Home Assignment

Country: Egypt

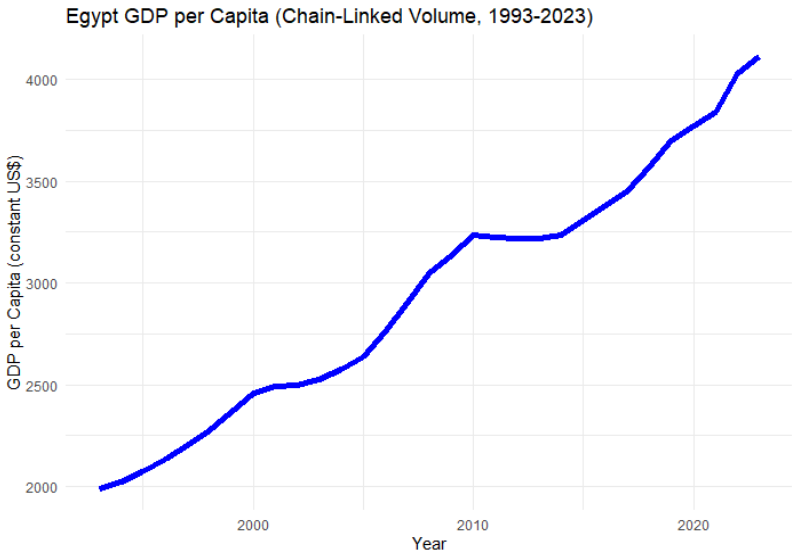
Group C: Loveth Ochayi, Yufei Shao, Nahian Ibnat

This assignment examines key economic and demographic developments in Egypt, focusing on trends over the past several decades. Our analysis is divided into four parts: (1) GDP per capita, using both chain-linked volume series and purchasing power parity (PPP) comparisons; (2) population growth and demographic transition, illustrated by total population trends and shifts in age structure; (3) structural transformation, as measured by changes in employment and value added shares across agriculture, industry, and services; and (4) Egypt's external position, with an emphasis on the current account, trade balance, and net foreign asset position (% of GDP). Data for this study was primarily sourced from the World Development Indicators (WDI) via the R package WDI. Our work follows a reproducible research approach by documenting each step of data collection, cleaning, and analysis in R Markdown (https://github.com/Nahian2400062/GroupC_Egypt_HomeAssignment.git).

1. GDP per Capita

1.1 GDP per Capita (Chain-Linked Volume) for Egypt

Graph Plot 1: Egypt GDP per Capita (Chain-Linked Volume, 1993-2023)

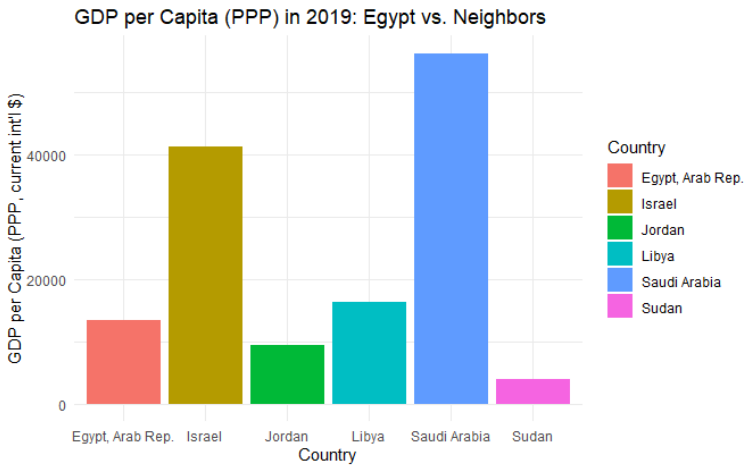


Source: World Development Indicator

Over the past 30 years, Egypt's real GDP per capita (in constant US dollars) has shown a generally upward trend, roughly doubling from around 2,000 to over 4,000. While the pace of growth is not uniform—reflecting periodic slowdowns or external shocks—the overall picture suggests a sustained improvement in average living standards. This growth could be attributed to various factors, including economic reforms, infrastructure investments, and expansion in key sectors, though events such as global recessions or political transitions may have caused short-term dips.

