

GDP and Economy Analysis



Tableau project report by:
Gaurav Bhardwaj (21csu316)
Garvit Dubey (21csu322)

Introduction:

In an era marked by globalization and interconnectivity, understanding the economic dynamics of nations is paramount for informed decision-making and strategic planning. This Tableau project delves into the comprehensive analysis of Gross Domestic Product (GDP) and various economic indicators across 14 diverse countries. The aim is to unravel the intricate tapestry of economic landscapes, exploring factors influencing economic growth, workforce dynamics, and overall national development.

As the global community grapples with shifting economic paradigms, the need to go beyond traditional economic metrics becomes increasingly evident. This project seeks to unearth nuanced insights into each country's economic performance, not only through GDP but also through Human Development Index (HDI), sectoral contributions, trade dynamics, and innovation indices. The interplay of these factors paints a richer picture, allowing for a more holistic understanding of economic health.

Furthermore, this analysis is poised to offer practical implications for job seekers, businesses, and policymakers. By examining the intricate relationship between economic indicators and workforce trends, the project aims to provide actionable insights into workforce planning, job market dynamics, and strategic decision-making for sustainable economic development.

As we embark on this journey through the economic tapestry of 14 diverse nations, the insights derived from this Tableau project are anticipated to contribute meaningfully to the discourse on global economic trends, job markets, and the intersection of economic policies with workforce dynamics.

Problem statements:

Navigating Economic Disparities:

- How do GDP variations across the 18 countries reflect economic disparities, and what factors contribute to these disparities? What strategies can be devised to address and mitigate such differences?

Enhancing Global Competitiveness:

- What insights can be gleaned from the analysis to enhance the global competitiveness of the 14 countries? How can nations leverage their economic strengths to position themselves strategically in the global landscape?

Impact of Government Policies on Growth:

- How do government spending and policies influence economic growth, job creation, and overall stability in the analyzed countries? What policy adjustments could optimize these impacts?

Gender-Inclusive Economic Strategies:

- What is the relationship between economic indicators and gender-related factors, such as the gender pay gap and women's participation in the labor force? How can economic policies foster gender inclusivity and equality in the workforce?

Innovation-Driven Economic Development:

- How does the analysis reflect the role of research and development (R&D) in driving economic development, and what implications does this have for fostering innovation-led employment opportunities?

Trade Dynamics and Job Markets:

- How do international trade balances and Foreign Direct Investment (FDI) impact job opportunities and industry growth in the analyzed countries? How can nations strategically position themselves in the global market for job creation?

Role of R&D in dynamic growth of GDP:

- How does research and development (R&D) contribute to the creation of high-tech job opportunities? What strategies can countries adopt to promote R&D-driven employment growth in innovative sectors?

WHAT IT IS

This Tableau project analyzes the GDP and economic indicators of 18 countries, providing insights into economic disparities, workforce dynamics, and strategic planning. It aims to uncover patterns, correlations, and predictive trends, offering valuable information for individuals, businesses, and policymakers to make informed decisions related to job markets, economic development, and workforce optimization.

Graphs

1. GDP Map:

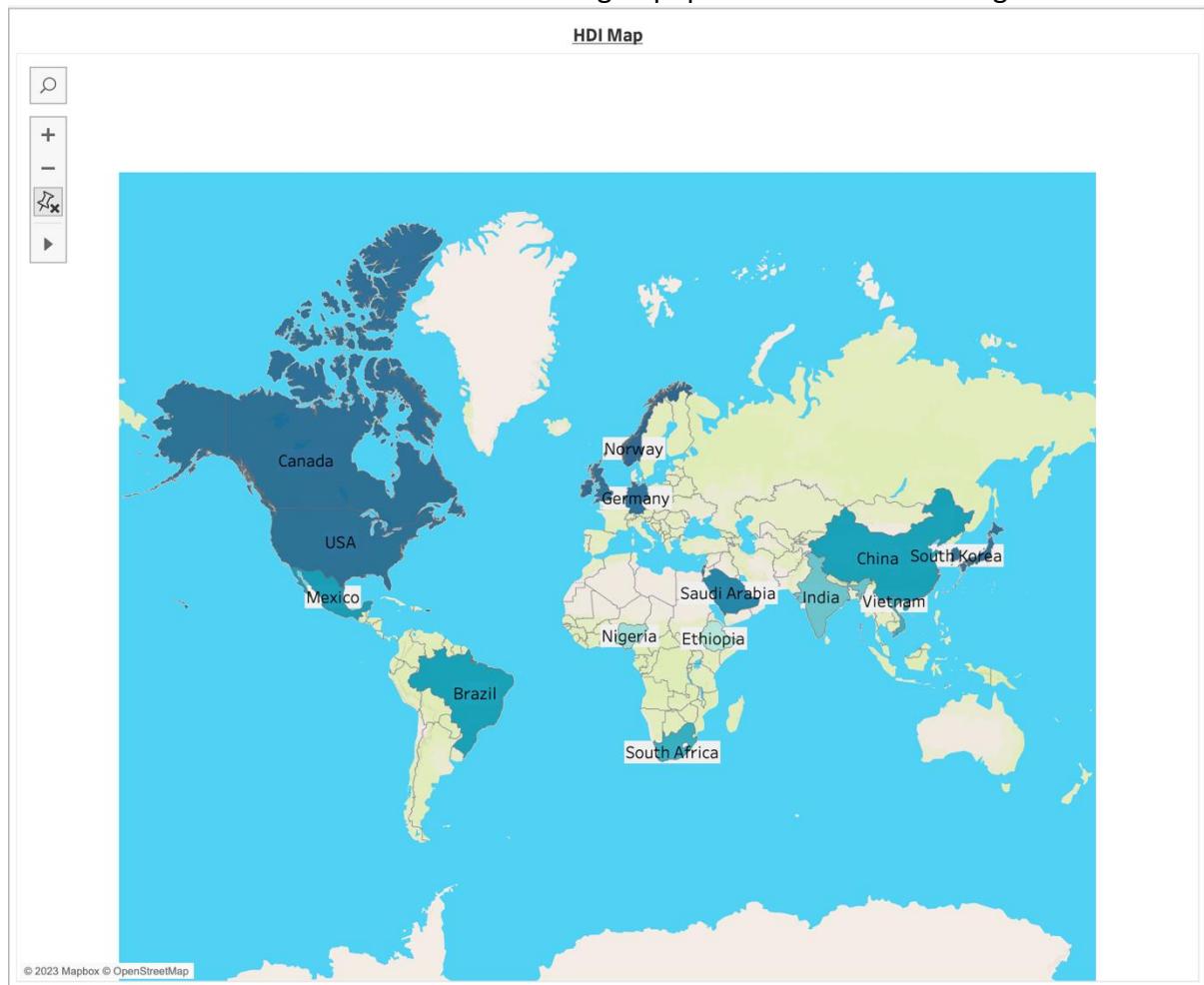
- A geographical map visualizing the Gross Domestic Product (GDP) of the 14 countries, providing an overview of their economic size and distribution.
- **Purpose:** Provides a geographical overview of GDP distribution.
- **Use:** Visualize disparities in economic output across countries.



2. HDI Map:

- A map displaying the Human Development Index (HDI) across the 14 countries, offering insights into overall well-being based on factors like life expectancy, education, and per capita income.

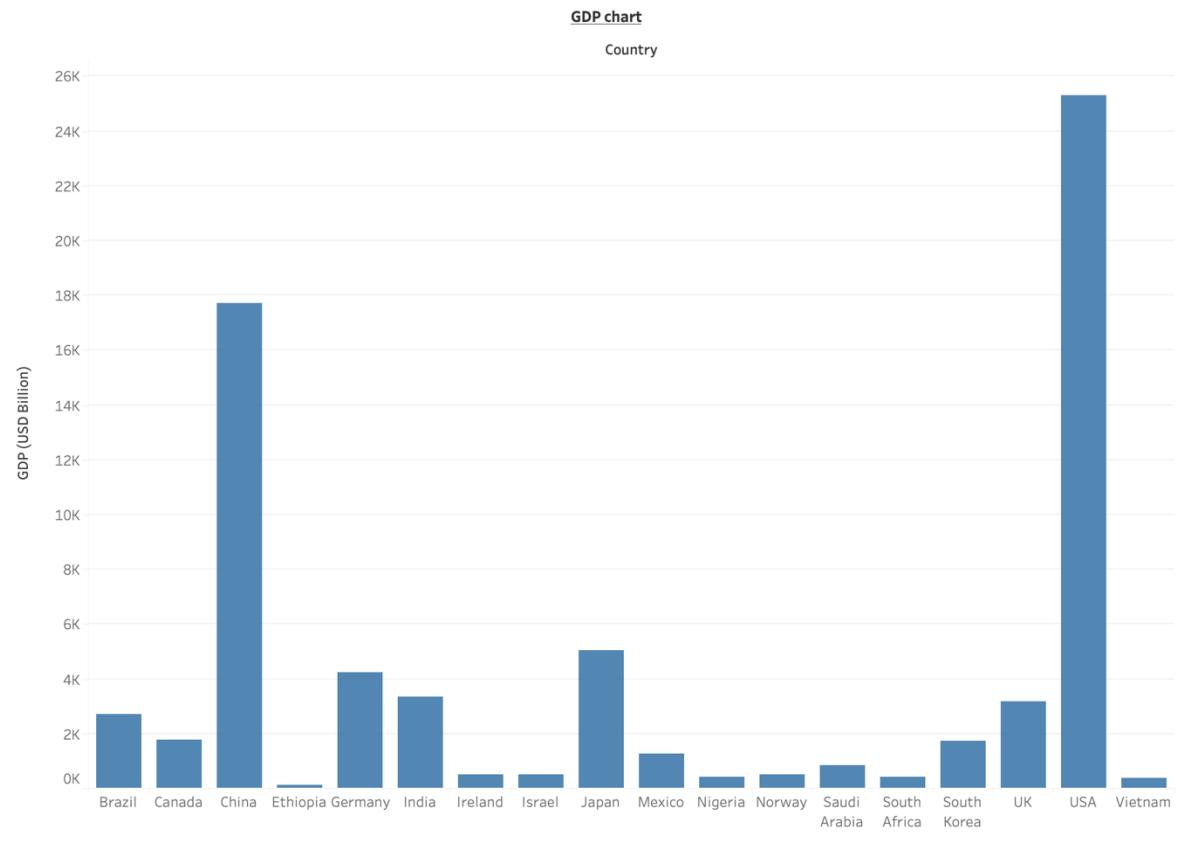
- **Purpose:** Displays Human Development Index geographically.
- **Use:** Understand the overall well-being of populations in different regions.



3. GDP Bar Chart:

- A bar chart comparing the GDP of the 14 countries, allowing for a straightforward visual comparison of economic output.

- **Purpose:** Compares GDPs for a quick overview.
- **Use:** Identify countries with the highest and lowest GDP.

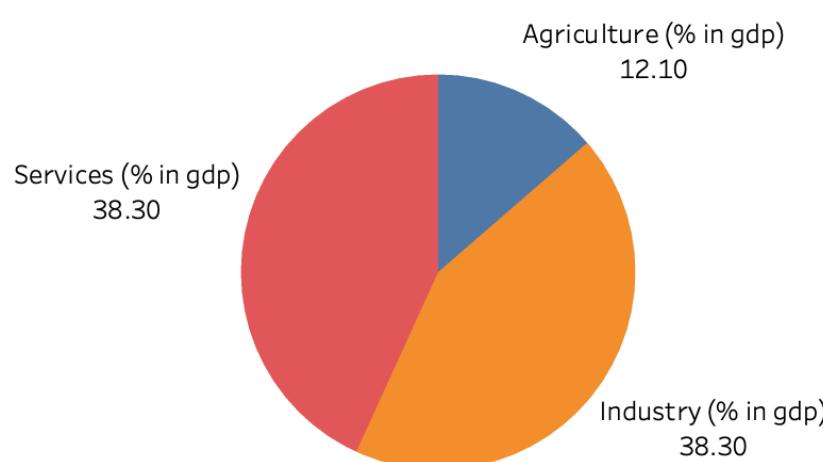


4. Sectoral Contribution:

- A visualization illustrating the percentage contribution of different economic sectors (e.g., agriculture, industry, services) to the overall GDP of each country.

