

The Impact of Trade in Goods Versus Trade in Services on Economic Growth in Egypt (1995-2022)¹

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ABSTRACT

Whereas most of researchers analyzed the effect of trade on economic growth in different countries worldwide, others concentrated on the effect of trade in goods or trade of services separately on economic growth. This paper's objective is to fill the literature's gap by analyzing and comparing the performance of trade in goods versus trade in services on the growth in Egypt over the period (1995–2022) using the VECM co-integration approach. This objective can be obtained through estimating three models. First model to estimate the effect of total trade on economic growth in Egypt (1995-2022). Total trade is separated into imports and exports in the second model to determine the role of each subsection in growth. Finally, total trade in Egypt is divided into trade in goods and trade in service to precisely determine the role of each in economic growth over the period of the study. The results clarified a long-run steady state relationship between economic growth on the one hand and trade, inflation, exchange rate, gross capital formation, and employment on the other during the period of the study. The short-run disequilibrium has shown to be corrected quickly through about two years for all the models. The results indicate that trade affects economic growth positively with a small effect. Trade in services is of great importance in Egypt relative to trade in goods. It boosts economic growth significantly. In contrast, trade in goods hinders growth, which interpret the small effect of total trade on growth in Egypt.

Keywords: *trade in goods, trade in services, VECM, Economic growth, Egypt.*

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I. INTRODUCTION

It is argued theoretically that an increase in the productivity of agricultural and manufacturing sectors is the main step towards increasing growth and alleviating poverty worldwide. However, empirical evidence indicates a decline in the share of agriculture and manufacturing sectors in GDP, versus the increasing role of service trade in GDP, employment, and exports across the globe. Moreover, trade in services provides critical inputs to push other economic activities (Maune, 2019).

With the increasing globalization, the share of trade to GDP worldwide increased strongly over the period from 1995 to 2022, from 43% in 1995 to 74% in 2022 by 71% over the whole period, accounting for 2% annually. On the contrary, trade in the middle east and north African countries (MENA) increased modestly over the same period by only 11% over the 28 years, equivalent to only 0.36% annually. However, the picture in Arab world, especially Egypt is completely different. Trade decreased slightly in Arab region from 62% of GDP in 1995 to 61% in 2022, however it declined sharply in Egypt from 50% of GDP at the beginning of the period to 37% at its end, by 26% decrease at the whole period, equivalent to 1% decrease annually (WB, WDI, 2023).

Although the decrease in the role of trade (%GDP) in Egypt in comparison with the Arab world and the MENA at all years of the study, trade in services in Egypt contributes the best among others in 1995 with 22% of GDP compared to 9%, 14% and 15% in the world, MENA, and Arab world respectively. The picture for Egypt is reversed in 2022 since the trade in services contribution in GDP turned to be the lowest among others, decreasing to only 12% of GDP, compared to 13%, 18%, and 15% in the world, MENA, and Arab world respectively (WB, WDI, 2023). To sum up the role of trade in Egypt as percentage of GDP declined over time, but the reduction in trade in service was the main responsible for this drawback (WB, WDI, 2023).

Whereas most of researchers analyzed the effect of trade on economic growth in different countries or different regions worldwide, others studied the effect of exports or imports on growth examining the exports or imports lead growth

hypotheses. Some researchers concentrated on the effect of trade in goods or trade of services separately on economic growth, while very little evidence from the literature has been found about the comparison between the impact of trade in goods versus the impact of trade in services on growth. This paper's objective is to fill the literature's gap by analyzing and comparing the performance of trade in goods versus trade in services on the growth in Egypt over the period from 1995 to 2022.

The main purpose of this paper is to investigate the impact of trade in goods versus trade in services on economic growth in Egypt for the period 1995-2022 using the time-series co-integration approach. This objective can be obtained through the following three steps. First step is to estimate the effect of total trade on economic growth in Egypt (1995-2022). The second step is to separate total trade into imports and exports to determine the role of each subsection on growth in Egypt. Finally, total trade in Egypt is divided differently into trade in goods and trade in service to precisely determine the role of each in economic growth over the period of the study. Three models are estimated to fulfill these steps. A co-integration approach using vector error correction model (VECM) is applied to the three models. The long-run relationship between trade and economic growth in Egypt has been identified over the period of the study, then the long-run effects of trade and its subsections on economic growth have been estimated in the long run and short run simultaneously¹, determining the speed of adjustment from the short-run disequilibrium to the long-run equilibrium.

The remainder of the paper is organized into six sections. Section 2 gives a literature review of the relationship between trade (and its subcategories) and economic growth worldwide. The descriptive analysis of total trade in Egypt, in addition to trade in goods and trade in services and their trade balance are explained in detail in Section 3. The description of the adopted models and the specification of the variables are explained in Section 4. The adopted methodology is illustrated in Section 5. The results are reported, evaluated, and

¹ The short-run relationships are estimated simultaneously with the long-run relations; however, the researcher prefers not to display them in the paper to save space, but they are available upon request.

explained in Section 6. Finally, Section 7 summarizes and draws conclusions and directions for future research.

2. LITERATURE REVIEW

Literature can be classified into different categories. First, the impact of trade on growth investigated in different regions worldwide. In the second part, trade is divided into two components: exports and imports, and the effect of each on growth is studied separately to examine export-led growth and imports-led growth hypotheses. Thirdly, trade is divided into trade in goods and trade in services and then the impact of each category separately on growth is discussed as illustrated in Table (A1) in the Appendix.

Evident from Brunei Darussalam for the period (1989 – 2018), Tahir and Hayat (2020) concluded a significantly positive long-run effect of trade on growth, but insignificant effect in the short run. Using GMM in a panel data analysis, the same results are suggested by Sghaier (2023) for four North African countries (Tunisia, Morocco, Algeria, and Egypt), since strong evidence of a positive link between trade openness and economic growth is detected for the period from 1991 to 2015. In addition, trade openness appears to be working as a complement to financial development and that its effect is more pronounced in the presence of the financial development variable. Youssef (2023) examines the relationship between trade and economic growth in Egypt for the period (1982-2020) using ARDL technique. The results show that trade openness contributes positively to economic growth in Egypt both in the short run and long run.

Besides, applying on 15 ECOWAS Countries for the period from 1975 to 2017, Ijirshar (2019) concluded that trade has positive and significant effects on growth in the long run, however the short-run impact of trade openness differs across countries. Furthermore, the latter study suggests that international trade is more beneficial to countries that have improved the quality of exports where the value is relatively higher than imports.

For more investigation, Osei-Assibey and Dikgang (2020) paper examines and validates the hypothesis of exports-led growth as well as the hypothesis of import-led growth in South Africa for the period from 1989 to 2018, where a

long-run positive and significant relationship exists between exports and growth from one hand and imports and growth from the other. According to his results, the author suggests a healthy sustainable relationship between export growth and import growth in South Africa over the period of the study. Using Unbalanced panel OLS, FE, and system GMM, the study of Busse and Königer (2012) suggests that trade is effective in fostering economic growth in 108 countries (of which 87 are developing countries) covering the period 1971-2005. The same results hold true for both exports and imports separately.

In contrast, a negative and significant effect of trade openness on economic growth is detected in other studies concluding different results according to the country of interest. For example, Owolabi Akeem (2011), applying on Nigeria over the period (1970-2005), concluded that export, import, and economic openness are negatively related to real GDP. Additionally, applying to 10 SADC Countries for the period (1992 - 2015), the marginal effects of exports are positive, while those of imports are negative and highly significant.

