

REPORT: GLOBAL ECONOMIC DEVELOPMENT

1960 - 2018

A COMPREHENSIVE ANALYSIS
USING PYTHON



Agenda

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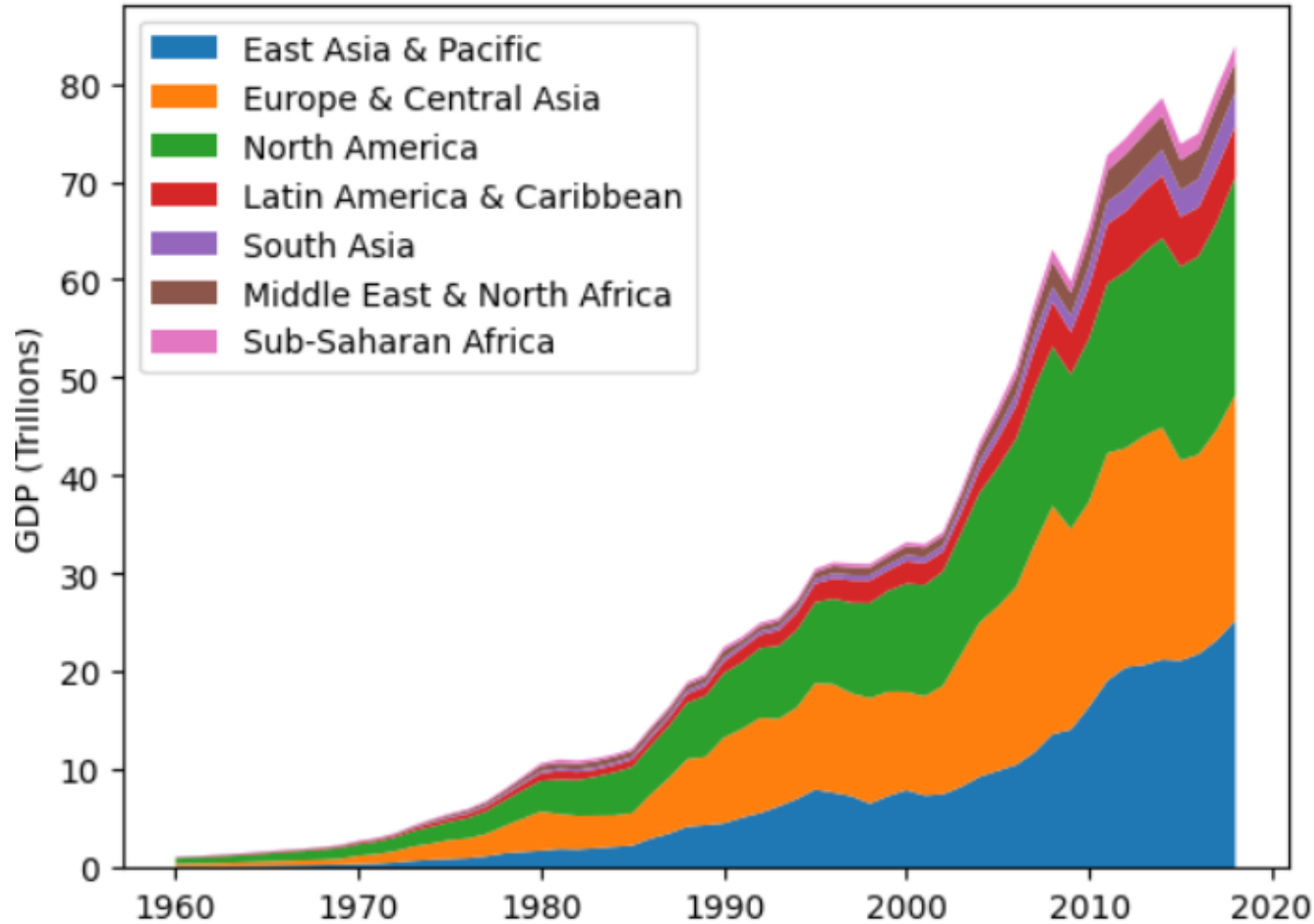
OBJECTIVE

