationale De Football Association (www.fifa.com) *Page 262*

FREEH Feedom House (freedomhouse.org/countries/freedom-world/scores) *Page 36*

FROESE Froese, R. and Pauly, D. (eds). 2008. FishBase database, www.fishbase.org. Fish species are based on Froese, R. and Pauly, D. (eds). 2008. Threatened species are the number of species classified by the IUCN as endangered, vulnerable, rare, indeterminate, out of danger, or insufficiently known. *Page 82*

GCI The Good Country Index (www.goodcountry.org/index/about-the-index) *Page 36*

GEO GeoNames (www.geonames.org) *Pages 18, 148*

GFIDX Global Findex Database, World Bank (https://www.worldbank.org/en/publication/globalfindex). Account denotes the percentage of respondents who report having an account (by themselves or together with someone else) at a bank or another type of financial institution or report personally using a mobile money service in the past 12 months (% age 15+). *Page 54*

GFP GlobalFirepower - GFP (globalfirepower.com) *Page 168*

GH-EST Derived based on the data from Global Health Estimates 2020: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020. Link: https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/ghe-leading-causes-of-death Cause of death refers to the share of all deaths for all ages by underlying causes. Communicable diseases and maternal, prenatal and nutrition conditions include infectious and parasitic diseases, respiratory infections, and nutritional deficiencies such as underweight and stunting. *Page 99*

GII The World Intellectual Property Organization - WIPO, and its partners (www.wipo.int/global_innovation_index) *Pages 36, 124*

GITOC The Global Organized Crime Index 2021 by Global Initiative 2020 (globalinitiative.net/analysis/ocindex-2021) *Page 170*

GIZ German Agency for International Cooperation (GIZ). Fuel prices refer to the pump prices of the most widely sold grade of diesel fuel. Prices have been converted from the local currency to U.S. dollars. *Page 44*

GSPN Greatest Sporting Nation by Dan Thompson (greatestsportingnation.com/per-capita-cup-2022/results) *Page 262*

HERF The Heritage Foundation and The Wall Street Journal (www.heritage.org/index) *Page 36*

ICAO International Civil Aviation Organization, Civil Aviation Statistics of the World and ICAO staff estimates. Air freight is the volume of freight, express, and diplomatic bags carried on each flight stage (operation of an aircraft from takeoff to its next landing), measured in metric tons times kilometers traveled. *Page 30*

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ICP International Comparison Program, World Bank | World Development Indicators database, World Bank | Eurostat-OECD PPP Programme. GDP per capita based on purchasing power parity (PPP). PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power over GDP as the U.S. dollar has in the United States. GDP at purchaser's prices is the sum of gross value added by all resident producers in the country plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2017 international dollars. *Page 44*

IDEA International Institute for Democracy and Electoral Assistance - International IDEA (www.idea.int/data-tools/tools/global-state-democracy-indices) *Page 148*

IDIABF International Diabetes Federation, Diabetes Atlas. Diabetes prevalence refers to the percentage of people ages 20-79 who have type 1 or type 2 diabetes. It is calculated by adjusting to a standard population age-structure. *Page 99*

ILO International Labour Organization. "ILO modelled estimates database" ILOSTAT. Accessed January 2021. https://ilostat.ilo.org/data/. Employers are those workers who, working on their own account or with one or a few partners, hold the type of jobs defined as a "self-employment jobs" i.e. jobs where the remuneration is directly dependent upon the profits derived from the goods and services produced), and, in this capacity, have engaged, on a continuous basis, one or more persons to work for them as employee(s). *Page 110*

ILO1 International Labour Organization. "Labour Force Statistics database (LFS)" ILOSTAT. Accessed February 21, 2023. https://ilostat.ilo.org/data/. Employment to population ratio is the proportion of a country's population that is employed. Employment is defined as persons of working age who, during a short reference period, were engaged in any activity to produce goods or provide services for pay or profit, whether at work during the reference period (i.e. who worked in a job for at least one hour) or not at work due to temporary absence from a job, or to working-time arrangements. Ages 15 and older are generally considered the working-age population. Page 110 *Page 110*

ILO3 International Labour Organization. "ILO Modelled Estimates and Projections database (ILOEST)" ILOSTAT. Accessed February 21, 2023. https://ilostat.ilo.org/data/. Unemployment refers to the share of the labor force that is without work but available for and seeking employment. *Page 110*