1.2 GDP per Capita (PPP) Comparison in 2019

Graph Plot 2: GDP per Capita (PPP) in 2019: Egypt vs. Neighbors



Source: World Development Indicator

This bar chart compares Egypt's GDP per capita (PPP) in 2019 to several neighboring or regional countries. We can see that Saudi Arabia and Israel notably exceed Egypt, reflecting their higher productivity, different economic structures, or resource wealth. Jordan and Libya show intermediate levels, while Sudan falls below Egypt in terms of GDP per capita. These differences underscore the varied stages of economic development, natural resource endowments, and policy environments across the region, highlighting potential areas for Egypt to focus on—such as investment, diversification, and structural reforms—to further increase its PPP-adjusted income relative to peers.

2. Population

2.1 Total Population

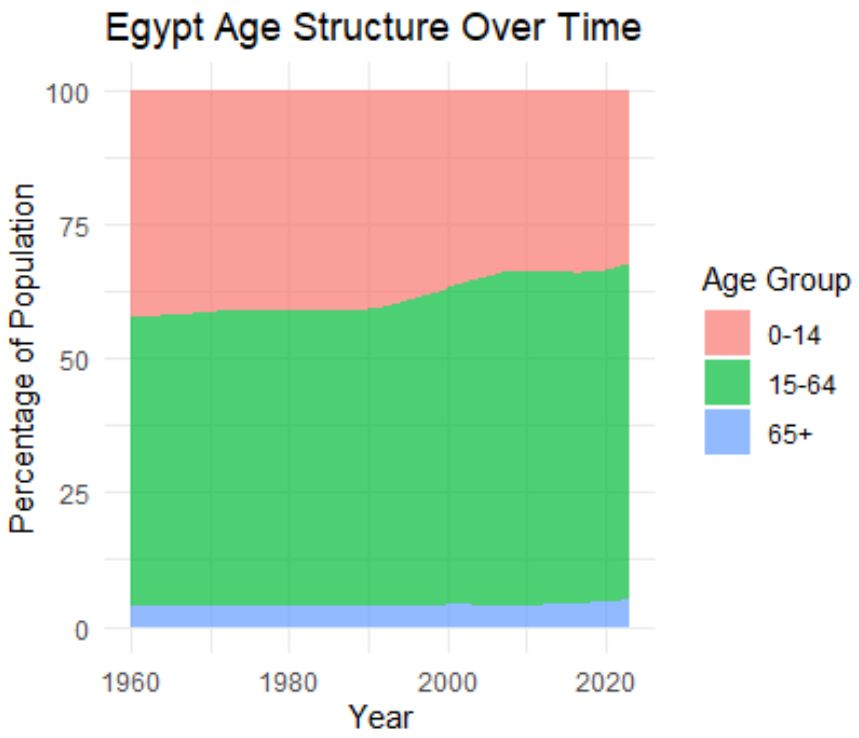
Graph Plot 3: Egypt Total Population (1960-2023)

Source: World Development Indicator

This chart shows a steady and significant increase in Egypt's population from around 25 million in the 1960s to well over 100 million by the early 2020s. The growth trajectory reflects improvements in healthcare, reduced mortality rates, and relatively high fertility rates throughout much of this period. Urbanization and economic development have also played roles, but the primary driver has been the natural population increase due to higher birth rates than death rates. This rapid expansion has implications for infrastructure, education, and employment, highlighting the need for continued development strategies to manage and support the growing population effectively.

