The Impact of Political Stability on Economic Growth: The Case of Egypt

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ABSTRACT

A research goal emerging is examining how political stability influences the growth of the economy in Egypt. The years under review are from 1995 to 2022. The Economic Freedom Index (EFI) is our major independent variable. Also, the controlling factors used under study include capital, employment, inequality, trade health, and education. There are significant variations in descriptive statistics for all these variables explaining this in trade, employment, and education development while political

stability has a major role. The technique employed as an econometric model is ARDL which is a quantitative technique used in this study that shows the positive effects of labor force participation rate, net wealth to net income ratio, and gross capital formation on GDP per capita. It was therefore concluded through this research that political stability can directly cause economic growth within the Egyptian economy. Therefore, decision-makers in society are advised by researchers to strive for political stability given its strong influence on economic growth.

Keywords: Political Stability, Economic Growth, ARDL, Capital Formation, Education, Income Inequality, EFI

1. INTRODUCTION

Political stability is having a stable and orderly political system in a nation. The absence of social instability, violent conflicts, and political disorder distinguishes it. Political stability encourages investment, business activity, and development, and is a key factor in economic growth, especially in Egypt due to its distinct political and economic circumstances (Abu Murad & Alshyab, 2019). Political stability expands investors' confidence, hence improving economic growth (Abdelkader, 2017; Ayessa & Hakizimana, 2021). It benefits the investor to have a sense of security and predictability, leading to more infrastructure as well as employment opportunities (Aisen & Veiga, 2011). Government effectiveness and proper implementation of policies result in political stability as they can help in creating

economic advancements (Abdelhameed & Rashdan, 2021; Alesina et al., 1992). Policy consistency necessitates a stable political background for the government's long-term implementation of economic reforms, the attraction of foreign investments, and the promotion of sustainable development (Milasaite & Micic, 2022). According to Haan and Siermann (1996), when people have more economic freedom, they feel more motivated to get involved in productive market activities. This happens because economic freedom influences the incentives, efforts, and efficient use of resources. However, when there's political instability, decision-making becomes uneven, governments change frequently, and there's a lot of uncertainty in policies. In this way, they could impede economic growth as well as leading to the loss of confidence on the part of investors. (Barro, 1991; Carmignani, 2003). The study will therefore look at the relationship between political stability and economic growth. It will investigate things like business confidence, consumer spending trade relationships competition in markets human capital development (training people), investment decisions--all factors supported by experience on what brings about stability. Knowing these mediating factors completely enables policymakers to find policy levers for supporting political stability and therefore enhancing economic growth (Abdelkader 2017). Knowing these mediating factors completely enables policymakers to find policy levers for supporting political stability and therefore enhancing economic growth (Abdelkader 2017). The political stability of the economic nation is a major

factor in determining its economic growth. Political stability lowers uncertainty and promotes investment, two things that are critical to economic growth (Sharma, 2012). A case in point is the situation of Egypt during the early 2000s. It achieved political stability which further resulted in economic growth. The main reason for this was the increased trust from investors that led to more foreign direct investments as well as infrastructure development (Loayza & Odawara, 2010). According to economists, political instability hampers economic performance. Political unrest will likely cause policymakers' time horizons to narrow, resulting in less-than-ideal macroeconomic short-term measures. This global issue of political instability exhibits regional differences, causing poor macroeconomic performance, heightened volatility, and frequent policy shifts (Davoodi et al., 2021). As an example, the 2011 Egyptian revolution led to a drop-in economic activity because of political instability, which had negative effects through low investor confidence and a reduction of tourism. Reducing foreign investment was less as a result of weak economic activity thus impeding the overall performance of Egypt (Dobronogov & Iqbal, 2005; Ghanem, 2012; Tang & Abosedra, 2014). Economists are worried about the adverse consequences of political instability on various macroeconomic factors such as inflation and GDP growth plus private investment (Ali et al., 2013; Amighini et al., 2013).

2. LITERATURE REVIEW

2.1. Theoretical Framework

There is evidence available from multiple studies. It shows that political stability has a profound effect. This stability plays a role in economically advancing a country. This has been witnessed in several other studies (Aisen & Veiga, 2011; Hussain, 2014; Martínez & Villaseñor-Becerra, 2015; Oppenheimer, 1992). This paper reviews perspectives from historical scholars like Adam Smith, Karl Marx, Max Weber, and more contemporary thinkers; looking at neoclassical growth theory, the use of institutional frameworks, governance, and inclusive and extractive systems. For states such as Egypt to achieve economic advancement, others such as Andre Gunder Frank have argued that political stability is crucial to be ensured as it facilitates continued investments in the country, which also promotes progress (Dusza, 1989). It has been suggested that economic inequalities and reliance on external actors could disrupt political stability, as well as lead to social-political unrest and revolutions (Cardoso & Faletto, 1979). This historical uptrend has been seen in Egypt. Not only could persistent socio-economic inequality weaken human capital, limit access to necessary services, and ultimately harm economic growth (Galor & Moav, 2004), but political stability is crucial for the economic growth and state legitimacy of Egypt (Rotberg, 2004). Moreover, political stability is not sufficient for economic growth; Egypt could ensure its economic growth and develop its 'wealth to welfare' model of economic development by taking into account so-