ILO4 International Labour Organization. "ILO modelled estimates database" ILOSTAT. Accessed June 2021. https://ilostat.ilo.org/data/. Labor force participation rate is the proportion of the population ages 15-64 that is economically active: all people who supply labor for the production of goods and services during a specified period. *Page 110*

ILO6 International Labour Organization. "Labour Market-related SDG Indicators database (ILOSDG)" ILOSTAT. Accessed February 21, 2023. https://ilostat.ilo.org/data/. The proportion of females in total employment in senior and middle management. It corresponds to major group 1 in both ISCO-08 and ISCO-88 minus category 14 in ISCO-08 (hospitality, retail and other services managers) and minus category 13 in ISCO-88 (general managers), since these comprise mainly managers of small enterprises. *Page 114*

IMF International Monetary Fund, Balance of Payments Statistics Yearbook and data files. *Page 48*

IMF1 International Monetary Fund, Government Finance Statistics Yearbook and data files. Compensation of employees consists of all payments in cash, as well as in kind (such as food and housing), to employees in return for services rendered, and government contributions to social insurance schemes such as social security and pensions that provide benefits to employees. *Page 148*

IMF11 International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD value added estimates. Taxes on goods and services include general sales and turnover or value added taxes, selective excises on goods, selective taxes on services, taxes on the use of goods or property, taxes on extraction and production of minerals, and profits of fiscal monopolies. *Page 148*

IMF12 International Monetary Fund, International Financial Statistics and Balance of Payments databases, World Bank, International Debt Statistics, and World Bank and OECD GDP estimates. Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP. *Page 54*

IMF2 International Monetary Fund, International Financial Statistics and data files. Deposit interest rate is the rate paid by commercial or similar banks for demand, time, or savings deposits. The terms and conditions attached to these rates differ by country, however, limiting their comparability. *Pages 44, 54*

IMF3 International Monetary Fund, International Financial Statistics and data files, and World Bank and OECD GDP estimates. Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises. The financial corporations include monetary authorities and deposit money banks, as well as other financial corporations where data are available (including corporations that do not accept transferable deposits but do incur such liabilities as time and savings deposits). Examples of other financial corporations are finance and leasing companies, money lenders, insurance corporations, pension funds, and foreign exchange companies. *Page 54*

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IMF5 International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates. Debt is the entire stock of direct government fixed-term contractual obligations to others outstanding on a particular date. It includes domestic and foreign liabilities such as currency and money deposits, securities other than shares, and loans. It is the gross amount of government liabilities reduced by the amount of equity and financial derivatives held by the government. Because debt is a stock rather than a flow, it is measured as of a given date, usually the last day of the fiscal year. *Page 148*

IMF6 International Monetary Fund, Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development and official national sources. Foreign direct investment refers to direct investment equity flows in an economy. It is the sum of equity capital, reinvestment of earnings, and other capital. Direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy. Ownership of 10 percent or more of the ordinary shares of voting stock is the criterion for determining the existence of a direct investment relationship. This series shows net outflows of investment from the reporting economy to the rest of the world, and is divided by GDP. *Page 54*

IMF7 International Monetary Fund, Balance of Payments Statistics Yearbook and data files, and World Bank and OECD GDP estimates. Current account balance is the sum of net exports of goods and services, net primary income, and net secondary income. *Page 48*

IMF9 International Monetary Fund, International Financial Statistics. Official exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar). *Page 54*

IOO International Olympic Committee - IOO (olympics.com) *Page 262*

IPU Inter-Parliamentary Union (IPU) (www.ipu.org). For the year of 1998, the data is as of August 10, 1998. Women in parliaments are the percentage of parliamentary seats in a single or lower chamber held by women. *Page 114*

ITU International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database Fixed broadband subscriptions refers to fixed subscriptions to high-speed access to the public Internet (a TCP/IP connection), at downstream speeds equal to, or greater than, 256 kbit/s. This includes cable modem, DSL, fiber-to-the-home/building, other fixed (wired)-broadband subscriptions, satellite broadband and terrestrial fixed wireless broadband. This total is measured irrespective of the method of payment. It excludes subscriptions that have access to data communications (including the Internet) via mobile-cellular networks. It should include fixed WiMAX and any other fixed wireless technologies. It includes both residential subscriptions and subscriptions for organizations. Page 226

LANCET Data collected by the Lancet Commission on Global Surgery (www.lancetglobalsurgery.org); Data collected by WHO Collaborating Centre for Surgery and Public Health at Lund University from various sources including Ministries of Health or equivalent national regulatory bodies, national official entities such as medical councils, Eurostat, OECD, WHO Euro Health For All Database, WHO EURO Technical resources for health Database; BMJ Glob Health. Specialist surgical workforce is the number of specialist surgical, anaesthetic, and obstetric (SAO) providers who are working in each country per 100,000 population. *Page 99*