- Track global economic & human development trends since 1960.
- Understand how economic growth relates to human progress (HDI).
- Identify regional challenges and opportunities
- Explore the role of key drivers such as electricity access and life expectancy
- Provide insights to guide policy priorities and sustainable development strategies

Data Source

1. Dataset provided by Maven Analytics.
2. Curated from **World Bank** and **UNDP** indicators.
3. Covers **1960-2018**, global & regional data.
4. Key metrics: GDP, Population, HDI, Electricity consumption, Life expectancy.

GDP has grown potentially over Time



GDP Trend Over Time

1960: North America,
Europe and Central Asia

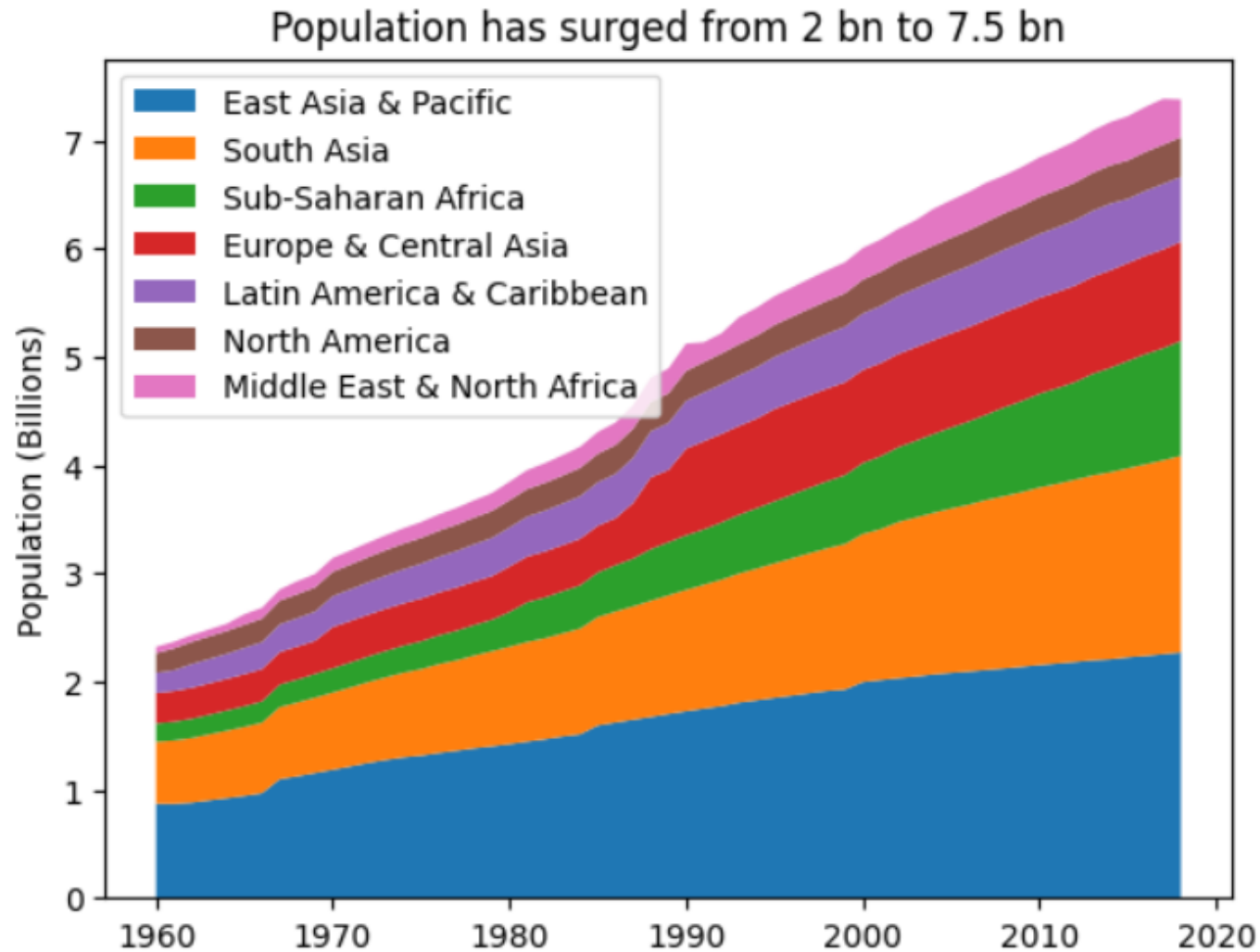
2018: East Asia and
Pacific

Insights

1. Global GDP has shown an **exponential rise**, from just a few trillion in 1960 to over 80 trillion by 2018.