cial factors such as institutional capacity, effective governance, human capital, and innovation, entrepreneurial and economic diversification capability, and social inclusion – which are no less important than private capital and economic factors for guaranteeing not only the quality of economic growth but its sustainability (Abdel Ghafar, 2018; Abdelkader, 2017; Blaydes, 2019; El-Saharty et al, 2022). Political stability and economic growth in a country are affected by many factors, including the culture, history, geography, and integrity of the outside world. For instance, Aisen and Veiga (2011) have pointed out that instability in democracy negates economic growth and fuels it in autocratic systems. The theory of "political institutions and economic growth" claims that a country's political system and institutional quality are the main drivers of economic growth and prosperity because of their impact on the behavior of citizens and institutions (Smith, 2012). Political stability is, on the other hand, an issue of law enforcement, upholding the rule of law, and supporting economic activity. Stability in this context involves safeguarding property rights, unchanging state policies and institutions, smooth power transitions, and sustaining the institutions' effectiveness (Huntington, 1968; Lipset, 1959). North (1991) mentions various essentials in political institutions for achieving stability and growth. This includes the judiciary, legislative bodies, executive branch, and the constitution. Mitchell (2002) discusses the role of how crucial is to have effective institutions, as they check accountability, representation, and responsiveness. Also, it helped reduce conflict and corrup-

tion, allowing enterprises to function smoothly. Lastly, these institutions were vital in delivering public goods and services. Political institutions with inclusivity protect property rights. They also uphold agreements and foster entrepreneurship. These encourage economic growth. Conversely, extractive institutions impede growth by narrowing competition and extending inequality (Acemoglu & Robinson, 2012; Van Nederveen Meerkerk, 2013). Political stability is mandatory for the prosperity of the economy. It generates confidence for businesses and investors. This makes it possible for them to plan out long-term undertakings, advanced technological programs, and things that create jobs (Abdelgany, 2020; Rodrik et al., 2002). Foreign direct investment thrives in stable political systems as this provides both capital and technology as well as managerial know-how (Alesina & Perotti, 1996). Inclusive political systems protect property rights, agreements are respected and encourage entrepreneurship to develop economic growth. On the other hand, extractive institutions become an obstacle to growth, while limiting competition and sustaining inequality (Acemoglu & Robinson, 2012; Van Nederveen Meerkerk, 2013). Economic growth depends on political stability; it ensures that businesses and investors have faith in the economy. This is because it helps them to engage in long-term projects, technology advancement as well as creating employment opportunities (Abdelgany, 2020; Rodrik et al., 2002). Stable political systems flourish with foreign direct investments that provide capital, technology, and management skills (Alesina & Perotti, 1996). Economic outcomes

are also influenced by the exchange rate regime which stresses on appropriate regime selection (Korkmaz, 2013; Touitou et al., 2018). In contrast to this, political unrest leads to uncertainty among investors; such a thing hampers investment planning and disrupts social order (Alesina et al., 1996; Keefer & Knack, 1995). Likewise, social upheavals come along with protests and civil wars making economic growth so slow (North, 1991). On occasion political instability can escalate into war, this has negative economic consequences, and also sets back long-term development (Collier & Hoeffler, 1998). Expansion of an economy is a term used for growth that is visible through high output levels, investment levels, and job opportunities, among other factors (Economics Help, 2019). The positive performance of an economy can be observed through rising GDP figures on a consistent basis: this derives from increased production and consumption levels, as well as investment flow. Technology, human capital development, and institutional quality are the key factors in this economic growth model (Barro, 1991; Rostow, 1960). Institutional quality and technology capabilities could also boost trade openness and thus impact the economy's growth (Rodríguez & Rodrik, 2000). Ricardo (1817) brought out the role of trade openness for economic growth. The improvement in the efficient allocation of resources, specialized production, and market access can be beneficial for the economic system (Bloom et al., 2002). In line with human capital theory, the view that education and training are closely linked to higher labor productivity underscores technological progress which

leads to economic growth. — As well as GDP per capita (Lucas, 1988). On another note, building up healthcare systems also significantly contributes to the economy through two main ways that both result in the growth of human capital: improving worker productivity rates and developing health-enhanced skilled manpower is resource-saving while it helps sustain economic production by reducing losses from ill-health (Bloom & Canning, 2000, 2008).

As established by the economic theory, economic growth is linked to progress and economic well-being (Levine, 2004; Lewis, 2013). To explain, the Balcerowicz Plan of 1989 pulled out Poland's economy, doubling real GDP via free markets, property rights, and prudent monetary policies (Balcerowicz & Gelb, 1994; Blanchard, et al., 1994).

