



Insights into Labor Force Dynamics: Exploring Employment Distribution and Economic Growth Trends

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Introduction and Motivation



Intrigued by the intricate relationship between economic indicators and societal progress, understanding employment data and GDP growth, two pivotal factors that underpin economic vitality and prosperity is important.

This exploration led me to formulate three key questions that delve into different dimensions of economic dynamics:

1

What are the discernible trends in average GDP growth for countries within diverse economic income groups , from the year 2018 to 2022?

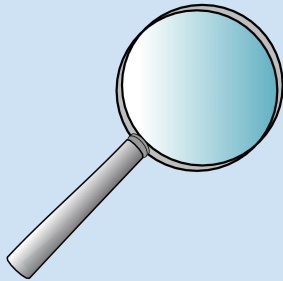
2

How does employment distribute across various sectors for nations worldwide over the course of five pivotal years?

3

What correlations exist among labor force participation, unemployment, employment, and GDP growth?

Data Description

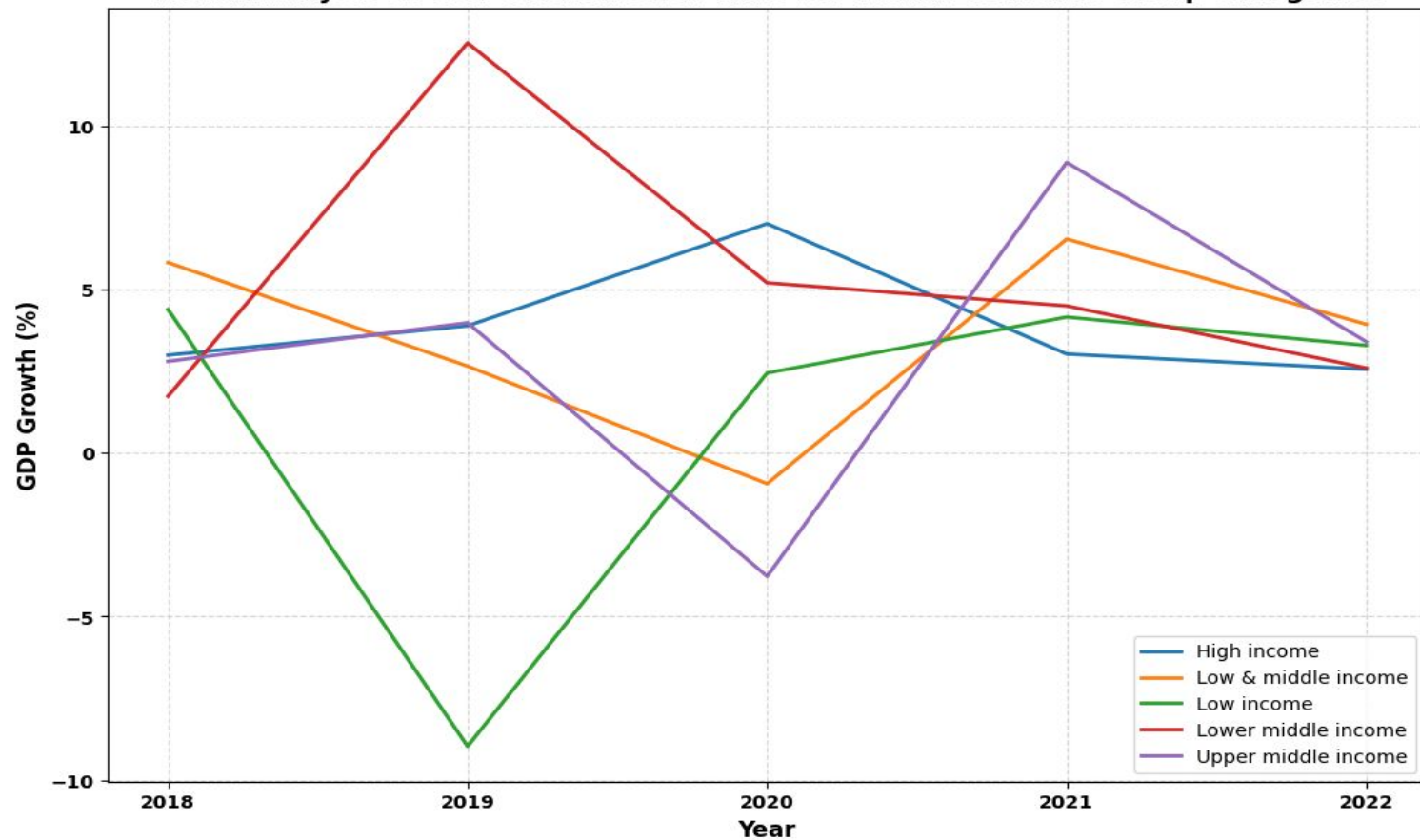


- ❖ **Source:** World Development Indicator (WDI).
- ❖ There are 17 columns with 1335 rows over five years timeline (2018 -2022).
- ❖ It provides more information about the countries worldwide in terms of their employment to population ratio, GDP growth, labor force participation, unemployment, employment in three sectors (agriculture, service and industry), child in employment. Each variable is provided both in a national estimate and modeled ILO (International Labor Organization) estimate. To ensure consistency, I used the modeled ILO estimate for the variables employed in my analysis.
- ❖ The different economic variables available in the dataset motivated the varying research question, both on country aggregate level and economic groups.