2. The growth is not smooth – there are visible **dips** around major crises (1970s oil shocks, 2008 financial crisis).
3. Regional contribution has shifted:
 - Earlier decades were dominated by **North America and Europe & Central Asia**.
 - From the 1990s onwards, **East Asia & Pacific** expanded significantly, catching up and surpassing some older economies.

Why it matters:

1. This shows the **globalization and industrialization effect**: many regions integrated into the world economy after 1980s reforms (China, India, ASEAN).
2. GDP growth concentrated in emerging economies highlights the **shift of economic power** away from traditional Western dominance.
3. This explains why global institutions increasingly look at Asia and developing regions as future growth engines.



Population Surge Over Time

1960

East Asia and Pacific
and South Asia

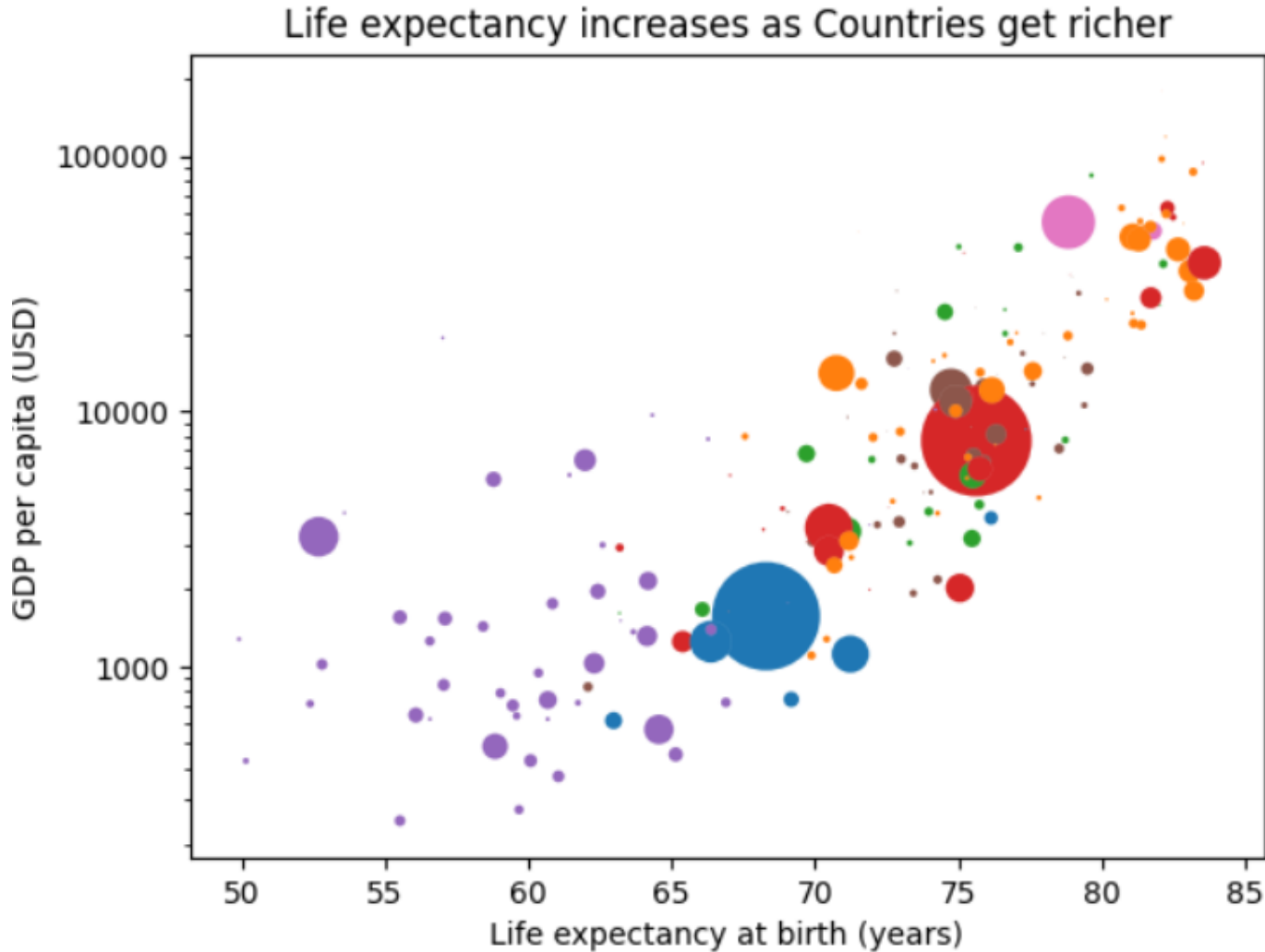
2018:

Insights

1. World population more than **tripled** in six decades.
2. Growth is driven mainly by **South Asia, Sub-Saharan Africa, and East Asia & Pacific**.
3. **North America and Europe** have grown slowly, showing near-stabilization.
4. Sub-Saharan Africa's population curve shows the **steepest upward slope** – rapid demographic growth.

Why it matters:

1. This explains part of the GDP growth: more workers, more consumers.
2. But the regional imbalance matters: **high-population regions are not always high-GDP regions**, which creates inequality in per-capita prosperity.
3. The steep rise in Sub-Saharan Africa signals a **youth bulge** – potential for growth if jobs and education expand but also risk of unemployment/poverty if opportunities lag.
4. Slower population growth in developed regions shows demographic maturity and aging, which may slow their GDP growth in future.



Life Expectancy by GDP

High LE: East Asia and Pacific , Europe and Central Asia

Mid LE: South Asia

Low LE: Sub-Saharan Africa

Insights

1. Clear **positive correlation**: as **GDP per capita** rises, **life expectancy** also increases.
2. Countries at the low-income end (GDP < \$2,000, life expectancy 55–65) are mainly in **Sub-Saharan Africa and South Asia** (Afghanistan, Pakistan etc.).
3. Middle-income countries (GDP \$2,000–15,000, life expectancy ~70–75) include large-population nations like **China, India, Brazil**.
4. Wealthy nations (GDP > \$15,000, life expectancy 78–85) clustered together include **Japan, USA, UK**.