The pragmatic reforms of Balcerowicz have positively influenced the quality of the population's life and, generally, the economic situation in the country (Gera, 2019). Growth rate is not always constant because it may shift due to movements in business cycles, changes in policies, and unpredictable incidences (Conrad, 2020). Furthermore, economic policies have successfully controlled price and GDP volatility across OECD countries for the last two decades which in turn has led to potential economic growth (Cotis & Coppel, 2005). Neoclassical growth theory suggests that higher labor in skilled sectors may also stimulate economic growth (Mankiw et al., 1992). Growth can be seen through education as evidenced by the school enrolment ratio (Bloom et al., 2002).

2.2. Empirical Studies

2.2.1. Impact of gross capital formation on Economic Growth: Numerous studies highlight the role of gross capital formation in promoting economic growth in the world. Maune et al. (2023) conducted a study on Zimbabwe from 1996 to 2021, using a time series analysis and a multiple linear regression model. Emphasizing the importance of gross capital formation and suitable governance for economic boom. Further, Masengesho (2022) tested Rwanda, identifying elements like gross capital formation, foreign direct investment, exchange rate, and an inflation rate that contributed to economic growth increase, in the long run, with the aid of the use of the error correction model. Nevertheless, in Gulf Cooperation Council countries, the effect of gross capital formation on economic diversification was minimal due to their reliance on sectors of oil and gasoline. This paper used panel data analysis and decided the outcomes were determined with the aid of utilizing the panel vector auto-regression model (Jolo & Koç, 2023).

2.2.2. Impact of Income Inequality on Economic Growth: Income gaps and poverty restrict growth in many countries. A recent study conducted in South Africa by economists revealed that the long-term increase of economic growth is adversely affected by excessive in-

come inequality, even though its short-term length effects were considered as insignificant. As suggested by Mdingi (2023) in the analysis carried out with the ARDL model, policy measures would help in raising the rate of human capital accumulation, in raising the quality of education to enable better access to education. Furthermore, Moraliyska (2022), in a study on the European Union members, used the data analysis method and panel least square model to highlight that growing levels of income inequality resulted in declining economic growth in the countries. The nations have come up with policies such as escalated funding in education, cash transfers for equality enhancement, and the enhancement of access to public services among others all of which depict the aspect of long-term equality enhancement.

2.2.3. Impact of labor force participation and education on Economic growth: Human capital utilization boosts economic performance via education. Using the OLS model for the research conducted in Pakistan from 1980 to 2013 established that higher levels of education influenced economic growth in the country. Nonetheless, educational improvement still faces the challenge of a lack of skilled workers (Khan et al., 2023). On the other hand, Di Qi (2022) employed the Non-linear Auto-Regressive Distributed Lag approach (NARDL) for China's economic

growth from 1980 to 2020 which emphasized how important education and labor force participation were in boosting it. The study also established that an increase in worker's level of education increases economic growth within the high technology sectors. Using ARDL approach, another study has examined primary school enrolment rates in Nigeria from 1987 to 2017. Education's substandard system and macroeconomic environment volatilities have led to minimal and statistically insignificant effects on economic growth due to poor quality education system (Danielle, 2021). Another different study examined the influence of primary school enrolment on GDP per Capita in Turkey from 1980 to 2008 using the Causality tests, which found a two-way causation between the two variables (Kayhan, 2012).

2.2.4.   Impact of Life Expectancy on Economic Growth:

Health heavily influences economic performance and development that in turn exerts pressure on growth so therefore health is an important driver of economy's growth. The Manfreds' (2015) utilized fixed effects model and Generalized Method of Moments (GMM) to analyze 141 developing countries across 2000-2013. It was found out that higher life expectancy has a positive significant impact on Gross National Income per capita. However, this was not the case in middle-income countries (Manfred,

2015). Alternatively, using multiple linear regression models Rashidul Alam Mahumud (2013) findings indicated that Bangladesh recorded positive significant impacts of life expectancy on economic performance over a longer period from 1995-2011 by its GDP per capita.

2.2.5. Impact of Trade on Economic Growth: The requirement for trade could be considered as one of the significant indicators of the growth of the economy, particularly when the state has a trade surplus. Yeboah et al. (2023) examined the impact of trade on economic growth in Ghana for the period between 1990 and 2020 by adopting a vector error correction model and Granger causality analysis. The results showed a positive relationship between trade improvements and economic growth. The paper suggested that the Ghanaian government encourage local firms for production. In contrast, research in the United States by Umer Shahzad et al. (2023) using the ARDL technique from 1980 to 2021 confirmed that at the same time as trade initially harmed short-term economic growth, it had a weak but positive impact in the long run because of the trade deficit.

3. DATA AND METHODOLOGY

3.1. Data

The investigation employed an autoregressive distributed lag (ARDL) model to examine the impact of political stability on Egypt's economic growth with 8 variables in total 2 main and 6 control. The ARDL approach is also called Bounds testing, and it assesses the relationship between political stability and economic growth.