2.2 Age Structure

Graph Plot 4: Age Structure of Egypt Overtime



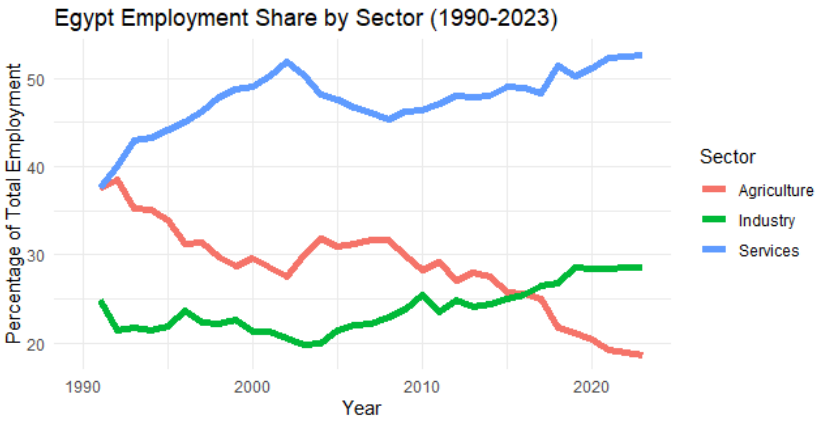
Source: World Development Indicator

This stacked area chart illustrates how Egypt's age distribution has shifted since 1960. Although children (ages 0–14) still constitute a large share of the population, their proportion has gradually declined over time, indicating a fall in fertility rates. Meanwhile, the working-age group (15–64) has expanded, which can potentially boost economic growth through a larger labor force. The share of older adults (65+) remains relatively small, but has inched upward in recent decades as life expectancy improves. Overall, these changes reflect a demographic transition: from a younger population with high birth rates toward a more balanced age structure that brings both opportunities (e.g., a demographic dividend) and challenges (e.g., increased demand for elderly care in the long run).

3. Production Share

3.1 Employment Shares

Graph Plot 5: Egypt Employment Share by Sector (1990-2023)

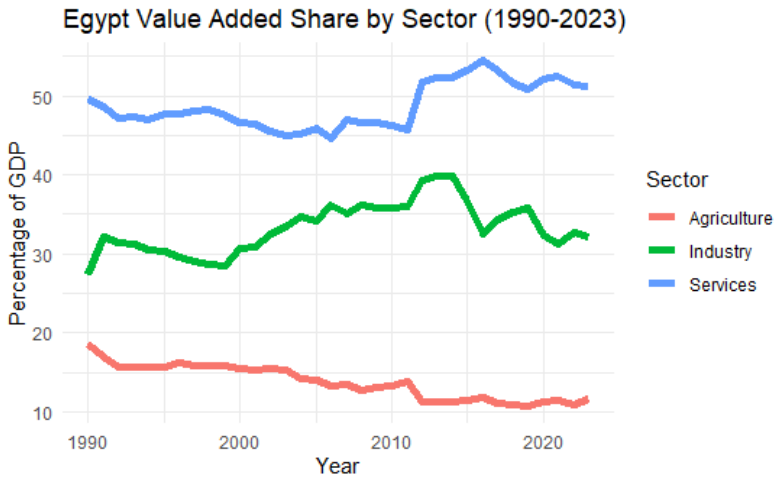


Source: World Development Indicator

Over the past three decades, Egypt's employment structure has shifted markedly away from agriculture toward services. The red line (agriculture) shows a steady decline in its share of total employment, reflecting both mechanization and rural-to-urban migration. In contrast, the blue line (services) rises steadily and becomes the dominant sector, suggesting a move toward more service-oriented jobs in areas such as tourism, finance, and retail. The green line (industry) remains relatively moderate throughout, indicating that while manufacturing and related sectors hold a significant share, they have not expanded as strongly as services. This overall pattern aligns with a classic structural transformation seen in many developing economies, where labor gradually transitions from agriculture to industry and eventually into services as incomes and productivity rise.