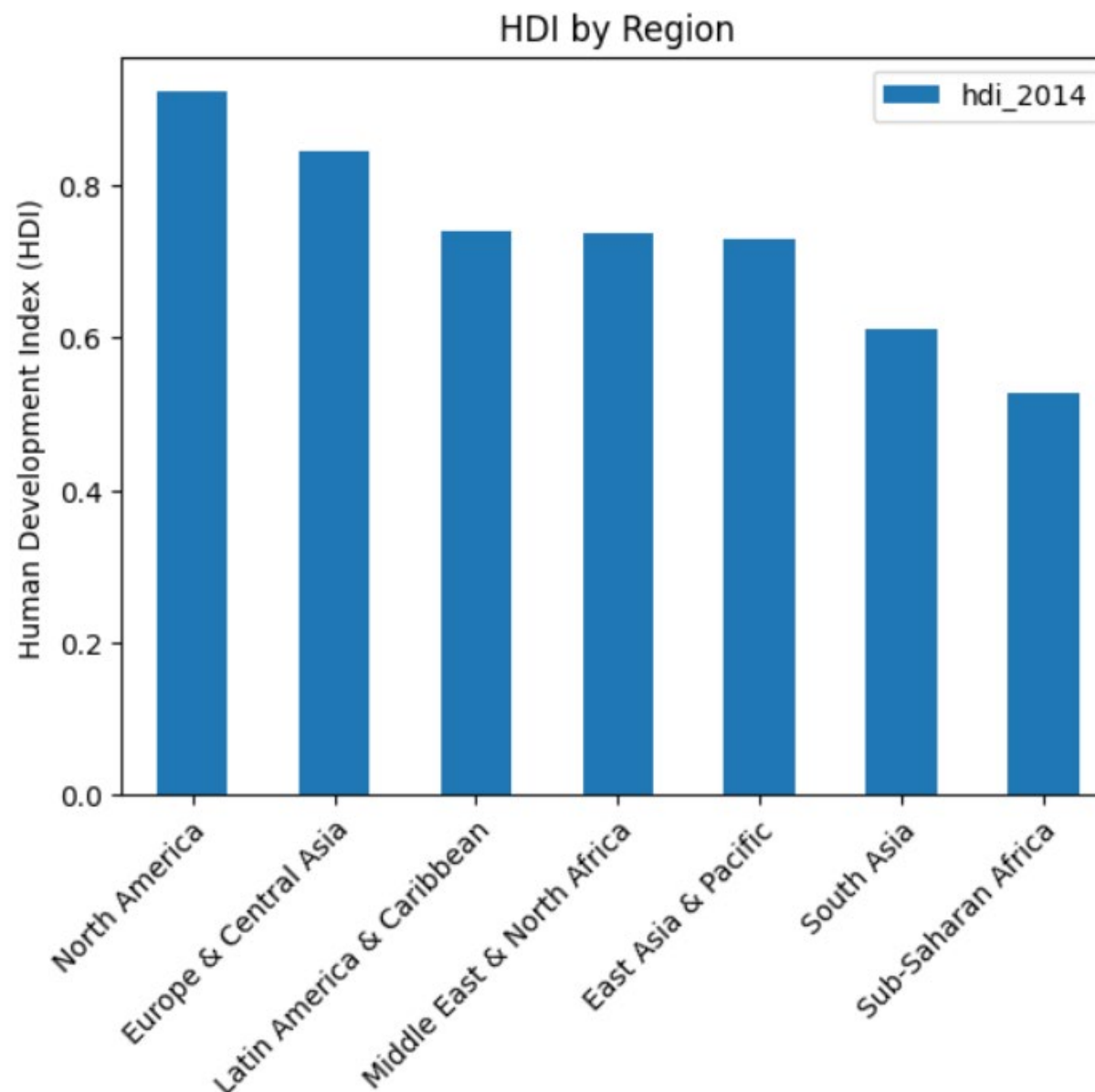
Why it matters:

1. Shows the **development dividend**: economic growth translates into better healthcare, nutrition, sanitation → longer lives.
2. But the flattening curve shows **diminishing returns** – once countries are rich, extra GDP doesn't buy much more life expectancy.
3. Large-population countries in the middle-income cluster (India, China, etc.) dominate the global story – their movement affects billions of people.
4. The spread also highlights **inequality**: some countries with similar GDP per capita achieve better life expectancy (suggesting better healthcare/education policies).