Aiming to detect the Granger causality between exports, imports, international trade, and economic growth, Bhattacharya and Bhattacharya (2016) indicated that exports and imports Granger cause economic growth in the long run, while short-run bidirectional causality is observed between exports and economic growth only.

Negem (2008) runs Simultaneous equation for the period 1970-2006 to investigate the effect of imports and exports on growth in Egypt separately, and the results support the validity of exports led growth hypothesis with a positive and significant effect of exports on economic growth. However, a negative and significant effect of imports on economic growth is detected. Furthermore, the results of Granger causality support a Unidirectional causality directed from exports to economic growth in both the long run and short run. In addition, both imports and human capital Granger cause economic growth in Egypt. Bushra Kheir (2018) and El Feki and Ali (2020) indicate almost the same results as Negem (2008) in Egypt over the period from 1980-2015 for the former and from 1966 to 2018 to the latter. Bushra Kheir (2018) concluded that trade openness promotes economic growth in both the short run and long run. In addition,

Exports led growth positively in the long run, while imports affect growth negatively in the long run. However, the results of El Feki and Ali (2020) indicate a positively significant effect of exports on economic growth, but negatively insignificant effect of imports on economic growth. In addition, bidirectional causality between economic growth and trade exists. On the other hand, using ARDL method of estimation in Egypt for the period (1974-2021), Elakkad and Hussein (2023) evident different results. Real imports are significant with a positive and small impact on GDP growth rate whether in the long run or in the short run. This result can be interpreted easily knowing that more than 60% of the import structure in Egypt are manufacturing inputs and raw materials, which are used in production.

Finally, some papers aim to study the impact of trade in goods and trade in services separately on economic growth to compare the effect of each on growth and investigate which one is more efficient in different circumstances. Mattoo, et al. (2001) used Panel data of 60 countries worldwide for the period 1990-1999 to achieve their objectives. The applied econometric model suggests that openness in services affects the long-run growth significantly and positively. In addition, countries with fully open in financial and telecommunication sectors grow 1.5% point faster than other countries. Trade in goods also affects economic growth positively. Moreover, the authors repeat the estimation with a sample of 37 developing countries and conclude that trade in services in developing countries has more marginal effect on economic growth than other countries.

More evidence for supporting the positive effect of services on growth, Maune (2019) indicated that the effect of Service exports of 10 SADC Countries on growth are threefold that of service imports and greater than goods exports. Furthermore, using FMOLS, Sandri, et al. (2016) indicate that trade in goods has a negative effect on GDP in Jordan for the period (1980-2014), whereas trade in services positively affects economic performance for the same period.

Applying different panel estimations (FE and RE and Arellano–Bond dynamic panel), Karam and Zaki (2015) studied the effect of trade in goods and services sectors on economic growth of 21 MENA countries (1960–2011). The result shows a positive association between real GDP and both service and goods trade,

whereas the effect of service trade on real GDP is smaller than the effect of good trade on growth. However, country regression reveals contradicting results. Results for Egypt suggest a negative effect of good trade on growth (-0.313), while positive and stronger effect of service trade on growth (0.806) is detected.

Very limited papers in Egypt focus on trade in services. Mansour and Hassan (2021), applying on Egypt and Saudi Arabia for the period (1970-2018), suggested that financial and external liberalization policies in both countries do not have a significant long-run effect on economic growth. In addition, there is no causality effect runs from trade to economic growth in both countries.

To sum up, while the previous studies contribute considerably to knowledge in the area of the effect of trade openness on economic growth, there is limited coverage of the literature on some aspects. Egypt is not considered adequately as a focus area of the relationship between growth and trade in general. Second, the impact of trade in goods versus trade in services on economic growth is rarely examined, especially in Egypt. Therefore, the objective of this study is to fill this gap by focus on the effect of trade in goods versus trade in services on growth in Egypt over the period (1995-2022).

3. DESCRIPTIVE ANALYSIS

In this section, the position of trade in Egypt relative to trade in Arab countries and MENA countries is investigated first, then trade in Egypt is analyzed deeply, comparing between trade in goods and trade in services through the period of the study (1995-2022). Finally, digging into detailed trade in goods and services are needed to determine the most dominant goods and services for the trade in Egypt and their growth over time. This will be highly beneficial for policy recommendations.

3.1 TRADE IN EGYPT IN COMPARISON TO ARAB COUNTRIES AND MENA COUNTRIES (1995-2022)

Although the accession of Egypt in the General Agreement on Tariffs and Trade (GATT) since 1970, and the accession in the General Agreement on Trade in Services (GATS) since 2000, trade in Egypt as a contribution of GDP still less

than average trade (%GDP) in Arab countries and MENA region, as illustrated in Figure (1).

It seems clear that Egypt's trade has the lowest contribution in GDP compared to either Arab countries or MENA countries over time. Moreover, the gap between the trade contribution to GDP in Egypt and others is increasing from the second half of the nineteenth onwards and especially in the period from 2011 to 2021 to record the lowest percentage in the period of the study, accounting for less than 40% of GDP compared to 77% for MENA and 82% for Arab countries for the same period (WB, WDI, 2023).

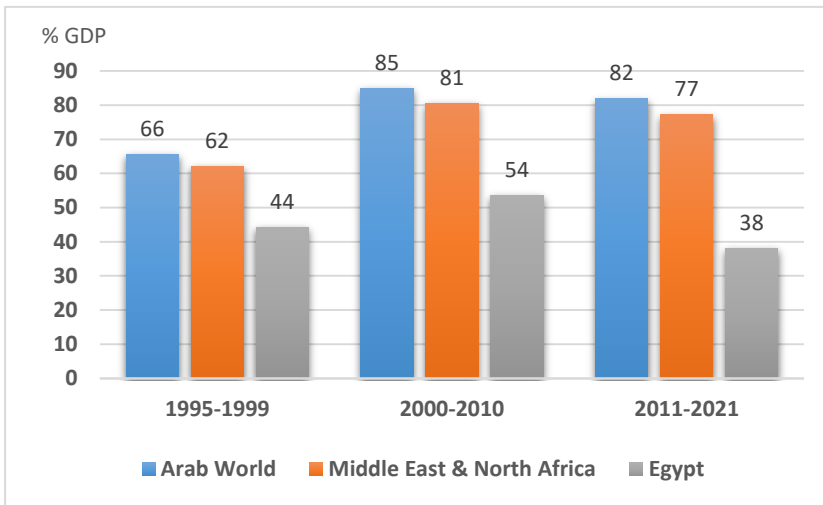


Figure 1: Trade (% of GDP) in Goods and Services (1995-2021)

*Data about trade (%GDP) for Arab countries is not available for 2022.

Source of data: World Bank (WB), World Development Indicators (WDI), 2023.

Accordingly, it is useful to analyze trade in Egypt in details, separating trade in goods and trade in services to determine the main responsible for that diminishing contribution to trade relative to other corresponding regions. As illustrated from Figure (2) and Figure (3), the contribution of goods in trade (%GDP) is more than the contribution of trade in services (%GDP) in absolute term, either in Egypt or in other countries. However, the share of goods' trade in Egypt, accounting for 24% over the period (1995-1999), 31% over the period

(2000-2010), and 25% over the period (2011-2021), is much less than the corresponding share for others.