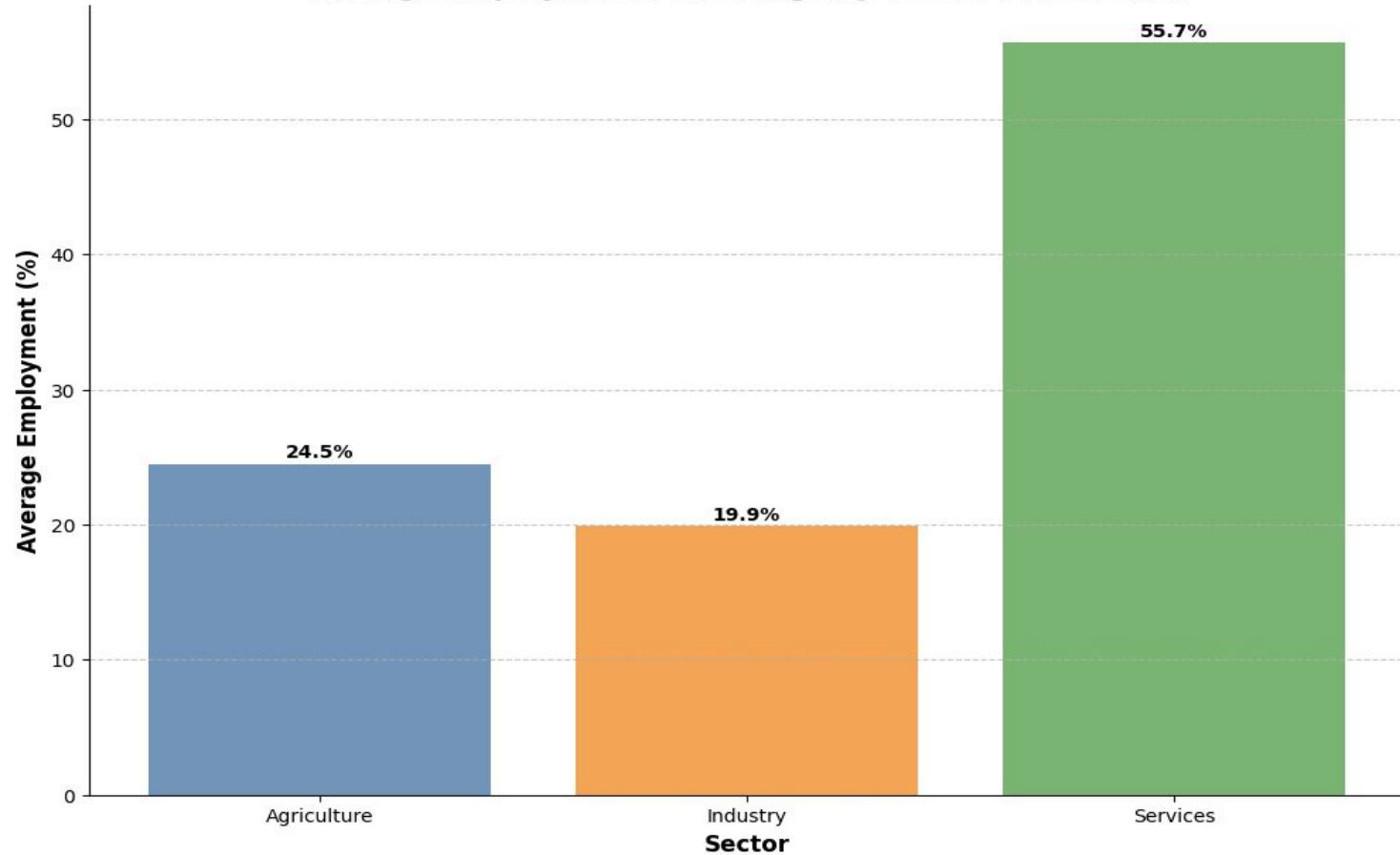
Descriptive Statistics

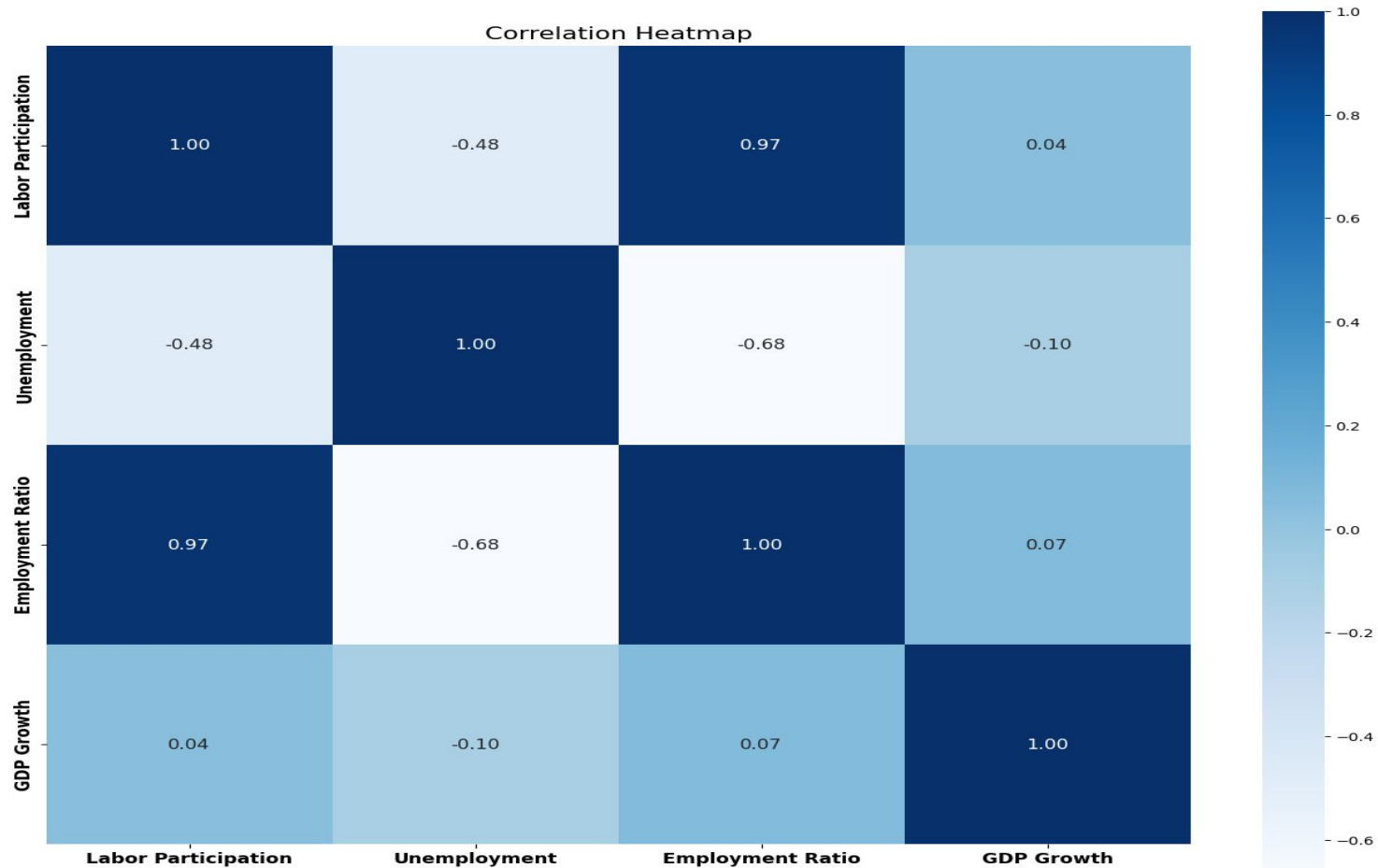
	Labor participation rate	Agriculture Employment	Industry Employment	Services Employment	Employment _POP_Ratio	Unemployment	GDP_Growth
count	1335	1335	1335	1335	1335	1335	1335
mean	60.13	24.473	19.86	55.667	55.859	7.501	2.108
std	9.11	19.165	6.945	16.157	10.04	4.915	6.263
min	30.751	0.186	3.453	10.359	22.126	0.095	-54.236
25%	55.705	7.608	15.452	44.356	50.647	4.225	0.496
50%	60.484	21.73	19.957	55.815	56.239	6.197	2.768
75%	65.328	36.373	24.304	68.283	61.72	9.46	4.888
max	88.29	86.177	54.233	92.972	88.206	29.806	57.8

Trend Analysis of GDP Growth Over Time for World Economic Group Categories



Average Employment Percentage by Sector (2018-2022)





Takeaways

- ❖ GDP growth differs across the world economic income groups. That a country is an higher income country does not mean it will always experience higher growth rate. Infact, the potential for rapid technological leaps that could cause growth may be lower compared to countries that are still catching up in terms of technological progress.
- ❖ The service sector has higher average percentage of employed persons with up to 55.7%, followed by the agriculture sector with 24.5%. The industry sector has a lower average percentage of employed persons across the countries.
- ❖ There is a strong correlation among employment to population ratio, labor force participation and unemployment. GDP growth has a weaker correlation with the employment, unemployment and labor force participation. Thus, no association with these variables.