Purpose: Illustrates the percentage contribution of economic sectors.

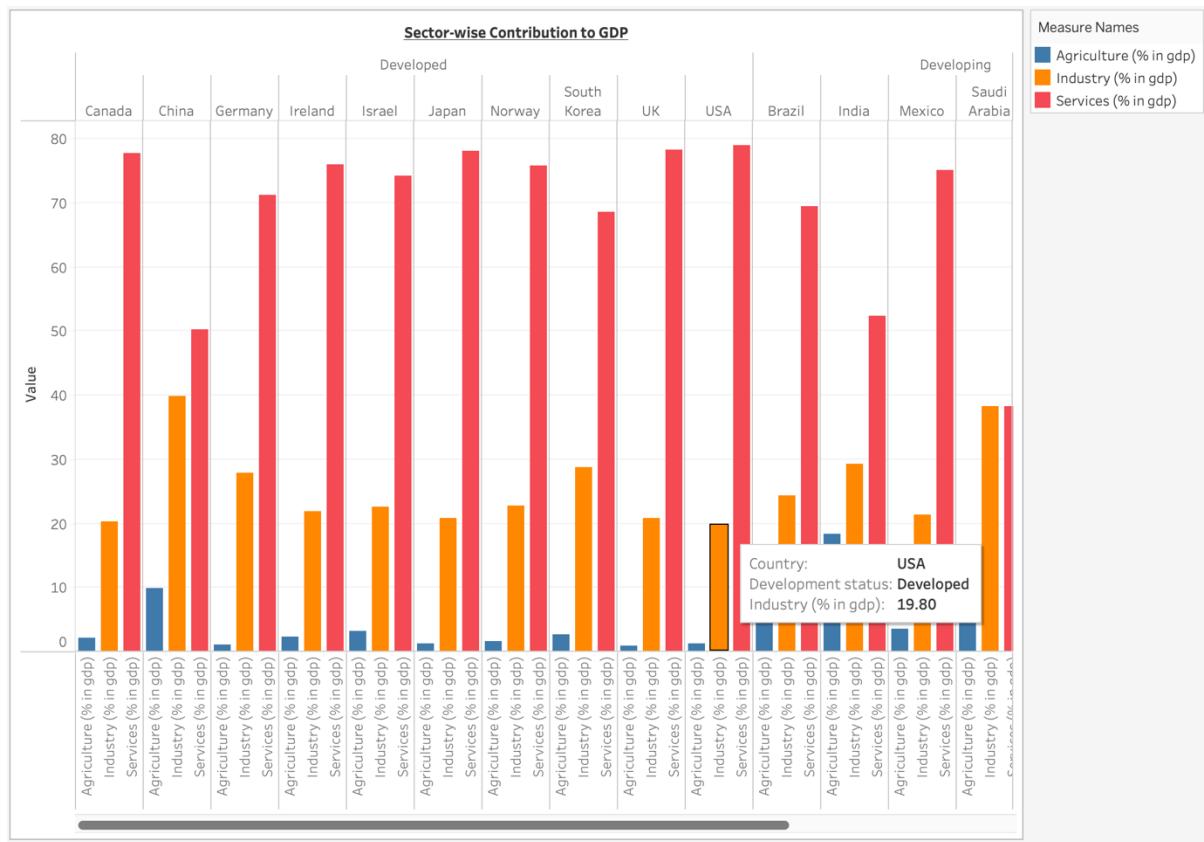
Use: Understand the composition of GDP by industry.



5. Sector Bar Chart:

- A bar chart comparing the sectoral contributions to GDP, offering a detailed breakdown of each country's economic composition.

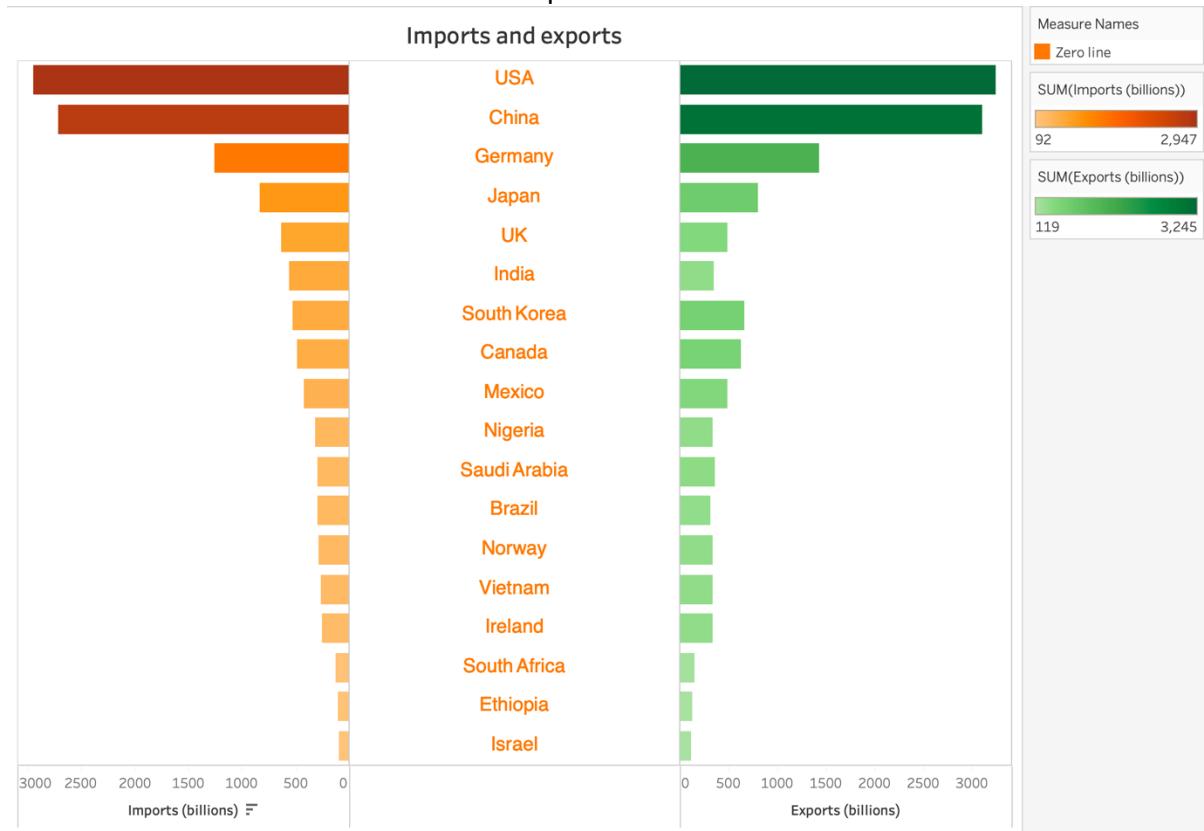
- **Purpose:** Provides a detailed breakdown of sectoral contributions.
- **Use:** Identify dominant sectors in each country's economy.



6. Imports and Exports:

- Graphs depicting the balance between imports and exports for the 14 countries, providing insights into their trade dynamics and economic relationships.

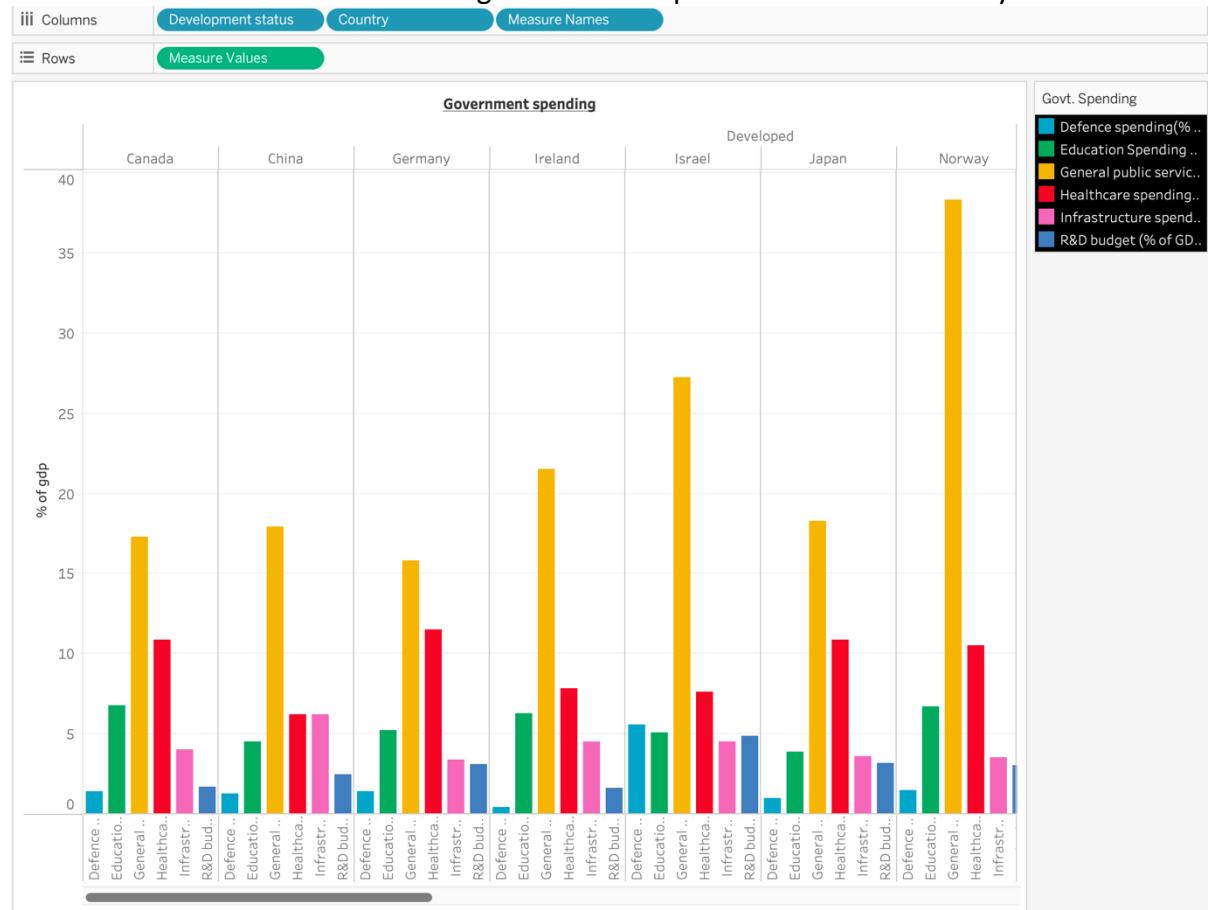
- **Purpose:** Depicts trade balances.
- **Use:** Understand the economic impact of international trade.