LANCET1 Data from various sources compiled by the Lancet Commission on Global Surgery (www.lancetglobalsurgery.org) and the Center for Health Equity in Surgery and Anesthesia at UCSF Medical Center. The number of procedures undertaken in an operating theatre per 100,000 population per year in each country. A procedure is defined as the incision, excision, or manipulation of tissue that needs regional or general anaesthesia, or profound sedation to control pain. *Page 99*

LCNP The Legatum Centre for National Prosperity (prosperity.com/rankings) *Page 36*

MSRC Global Climate Observing System by World Meteorological Organization - WMO, Intergovernmental Oceanographic Commission of UNESCO, IOC-UNESCO, United Nations Environment Programme - UNEP, and International Science Council - ISC (public.wmo.int/en/programmes/global-climate-observing-system) *Page 18*

MSRCS Multiple national sources (en.wikipedia.org/wiki/List_of_countries_by_vehicles_per_capita) *Page 30*

NEWS1 Data compiled by the author from various sources, predominantly news agencies and metadata from online photographic collections, spanning the years 2002-2022 *Page 164*

NSF National Science Foundation, Science and Engineering Indicators. *Page 124*

OKLA Speedtest Global Index by Ookla (www.speedtest.net/global-index) *Page 226*

PRA Property Rights Alliance (www.internationalpropertyrightsindex.org) *Page 36*

RSF Reporters Without Borders -RSF (rsf.org/en/index) *Page 36*

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SIPRI Stockholm International Peace Research Institute (SIPRI), Yearbook: Armaments, Disarmament and International Security. Military expenditures data from SIPRI are derived from the NATO definition, which includes all current and capital expenditures on the armed forces, including peacekeeping forces; defense ministries and other government agencies engaged in defense projects; paramilitary forces, if these are judged to be trained and equipped for military operations; and military space activities. Such expenditures include military and civil personnel, including retirement pensions of military personnel and social services for personnel; operation and maintenance; procurement; military research and development; and military aid (in the military expenditures of the donor country). Excluded are civil defense and current expenditures for previous military activities, such as for veterans' benefits, demobilization, conversion, and destruction of weapons. This definition cannot be applied for all countries, however, since that would require much more detailed information than is available about what is included in military budgets and off-budget military expenditure items. (For example, military budgets might or might not cover civil defense, reserves and auxiliary forces, police and paramilitary forces, dual-purpose forces such as military and civilian police, military grants in kind, pensions for military personnel, and social security contributions paid by one part of government to another). *Page 168*

SIPRI1 Stockholm International Peace Research Institute (SIPRI), Arms Transfers Programme (http://portal.sipri.org/publications/pages/transfer/splash). Arms transfers cover the supply of military weapons through sales, aid, gifts, and those made through manufacturing licenses. Data cover major conventional weapons such as aircraft, armored vehicles, artillery, radar systems, missiles, and ships designed for military use. Excluded are transfers of other military equipment such as small arms and light weapons, trucks, small artillery, ammunition, support equipment, technology transfers, and other services. Figures are SIPRI Trend Indicator Values (TIVs) expressed in US$ m. A '0' indicates that the value of deliveries is less than US$0.5m *Page 168*

SNP Standard & Poor's, Global Stock Markets Factbook and supplemental S&P data. S&P Global Equity Indices measure the U.S. dollar price change in the stock markets covered by the S&P/IFCI and S&P/Frontier BMI country indices. *Page 54*

STAR StarNgage (starngage.com) *Page 228*

TOEFL Test and Score Data Summary for the TOEFL iBT ® Tests by ETS (www.ets.org/pdfs/toefl/toefl-ibt-test-score-data-summary-2021.pdf) *Page 104*

TRADV Countries' Hotels Statistics by TripAdvisor™ (tripadvisor.com) *Page 58*

TRGDE TravelGuide.de (www.travelguide.de/en/ports) *Page 30*

TRINT Transparency International, since 1995. (www.transparency.org/en/cpi/2022) *Page 36*

UIC Internation Union of Railways (UIC Railisa Database), OECD Statistics Passengers carried by railway are the number of passengers transported by rail multiplied by kilometers traveled. *Page 30*

UIC1 Internation Union of Railways (UIC) Rail lines are the length of railway route available for train service, irrespective of the number of parallel tracks. *Page 30*