On the contrary, trade in services' contribution to GDP in Egypt is higher than other corresponding contribution in Arab or MENA regions on average in the first and second period (1995-2010), Accounting for 20% and 22% respectively. The latter result indicates that Egypt has relative advantage in trade in services relative to Arab and MENA countries on average. However, service share in Egypt decreased significantly in the last decade (2011-2021) -accounting for only 12.5% of GDP- to be for the first time lower than the contribution of Arab (15%) and MENA region (17%) for the same period. This outcome returns in part to the strongly fall in tourist revenue because of 2011 revolution and the associated political instability in Egypt. To sum up, the low contribution of trade in Egypt (%GDP) relative to others in Arab and MENA region on average is because of the small role of trade in goods in Egypt. Moreover, trade in services decreases significantly relative to others in the last decade (2011-2021).

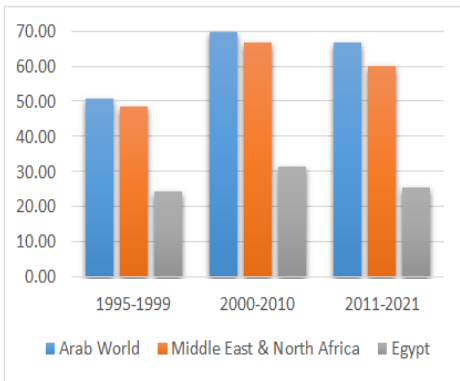


Figure 2: Trade in Goods (%GDP)

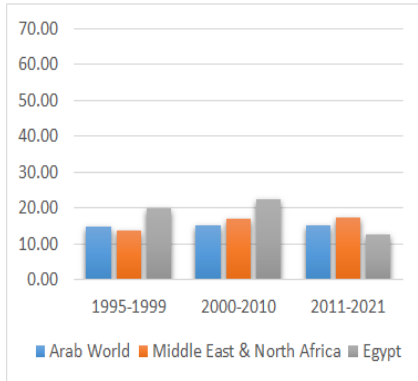


Figure 3: Trade in Services (%GDP)

Source of data: World Bank (WB), World Development Indicators (WDI), 2023.

3.2 TRADE IN GOODS VERSUS TRADE IN SERVICES IN EGYPT

In this part, comparing the growth of trade in goods and trade in services will be discussed and analyzed over the period of the study (1995-2022) as illustrated in Figure (4) and Figure (5). Furthermore, the components of each of them will be investigated; the exports and imports of each type of trade and the balance of

trade in goods and services will be displayed over the period of the study to determine the contribution of each good or service to the economy.

As in most countries worldwide, trade in goods in Egypt as in absolute values is always more than trade in services throughout the period of the study. However, the gap between them was small (less than 5 billion dollars) and stable up to the year 2005. From 2006, the gap begins to increase for favor to goods as illustrated in Figure 4.

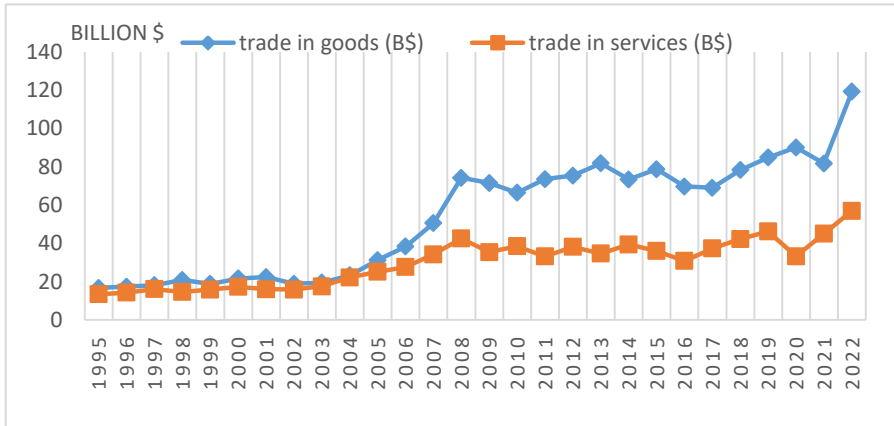


Figure 4: The Value of Trade in Goods and Services (B\$) in Egypt (1995-2022)

Source of data: World Bank (WB), World Development Indicators (WDI), 2023.

While the annual growth rate of trade in goods and trade in services was the same over the period from 1995 to 2005, counted for 5.83% for goods and 5.85% for services, annual growth rate of trade in goods (7.36%) turned to be much more than its counterpart in services (4.61%) over the period (2006-2022). Moreover, trade in services is more fragile and it is affected more and quicker by any negative events or disaster than trade in goods, which makes it risky and dangerous to depend only on trade in services.

The evolution of trade in Egypt indicated years of negative and positive growth's rates as illustrated in Figure 5. The most negative growth rate was in 2020 account for 28% decrease in trade in services. Egypt has been strongly impacted by the COVID-19 pandemic. International travel restrictions were already diminishing tourism to Egypt. The tourism sector had been greatly affected by the COVID-19 pandemic and came to a standstill at the beginning of the

outbreak. Moreover, the global slowdown strongly reduced payments received from the Suez Canal and remittances from Egyptians working abroad. This was followed by a 9% decrease in trade in goods because of the decrease in the world's demand for all goods and services.



Figure 5: The Growth Rate (%) of Trade in Goods and Services in Egypt (1995-2022)

Source of data: World Bank (WB), World Development Indicators (WDI), 2023.

The second significant downturn was in 2009 after the global financial crises of 2008, with -17% growth rate of trade in services, followed by 7% decrease in trade in goods in the following year (2010). Then a decrease of 14% of trade in services in 2011 because of the revolution of 25th of January in Egypt and the following instability in the country. This was accompanied by just a 2% growth in trade of goods in 2012.

Another strong downturn in trade in both services (14%) and goods (11%) simultaneously was in 2016 because of the prolonged period of low oil prices, so export revenues have been hit by low oil prices, driven by a significant drop in petroleum exports. In addition, the devaluation of the Egyptian pound reduced the revenue of trade reflecting inelastic demand for trade in Egypt.

Moreover, a 9% decrease in trade of services in 1998 was because of a contraction in tourism and travel due to the Luxor accident in 1997. Finally, the Egyptian economy had a very difficult year in 2001/2002 with external problems that affected the entire economy being triggered by the 11 September attacks. The drop in revenues from tourism, oil and the Suez Canal, as well as the world

economic slowdown and the region’s security problems, reduced growth in services by 7% in 2001, followed by 1% in 2002 and reduce growth in goods’ trade by 15% in 2002.

Looking at trade as a percentage of GDP is helpful in evaluating trade with respect to the Egyptian economy as illustrated in Figure (6).

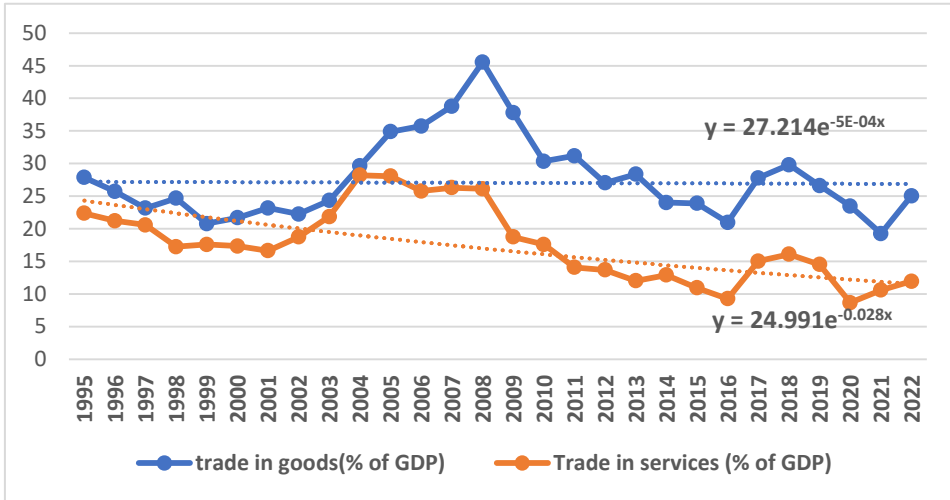


Figure 6: Growth of Trade (%GDP) in Egypt (1995-2022)

Source of data: World Bank (WB), World Development Indicators (WDI), 2023.