3.2 Value Added Shares

Graph Plot 6: Egypt Value Added Share by Sector (1990-2023)



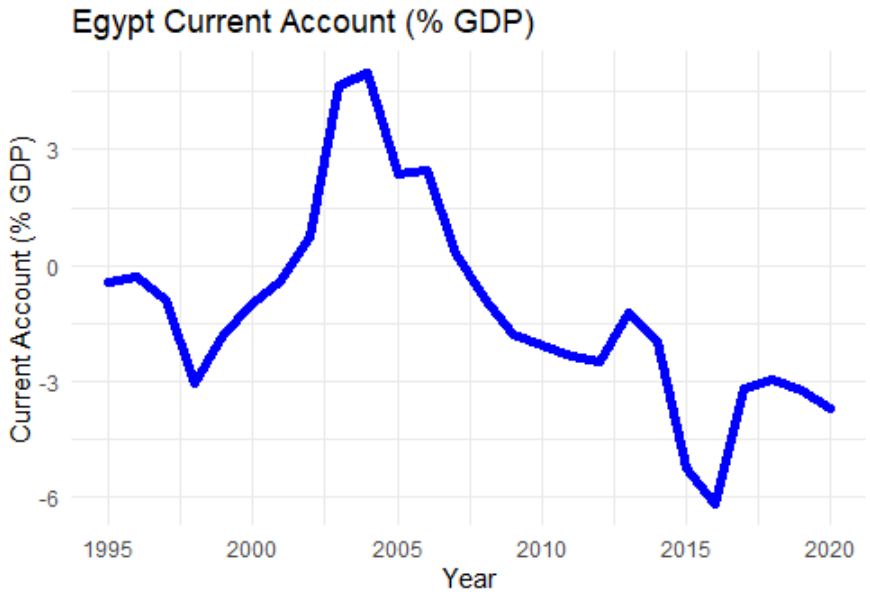
Source: World Development Indicator

Over the last three decades, Egypt's agriculture share (red line) of GDP has declined, reflecting a move away from primary production as the country has modernized. Services (blue line) command the largest share, hovering around half of total GDP in many years, indicating a strong shift toward service-based activities such as finance, tourism, and trade. Meanwhile, industry (green line) occupies a middle position, showing moderate fluctuations but remaining a significant portion of GDP. This evolution is characteristic of structural transformation: as incomes rise and economies develop, the contribution of agriculture generally falls, and both industry and services expand—though in recent decades, services often outpace industry in many developing countries.

4. Open Economy

Egypt's current account balance experienced volatility over time, including a sharp increase in the early 1990's potentially due to economic reforms and inflows from the Gulf war. However, it has experienced persistent deficits since 2010 which indicates structural and financial imbalances. These deficits often lead to higher external debt and reliance on foreign financing which is unsustainable in the long run. Sustained deficits can hinder the economic development of the nation, if capital is not strategically invested.

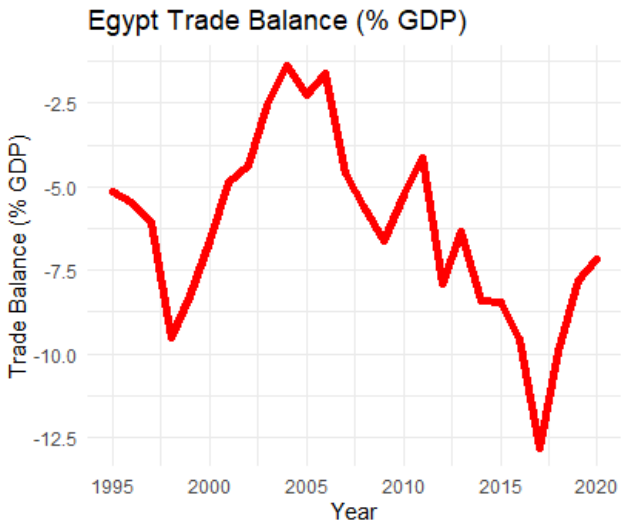
Graph Plot 7: Egypt Current Account (% GDP) (1995 - 2020)



Source: World Development Indicator

The current account—which includes the trade balance plus net income and transfers such as remittances—shows mostly negative values, although it exhibits periodic spikes into less negative or near-balance territory. In Egypt's case, remittances and tourism often help offset some of the trade deficit, but not enough to push the current account into surplus for most of this period. Sustained deficits imply reliance on external financing, which can become costly if global conditions tighten or if investor sentiment shifts.