UIC2 Internation Union of Railways (UIC), OECD Statistics Goods transported by railway are the volume of goods transported by railway, measured in metric tons times kilometers traveled. *Page 30*

UNAIDS UNAIDS estimates. Number of new HIV infections among uninfected populations ages 15-49 expressed per 1,000 uninfected population in the year before the period. *Page 99*

UNCTAD UNCTAD (http://unctad.org/en/Pages/statistics.aspx) *Page 30*

UNCTAD4 United Nations Conference on Trade and Development, Review of Maritime Transport 2010. The Liner Shipping Connectivity Index captures how well countries are connected to global shipping networks. It is computed by the United Nations Conference on Trade and Development (UNCTAD) based on five components of the maritime transport sector: number of ships, their container-carrying capacity, maximum vessel size, number of services, and number of companies that deploy container ships in a country's ports. For each component a country's value is divided by the maximum value of each component in 2004, the five components are averaged for each country, and the average is divided by the maximum average for 2004 and multiplied by 100. The index generates a value of 100 for the country with the highest average index in 2004. . The underlying data come from Containerisation International Online. Page 30

UNDP United Nations Development Programme - UNDP (hdr.undp.org/data-center/human-development-index#/indicies/HDI) *Page 36*

UNEP United Nations Environmental Program and the World Conservation Monitoring Centre, and International Union for Conservation of Nature, Red List of Threatened Species. Birds are listed for countries included within their breeding or wintering ranges. Threatened species are the number of species classified by the IUCN as endangered, vulnerable, rare, indeterminate, out of danger, or insufficiently known. *Page 82*

UNESCO Index Translationum by UNESCO (www.unesco.org/xtrans/bsform.aspx) *Pages 104, 124, 254*

UNESCO1 UNESCO Institute for Statistics (http://uis.unesco.org/). Data as of February 2020. Primary school pupil-teacher ratio is the average number of pupils per teacher in primary school. *Page 104*

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UNESCO2 UNESCO Institute for Statistics (http://uis.unesco.org/). Data as of March 2021. The number of technicians participated in Research & Development (R&D), expressed as per million. Technicians and equivalent staff are people who perform scientific and technical tasks involving the application of concepts and operational methods, normally under the supervision of researchers. R&D covers basic research, applied research, and experimental development. *Page 124*

UNHCR United Nations High Commissioner for Refugees (UNHCR) and UNRWA through UNHCR's Refugee Data Finder at https://www.unhcr.org/refugee-statistics/. Refugees are people who are recognized as refugees under the 1951 Convention Relating to the Status of Refugees or its 1967 Protocol, the 1969 Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, people recognized as refugees in accordance with the UNHCR statute, people granted refugee-like humanitarian status, and people provided temporary protection. Asylum seekers--people who have applied for asylum or refugee status and who have not yet received a decision or who are registered as asylum seekers--are excluded. Palestinian refugees are people (and their descendants) whose residence was Palestine between June 1946 and May 1948 and who lost their homes and means of livelihood as a result of the 1948 Arab-Israeli conflict. Country of asylum is the country where an asylum claim was filed and granted. *Page 24*

UNHCR1 United Nations High Commissioner for Refugees (UNHCR), Refugee Data Finder at https://www.unhcr.org/refugee-statistics/. Refugees are people who are recognized as refugees under the 1951 Convention Relating to the Status of Refugees or its 1967 Protocol, the 1969 Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, people recognized as refugees in accordance with the UNHCR statute, people granted refugee-like humanitarian status, and people provided temporary protection. Asylum seekers--people who have applied for asylum or refugee status and who have not yet received a decision or who are registered as asylum seekers--are excluded. Palestinian refugees are people (and their descendants) whose residence was Palestine between June 1946 and May 1948 and who lost their homes and means of livelihood as a result of the 1948 Arab-Israeli conflict. Country of origin generally refers to the nationality or country of citizenship of a claimant. *Page 24*

UNICEF Estimates developed by the UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA Population Division) at www.childmortality.org. Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year. *Page 99*

UNICEF1 UNICEF, WHO, World Bank: Joint child malnutrition estimates (JME). Aggregation is based on UNICEF, WHO, and the World Bank harmonized dataset (adjusted, comparable data) and methodology. Prevalence of overweight children is the percentage of children under age 5 whose weight for height is more than two standard deviations above the median for the international reference population of the corresponding age as established by the WHO's new child growth standards released in 2006. *Page 99*