It is noted that trade fluctuated over time. For trade in goods, it reached its hover in 2008, accounting for 46% of GDP, then begin to decrease gradually up to the end of the study, reaching only 19% in 2021, then increases to 25% in 2022. The same trend was applied for trade in services for different years, the service share begins with 22% of GDP in 1995, increased gradually to reach its highest of 28% in 2004, then decreases continuously to reach its lowest level of only 9% in 2021, then increases slightly to 12% in 2022. Overall, both goods and services share of trade to GDP decreases over the period of the study, but the decrease in services was more severe, registered decreasing annual growth rate of 0.05% for goods and 2.8% for services.

Interesting information can arise from decompose the values of trade into exports and imports of goods and services, therefore identifying the trade balance and service balance in Egypt throughout the period of the study.

First, trade in goods is decomposed into imports and exports, and the balance of goods is represented, then exports and imports of different commodities are investigated. Finally, trade in services will be analyzed in the same way as follows.

3.2.1 TRADE IN GOODS

Figure (7) illustrates the evolution of exports and imports of goods and the deficit in the balance of goods over the period of the study.

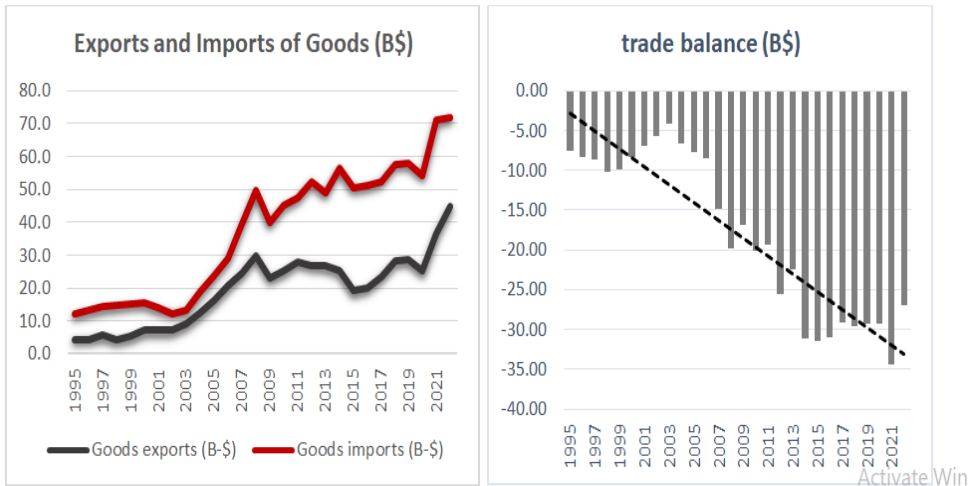


Figure 7: Exports and Imports of Goods and Trade Balance of Goods (1995-2022)

Source of data: World Bank (WB), World Development Indicators (WDI), 2023.

It seems very clear from Figure (7) that chronic deficit exists for all the study years without any exception, which means that imports of goods are always more than exports of goods in Egypt. Moreover, the rate of growth in imports exceeded the growth rate of exports, consequently, the deficit mainly increases over time, reaching its lowest in 2003 (\$4billion) and its highest in 2021 with almost \$35 billion. In addition, it has been found that the trade deficit is more closely related to the changes in the value of imports (with a high correlation rate of 0.94), while it is 0.78 in the case of exports. The latter conclusion reflects the need for controlling the Egyptian imports to decline the trade deficit of goods. Furthermore, as indicated by (Ezzat, 2018), the continuous increase in trade deficit could be caused in part by the increase in exchange rate or the

depreciation of the Egyptian pound over the period of the study since our exports and imports are price inelastic, therefore, the devaluation of the Egyptian pound could decrease the exports revenue and increase the imports revenue leading to increase the trade balance deficit.

Five products construct more than 65% of trade value in 2019¹, mainly mineral products, machines, vegetable products, chemical product, and metals, while all other products construct 35% of trade share of goods in Egypt for the same year as illustrated in the appendix -Table (A2). On the other hand, the trade of 4 products, mainly Weapons, arts and antiques, animal hides, and footwears and headwear construct together less than 1% of total trade in goods in 2019. Over time, the absolute value of trade increases for all goods, except for trade in weapons decreases from 215 million to 90 million dollars to decrease its share from 0.8% to only 0.1% to have the lowest share in 2019 (OEC, 2023).

For more investigation, exports and imports of each product are analyzed to determine the contribution of each good to the economy. Most export revenues in 2019 are led by Crude Petroleum (\$4.15B), Refined Petroleum (\$2.96B), Gold (\$2.07B), Petroleum Gas (\$1.79B), and Nitrogenous Fertilizers (\$1.51B), representing 11.25%, 8.03%, 5.61%, 4.85%, and 4.09% of total exports respectively. However, the most imports are led by Refined Petroleum (\$6.19B), wheat (\$5.33B), Crude Petroleum (\$2.64B), cars (\$2.24B), and Broadcasting Equipment (\$2.11B), representing 7.3%, 6.29%, 3.12, 2.64%, and 2.49% of total imports respectively for the same year (Ibid, 2023).

¹ Year 2019 is chosen for comparison purpose because it is before the corona virus.

Talking about all the picture as illustrated in Figure (8), all products achieve trade deficit - especially machines, vegetable products, and metals - except for three products: precious metals (especially Gold), stone and glass (especially Glass Fibers), and arts and antiques respectively (Ibid, 2023).

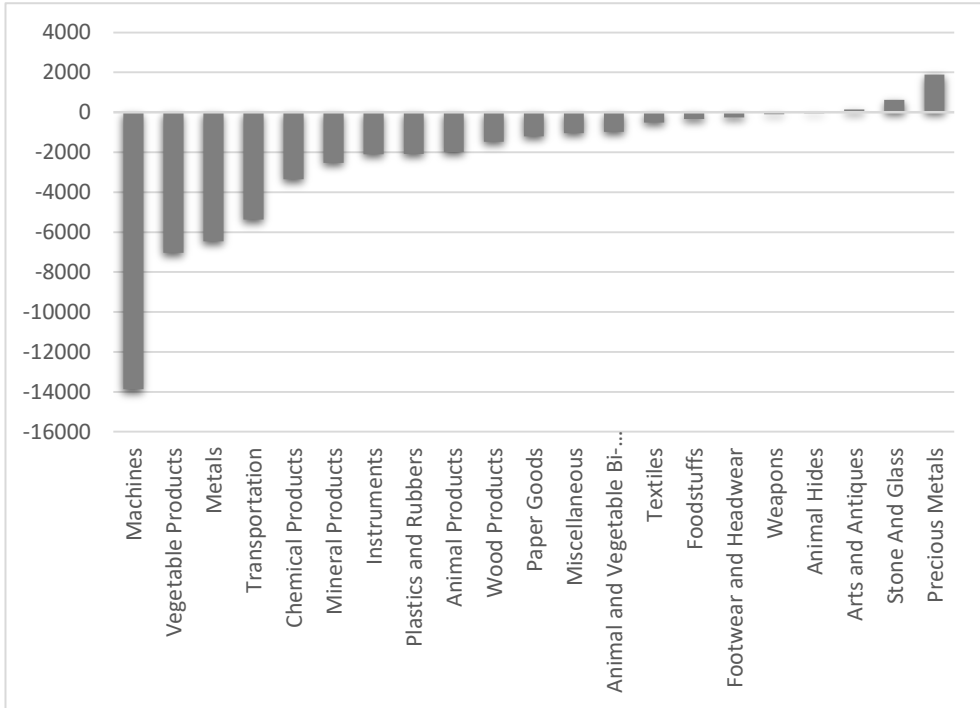


Figure 8: Trade Balance of Goods (M\$) in Egypt in 2019

Source of data: The Observatory of Economic Complexity (OEC), 2023.