3.2. Methodology

The purpose of this research is to perform analysis through the ARDL approach to establish the causal relationship between variables. This method was introduced by Pesaran and Shin (1998) in that it can determine the causality irrespective of whether or not variables are stationary.

3.3. The Research Design and Methodology

A description of the research design and data collection and analysis methods using official statistical websites as the measure of results is included in the following part. This research uses quantitative techniques to collect numbers, which are then analyzed for patterns, through prediction-making and hypothesis testing to obtain processed economy-wide data. The selection method includes indicators like the Heritage Foundation Index of Economic Freedom, GDP per capita growth rate, gross capital formation as a percentage of GDP, trade balance as a percentage

of GDP, life expectancy at birth rate, net wealth to net income ratio, primary school enrollment growth rate, and labor force participation ratio in Egypt.

3.4. Defining the Research Variable

The dependent variable in the study is the GDP per capita growth rate in Egypt as a measure of economic growth while the independent variable is the Index of Economic Freedom (EFI) by the Heritage Foundation that measures political stability. It also uses control variables which are income inequality, employment, capital investment, health care, education, and trade to analyze the relationship between political stability and economic growth. Among other reasons, EFI outperforms other indicators due to its holistic nature, availability of unbiased data obtained through systematic research, and its longer time frame. Specifically, these factors have been selected based on previous studies where they were used as control variables to determine how much influence does political stability has on economic growth.

3.5. Data Collection and Source

The assessment of variables involved in data collection is challenging; often multiple sources have to be used. The paper employs the information collated from electronic sources to build a model that aims at analyzing the relationship between political stability and economic growth in Egypt. Political stability and economic freedom information is obtained from the Heritage Foundation with collaboration from the Wall Street Journal

whose data is in annual reports. The macroeconomic data on economic growth and other indicators come from WDI module of World Databank and World Inequality Database. The study covers over the period of twenty-seven years which is; from 1995, up to now by end year of 2022.

Table 1. Variables description and sources

The table below presents all the variables, their symbols, and indicators that will later be used in the thesis.

	Variables	Symbols	Description	Data sources
Dependent variable	Economic Growth	**GDPC**	GDP per Capita growth rate %of GDP	World bank database (World development indicators 1995 to 2022)
Independent variable	Political Stability	**EFI**	Economic Freedom Index	Heritage Foundation/ The Wall Street Journal
Control Variables	Employment	**LFPR**	Labor Force Participation Ratio % of the total population ages 15+	World bank database (World development indicators 1995 to 2022)
	Capital	**GCF**	Gross Capital Formation as % of GDP	World bank database (World development indicators 1995 to 2022)
	Education	**PSE**	Gross primary school enrolment ratio	World bank database (World development indicators 1995 to 2022)
	Health Care	**LE**	Life Expectancy at Birth Rates	World bank database (World development indicators 1995 to 2022)
	Income inequality	**NWTIR**	Net Wealth to Net Income Ratio (Total population of all ages)	World Inequality Database from 1995 to 2022
	Trade Openness	**T**	Trade Balance as % of GDP	World bank database (World development indicators 1995 to 2022)

Source: By the Author

Figure (1) Political Stability and Economic Growth - Detailed Model Visualisation

The model that derived the research question and hypotheses Built by the author using the software mind-muphttps://app.mindmup.com/
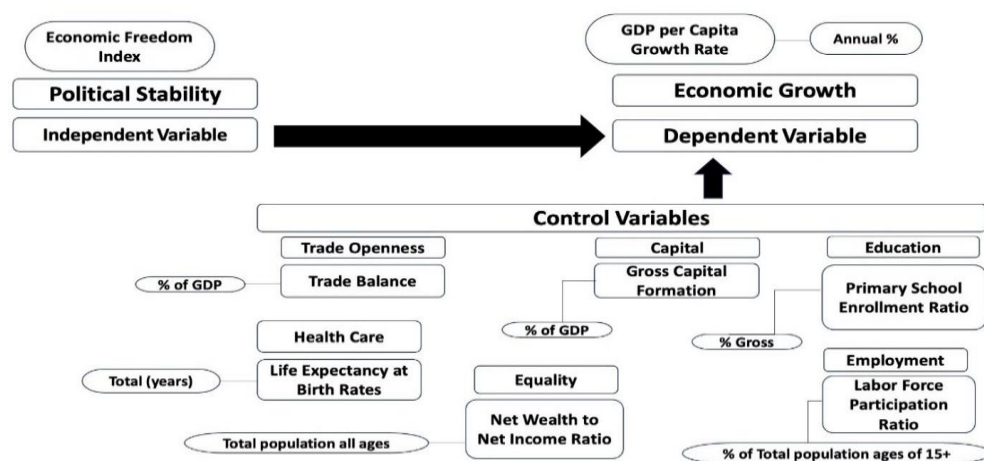
In the subsequent section, an analysis of the ARDL model will explore political stability and controllable variables on Egypt's growth.