UNIRNK UniRank (www.4icu.org) *Page 104*

UNODC UN Office on Drugs and Crime's International Homicide Statistics database. Intentional homicides are estimates of unlawful homicides purposely inflicted as a result of domestic disputes, interpersonal violence, violent conflicts over land resources, intergang violence over turf or control, and predatory violence and killing by armed groups. Intentional homicide does not include all intentional killing; the difference is usually in the organization of the killing. Individuals or small groups usually commit homicide, whereas killing in armed conflict is usually committed by fairly cohesive groups of up to several hundred members and is thus usually excluded. *Page 170*

UN-PD United Nations Population Division. World Population Prospects: 2022 Revision. Net migration is the net total of migrants during the period, that is, the number of immigrants minus the number of emigrants, including both citizens and noncitizens. *Pages 24, 114*

UN-PD1 (1) United Nations Population Division. World Population Prospects: 2022 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme. Crude birth rate indicates the number of live births occurring during the year, per 1,000 population estimated at midyear. Subtracting the crude death rate from the crude birth rate provides the rate of natural increase, which is equal to the rate of population change in the absence of migration. *Page 24*

UN-PD2 Household surveys, including Demographic and Health Surveys and Multiple Indicator Cluster Surveys. Largely compiled by United Nations Population Division. Contraceptive prevalence, any method is the percentage of married women ages 15-49 who are practicing, or whose sexual partners are practicing, any method of contraception (modern or traditional). Modern methods of contraception include female and male sterilization, oral hormonal pills, the intra-uterine device (IUD), the male condom, injectables, the implant (including Norplant), vaginal barrier methods, the female condom and emergency contraception. Traditional methods of contraception include rhythm (e.g., fertility awareness based methods, periodic abstinence), withdrawal and other traditional methods. Page 24 *Page 24*

UN-PD4 (1) United Nations Population Division. World Population Prospects: 2022 Revision, or derived from male and female life expectancy at birth from sources such as: (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme. Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. *Page 24*

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UN-PD5 Derived from total population. Population source: (1) United Nations Population Division. World Population Prospects: 2022 Revision, (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme. Annual population growth rate for year t is the exponential rate of growth of midyear population from year t-1 to t, expressed as a percentage . Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship. *Page 24*

UN-PD6 United Nations Population Division, Trends in Total Migrant Stock: 2008 Revision. International migrant stock is the number of people born in a country other than that in which they live. It also includes refugees. The data used to estimate the international migrant stock at a particular time are obtained mainly from population censuses. The estimates are derived from the data on foreign-born population--people who have residence in one country but were born in another country. When data on the foreign-born population are not available, data on foreign population--that is, people who are citizens of a country other than the country in which they reside--are used as estimates. After the breakup of the Soviet Union in 1991 people living in one of the newly independent countries who were born in another were classified as international migrants. Estimates of migrant stock in the newly independent states from 1990 on are based on the 1989 census of the Soviet Union. For countries with information on the international migrant stock for at least two points in time, interpolation or extrapolation was used to estimate the international migrant stock on July 1 of the reference years. For countries with only one observation, estimates for the reference years were derived using rates of change in the migrant stock in the years preceding or following the single observation available. A model was used to estimate migrants for countries that had no data. *Page 24*

UN-PD7 United Nations Population Division, Trends in Total Migrant Stock: 2012 Revision. International migrant stock is the number of people born in a country other than that in which they live. It also includes refugees. The data used to estimate the international migrant stock at a particular time are obtained mainly from population censuses. The estimates are derived from the data on foreign-born population--people who have residence in one country but were born in another country. When data on the foreign-born population are not available, data on foreign population--that is, people who are citizens of a country other than the country in which they reside--are used as estimates. After the breakup of the Soviet Union in 1991 people living in one of the newly independent countries who were born in another were classified as international migrants. Estimates of migrant stock in the newly independent states from 1990 on are based on the 1989 census of the Soviet Union. For countries with information on the international migrant stock for at least two points in time, interpolation or extrapolation was used to estimate the international migrant stock on July 1 of the reference years. For countries with only one observation, estimates for the reference years were derived using rates of change in the migrant stock in the years preceding or following the single observation available. A model was used to estimate migrants for countries that had no data. *Page 24*

UN-PD8 United Nations Population Division, World Population Prospects. Adolescent fertility rate is the number of births per 1,000 women ages 15-19. *Page 24*

UN-PD9 United Nations Population Division. World Urbanization Prospects: 2018 Revision. Urban population refers to people living in urban areas as defined by national statistical offices. The data are collected and smoothed by United Nations Population Division. Page 24