Although such a deficit in trade balance -occurred because of increasing imports above exports- most of the imports are capital goods, so they are essential for production and exports. More recent evidence assures that result. In 2022, intermediate goods represented 38% of total imports, in addition to 14.6% of total imports as Petroleum oils and gas and other gaseous hydrocarbons. Nondurable consumption goods construct 17.6% of total imports, 10.7% of them are essential goods such as wheat, meslin, corn, and soybeans, as well as Medicaments (trend economy, 2024). Therefore, it is crucial to reduce the value of imports, except for the consumption import.

3.2.2 TRADE IN SERVICES

Trade in services - especially travel and transportation - is not a new phenomenon, it is always an essential economic activity. Trade in services involves not only long-distance services, but also the temporary physical movement of the producer (such as international consultants) or consumer movements (such as tourism across borders) as illustrated in Table (1).

Table 1: Types of Trade in Services

	Consumer does not move	Consumer moves
Producer does not move	long-distance services, such as transborder data flows.	Tourism, education, and health services.
Producer moves	the international movement of conventional factors of production (capital or labor). Such as Foreign direct investment and the temporary movement of labor.	for example, a tourist going to a hotel run by a transnational corporation in a third country.

Source: Hoekman, 1998

Trade in services also includes transport, travel, and other private services. The latter category covers brokerage, communication, non-merchandise insurance, leasing and rental of equipment, technical and professional services; mainly: royalties and license fees related to intellectual property (Hoekman, 1998).

Figure (9) illustrates the growth of exports and imports of services in Egypt over the period of the study and the trade balance of services. Contrary to the case of goods, the service balance achieves surplus for all years, except for three years 2016, 2020, and 2021 because of the devaluation of Egyptian pound, and corona epidemic respectively. On average the surplus in service balance increases gradually up to 2010 to reach its highest value with \$9 billion, then begin to decrease with high fluctuation from year to year up to the end of the study.

To sum up, whereas the goods' balance registered deficit for all years, service's balance mainly achieves surplus for all years with some exceptions. However, the service' surplus tends to decrease from 2010 with unstable trend up to the end of the study. Service balance covers almost 47% of deficit in goods balance on average of the period from 1995 to 2010, however this ratio begins to decrease

dramatically from 2011 onward to register less than 9% of goods' deficit on average of the period from 2011 to 2022.

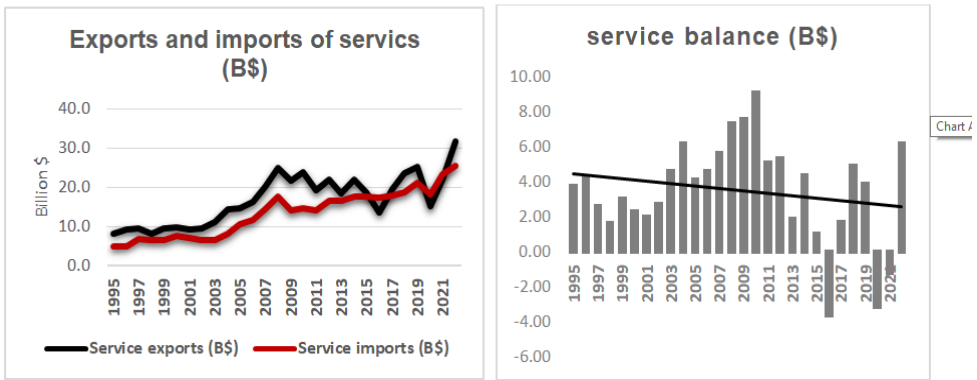


Figure 9: Exports and Imports of Services and Trade Balance of Services (1995-2022)

Source of data: World Bank (WB), World Development Indicators (WDI), 2023.

About the most important services in Egypt, Table (A3) in the Appendix illustrates trade value for each category in addition to the share of this category to total trade in services in two years 2000 and 2019. Transportation and travel together construct almost 73% in 2019, decreases to 58% of total trade in services in 2000. Trade of services not allocated, government services, and Royalties and license fees share decreases over time, while the share of other business services, insurance services, Computer, communications, and information services, and finally Construction services increase over time. Finally, Royalties and license fees are the least trade value among others, accounting for almost 0.6% of total trade in services in 2019 (295 million dollars).

For more investigation, exports and imports of each category are illustrated in Table (2) to determine each category's surplus or deficit.

It is very clear that travel and transportation are the most important categories in service in 2019. However, trade in transportation - which exceeds 17 billion dollars - is the highest trade in services' value, travel has much more exports values than imports, therefore, it obtained the highest surplus in the service balance among others, account for 9.5 billion dollars. On the other hand,

transportation services achieve deficits of 48 million dollars in 2019 as illustrated in Figure (10).

Table 2: Trade in Services (B\$) by Category in 2019

Parent Service	service exports	service imports	service surplus	trade in service values
Travel	13.03	3.52	9.51	16.55
Transportation	8.50	8.55	-0.05	17.06
Computer and information services	0.84	0.68	0.16	1.52
Government services	0.80	0.78	0.02	1.58
Other business services	0.68	4.58	-3.90	5.27
Construction services	0.58	0.41	0.17	0.99
Insurance services	0.33	2.24	-1.92	2.57
Financial services	0.16	0.00	0.16	0.16
Personal, cultural, and recreational services	0.13	0.11	0.02	0.25
Royalties and license fees	0.001	0.29	-0.29	0.30

Source of data: The Observatory of Economic Complexity (OEC), 2023.