7. Government Spending:

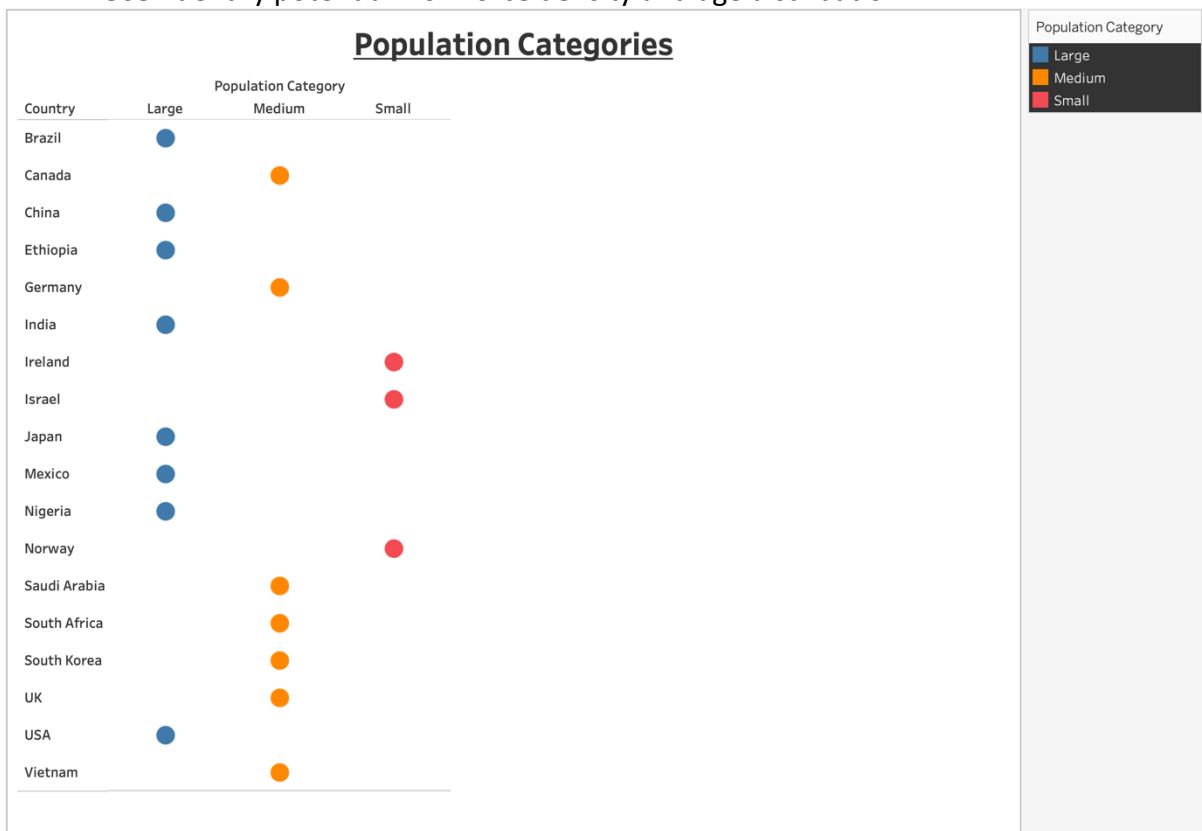
- A representation of government spending across the countries, highlighting the economic impact of public sector investment.

- **Purpose:** Illustrates the allocation of public funds.
- **Use:** Understand the role of government expenditure in the economy.



8. Population Categories:

- Visual representation categorizing populations based on demographic factors, offering insights into potential workforce density and dynamics.
- **Purpose:** Categorizes populations based on demographics.
- **Use:** Identify potential workforce density and age distribution.



9. GDP Per Capita Map:

- A geographical map displaying GDP per capita, allowing for an understanding of economic prosperity at an individual level across different regions.

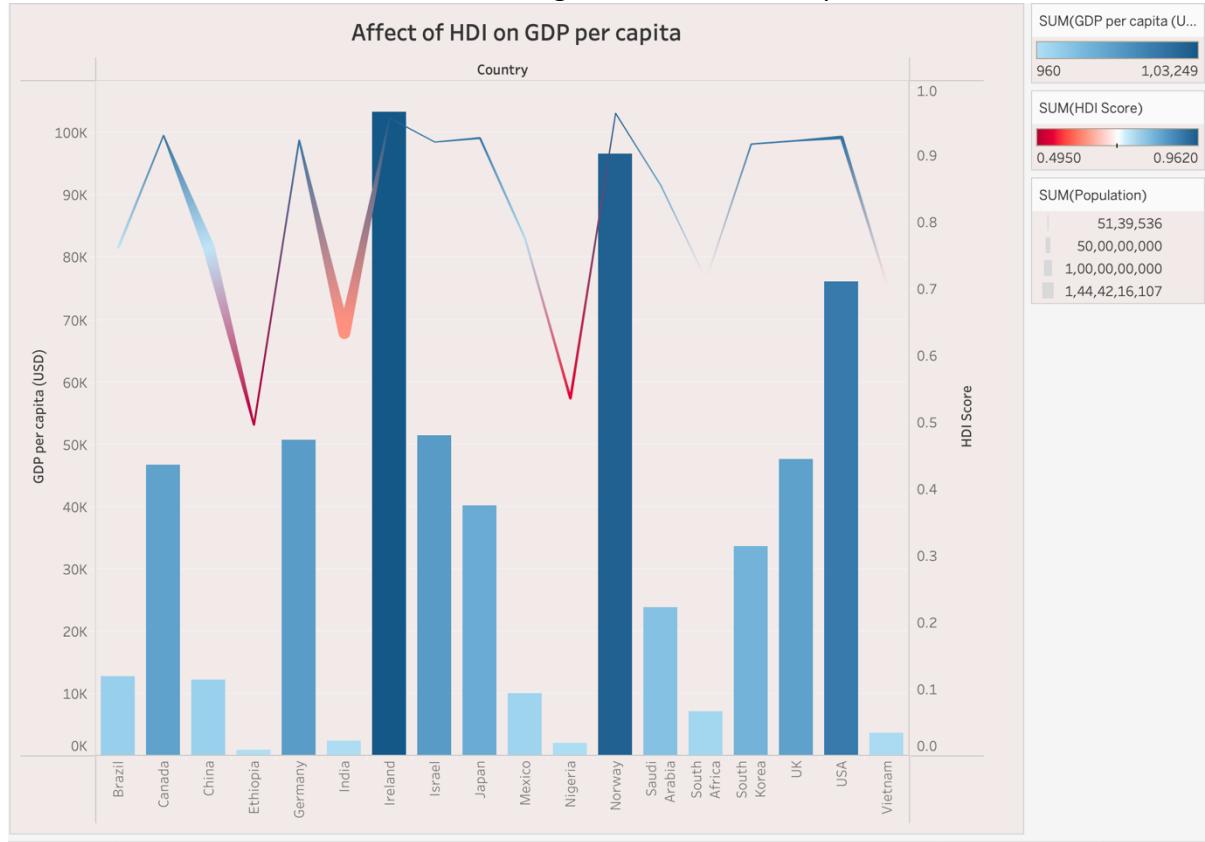
- **Purpose:** Visualizes GDP per person geographically.
- **Use:** Understand economic prosperity at an individual level.



10. GDP per Capita and HDI:

- A visualization showing the relationship between GDP per capita and Human Development Index, providing insights into economic well-being.

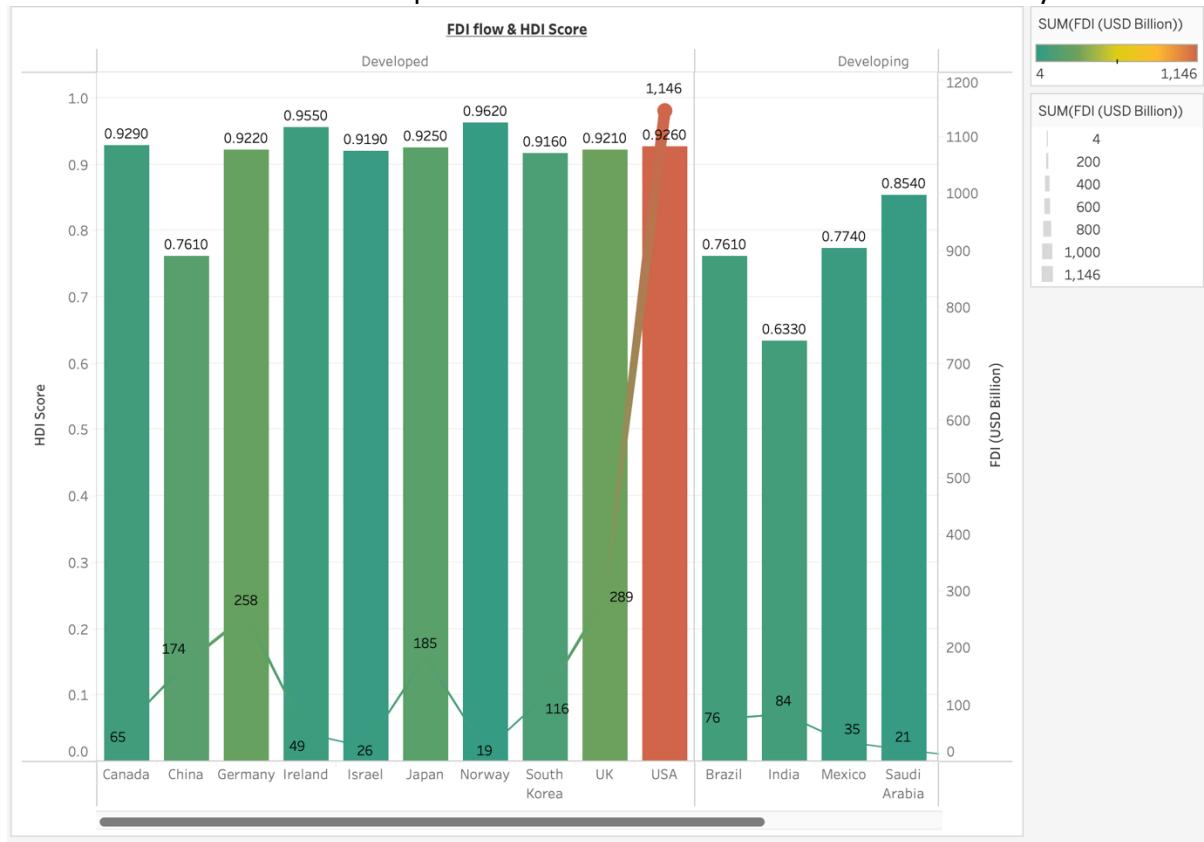
- **Purpose:** Shows the relationship between GDP per capita and HDI.
- **Use:** Correlate economic well-being with overall development.



11. FDI:

- Graphs illustrating Foreign Direct Investment, showcasing the level of international investment each country receives, influencing economic growth and job creation.

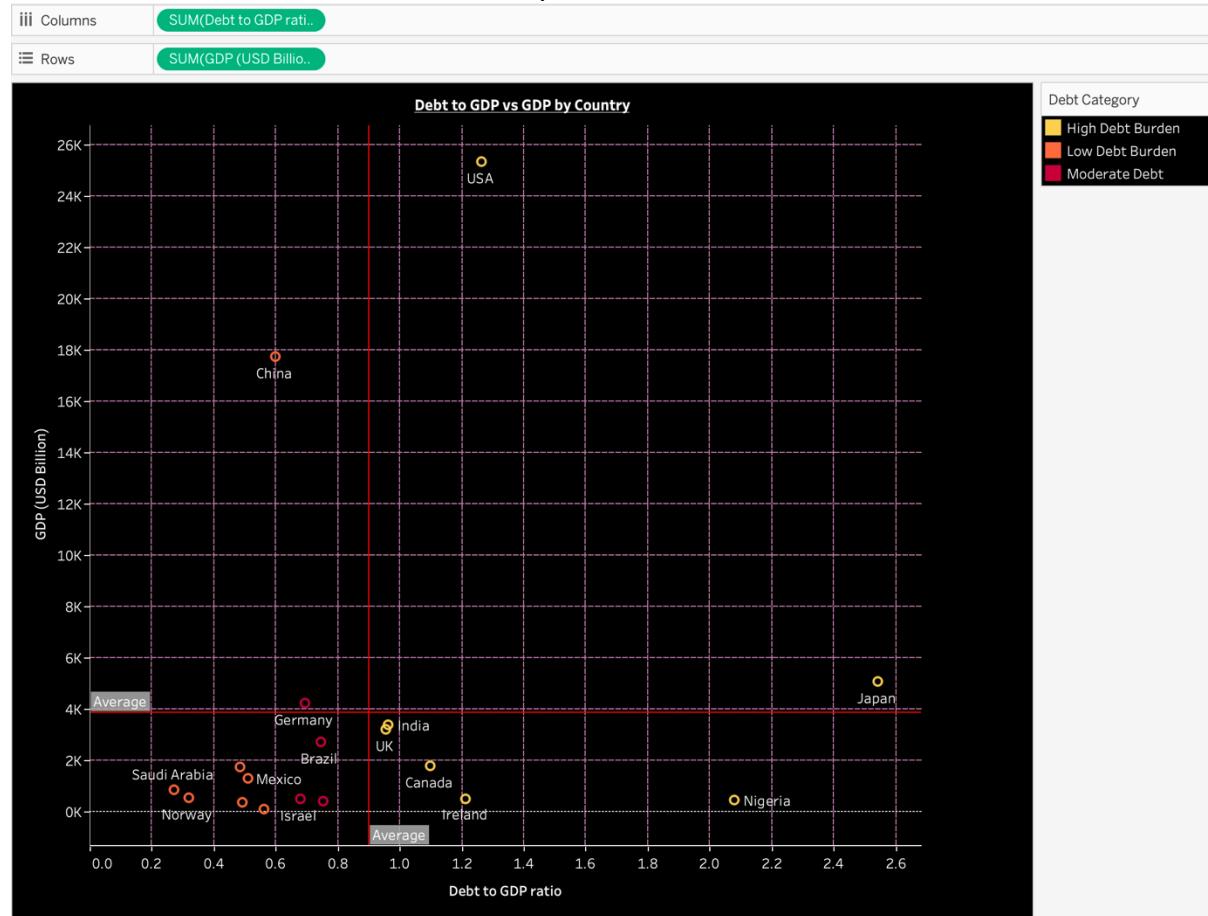
- **Purpose:** Depicts the level of foreign direct investment.
- **Use:** Understand the impact of international investment on the economy.