UNWTO Global and regional tourism performance by the World Tourism Organization - UNWTO (www.unwto.org/tourism-data/global-and-regional-tourism-performance) *Page 58*

WB010 World Bank staff estimates through the WITS platform from the Comtrade database maintained by the United Nations Statistics Division. Food comprises the commodities in SITC sections 0 (food and live animals), 1 (beverages and tobacco), and 4 (animal and vegetable oils and fats) and SITC division 22 (oil seeds, oil nuts, and oil kernels). *Page 48*

WB02 World Bank, Doing Business project (http://www.doingbusiness.org/). NOTE: Doing Business has been discontinued as of 9/16/2021. For more information: https://bit.ly/3CLCbme Ease of doing business ranks economies from 1 to 190, with first place being the best. The ranking of economies is determined by sorting the aggregate ease of doing business scores. A high ranking (a low numerical rank) means that the regulatory environment is conducive to business operation. *Page 44*

WB04 World Bank, Enterprise Surveys (http://www.enterprisesurveys.org/). Firms with female participation in ownership are the percentage of firms with a woman among the principal owners. *Page 114*

WB07 World Bank, Poverty and Inequality Platform. Data are based on primary household survey data obtained from government statistical agencies and World Bank country departments. Data for high-income economies are mostly from the Luxembourg Income Study database. For more information and methodology, please see http://pip.worldbank.org. Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. *Page 110*

WB09 World Bank staff estimates using the World Bank's total population and age/sex distributions of the United Nations Population Division's World Population Prospects: 2022 Revision. *Page 114*

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WB1 Derived using World Bank national accounts data and OECD National Accounts data files, and employment data from International Labour Organization, ILOSTAT database. Value added per worker is a measure of labor productivity—value added per unit of input. Value added denotes the net output of a sector after adding up all outputs and subtracting intermediate inputs. Data are in constant 2015 U.S. dollars. Agriculture corresponds to the International Standard Industrial Classification (ISIC) tabulation categories A and B (revision 3) or tabulation category A (revision 4), and includes forestry, hunting, and fishing as well as cultivation of crops and livestock production. *Page 70*

WB11 World Bank and Turku School of Economics, Logistic Performance Index Surveys. Data are available online at: https://lpi.worldbank.org/. Summary results are published in Arvis and others' Connecting to Compete: Trade Logistics in the Global Economy, The Logistics Performance Index and Its Indicators report. Data are from Logistics Performance Index surveys conducted by the World Bank in partnership with academic and international institutions and private companies and individuals engaged in international logistics. 2009 round of surveys covered more than 5,000 country assessments by nearly 1,000 international freight forwarders. Respondents evaluate eight markets on six core dimensions on a scale from 1 (worst) to 5 (best). The markets are chosen based on the most important export and import markets of the respondent's country, random selection, and, for landlocked countries, neighboring countries that connect them with international markets. Details of the survey methodology are in Arvis and others' Connecting to Compete 2010: Trade Logistics in the Global Economy (2010). Respondents evaluated the overall level of competence and quality of logistics services (e.g. transport operators, customs brokers), on a rating ranging from 1 (very low) to 5 (very high). Scores are averaged across all respondents. *Page 30*

WB12 World Bank staff calculations based on the methodology described in World Bank (2018). https://openknowledge.worldbank.org/handle/10986/30498 The HCI calculates the contributions of health and education to worker productivity. The final index score ranges from zero to one and measures the productivity as a future worker of child born today relative to the benchmark of full health and complete education. *Page 104*

WB22 World Bank, Global Database of Shared Prosperity (GDSP) (http://www.worldbank.org/en/topic/poverty/brief/global-database-of-shared-prosperity). Mean consumption or income per capita (2017 PPP $ per day) used in calculating the growth rate in the welfare aggregate of total population. *Page 110*

WB23 World Bank Global Electrification Database from "Tracking SDG 7: The Energy Progress Report" led jointly by the custodian agencies: the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the United Nations Statistics Division (UNSD), the World Bank and the World Health Organization (WHO). Access to electricity is the percentage of population with access to electricity. Electrification data are collected from industry, national surveys and international sources. *Page 77*

WB24 World Bank staff estimates based on age distributions of United Nations Population Division's World Population Prospects: 2022 Revision. Age dependency ratio is the ratio of dependents--people younger than 15 or older than 64--to the working-age population--those ages 15-64. Data are shown as the proportion of dependents per 100 working-age population. *Page 24*