3.6.ARDL Approach

This paper employs the autoregressive distributed lag (ARDL) modeling methodology developed by Pesaran and Shin (1998) utilized in the analysis to investigate the level at which the growth rate of per capita GDP is related to the independent variables as well as the long-run co-integrated relationship of all var-

iables. In order to examine the link between political stability and economic growth of Egypt employing a dataset from 1995 to 2022, the following indicators are employed: GDPC, EFI, GCF, T, PSE, LE, LFPR, and NWTIR as independent variables. The omitted variables are used to proxy toward evaluating the economic growth, political stability, capital level, trade openness, education, health care quality, employment level, and income distribution in Egypt.

The ARDL model employed in this study is expressed as follows:

Empirical Model: $GDPC_t = f$ (EFI$_t$, GCF$_t$, T$_t$, PSE$_t$, LE$_t$, LFPR$_t$, NWTIR$_t$)

The ARDL model is designed with a suitable number of lagged periods and can select the most appropriate subset from the general model data:

$$GDPC_t = C + \beta_1 EFI_t + \beta_2 GCF_t + \beta_3 T_t + \beta_4 PSE_t + \beta_5 LE_t + \beta_6 LFPR_t + \beta_7 NWTIR_t$$

To assess the co-integration relationship among the variables of the model, we utilize the methodology introduced by Pesaran and Shin (1998). The variables considered in this analysis include GDPC (gross domestic product per capita) growth rate, EFI (Economic Freedom Index), GCF (gross capital formation), T (total trade balance), PSE (gross primary school enrollment ratio), LE (life expectancy at birth), LFPR (labor force participation ratio), and NWTIR (net wealth to net income ratio).

The equilibrium connection between the variables using the unrestricted error correction model (UECM) and the known Bounds Testing Approach, the formula utilized is as follows:

$$\Delta \ln GDPC_t = C + \alpha t + \beta_1 \ln EFI_{t-i} + \beta_2 \ln GCF_{t-i} + \beta_3 \ln T_{t-i} + \beta_4 \ln PSE_{t-i} + \beta_5 \ln LE_{t-i} + \beta_6 \ln LFPR_{t-i} + \beta_7 \ln NWTIR_{t-I} + \sum_{i=1}^{n-1} \gamma_{1i} \Delta \ln EFI_{t-i} + \sum_{i=1}^{n-1} \gamma_{2i} \Delta \ln GCF_{t-i} + \sum_{i=1}^{n-1} \gamma_{3i} \Delta \ln T_{t-i} + \sum_{i=1}^{n-1} \gamma_{4i} \Delta \ln PSE_{t-i} + \sum_{i=1}^{n-1} \gamma_{5i} \Delta \ln LE_{t-i} + \sum_{i=1}^{n-1} \gamma_{6i} \Delta \ln LFPR_{t-i} + \sum_{i=1}^{n-1} \gamma_{7i} \Delta \ln NWTIR_{t-i} + \varepsilon t$$

The equation involves the dependent variable (GDPC) lagged by one period as the parameter. Constant (c) represents a constant term, while β means a parameter that indicates long-run relationships. Differences (γ) represent the first parameters in the short run and (α) alludes to avoided function with ε representing the random error.

4. RESULTS AND DISCUSSION

Table 2. A descriptive Statistical Analysis

The table below illustrates the variables in Egypt and aids in visualizing and interpreting the data later.

	EFI	GCF	GDPC	LE	LFPR	Net Wealth Ratio	Trade	PSE-Gross
Mean	54.51	17.92	2.47	69.30	45.97	57.93	45.28	93.42
Median	54.65	17.99	2.40	69.40	46.63	64.52	42.38	94.12
Maximum	59.10	22.39	5.08	71.37	49.37	86.05	71.68	99.75
Minimum	45.70	13.64	-0.46	66.31	41.32	19.96	29.86	85.28

Standard Deviation	3.02	2.32	1.600	1.43	2.37	20.24	10.69	3.14
Skewness	-0.74	0.02	-0.08	-0.33	-0.64	-0.43	0.82	-0.21
Kurtosis	4.00	2.30	2.21	2.19	2.24	1.72	2.98	3.24

Calculated by the author

The average EFI score did differ significantly from the standard deviation, with the mean being approximately 54.5 and the standard deviation being 3.02. This indicates that Egypt's EFI fluctuated in different ways between 1995 and 2022, primarily due to the significant institutional changes and reforms that Egypt underwent, particularly in the preceding several years (The Heritage Foundation, 2023). The mean and standard deviation for GCF showed that there are variations in it over the years. This implies that there were revenue fluctuations, which subsequently influenced the allocation of funds toward investment and the creation of goods and services (Tuovila, 2023).