12. Debt vs GDP:

- A comparison graph between national debt and GDP, providing insights into a country's economic stability and fiscal health.

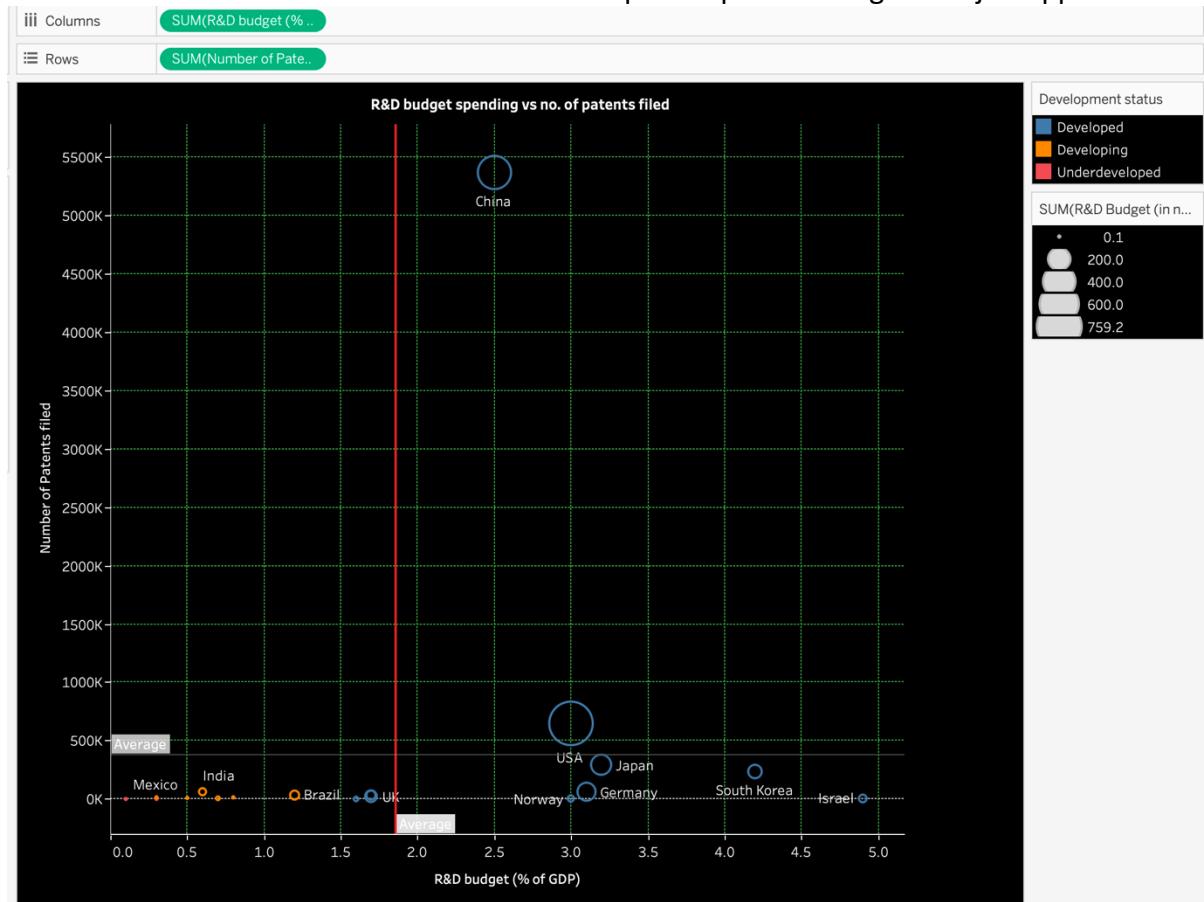
- **Purpose:** Compares national debt to GDP.
- **Use:** Assess the economic stability of countries.



13. R&D vs No. of Patents:

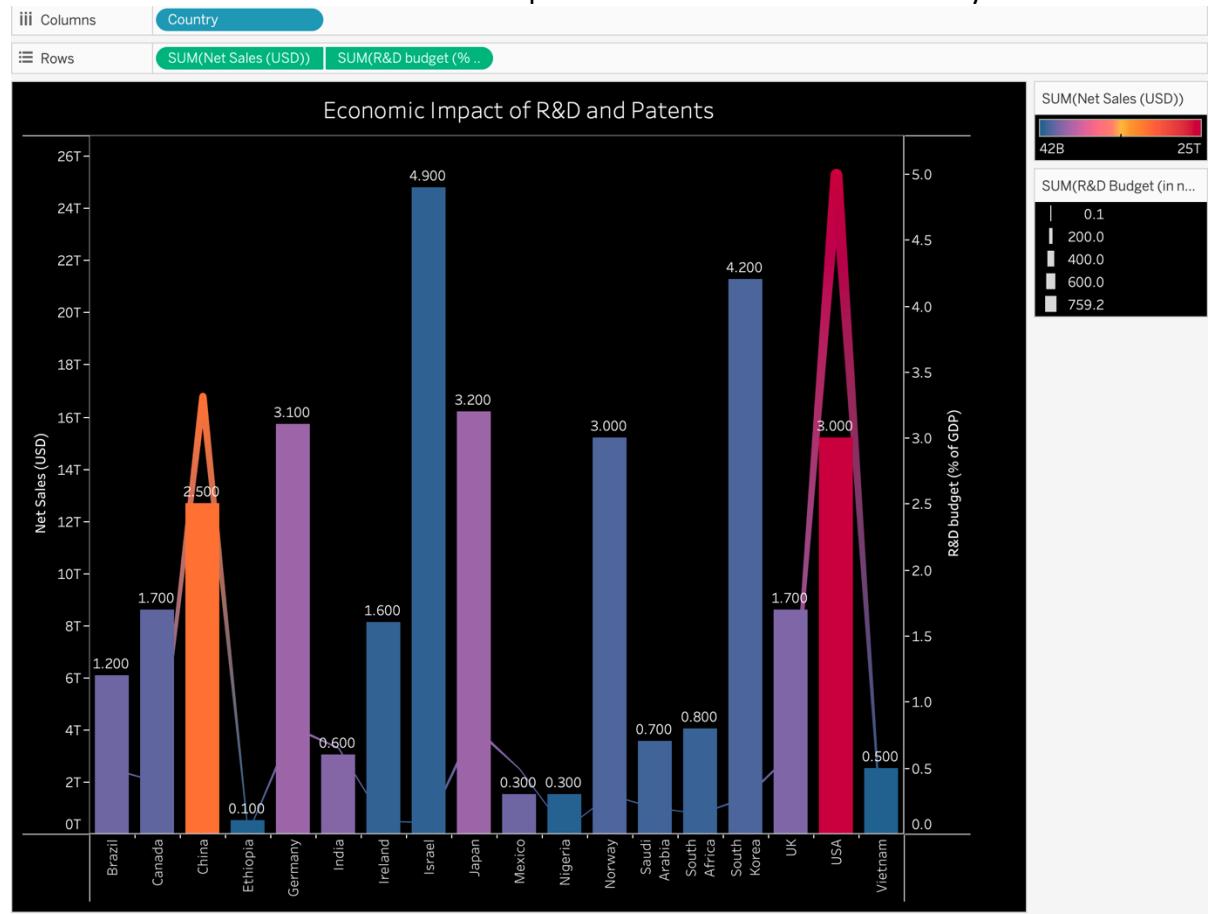
- A visualization depicting the correlation between research and development budgets and the number of patents filed, indicating the level of innovation and potential high-tech job opportunities.

- **Purpose:** Illustrates the link between R&D budgets and patents.
- **Use:** Understand the innovation landscape and potential high-tech job opportunities.



14. Economic Impact of R&D Budgets:

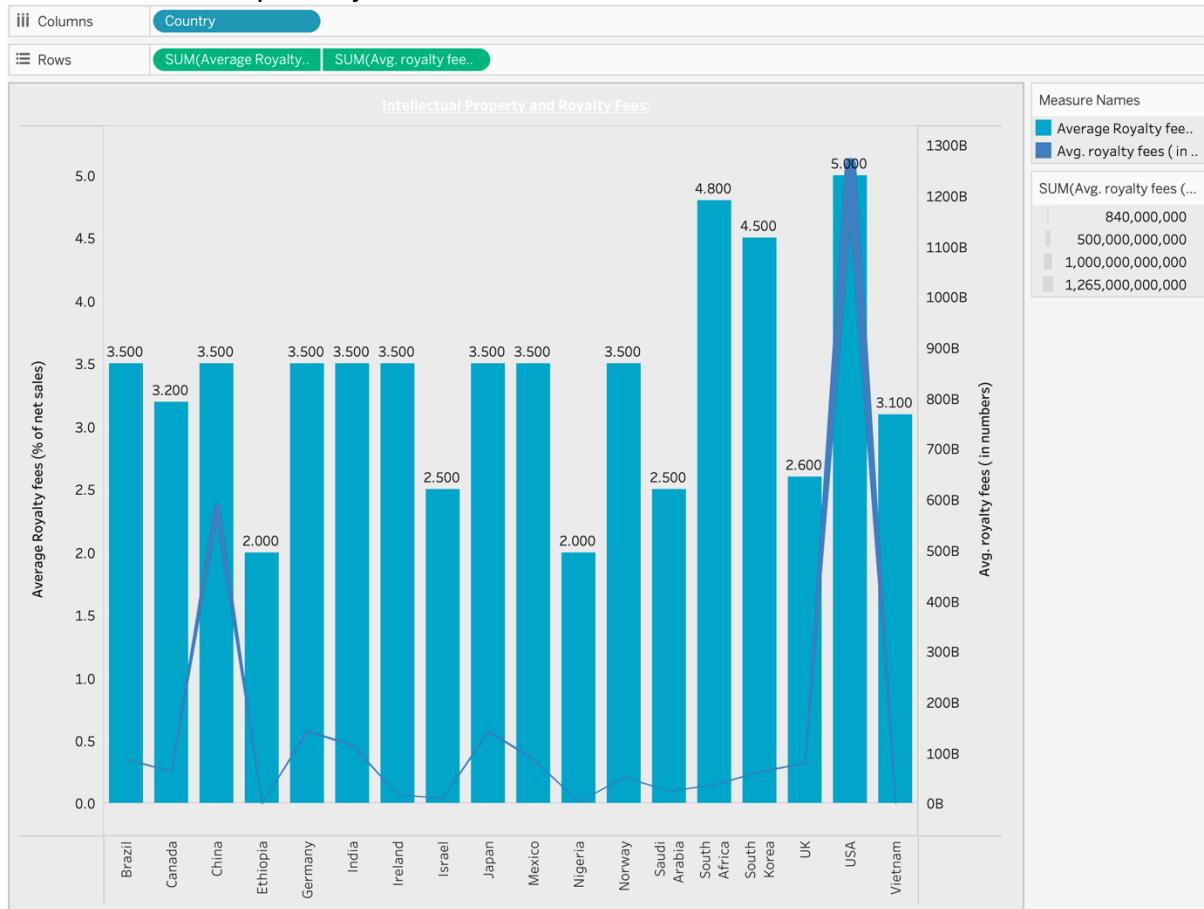
- Graphs illustrating the economic impact of research and development budgets, showcasing the relationship between innovation investment and overall economic growth.
- **Purpose:** Shows the economic outcomes of R&D investment.
- **Use:** Understand the broader impact of innovation on the economy.