WB31 World Bank, World Development Indicators database. Estimates are based on data obtained from International Labour Organization and United Nations Population Division. Female labor force as a percentage of the total show the extent to which women are active in the labor force. Labor force comprises people ages 15 and older who supply labor for the production of goods and services during a specified period. *Page 114*

WB35 World Bank, Poverty and Inequality Platform. Data are compiled from official government sources or are computed by World Bank staff using national (i.e. country–specific) poverty lines. National poverty headcount ratio is the percentage of the population living below the national poverty line(s). National estimates are based on population-weighted subgroup estimates from household surveys. For economies for which the data are from EU-SILC, the reported year is the income reference year, which is the year before the survey year. *Page 110*

WB36 World Bank, World Development Indicators database. Estimates are based on employment, population, GDP, and PPP data obtained from International Labour Organization, United Nations Population Division, Eurostat, OECD, and World Bank. GDP per person employed is gross domestic product (GDP) divided by total employment in the economy. Purchasing power parity (PPP) GDP is GDP converted to 2017 constant international dollars using PPP rates. An international dollar has the same purchasing power over GDP that a U.S. dollar has in the United States. *Page 110*

WB38 World Bank: Women, Business and the Law. https://wbl.worldbank.org/ The index measures how laws and regulations affect women's economic opportunity. Overall scores are calculated by taking the average score of each index (Mobility, Workplace, Pay, Marriage, Parenthood, Entrepreneurship, Assets and Pension), with 100 representing the highest possible score. *Page 114*

WB/IMF World Bank staff estimates based on IMF balance of payments data. *Page 54*

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WB/IMF1 World Bank staff estimates based on IMF balance of payments data, and World Bank and OECD GDP estimates. Personal remittances comprise personal transfers and compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from nonresident households. Personal transfers thus include all current transfers between resident and nonresident individuals. Compensation of employees refers to the income of border, seasonal, and other short-term workers who are employed in an economy where they are not resident and of residents employed by nonresident entities. Data are the sum of two items defined in the sixth edition of the IMF's Balance of Payments Manual: personal transfers and compensation of employees. *Page 54*

WB-JMP WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (washdata.org). The percentage of people using at least basic sanitation services, that is, improved sanitation facilities that are not shared with other households. This indicator encompasses both people using basic sanitation services as well as those using safely managed sanitation services. Improved sanitation facilities include flush/pour flush to piped sewer systems, septic tanks or pit latrines; ventilated improved pit latrines, compositing toilets or pit latrines with slabs. *Pages 70, 99*

WB/OECD World Bank national accounts data, and OECD National Accounts data files. Agriculture, forestry, and fishing corresponds to ISIC divisions 1-3 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 4. Note: For VAB countries, gross value added at factor cost is used as the denominator. *Pages 44, 48, 70*

WDATA WikiData (wikidata.org) *Pages 162, 242*

WDPA World Database on Protected Areas (WDPA) where the compilation and management is carried out by United Nations Environment World Conservation Monitoring Centre (UNEP-WCMC) in collaboration with governments, non-governmental organizations, academia and industry. The data is available online through the Protected Planet website (https://www.protectedplanet.net/). Marine protected areas are areas of intertidal or subtidal terrain--and overlying water and associated flora and fauna and historical and cultural features--that have been reserved by law or other effective means to protect part or all of the enclosed environment. *Page 70*

WDPA/A World Database on Protected Areas - WDPA (https://www.protectedplanet.net/), and the author's calculations *Page 18*

WFB The World Fact Book by CIA (www.cia.gov/the-world-factbook) *Pages 18, 24, 30, 44, 77, 148*

WFB/A The World Fact Book by CIA (www.cia.gov/the-world-factbook), and the author"s calculations *Page 18*

WFEXD World Federation of Exchanges database. Listed domestic companies, including foreign companies which are exclusively listed, are those which have shares listed on an exchange at the end of the year. Investment funds, unit trusts, and companies whose only business goal is to hold shares of other listed companies, such as holding companies and investment companies, regardless of their legal status, are excluded. A company with several classes of shares is counted once. Only companies admitted to listing on the exchange are included. *Page 54*

WHO01 World Health Organization Global Health Expenditure database (http://apps.who.int/nha/database). The data was retrieved on January 30, 2022. Current expenditures on health per capita in current US dollars. Estimates of current health expenditures include healthcare goods and services consumed during each year. *Page 99*