Human Development Index by Region

Highest HDI:
North America

Lowest HDI:
Sub Saharan Africa

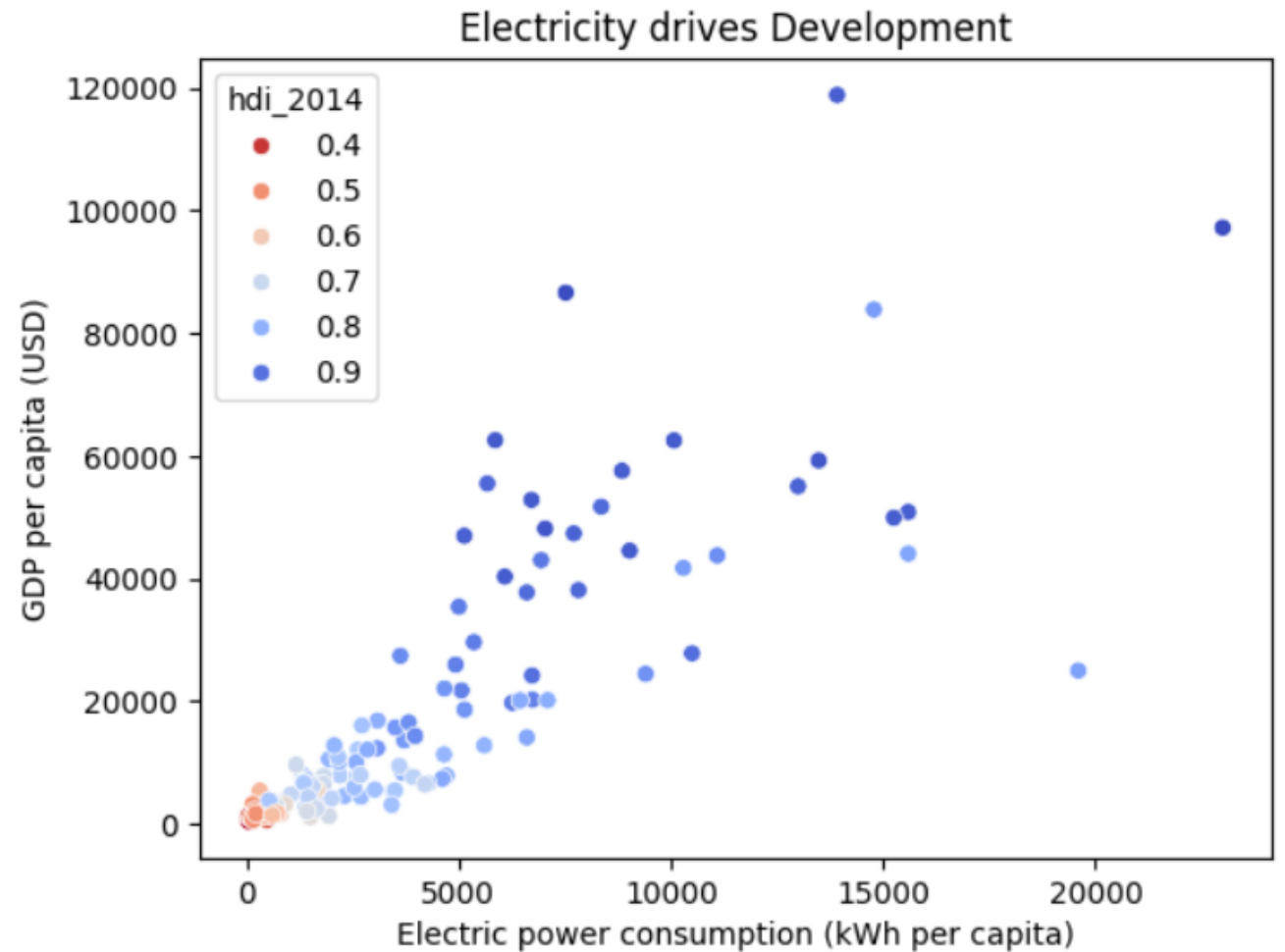


Insights

1. This chart summarizes global inequality in development.
2. High-HDI regions benefit from decades of industrialization, healthcare, and education investments.
3. Middle-HDI regions show mixed progress – rapid growth (e.g., East Asia) but still lagging in some dimensions.
4. Low-HDI regions (South Asia, Sub-Saharan Africa) highlight the ongoing challenges: poverty, weaker health systems, lower schooling, and political/economic instability.
5. Importantly, these regions also have the **fastest population growth** (as seen in earlier charts), which makes development even more urgent.