Efforts to prevent infectious and parasitic diseases have led to drastic increases in life expectancy over time, reflecting improvements in life expectancy in recent years (Rauch, 2023). Similarly, the labor force participation rate (LFPR) grew with time and deviated from the 2.37 norm, due to changes made to the corporate environment and the educational system, which have increased work prospects (Jarvis, 2015). The net wealth-to-income ratio, however, likewise exhibited significant fluctuations from the mean. The primary reasons for this are the decline in the income shares of the bottom two quintiles and the increase in the

top quintile's income distribution. This is what has led to the enormous disparity in wealth between the rich and the poor (Bournakis, 2021). When referring to trade as a proportion of GDP, the main factors affecting it over time are exchange rate fluctuations and trade barrier variations. Welsh (2020), reported that in recent years, there has been an active pursuit of enhancing education in rural areas and implementing diverse teacher training initiatives. Notably, these efforts have yielded favorable results, particularly in primary school enrollment (PSE gross).

Table 3. Analysis of Correlation

Understanding the relationship between variables relies on this method, which helps researchers grasp the connections among selected model variables.

Correlation Probability	EFI	GCF	GDPC	LE	LFPR	Net Wealth to income ratio	Trade	PSE Gross
EFI	1.000							
GCF	0.199	1.000						
GDPC	0.0628	0.664***	1.000					
LE	0.0448	-0.450**	-0.138	1.000				
LFPR	0.271	0.128	-0.080	-0.323*	1.000			
Net Wealth to income ratio	0.134	-0.363*	-0.052	0.856***	-0.128	1.000		
Trade	0.575***	0.552***	0.414**	-0.285	0.366*	-0.074	1.000	
PSE Gross	0.166	-0.311	-0.032	0.647***	-0.283	0.600***	-0.398**	1.000

(* significant at 10% - ** significant at 5% - *** significant at 1%)

Calculated by the author

Regarding the above table, it shows that there was a strong negative connection—significant at 5%—between the GCF and the LE. Logically justified as the income of individuals shifted to productive activities is determined by gross capital formation. Thus, when GDP growth accelerates, more money is directed towards productivity, causing a shift away from improving health and life expectancies. A negative correlation was observed between life expectancy and labor force participation rate. Correlation, at 10% was significant. This was mostly because lower education-level individuals were less aware of their health issues, limiting labor market participation (Mushtaq et al., 2013). The relationship between the trade and the enrolment rate in primary schools was shown to be considerably negative at 5%. This was because the primary beneficiaries of trade are educated individuals who have completed at least secondary school and work in specific industries. Thus, the benefits of trade are less noticeable for less educated individuals (Stiller et al., 2022).

Additionally, there was a substantial positive association (p < 1%) between life expectancy and the net wealth to net income ratio. This makes sense as well since if the net wealth to income ratio—which gauges income inequality—improves, people will live longer because they will earn more than they did previously. More importantly, there was an EFI and trade link that was statistically significant and positive at 1%. This may be mostly explained by the fact that the EFI, is composed of various elements,

including trade freedom measurement. Additionally, trade and the GCF had a substantial positive association.

Table 4. Unit root test (stationarity test)

It is necessary to conduct a stationarity test to ascertain that selected variables are stationary over time.

Variables	ADF		PP	
	Level	**1st difference**	**Level**	**1st difference**
GDP Per capita				
None	-0.86	-4.35***	-0.86	-4.35***
Intercept	-2.67	-4.26***	-2.40	-4.26***
Intercept and trend	-2.14	-4.18**	-2.30	-4.17**
Economic freedom index				
None	-0.33	-5.02***	-0.34	-5.00***
Intercept	-2.36	-4.94***	-2.36	-4.94***
Intercept and Trend	-2.26	-4.08**	-2.46	-5.11***
Gross Capital Formation				
None	-0.59	-4.43***	-0.59	-4.41***
Intercept	-2.22	-4.32***	-2.22	-4.30***
Intercept and Trend	-2.40	-4.23**	-2.4	-4.21**
Life Expectancy				
None	3.08	-3.13***	-2.61	-3.13***
Intercept	-2.69*	-2.98*	-2.58	-3.76***
Intercept and Trend	-2.66	-3.69**	-1.40	-4.14**
Labor Force Participation Rate				
None	-0.69	-3.37***	-1.00	-3.37***
Intercept	-1.27	-3.38**	-0.90	-3.38**
Intercept and Trend	-1.47	-3.39*	-1.15	-3.39*
Net Wealth to income ratio				
None	0.48	-2.57**	1.37	-2.55**
Intercept	-1.58	-2.78*	-1.46	-2.74*
Intercept and Trend	-2.24	-2.79	-1.70	-2.83

Primary School Enrollment-Gross

None	0.34	-5.90***	0.40	-6.20***
Intercept	-3.56**	-3.73***	-3.62**	-5.79***
Intercept and Trend	-3.87**	-3.56*	-4.11**	-5.62***

Trade (% of GDP)

None	-0.72	-3.68***	-0.722	-3.57***
Intercept	-2.07	-3.59**	-1.62	-3.48**
Intercept and Trend	-2.20	-3.51*	-1.74	-3.37*

(* significant at 10%- ** significant at 5%- *** significant at 1%)
Source: Conducted by the researcher

Table 4 presents the unit root test results necessary for evaluating the stationarity of dependent and independent variables over time. Except for the primary school enrollment rate, most of the variables were non-stationary at the base level without taking into account any differences or lags in variables. Thus, the first difference was important to check for stationarity among the variables. Most variables showed stationarity at 1% significance level such as GDP per capita, EFI, GCF, life expectancy, Labor force participation rate, primary school enrollment gross rate, and trade. This indicates that these variables exhibit more stability with the initial difference taken.