WHO03 WHO and UNICEF (http://www.who.int/immunization/monitoring_surveillance/en/). Child immunization rate, hepatitis B is the percentage of children ages 12-23 months who received hepatitis B vaccinations before 12 months or at any time before the survey. A child is considered adequately immunized after three doses. *Page 99*

WHO04 WHO, UNICEF, UNFPA, World Bank Group, and the United Nations Population Division. Trends in Maternal Mortality: 2000 to 2017. Geneva, World Health Organization, 2019 Maternal mortality ratio is the number of women who die from pregnancy-related causes while pregnant or within 42 days of pregnancy termination per 100,000 live births. The data are estimated with a regression model using information on the proportion of maternal deaths among non-AIDS deaths in women ages 15-49, fertility, birth attendants, and GDP measured using purchasing power parities (PPPs). *Page 99*

WHO05 World Health Organization, Global Health Observatory Data Repository/World Health Statistics. Prevalence of anemia, non-pregnant women, is the percentage of non-pregnant women whose hemoglobin level is less than 120 grams per liter at sea level. *Page 99*

WHO07 World Health Organization, Global Tuberculosis Report. Incidence of tuberculosis is the estimated number of new and relapse tuberculosis cases arising in a given year, expressed as the rate per 100,000 population. All forms of TB are included, including cases in people living with HIV. Estimates for all years are recalculated as new information becomes available and techniques are refined, so they may differ from those published previously. *Page 99*

WHO08 World Health Organization's Global Health Workforce Statistics, OECD, supplemented by country data. Community health workers include various types of community health aides, many with country-specific occupational titles such as community health officers, community health-education workers, family health workers, lady health visitors and health extension package workers. *Page 99*

WHOB Wikipedia's Hobby List (en.wikipedia.org/wiki/List_of_hobbies) combined with author's data collection *Page 248*

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WHO-GHO World Health Organization, Global Health Observatory Data Repository (http://apps.who.int/ghodata/). Mortality caused by road traffic injury is estimated road traffic fatal injury deaths per 100,000 population. *Pages 30, 99*

WHO-S Data are from the World Health Organization, supplemented by country data. Hospital beds include inpatient beds available in public, private, general, and specialized hospitals and rehabilitation centers. In most cases beds for both acute and chronic care are included. *Page 99*

WHPPYR World Happiness Report by Gallup World Poll and other partners (worldhappiness.report/about) *Page 36*

WIPO World Intellectual Property Organization (WIPO), Statistics Database at www.wipo.int/ipstats/. The International Bureau of WIPO assumes no responsibility with respect to the transformation of these data. Industrial design applications are applications to register an industrial design with a national or regional Intellectual Property (IP) offices and designations received by relevant offices through the Hague System. Industrial designs are applied to a wide variety of industrial products and handicrafts. They refer to the ornamental or aesthetic aspects of a useful article, including compositions of lines or colors or any three-dimensional forms that give a special appearance to a product or handicraft. The holder of a registered industrial design has exclusive rights against unauthorized copying or imitation of the design by third parties. Industrial design registrations are valid for a limited period. The term of protection is usually 15 years for most jurisdictions. However, differences in legislation do exist, notably in China (which provides for a 10-year term from the application date). Non-resident application refers to an application filed with the IP office of or acting on behalf of a state or jurisdiction in which the first-named applicant in the application is not domiciled. Design count is used to render application data for industrial applications across offices comparable, as some offices follow a single-class/single-design filing system while other have a multiple class/design filing system. *Page 124*

WIPO1 World Intellectual Property Organization (WIPO), WIPO Patent Report: Statistics on Worldwide Patent Activity. The International Bureau of WIPO assumes no responsibility with respect to the transformation of these data. Patent applications are worldwide patent applications filed through the Patent Cooperation Treaty procedure or with a national patent office for exclusive rights for an invention--a product or process that provides a new way of doing something or offers a new technical solution to a problem. A patent provides protection for the invention to the owner of the patent for a limited period, generally 20 years. *Page 124*

WITS World Integrated Trade Solution (wits.worldbank.org) *Pages 48, 50*

WKDIA Multiple sources (en.wikipedia.org/wiki/List_of_diasporas) *Page 27*

WOS World of Skills, by Dr Sinisa Grgic, 2020 (www.amazon.com/World-Skills-Sinisa-Grgic-PhD/dp/B084P4F7MC) *Pages 133, 138*

WRI/WFB The World Fact Book by CIA (www.cia.gov/the-world-factbook) *Page 18*

WTA WTA Tour(www.wtatennis.com) *Page 262*

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