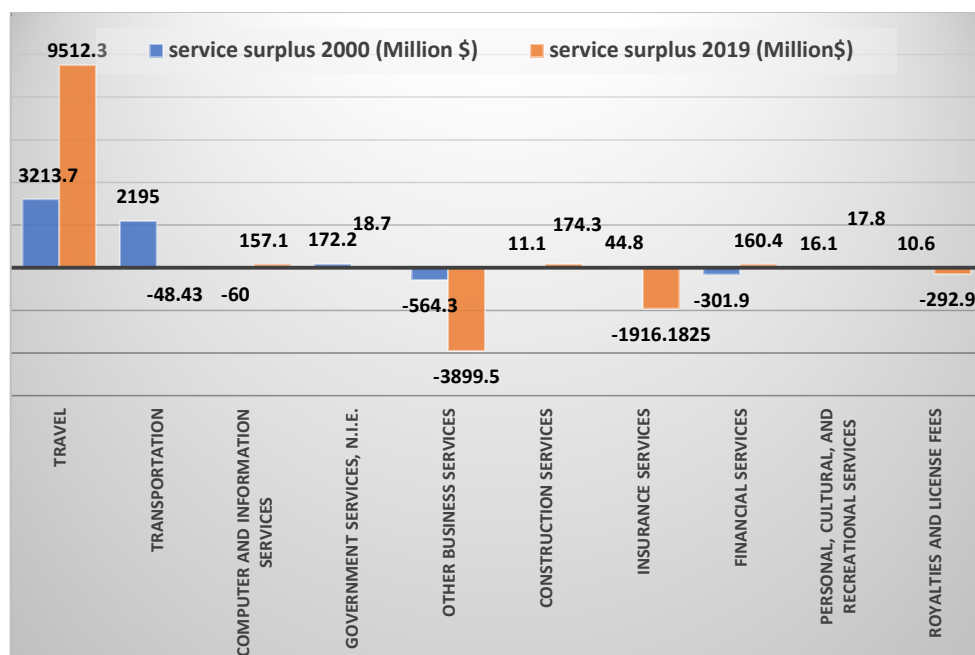


Figure 10: service balance by category (2000, 2019)

Source of data: The Observatory of Economic Complexity (OEC), 2023.

Moreover, two categories of services – computer and information service and financial services turn their balance from deficit to surplus from 2000 to 2019, which refers to the successful production strategy in these services over time. The opposite occurs in transportation, insurance services, and royalties and license fees, more attention to these services is needed. Travel, construction, and personal, cultural, and recreational services achieve increasing surplus over time, while government services achieve decreasing surplus over time.

4. MODEL SPECIFICATION

To examine the effect of trade in goods and services on economic growth in Egypt, the empirical model is based on a neoclassical growth model, where output is determined by physical capital, labor force, and technology. The new classical growth model was originally developed by Solow (1956) and further extended by Mankiw, et al. (1992).

Whereas most contributions of the new theories of growth focused on the physical capital and labor, and the role of increasing returns on the growth (Romer 1986, 1988, 1989), the main objective of this study is the effect of trade on the economic growth mainly through its effect on the technological progress in Egypt. Therefore, the main interest is on the determinants of ‘A’ through time. Following Edwards (1992), we assume that accumulated knowledge ‘A’ consists of two sources. The first is domestic technological progress, and the second is foreign inventions which can be transferred from more developed countries through trade. Therefore, trade can affect long-run equilibrium growth, and ‘A’ can be presented in period t as follows.

$$A_t = \alpha + \gamma TR_t$$

where TR is total trade in Egypt. By substituting for ‘A’ in the new classical growth model, the growth equation in Egypt will be presented in Equation (1). Furthermore, the impact of trade on growth is mostly affected by inflation rate and exchange rate, so these two variables would be added to the growth model in Equation (1). Moreover, the effect of exports and imports separately on growth will be examined in Equation (2). Lastly, trade will be subdivided into two variables; trade in goods and trade in services to determine and compare the

effect of trade in goods and trade in services on growth in Egypt over the period of the study in Equation (3).

$$GDPG_t = \alpha + \gamma TR_t + \beta_1 EXCH_t + \beta_2 INF_t + \beta_3 EM_t + \beta_4 GCF_t + u_t \dots \dots \dots (1)$$

$$GDPG_t = \alpha + \gamma_1 EXP_t + \gamma_2 IMP_t + \beta_1 EXCH_t + \beta_2 INF_t + \beta_3 EM_t + \beta_4 GCF_t + u_t \dots \dots (2)$$

$$GDPG_t = \alpha + \theta_1 TRG_t + \theta_2 TRS_t + \beta_1 EXCH_t + \beta_2 INF_t + \beta_3 EM_t + \beta_4 GCF_t + u_t \dots \dots (3)$$

From the above discussion, three models are estimated in this paper, as represented in Equations 1, 2, and 3. where t refers to the time series dimension of the data from 1995-2022, GDPG is the growth of gross domestic product for Egypt, GCF is the gross capital formation (\$Billion), EM is the number of labors as a percentage of labor force, TR is the trade (exports + imports/GDP), EXP is the total exports as a percentage of GDP, IMP is the total imports as a percentage of GDP, TRG is the trade in goods as a percentage of GDP, TRS is a trade in services as a percentage of GDP, EXCH is the exchange rate (Egyptian pound units relative to the U.S. dollar), INF is the inflation rate measured by the consumer price index (CPI), and finally u_t is an error term. $\alpha, \gamma, \gamma_1, \gamma_2, \theta_1, \theta_2, \beta_1, \beta_2, \beta_3, \beta_4$ are the parameters to be estimated, and according to the theory, it is expected that: $\gamma > 0, \gamma_1 > 0, \gamma_2 < 0, \theta_1 > 0, \theta_2 > 0, \beta_1 < 0, \beta_2 < 0, \beta_3 > 0, \beta_4 > 0$. Data for all the variables are collected from the world development indicators of the world bank 2023. Time series data for Egypt is utilized from 1995 up to 2022. 1995 is chosen as the beginning of our dataset since the creation of the General Agreement on Trade in Services (GATS) was in 1995, which is the first multilateral trade agreement to cover trade in services worldwide.

5. METHODOLOGY

Until the beginning of the 1990s, static regression dominated literature. It assumed that all the variables in the model are stationary. It has been indicated from the literature that the macroeconomic data are mostly non-stationary; therefore, the OLS estimator does not produce reliable estimates and the regression tends to be spurious. Differenced variables in the model are used to get rid of this problem and obtain stationary variables, but the estimated

coefficients are short-run relations, and the long-run relations are lost (Nosier, 2018).

The co-integration approach is appealing since it retains the long-run relations and gets consistent coefficients in the long run (Stock, 1987). Moreover, the associated Error correction model (ECM) estimates the short-run dynamics relations; in addition, the speed of adjustment toward the long-run equilibrium can be estimated. However, there are integration and co-integration tests that the model must overcome to apply this approach. The Augmented Dickey-Fuller (ADF) test (Dickey & Fuller, 1979) is used first to examine the stationarity status of the variables in the different models. Then, Johansen's (1988) maximum likelihood (JML) procedure, developed within the Vector Autoregressive (VAR) modelling framework, can be used to test the existence of cointegration relationship between the variables. If such an equilibrium relationship exists, VECM can be utilized to estimate the long-run coefficients effect of trade on economic growth in Egypt in the first model, the effect of both exports and imports on economic growth in the second model, and finally the effect of trade in goods and trade in services on the economic growth in the third model.

Modelling the economic growth in a system approach, using the VECM method, reflects the important interrelationships among variables and reduces the risk of endogeneity bias. This approach has been chosen in this study since each growth model has many variables, so there is a possibility of having more than one co-integrating vector among these variables. Therefore, we can obtain estimates of all the possible co-integrating vectors. Moreover, this approach treats each variable in the system as possibly endogenous, so there is no endogeneity bias in the case of including endogenous regressors. In addition, this methodology minimizes the problem of multicollinearity, since the regressors in the VECM are frequently almost orthogonal (Zhou et al., 2007).

6. EMPIRICAL RESULTS

6.1 UNIT ROOT RESULTS

The ADF unit root test is performed, and the results are reported in Table (3). At the 5% level of significance, the results indicate that INF and GCF are found to be stationary variables, $I(0)$ with constant, while the rest of the variables in the model are non-stationary in levels, but stationary in first differences, $I(1)$ variables, according to the appropriate specification of each series.