Power Consumption by GDP

Countries with High Power Consumption have Higher GDPs and therefore, have higher HDIs



Insights

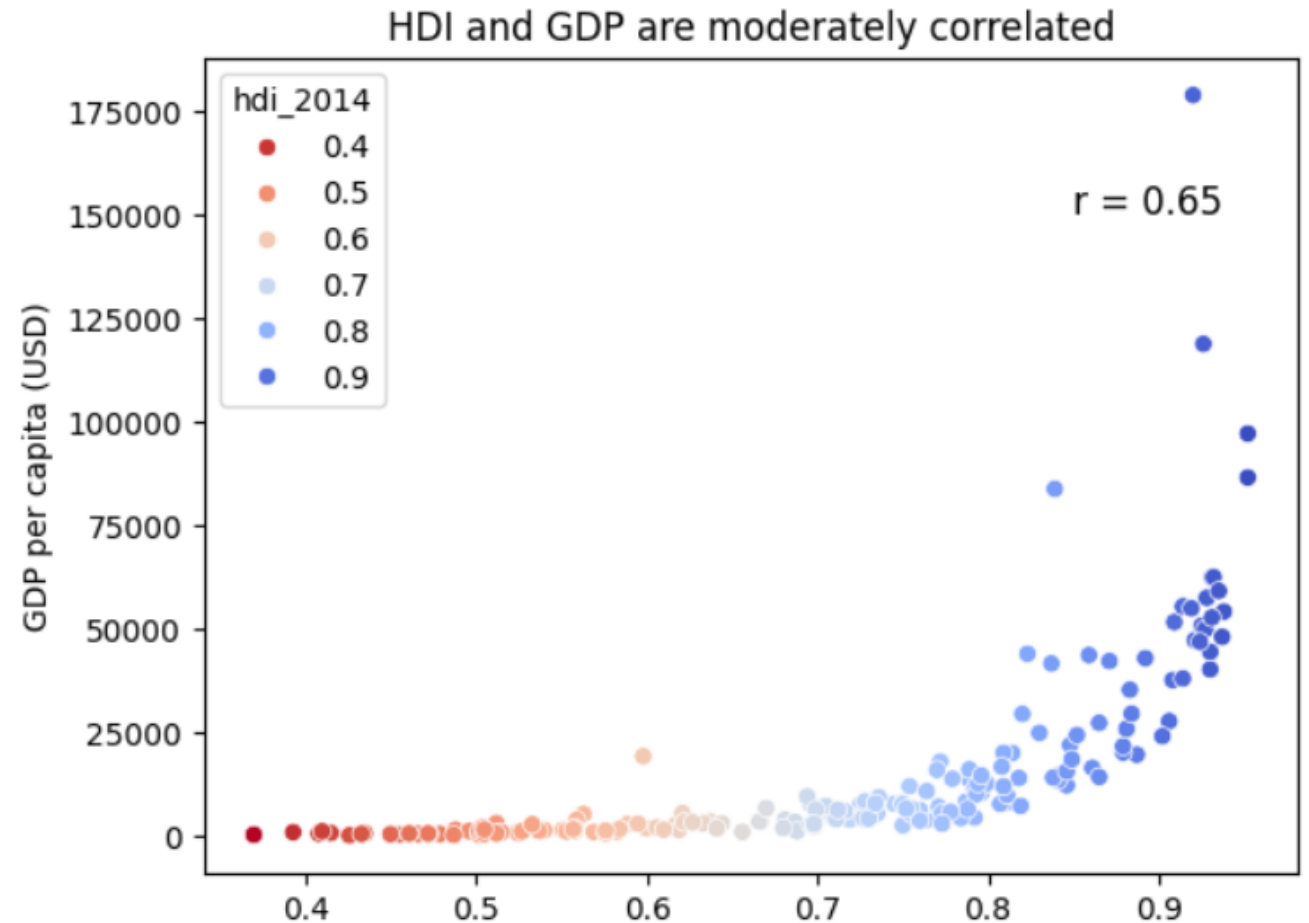
1. Clear upward trend: countries with higher electricity consumption per person also tend to have higher GDP per capita.
2. At the **low-consumption end** (below ~2,000 kWh), most countries are clustered with GDP under \$2,000.
3. Beyond ~5,000 kWh, we mainly see **developing economies** with both medium-high GDP.
4. Above ~10,000 kWh, we mainly see **developed economies** with both high GDP and high HDI.
5. **Higher HDI** countries have power consumption above 5000 kWh.