15. Property and Royalty Fees:

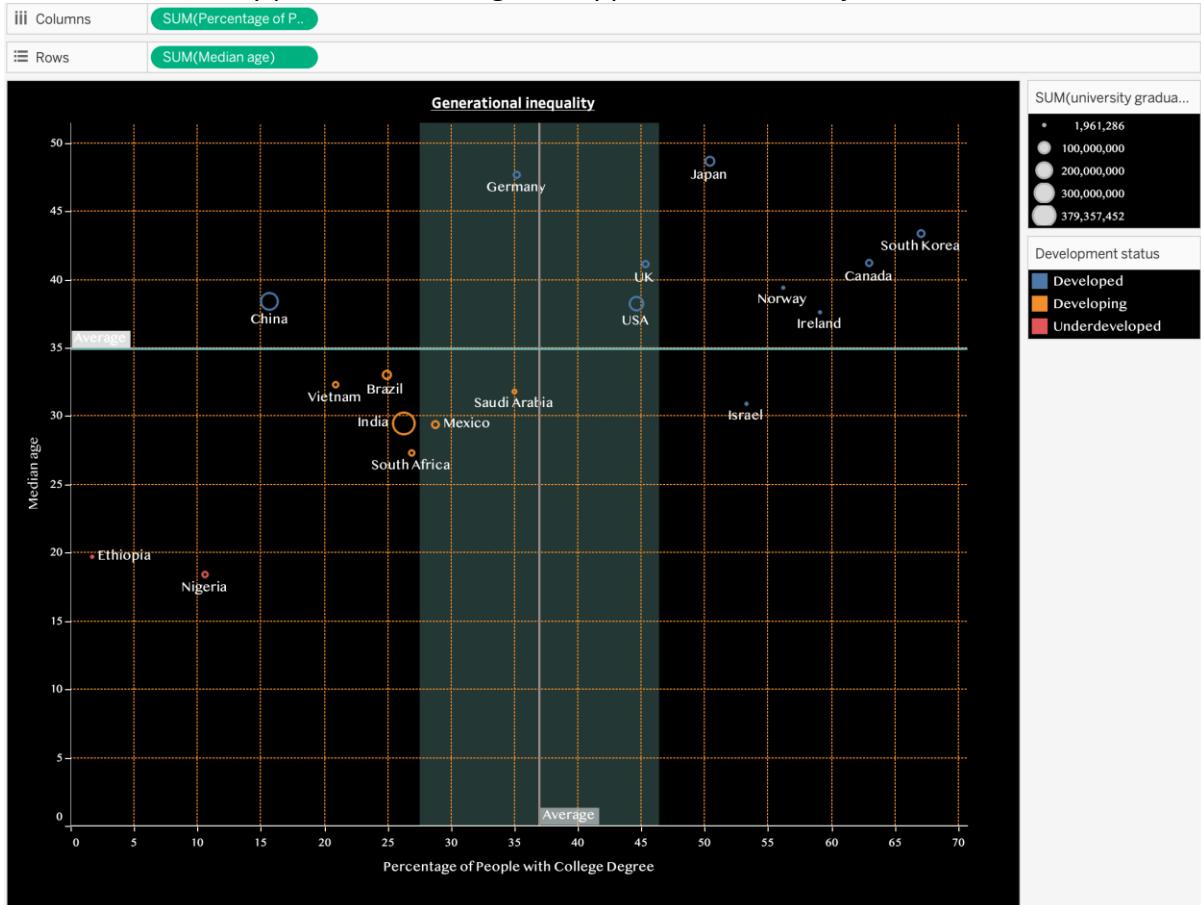
- Visual representation of income generated from property and royalty fees, offering insights into niche job markets and economic activities.

- **Purpose:** Depicts income from property and royalties.
- **Use:** Identify niche job markets and economic activities.



16. Ageism:

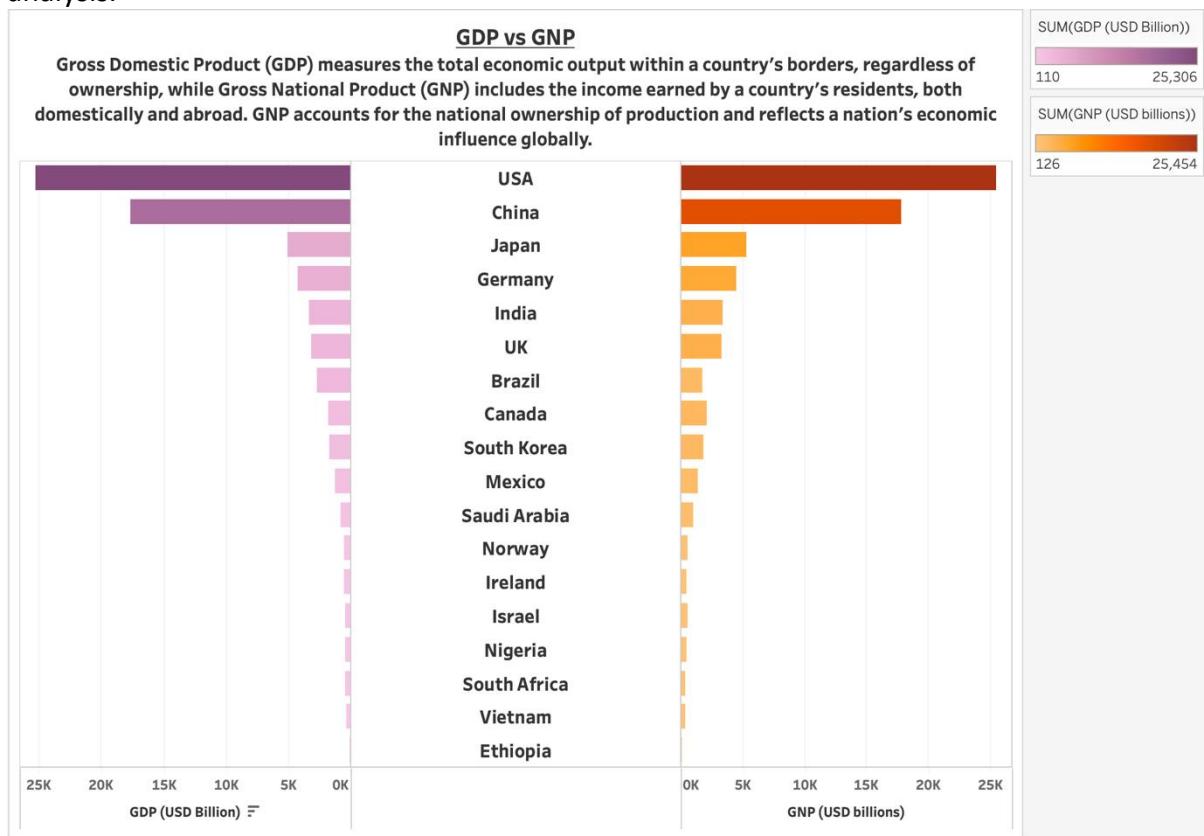
- Graphs or visualizations highlighting age-related employment trends, providing insights into potential challenges or opportunities in the job market.
- **Purpose:** Highlights age-related employment trends.
- **Use:** Identify potential challenges or opportunities in the job market.



17. GDP vs GNP:

- A comparative analysis graph depicting the differences between Gross Domestic Product (GDP) and Gross National Product (GNP) for each country.

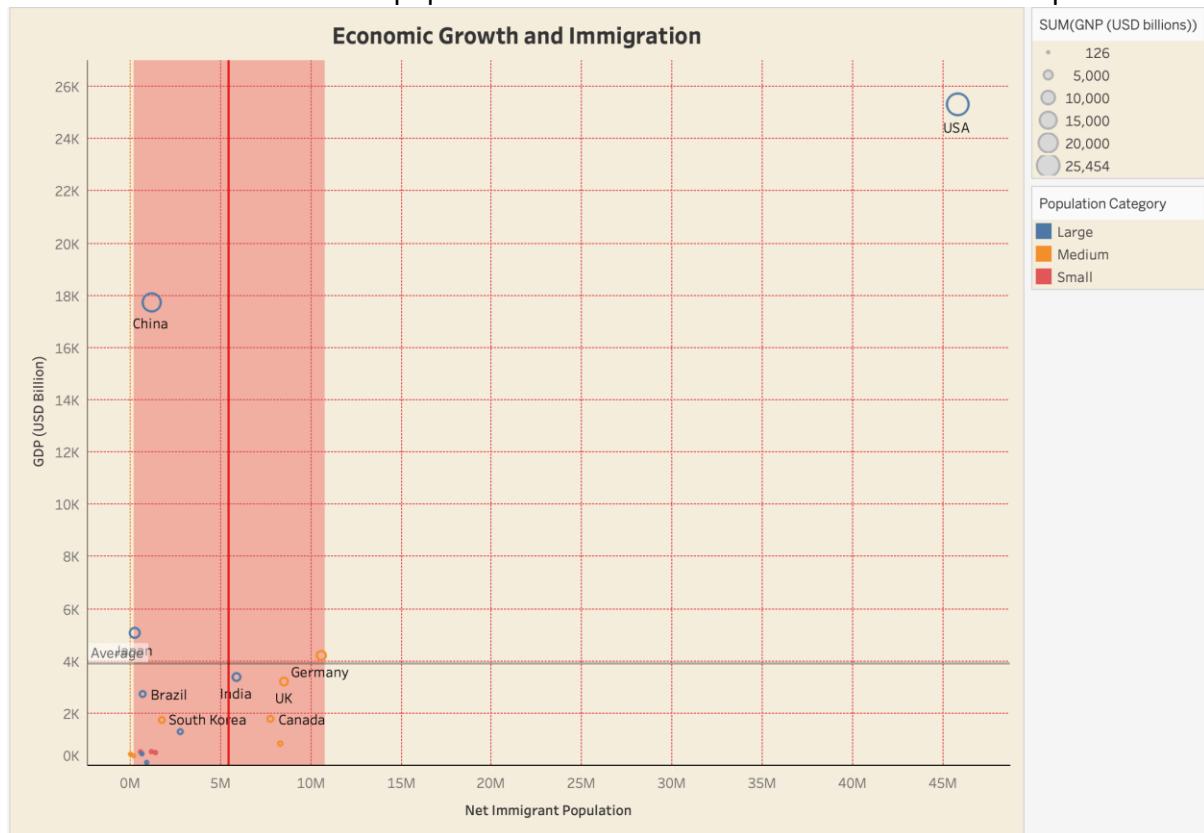
- **Purpose:** Compares GDP and GNP for each country.
- **Use:** Understand the importance of considering national ownership in economic analysis.