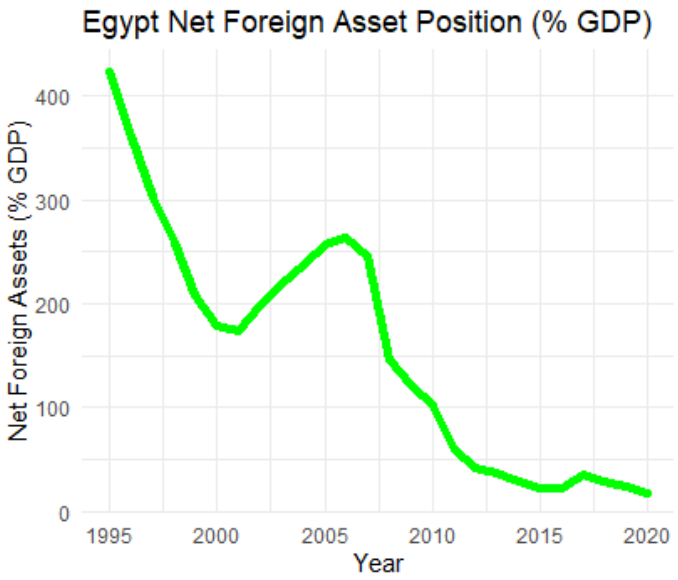
Graph Plot 8: Egypt Trade Balance (% GDP) (1995 - 2020)



Source: World Development Indicator

The trade balance of a country is typically a good indicator of external financial stability and economic sustainability. Egypt has exhibited a persistent trade deficit since 1960, meaning imports have exceeded exports. It experienced sharp declines in the mid 1970's and late 1980's to almost 18% of GDP. Its most recent decline in 2016 was due to the nation's currency devaluation and economic reforms. Egypt's trade deficit indicates dependence on foreign goods, and weak diversification. Egypt has been experiencing an improvement in its trade balance recently due to a boost in exports as a result of its currency devaluation, increases in natural gas exports and greater import restrictions. Though its trade balance improvements are good indications in terms of its economic development, a currency devaluation is not sustainable in the long run. It will need to develop its sectors and diversify its exports.

Graph Plot 9: Egypt Net Foreign Asset Position (% GDP) (1995 - 2020)



Source: World Development Indicator

Egypt's net foreign asset position remained low and stable between 1960 to 1990 which indicates a neutral international investment position (though it was negative for a few years). It began improving until the financial crisis, likely due to debt relief as part of the Paris Club Agreement in 1991, economic reforms, tourism, FDI flows and high remittances. At the peak in 2010, Egypt was in a strong net creditor position. It experienced a decline in 2015 potentially due to its currency devaluation and the IMF loan program which increased foreign liabilities. The COVID-19 pandemic in 2020 also led to a collapse to -8% of GDP due to large external debt, declining foreign reserves and weaker export earnings. Its current declining net foreign asset position has detrimental implications to its economic development as high external liability limits economic independence and raises debt management sustainability risks.

Thus,

The analysis reveals that Egypt has experienced significant economic and demographic changes over recent decades. The upward trend in real GDP per capita suggests an improvement in living standards, though comparative PPP analysis indicates that Egypt lags behind some of its regional peers. Meanwhile, the population has grown dramatically since the 1960s, with the age structure data signaling a classic demographic transition: a declining share of young dependents and a growing working-age population, albeit with emerging challenges related to an aging cohort. In terms of structural change, the economy has seen a marked shift from agriculture to a dominant service sector, while industry remains stable but moderate. On the external front, persistent current account and trade deficits, along with a deteriorating net foreign asset position, highlight potential vulnerabilities in Egypt's external sustainability. Overall, this report underscores the importance of targeted policies to boost export competitiveness, manage external debt, and harness demographic dividends for sustainable long-term growth.