Although Rahbek and Mosconi (1999) show that $I(0)$ series in Johansen can lead to nuisance parameters in the asymptotic distribution of the trace tests for the co-integration rank, Harris (1995) indicated that it is quite common to test for the presence of co-integration using JML approach even if the integration status of the series in the model is mixed because unit root tests are often suffer from size distortion and statistical power problems. Moreover, Enders (2004) noted technically that the Johansen's co-integration test can be used to handle variables with mixed integration order. In addition, Cheung and Hung (1998) discussed that Johansen's co-integration test is nothing more than a multivariate generalization of the ADF unit root tests. Hence, as long as the variables are co-integrated, the order of integration for individual variables is less worrying (Nosier, 2013).

Therefore, the co-integration relationship between the variables can be examined using the JML co-integration approach over the period from 1995 to 2022 in Egypt.

Table 3: Unit Root Tests According to the Appropriate Deterministic Trend

Variables	levels		First difference		Integration Degree
	Trend Specification	ADF	Trend Specification	ADF	
GDPG	Constant	-2.438 (0.141)	none	-4.462 (0.000)	I(1)
TR	Constant	-2.066 (0.259)	none	-3.679 (0.001)	I(1)
EXP	Constant	-1.276 (0.626)	none	-3.669 (0.001)	I(1)
IMP	Constant	-2.397 (0.152)	none	-3.952 (0.000)	I(1)
TRG	Constant	-1.682 (0.429)	none	-4.498 (0.000)	I(1)
TRS	Constant	-1.269 (0.629)	none	-4.253 (0.000)	I(1)
EXCH	Constant	0.426 (0.980)	none	-3.336 (0.002)	I(1)
INF	Constant	-3.021 (0.046)	-	-	I(0)
EM	Constant	-2.952 (0.054)	none	-3.708 (0.001)	I(1)
GCF	Constant	-3.601 (0.050)	-	-	I(0)

Source: Author’s own calculations using EViews.

6.2 JOHANSEN COINTEGRATION TESTS

According to the economic theory, both labor and capital are exogenous variables for the growth of output, therefore, for all models: economic growth, trade, inflation, and exchange rate are endogenous variables and adjusted to the long-run equilibrium.

The results of the Johansen co-integration test are reported in Table (4). Using Schwarz information criteria (SC), an optimal lag equal to one has been chosen in the VECM. By allowing for just intercept in the co-integrating equation and no linear trend in the data (deterministic trend case 2), the maximum eigenvalue statistic can reject the null hypothesis of no co-integration against the alternative of there being at most 1 co-integrating relation among the different series at the 5% level of significance. Therefore, the series of each model are co-integrated at

the 5% level of significance, and the error term does not have such a trend, and so it will not get too large, and the series will not diverge from each other. Consequently, we can proceed with estimating the long-run equilibrium relationship among the variables in these models.

Table 4: Co-integration tests, deterministic component case 2

No. of CE(s)	Model (1)			Model (2)			Model (3)		
	Max-Eigen Statistic	5% Critical Value	Prob.	Max-Eigen Statistic	5% Critical Value	Prob.	Max-Eigen Statistic	5% Critical Value	Prob.
None *	38.750	27.584	0.001	52.546	34.806	0.000	81.449	76.973	0.022
At most 1	18.003	21.132	0.130	28.222	28.588	0.056	47.298	54.079	0.175
At most 2	9.766	14.265	0.228	20.126	22.300	0.098	16.971	35.193	0.887
At most 3	7.062	3.841	0.008	11.377	15.892	0.225	6.841	20.262	0.907

Source: Author’s own calculations using EViews.

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level.

* Denotes rejection of the hypothesis at the 0.05 level.

6.3 VECM RESULTS

6.3.1 ESTIMATING THE LONG-RUN EQUILIBRIUM RELATIONSHIP

To identify the long-run relationship between the variables, we had to impose just one restriction to the system (equivalent to the number of co-integration relations between the variables in each model): we normalize on economic growth in the three models as illustrated in Table (5).

The error correction term (φ) is significantly different from zero and has the correct negative sign at the 1% level of significance in the three models, so economic growth of Egypt, trade, inflation, and exchange rate are co-integrated, and a long-run relationship exists between them. On average of the three models, almost 60% of the disequilibrium in the short run will be corrected in a year, so a long-run equilibrium will exist after less than 2 years. In addition, most of the variables in the three models are significant at the 5% level of significance, mostly with the expected signs.

The increase in physical capital formation boosts the economy in all models at the 5% level of significance; a 1 billion dollar increase in gross capital formation

induces growth in Egypt by 0.12% - on average - in all models. Physical capital formation increases production and creates more employment opportunities. Furthermore, it leads to technical progress, which helps in achieving economies of large-scale production, increases specialization and provides machines and equipment for the growing labor force. Therefore, it leads to the expansion of the market; consequently, foster the economy (Nosier & El-Karamani, 2018). Employment is another important variable in pushing the growth of output positively; an increase in the number of labors as a percentage of labor force by one worker tends to increase the economic growth by 0.41% - on average in all models- at the 5% level of significance.

Table 5: A Co-integrating relation between variables in the three models (1995-2022)

Variable GDPG is the dependent var.	Model (1) (trade)	Model (2) (imp & exp)	Model (3) (G&S)
φ	-0.634*** [-4.240]	-0.315*** [-3.813]	-0.835*** [-3.379]
TR	0.112*** [3.246]	NA	NA
TRG	NA	NA	-0.221*** [-3.771]
TRS	NA	NA	0.342*** [5.238]
EXP	NA	0.595** [2.564]	NA
IMP	NA	-0.583 [-1.529]	NA
INF	-0.447*** [-5.090]	-0.619*** [-3.322]	-0.132** [-2.751]
EXCH	-0.304** [-2.279]	-0.482* [-2.094]	-0.396*** [-6.173]
EM	0.382** [2.601]	0.272*** [3.751]	0.568*** [3.398]
GCF (Billion \$)	0.104*** [3.673]	0.089*** [3.320]	0.160** [2.912]
intercept	-38.988** [-2.82600]	-73.166*** [-3.92]	-60.656*** [-8.146]

Source: Author's own calculations using EViews.

Both inflation and exchange rates have significantly negative effects on economic growth at all models, which is consistent with the economic theory. An increase of one percentage point in the annual inflation rate is associated with a decline by 0.40 % -on average- in the annual growth rate of GDP *citrus paribus*. A rise in inflation tends to increase the demand for money, which causes an increase in interest rate, and therefore, shrinks the economy through reducing investment and consumption; consequently, decreases economic growth. Moreover, as a result of higher inflation, domestic goods will be more expensive than foreign goods, thus declining the exports and boosting imports, which lead to a fall in economic growth. Moreover, as indicated by Romer (1990), inflation negatively affects investors because of money illusion and increases the uncertainty and therefore discourages long-term investment and therefore growth.

In addition, an increase in the exchange rate, which means a devaluation of the Egyptian pound of 1 point per year relative to the U.S. dollar, is estimated to lower the growth rate of real GDP by 0.30 -0.48% annually on average in the three models *citrus paribus*. It has been found in the empirical literature that the possible effects of devaluation on output could be contractionary. Diaz-Alejandro (1965) examined the impacts of devaluation on some macroeconomic variables in Argentina for the period 1955 – 1961 and indicated that devaluation was contractionary for Argentina because it induces a shift in income distribution towards savers, which in turn depresses consumption and real absorption, and accordingly output's growth (Akpan & Atan, 2011). Furthermore, devaluation of Egyptian pound almost pushes the price upwards, consequently, the government may have to raise interest rates to control inflation, consequently, the slower economic growth exists.