18. Economic Growth and Immigration:

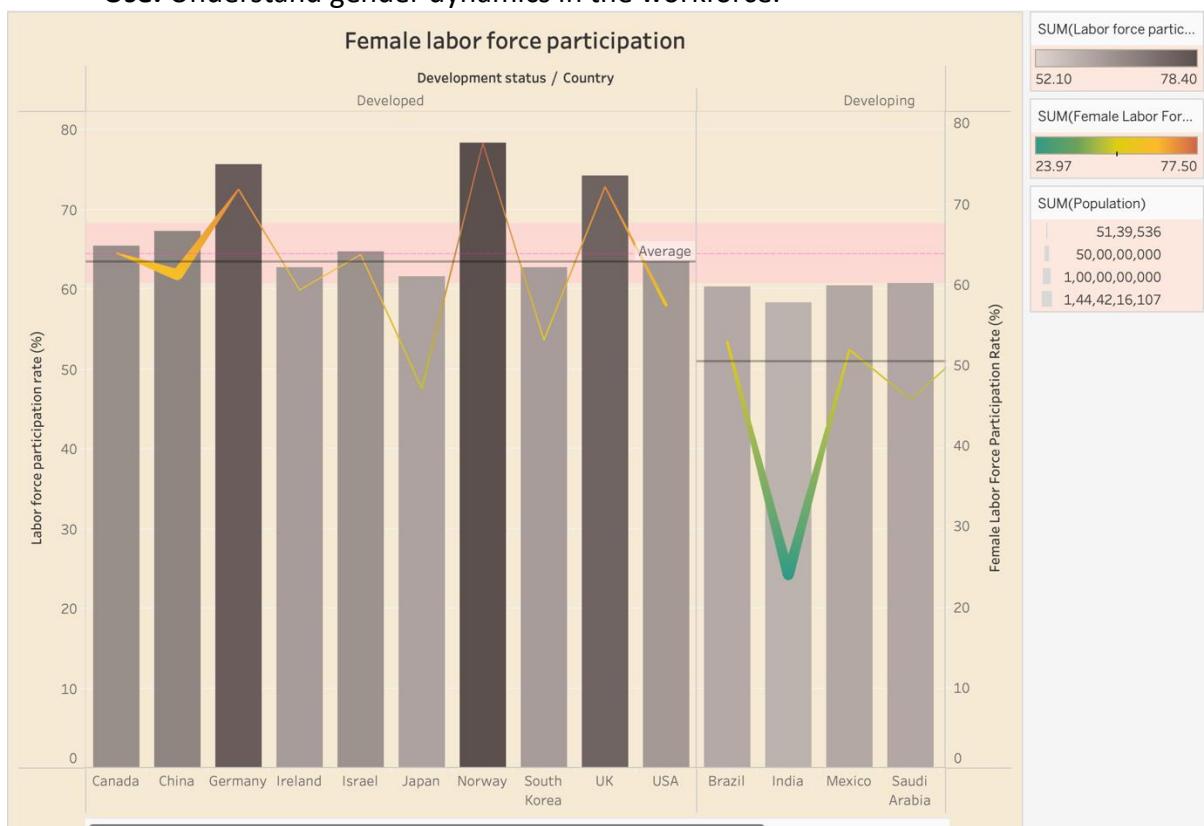
- Graphs or visualizations illustrating the relationship between economic growth and immigration, providing insights into how population movements influence economic development.

- **Purpose:** Shows the relationship between economic growth and immigration.
- **Use:** Understand how population movements influence economic development.



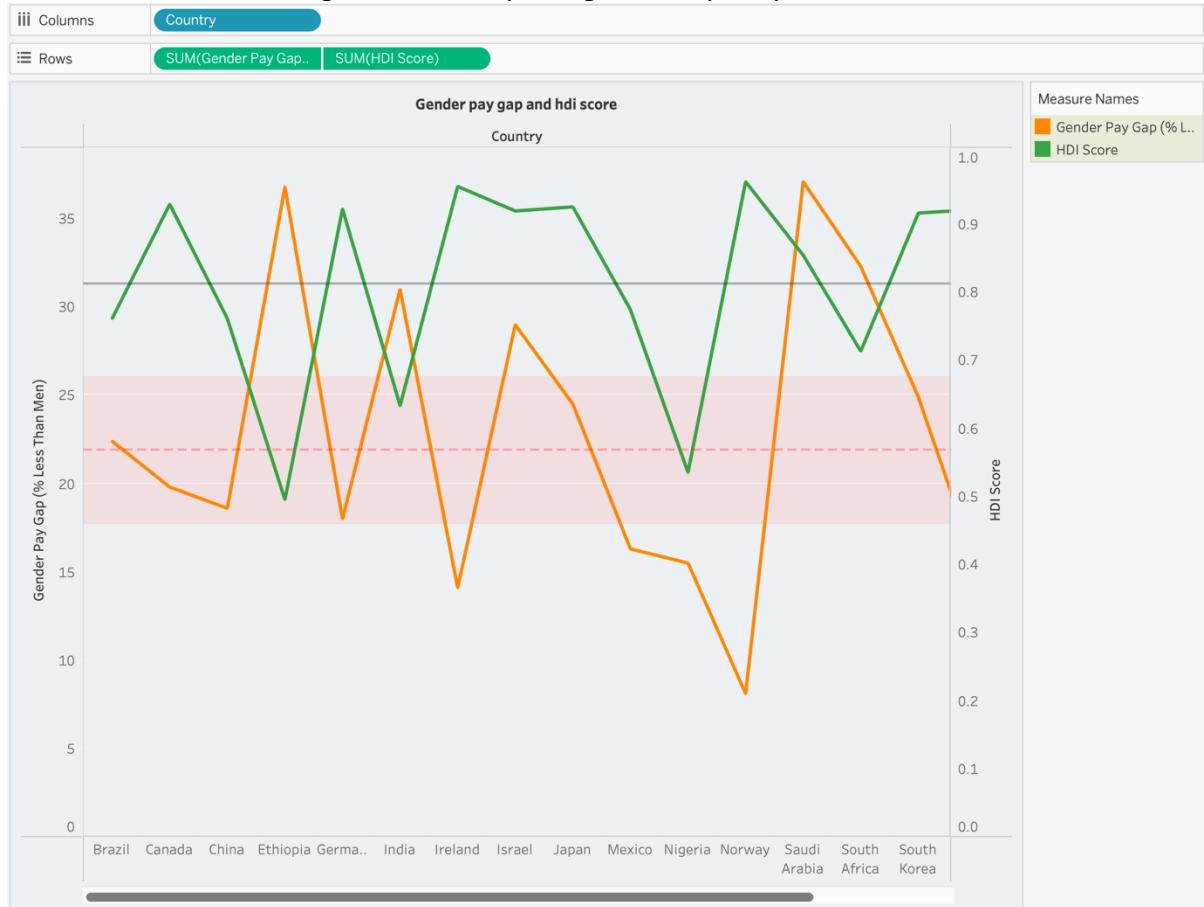
19. Female Labor Force Participation:

- Visual representations of female labor force participation rates, offering insights into gender dynamics in the workforce.
- **Purpose:** Visualizes female labor force participation rates.
- **Use:** Understand gender dynamics in the workforce.



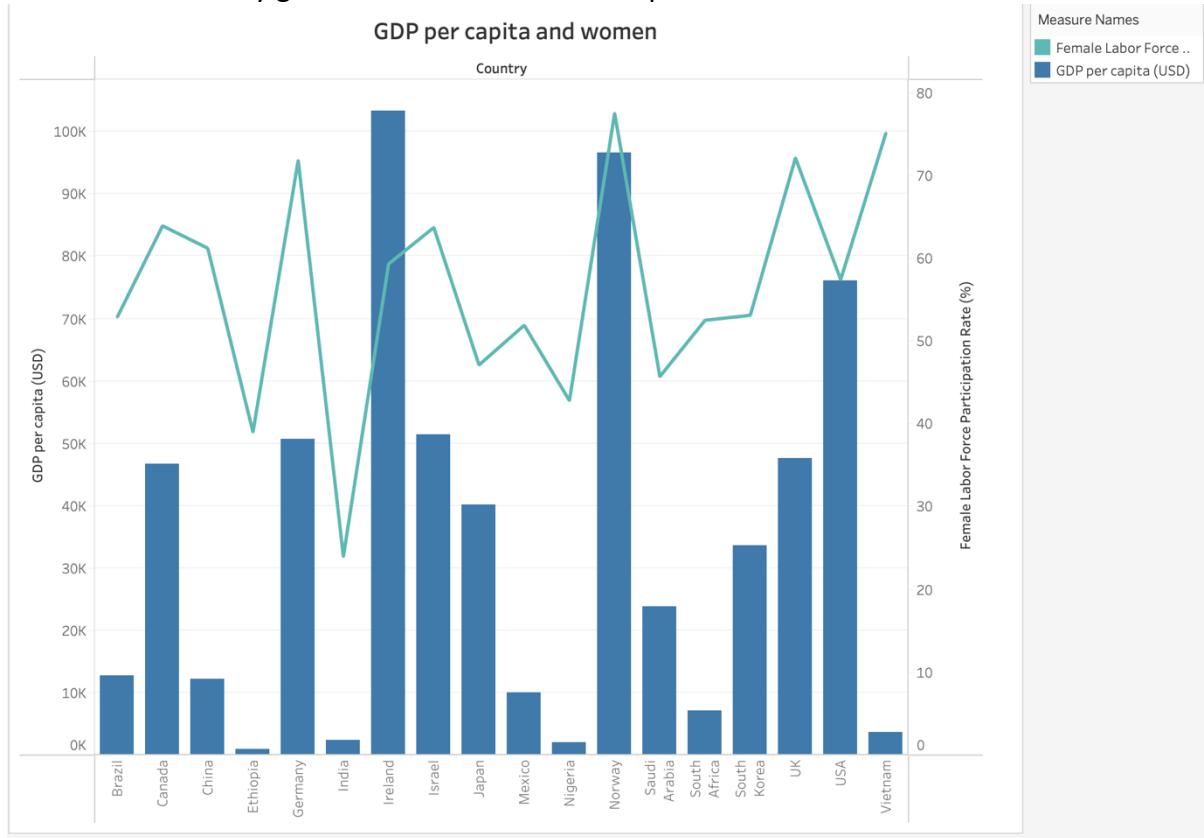
20. Gender Pay Gap:

- Graphs illustrating the disparity in earnings between genders, providing insights into workplace gender equality.
- **Purpose:** Illustrates the disparity in earnings between genders.
- **Use:** Provide insights into workplace gender equality.



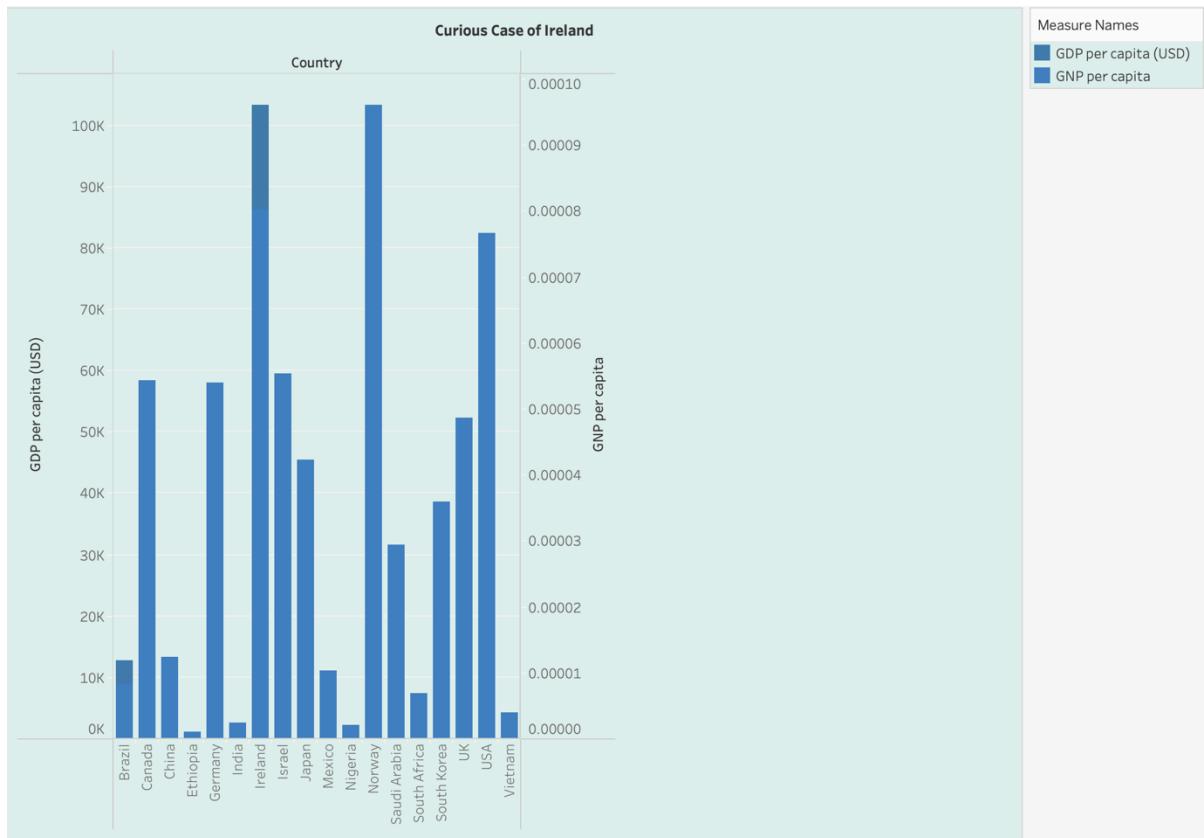
21. GDP per Capita and Women:

- A visualization depicting the relationship between GDP per capita and the economic participation of women, offering insights into gender-related economic disparities.
- **Purpose:** Depicts the relationship between GDP per capita and women's economic participation.
- **Use:** Identify gender-related economic disparities.