4.1.Econometric Model:

This segment will encompass the econometric model employed to analyze the impact of political stability and control variables on Egypt's GDP per capita growth rate.

Table 5. ARDL methodology

ARDL method examines the impact of independent variables on per capita considering long-term effects. In order to have more objective and meaningful results, the lag effect has been considered for EFI and Trade.

	Coefficient
C	35.28305
EFI (-2)	0.164774
GCF	0.682784***
GCF (-1)	-0.190182
LE	-0.824994*
LFPR	0.593731*
LFPR (-1)	-0.283235
Net Wealth to net income ratio	0.105875**
PSE Gross	-0.052084
Trade (-2)	-0.067554
Trade (-3)	-0.152134**
Durbin Watson	2.743899
Prob (F-Statistic)	0.000803
R-Squared	0.854614

(* significant at 10%- ** significant at 5%- *** significant at 1%)
Source: Conducted by the researcher

Based on the ARDL approach, it has been demonstrated that a 1-point increase in the lagged EFI leads to a 0.16% increase in GDP per capita. In Egypt, the overall EFI in the previous year was pulled down by lower rankings in judicial effectiveness and labor freedom according to the Heritage Foundation ranking in year 2023. This decline however is expected to affect the economy in a negative way. But the lagged EFI indi-

cates that increasing the EFI in the foreseen period will lead to the better economic conditions of the Egyptian economy. On another note, when the GCF increases by 1%, the GDP per capita is projected to increase by 0.68%. The Reduction in the lagged GCF, a component of investment, has led to the fall in GDP per capita indicating the need to enhance production plans and investment projects, and raise the savings and income of the people among others (Abdelgany, 2020).Additionally, a 0.10% increase in GDP per capita has been observed due to a rise in the net wealth-to-income ratio, which is statistically significant at 5%. Conversely, an increase in lagged trade has resulted in a decline in GDP per capita, also significant at 5%. The Durbin-Watson statistic exceeding 2 indicates the presence of negative autocorrelation. However, the probability of the f-statistic suggests that the entire model is highly significant. Furthermore, the R-squared value indicates that approximately 85% of the mentioned variables account for the fluctuations in GDP per capita.

Table 6. **Normality test**

The test is of utmost importance in determining whether the chosen data conforms to the normal distribution.

Jarque-Bera	Probability
0.581842	0.747575

Source: Conducted by the researcher

The aforementioned table illustrates that the data is regularly distributed since the p-value is higher than 5%.

Table 7: Serial Correlation test

The examination assesses the correlation between the observations of a single variable over multiple years.

F-Statistic	Probability
1.804832	0.1930

Source: Conducted by the researcher

Based on the information presented in the table above, it is evident that if the probability exceeds 5%, there is no presence of serial correlation issues over time for the variables.

Table 8: Discussion of the Hypotheses:

Hypotheses	Supported/Not Supported
H_1: There will be a positive significant impact of political stability on Economic Growth in Egypt	Not Supported
H_2: Gross capital formation has a positive significant impact on economic growth in Egypt	Supported in the short term, yet not sustained in the long term.
H_3: Health and labor force participation rate will positively enhance the economic growth in Egypt	Supported in terms of employment (labor force) but lacking support in terms of healthcare.
H_4: Education and Trade will have an insignificant impact on the economic growth in Egypt	Supported in the educational context, yet unsupported for trade.
H_5: The improvement of income inequality would increase economic growth in Egypt	Supported

4.2. Discussion of the findings:

4.2.1. **Economic Freedom Index (EFI):** Due to the complexity and vulnerability in the undertaking of a political transition in Egypt, the EFI has had an insignificant effect on the ratio of GDP per capita, thus reducing the rate of investors', demands for investment opportunities and capital flight to more stable destinations (World Bank, 2022). The instability has also impacted the tourism sector consequently minimizing the government's revenue and economic growth (CAPMAS, 2020). That is, exchange rate changes since 2016 have caused the devaluation of the stable currency in Egypt (CBE, 2021), the Russian-Ukrainian war over 2020-2021 has brought political instabilities of capital flight and reserve losses affecting prices of commodities and inflation rates and decreasing per capita GDP (IMF, 2023). Still, rising on the EFI may not have the desired impact on Egypt's economic growth as estimated by the ARDL approach, but will experience an insignificant impact. This also means that the improvements in the political stability began growing the GDP per capita overtime. According to the IMF (2023), there has been an adoption of macro policies over the recent past that have improved the dimension of macroeconomic stability and long-term economic growth in Egypt such as the shift to a more flexible exchange rate to en-

hance reserves and shield the country from external volatilities. Also, the stance of the monetary policy is more inclined towards price stability, while fiscal consolidation measures led to improving the government revenues and expenditure control aimed at the financing of public debt. Furthermore, structural reforms aim to boost employment opportunities and private-sector investment through trade barrier reduction and governance promotion and transparency.