Why it matters:

1. Electricity use reflects **industrialization, infrastructure, and quality of life** – factories, modern services, technology adoption, household access.
2. Strong link with GDP shows how critical reliable energy supply is for economic development.
3. The HDI confirms that energy access also ties to human outcomes (education, healthcare, well-being).
4. But there are nuances: some countries consume a lot of electricity relative to their GDP (inefficient use), while others achieve high GDP with comparatively lower energy intensity (more efficient economies).
5. For developing regions, this highlights the challenge: to expand electricity access sustainably (renewables, efficiency) while supporting growth.

HDI and GDP Correlation

The Pearson correlation is **0.65**, which indicates a **moderately strong positive relationship**.



Insights

1. There is a **clear upward trend**: countries with higher HDI values tend to have higher GDP per capita.
2. However, the pattern is **not perfect**:
 - Some countries with similar HDI have very different income levels.
 - A few outliers (tiny, wealthy states) show very high GDP despite already-high HDI.

Why it matters:

1. GDP per capita and HDI move together: wealthier countries usually provide better education, healthcare, and life expectancy (key HDI dimensions).
2. But with $r = 0.65$, GDP only explains about **42% of the variation in HDI**. This means **other factors matter a lot too** – such as governance, equality, public service quality, and social policies.
3. Some resource-rich economies can achieve high GDP without equivalent gains in HDI (wealth doesn't automatically trickle down).
4. Conversely, some countries achieve relatively strong HDI scores even at moderate GDP levels, by effectively investing in human capital.

Recommendations:

For Developing Economies (South Asia, Sub-Saharan Africa)

1. Invest in Education & Health

- Expand universal schooling and healthcare access to convert demographic growth into skilled labor.
- Target female education – proven to accelerate HDI gains.

2. Expand Affordable Energy Access

- Prioritize rural electrification and renewable energy infrastructure.
- Promote efficiency to ensure sustainable growth.

3. Diversify Economies

- Move beyond reliance on agriculture or raw commodities.
- Foster industrial and digital sectors that create jobs for a young population.

For Middle-Income Countries (Latin America, MENA, parts of Asia)

1. Break the Middle-Income Trap

- Invest GDP gains into innovation, R&D, and governance reforms.
- Strengthen institutions to ensure economic growth translates into human development.

2. Reduce Inequality

- Target income distribution and access to public services to avoid stagnation in HDI.

For High-Income Economies (North America, Europe, East Asia Tigers)

1. Address Demographic Aging

- With population growth slowing, policies on immigration and labor participation will sustain economic dynamism.

2. Sustainability & Efficiency

- Lead in clean energy transition – reduce per-capita energy intensity without harming quality of life.

3. Support Global Development

- Use aid, technology transfer, and trade policy to help lagging regions close the development gap – a more equal world reduces global instability.

Conclusion

The data shows **human development is not automatic with economic growth**. Countries that convert GDP into better education, healthcare, and energy access achieve lasting prosperity. The global challenge is ensuring that **fast-growing populations in Africa and South Asia** have the opportunities and infrastructure to follow that path.

Thank You

For feedback and suggestions feel free to connect with me on:



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