22. Ireland's GDP and GNP:

- A focused analysis on Ireland, explaining the significance of considering GNP alongside GDP for a more comprehensive understanding of the country's economic health.
- **Purpose:** Focuses on Ireland, explaining why GNP is considered alongside GDP.
- **Use:** Provide a specific case study on the importance of national ownership in economic analysis.



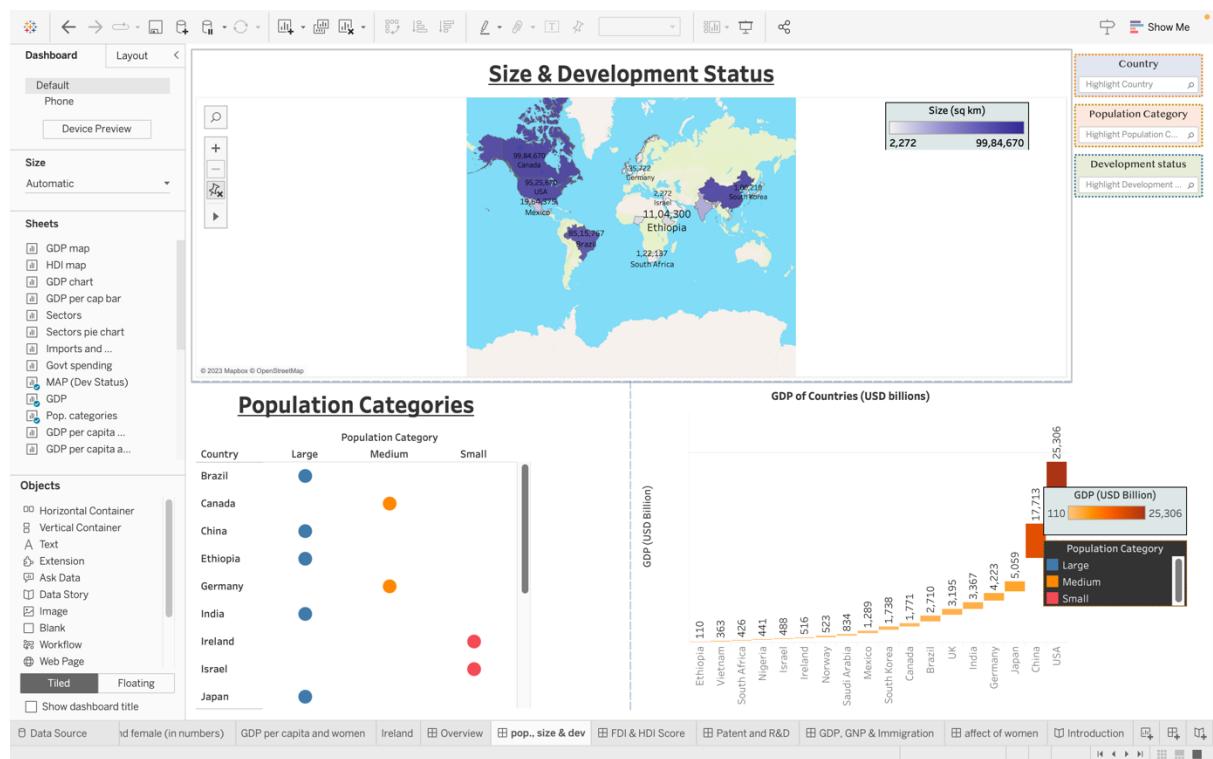
Each of these visualizations serves a unique purpose in unraveling the economic complexities of the 14 countries, providing a rich dataset for analysis and interpretation.

Dashboards:

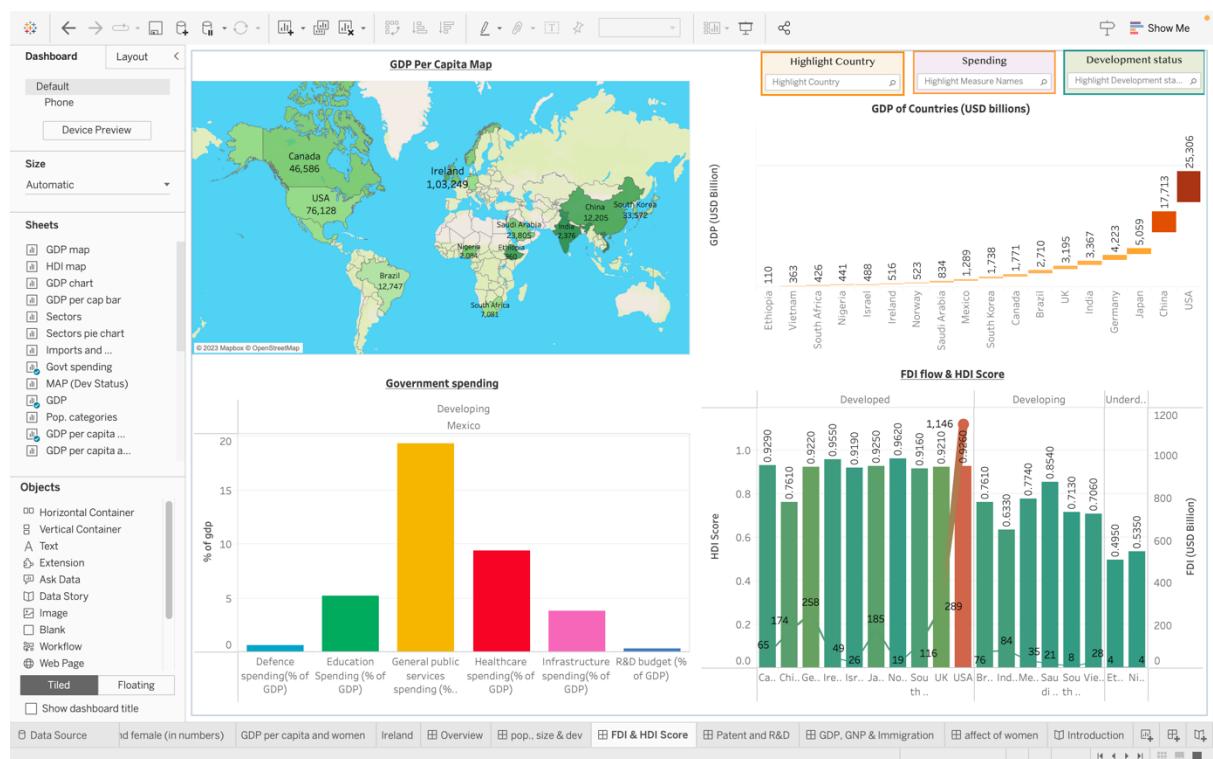
Overview

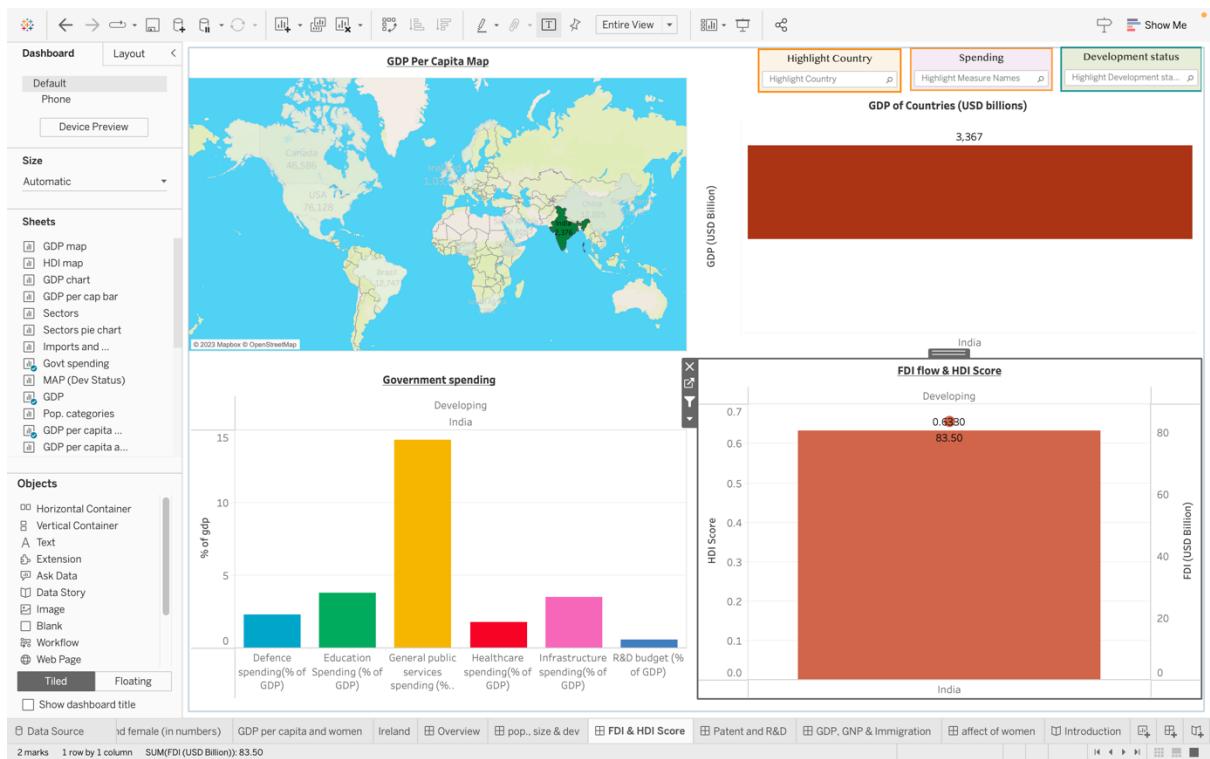


Population size and Development

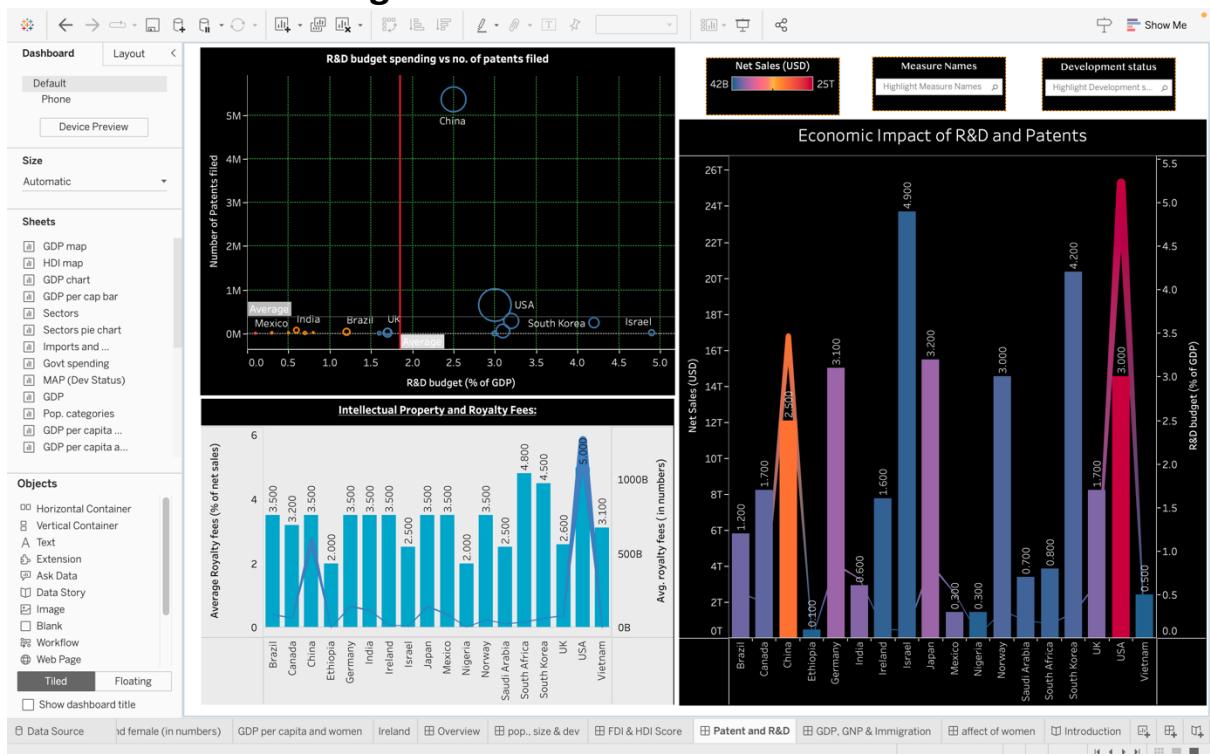


GDP per capita and FDI relation

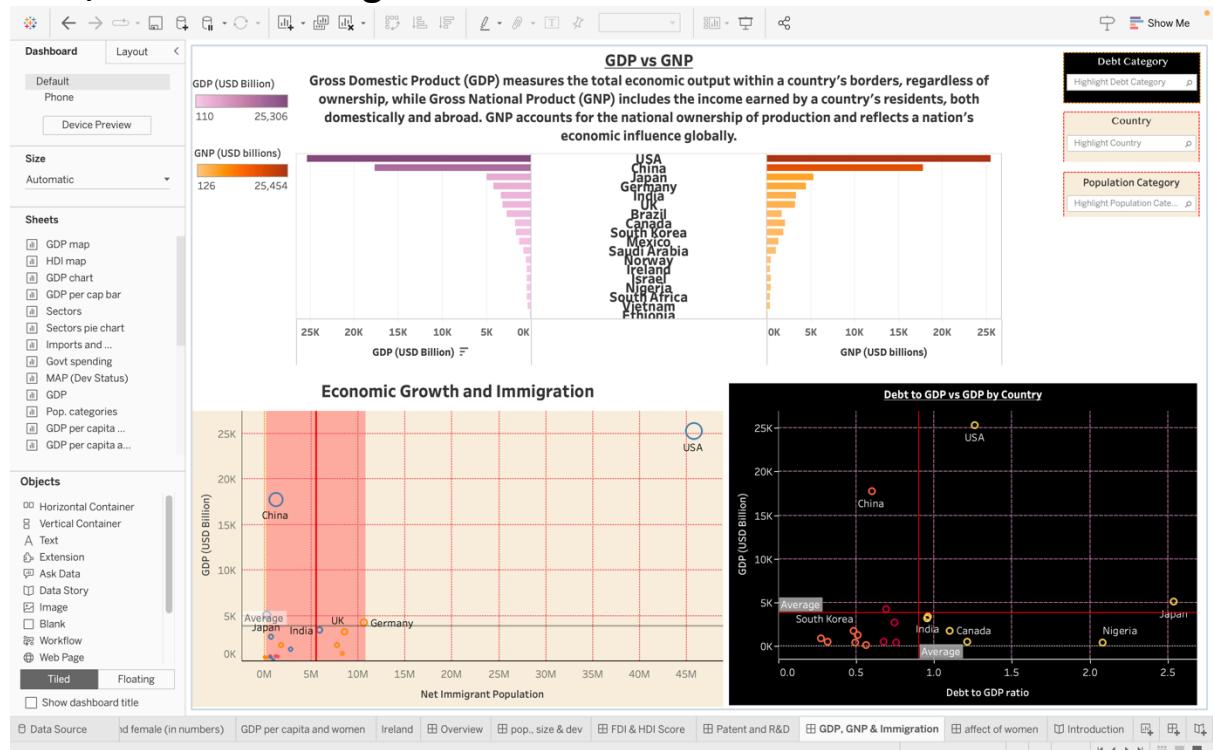




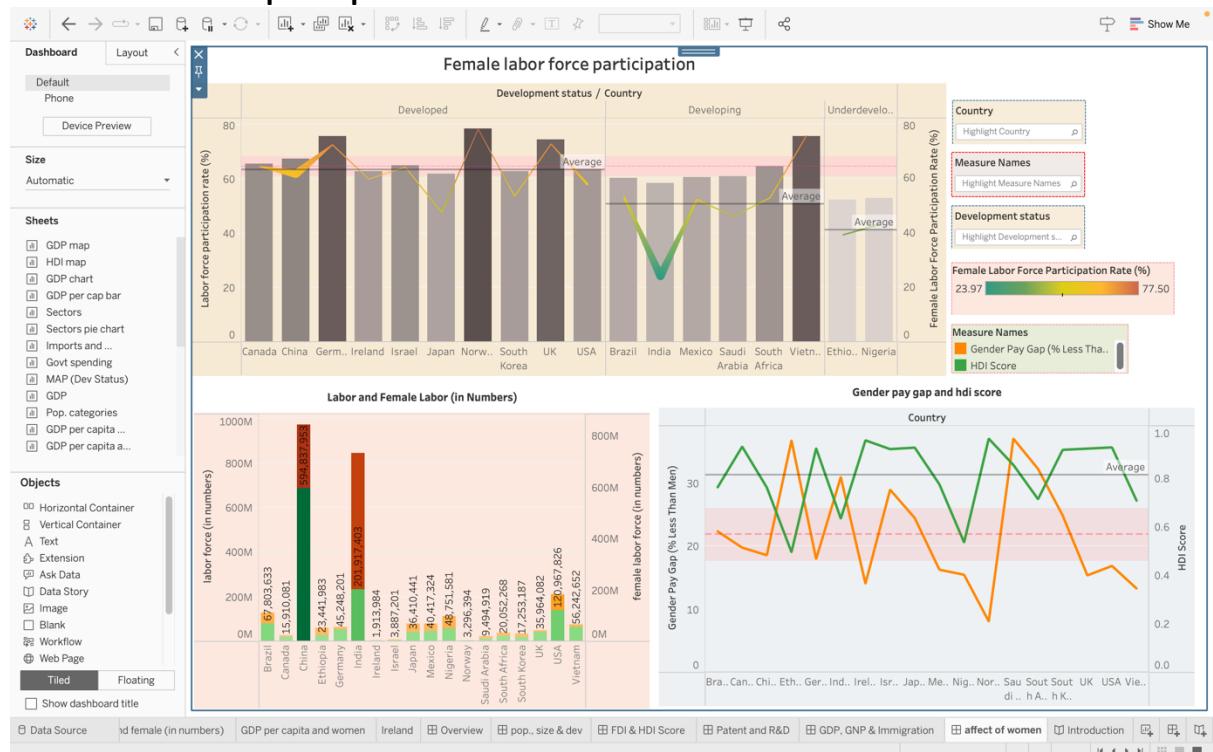
Patent and R&D budget



GDP, GNP and Immigration



Female labor force participation



Observations:

1. GDP and GDP per Capita Are Distinct Metrics:

The disparity between GDP and GDP per capita underscores the necessity of considering both indicators. While GDP reflects overall economic output, GDP per capita provides a nuanced perspective by evaluating average economic contribution per individual.

2. Difference Between GDP and GNP:

The variance between GDP and GNP accentuates the significance of acknowledging national ownership in economic analyses. GNP, accounting for income generated by a country's residents domestically and abroad, offers a comprehensive view of a nation's global economic influence.

3. Discrepancy in Ireland's GDP and GNP:

The substantial contrast between Ireland's GDP and GNP underscores the influence of multinational corporations. This peculiarity emphasizes the impact of foreign entities on the country's economic statistics, emphasizing the importance of GNP for a holistic assessment.

4. Greater FDI in Developed Countries:

The observation that developed countries attract more Foreign Direct Investment (FDI) suggests a positive correlation between economic development and global capital influx. Developed nations often serve as more attractive destinations for international investment, contributing to their economic growth and stability.

5. High Correlation Between HDI and GDP per Capita:

The strong correlation observed between Human Development Index (HDI) and GDP per capita indicates a close relationship between economic prosperity and overall human well-being. Nations with higher GDP per capita tend to exhibit superior educational opportunities, longer life expectancies, and an elevated standard of living.

6. Positive Association: Higher R&D Budgets, Higher GDP per Capita, and HDI:

The positive association between a country's investment in Research and Development (R&D) and its economic and human development signifies that heightened R&D budgets contribute to innovation, technological advancement, and increased productivity, thereby enhancing GDP per capita and HDI.

7. Correlation Between R&D Budgets and Number of Patents:

The observed correlation between R&D budgets and the number of patents underscores the pivotal role of research and innovation in driving technological advancements. Nations with greater R&D investments tend to generate more patents, indicating a connection between research funding and innovation output.

8. Higher Median Age in Developed Countries: Potential 'Ageism' Implications:

The higher median age in developed countries suggests a potential challenge related to 'ageism.' As populations age, concerns about age-related employment discrimination may increase, influencing workforce dynamics in these nations.

9. Relatedness and Cyclic Relationship Between Economic Growth and Immigration:

The observed relatedness and cyclic relationship between economic growth and immigration imply that economic prosperity attracts immigrants, contributing to further growth. Simultaneously, immigration can stimulate economic activity, creating a mutually reinforcing cycle between economic growth and population movement.

10. Positive Impact of Women's Labor Force Participation on GDP:

The positive impact of women's participation in the labor force on GDP underscores the economic advantages associated with gender inclusivity. Increased female workforce participation contributes to heightened productivity, economic output, and overall national development.

11. Higher Female Labor Force Participation in Developed Countries:

The observation that developed countries experience higher female labor force participation aligns with trends in gender equality and economic development. Developed nations often exhibit more inclusive labor markets, providing women with increased opportunities for employment and career advancement.

12. Less Gender Pay Gap in Developed Countries:

The observation of a lower gender pay gap in developed countries reflects a correlation between economic development and workplace gender equality. Developed nations tend to implement policies and practices that contribute to a more equitable distribution of wages among genders.

Conclusion:

In the culmination of this comprehensive analysis of the GDP and economic indicators of 18 diverse countries, several salient insights have emerged, shedding light on intricate economic dynamics and potential avenues for strategic planning. The juxtaposition of GDP and GDP per capita has underscored the need to consider both metrics, with the former reflecting overall economic output and the latter offering a nuanced perspective on individual economic prosperity.

The distinction between GDP and Gross National Product (GNP), particularly evident in the case of Ireland, emphasizes the impact of multinational corporations and the necessity of incorporating GNP for a more accurate evaluation of a nation's economic well-being. Developed countries, characterized by higher median ages, showcase potential challenges related to 'ageism' in their workforces, urging a closer examination of age-related employment dynamics.

The positive correlations observed between Human Development Index (HDI) and GDP per capita, as well as between R&D budgets and economic and human development, illuminate

the interdependence of economic prosperity, innovation, and overall human well-being. The cyclic relationship between economic growth and immigration suggests a mutually reinforcing cycle, where economic prosperity attracts immigrants, contributing to further growth.

Furthermore, the positive impact of women's participation in the labor force on GDP and the lower gender pay gap in developed countries underscore the economic advantages associated with gender inclusivity. Developed nations, with their higher female labor force participation rates, reflect a correlation between inclusive labor markets and gender equality.

In conclusion, this project not only provides a nuanced understanding of the economic landscapes of the studied countries but also offers actionable insights for individuals, businesses, and policymakers. By unraveling the intricate tapestry of economic indicators, this analysis contributes to informed decision-making, strategic workforce planning, and a deeper comprehension of the factors influencing national development in the global context.

In closing, this Tableau project has navigated the complex realms of economic indicators, offering a panoramic view of the economic landscapes across 18 diverse countries. The visualizations and analyses have not only highlighted the disparities in GDP and economic well-being but have also uncovered the subtle interconnections between various factors shaping national development. As we conclude, the project underscores the significance of a multifaceted approach to economic analysis, acknowledging the nuanced relationships between GDP, demographic trends, innovation, and social inclusivity. These insights serve as a compass for informed decision-making, guiding individuals, businesses, and policymakers toward strategies that foster sustainable economic growth and human development. In the dynamic global landscape, this project serves as a testament to the power of data-driven insights in navigating the complexities of the modern economy.