4.2.2. **Gross capital formation (GCF):** It is a measure used to assess the level of investment that contributes to changes in economic growth. Egypt's government has focused on improving investment opportunities in the ICT, Energy, and transportation sectors. Three key factors will drive sustained economic growth, including the importance of infrastructure in reducing logistics costs, facilitating trade processes, and promoting diversification in the export sector. Further, the infrastructure improvements will also provide more employment opportunities hence, higher wages and greater quantities of products and services will be available in the economy. Even though the latest Egypt investment law signed in 2017 aimed at eliminating barriers and disparities between foreign and domestic investors, limitations to investors in the construction, transport, and shipping sectors still exist

(OECD, 2021). Moreover, there are restrictions on the opportunities for private sector investment in Egypt especially for SMEs. To mitigate this, the Central Bank of Egypt escalated the credit portfolio for such enterprises by twenty-five percent (United Nations Development Programme, 2022).

4.2.3. **Life Expectancy:** An increase in implied life expectancy at birth increases the rate of population growth and thus decreases the total GDP per capita. This negative impact is attributed to the Malthusian school of thought stating that fixed factors of production, population growth, and worker productivity are related (Hansen & Lønstrup, 2013; Johnson, 2006).

4.2.4. **Labor Force Participation:** Another important attribute of population in the labor force is the labor force participation rate which helps to determine the state of the labor market as well as employment levels in the country. According to the retrieved data, the ARDL analysis revealed a positive relation with GDP per capita since the execution of national projects, and subsequently the employment rate enhanced the income of individuals in the recent past (Lynx, 2022). Key sectors like construction, agriculture, and manufacturing have contributed to employment growth (Ministry of Planning and Economic Development, 2022).

4.2.5. **Primary School Enrollment Rates:** Recent reforms in Egypt's educational system have not significantly improved individuals' GDP per capita. Data from 2020 reveals a skills gap as unemployed individuals were university graduates, necessitating better education quality and increased resource allocation to align skills with market demands. Furthermore, raising educational expenses is essential to enhance the influence of education on GDP per capita (Regdawy, 2023).

4.2.6. **Trade:** The trade balance is crucial for the country's comparative advantage, and specialization in specific goods and services is highly significant as it could result to market diversification and even economic growth. In Egypt, reduced exports over the past three years have had negative implications on GDP per capita while imports rose significantly in 2020 (Ministry of Planning and Economic Development, 2021). Additionally, this generated a rise in imports which exceeded exports thus increasing revenues going to other countries as domestic GDP per capita diminished.

4.2.7. **Net Wealth to Net Income Ratio:** Income inequality and distribution improvements have increased per capita GDP reducing the wealth gap. The ARDL results confirm that an improved net wealth to net income ratio has raised GDP per capita because of several poverty reduc-

tion measures accomplished by the Egyptian government such as Takaful and Karama. These programs have brought down poverty rates, narrowed the wealth gap between rich and poor Egyptians, and improved average individual earnings (Rauch, 2023).

5. Conclusion

The main focus of this research is to analyze the influence of political stability on the economic growth of Egypt between the years 1995 and 2022. It uses EFI as the primary index of focus as the independent variable and other factors such as health, trade, education, investment, income inequality, and employment as other control variables. Analyzing the descriptive statistics, it is quite explicit that all the independent variables have shown considerable changes and fluctuations, whereby trade, education, employment, and most significantly political stability all have shown positive improvements.

The ARDL approach econometric model concluded that gross capital formation, labor force participation rate and net wealth to net income ratio influenced positively GDP per capita. On the contrary, other variables like life expectancy and trade adversely impacted GDP per capita, unlike the EFI which had minimal impact.

The political stability in Egypt can rise through strategies such as reducing public debt, increasing tax income collection, re-

stricting government spending, enforcing anti-corruption legislation that will further solidify the presence of good governance, and outlawing unofficial practices like money laundering to promote transparency (Adrian et al., 2023).

Further, improving the over-all economy of a nation resulting into more investment, employment opportunities, and higher GDP per capita. It is also equally important to note that, enhancing property rights as well as contract enforcement enhances investment procedures (Hanna, 2023).

These measures upon their implementation in Egypt will bring about great benefits. Predict changes in government revenue collections, more job opportunities as well as enhanced investment outlooks. Moreover, through upgrading infrastructural standards and public utilities, a nation may achieve political stability and reduce the overall cost of doing business (Ezebilo, 2022).

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