An increase in trade of 1% of GDP tends to increase economic growth by 0.11% *citrus paribus*. Total trade maximizes the benefits from competition and innovation, comparative advantage, transferring technology, creating employment, and utilizing scarce resources effectively, therefore fostering economic growth significantly (Nosier, 2018).

For more details about the effect of trade on growth of output in Egypt, trade is decomposed into exports and imports in the second model, and into trade in

goods and trade in services in the third model. In the second model, as expected by the expenditure approach of GDP, exports have a significantly positive effect on growth, while imports are associated with a reduction in output. The main benefit of exports are the positive externalities from greater competition in world markets and consequently greater efficiency in resource allocation, economies of scale, and technological spillovers (Negem, 2008). An increase in exports of 1% of GDP boosts economic growth by 0.60%, other factors being constant. However, an increase in imports of 1% of GDP reduces output growth by 0.58% but it has insignificant effect.

Focusing on the comparison between trade in goods and services, model 3 illustrates the highly importance of trade in services in Egypt relative to trade in goods. A 1% of GDP increase in trade in services pushes economic growth by 0.34%. On the contrary, a 1% of GDP increase in trade in goods hinders growth by 0.22%, which interpret the small effect of total trade on growth in Egypt (0.112 % of GDP). Egypt has a comparative advantage in trade in services, since the main sources of foreign currency which are extremely important to Egypt nowadays are remittance, tourism, and Suez Canal transportation (all of them are services). Moreover, the trade of services in Egypt has surplus balance in all study period except 3 years, while the trade of goods balance always has a deficit for all the study period as illustrated in Section 3.

6.3.2 DIAGNOSTIC TESTS

The models perform reasonably as illustrated in Table (6). 53% to 59% of the change in growth of output can be explained by the change in labor, capital, trade, inflation, and exchange rate jointly. The diagnostic tests indicate no statistical problem in all the models; there is no serial correlation, and no sign of heteroscedasticity in the residuals.

Table 6: Diagnostic tests

Variable GDPG is the dependent var.	Model (1) (trade)	Model (2) (imp & exp)	Model (3) (G&S)
R ²	0.553	0.589	0.529
Adjusted R ²	0.380	0.429	0.335
AIC	3.427	3.298	3.273
VEC Residual Serial Correlation LM Tests			
Rao F-stat-lag 1	1.108 (0.385)	0.986 (0.512)	1.189 (0.314)
Rao F-stat-lag 2	0.834 (0.642)	1.290 (0.257)	1.245 (0.271)
VEC Residual Heteroskedasticity Tests (Levels and Squares)			
Chi-sq	147.754 (0.310)	247.179 (0.361)	245.663 (0.387)

Source: Author's own calculations using EViews.

7. CONCLUSION, POLICY IMPLICATIONS AND FUTURE WORK

The paper aims to investigate the role of trade in goods versus trade in services in supporting economic growth in Egypt for the period 1995-2022 using the VECM co-integration approach. Depending on the following conclusions, a few recommendations could be useful for policy makers in Egypt.

- The role of trade in Egypt (%GDP) declined over the period of the study; the reduction in trade in service was in part responsible for this drawback since the decrease in trade in services over the period of the study was more severe, with a decreasing annual growth rate of 2.8% versus 0.05% for goods.
- The share of goods' trade in Egypt, is much less than the corresponding share in Arab and MENA region over the period of the study. On the contrary, trade in services' contribution to GDP in Egypt is higher than the corresponding contribution in these regions over the period (1995-2010). The latter result indicates that Egypt had comparative advantage in trade in services. However, service share in Egypt decreased significantly in the last decade (2011-2021) to be for the first time lower than the contribution of Arab and MENA region for the same period.
- As in most countries worldwide, trade in goods in Egypt as in absolute values is always more that trade in services throughout the period of the study.

However, the gap between them was small and stable up to the year 2005. From 2006, the gap begins to increase for favor to goods, which again reflect a problem related to trade in services in Egypt.

- Chronic deficit in trade balance of goods exists for all the study years. Moreover, the rate of growth in imports exceeded the growth rate of exports, consequently, the deficit mainly increases over time, reaching its lowest in 2003 and its highest in 2021. In contrast, the service's balance mainly achieves surplus for all years with some exceptions. However, the service' surplus tends to decrease from 2010 with unstable trend up to the end of the study. Service balance covers almost 47% of deficit in goods balance on average of the period from 1995 to 2010, however this ratio begins to decrease dramatically from 2011 onward to register less than 9% of goods' deficit on average of the period from 2011 to 2022.
- The results of the empirical study clarified a long-run steady state relationship between economic growth in Egypt on the one hand and trade, inflation, exchange rate, gross capital formation, and employment on the other along the period of the study. The short-run disequilibrium has shown to be corrected quickly through about two years for all the models.
- As expected from the economic theory both capital and labor boost economic growth significantly in all models, however, inflation and exchange rates impede economic growth in Egypt at the 5% level of significant.
- An increase in total trade of 1% of GDP tends to increase economic growth by a small ratio (0.112%). Trade maximizes the benefits from competition and innovation, comparative advantage, transferring technology, creating employment, and utilizing scarce resources effectively, therefore fostering economic growth significantly.
- Exports have a significantly positive effect on growth in Egypt, which is consistent with the economic theory. Exports cause positive externalities from greater competition in world markets and consequently greater efficiency in resource allocation, economies of scale, technological spillovers, and provide the rare and essentials foreign exchange earnings to Egypt.

- The coefficient of imports has a negative sign which is consistent with the expenditure approach, but with an insignificant effect on growth. It is expected since most of the Egyptian imports are capital and intermediate products, which are important to support exports and local industries. As a results, its effect is neutral on the economic growth in Egypt.
- Trade in services is of great importance in Egypt relative to trade in goods. It boosts economic growth significantly. A 1% of GDP increase in trade in services pushes economic growth by 0.342%. On the contrary, trade in goods hinders growth, an increase in trade in goods by 1% of GDP reduces growth by 0.221%, which interpret the small effect of total trade on growth in Egypt. Trade of services in Egypt has surplus balance in all study period except 3 years, while the trade of goods balance always has a deficit for all the period of the study. Besides, Egypt has a comparative advantage in trade in services since the main foreign exchange earnings comes from services (remittance, tourism, and Suez Canal transportation).
 - As indicated from the results above, trade is a significant actor in promoting economic growth in Egypt. Consequently, it is suggested that policymakers in Egypt could focus on outward-oriented policies to foster the growth process.
 - Moreover, exports are of great importance with significantly sizeable impact on growth in Egypt, therefore, policies supporting exports is highly recommended, such as encouraging domestic product, increasing the benefits from Egypt's bilateral and regional trade agreements, improving technical and vocational education and training, increasing the contribution of high-value added and high-tech exports in total exports among others.
 - Controlling inflation and adopting the appropriate exchange rate regime are strongly required to support trade in Egypt.
 - Imports may deteriorate growth in part, with insignificant effect since most of Egyptian imports are intermediate goods and machines. More attention should be directed to agriculture and its related production to fill the gap of essential consumer goods such as wheat, corn, and soybeans

which construct a big ratio of imports (10.6%) in 2022.

- Unlike trade in goods, trade in services promotes economic growth significantly, in addition to achieving surplus in its trade balance in almost all the years of the study. However, our results indicated a decline in its role over the period of the study (from 2005 onwards). Service balance covers almost 47% of deficit in goods balance on average of the period from 1995 to 2010, while this ratio begins to decrease dramatically from 2011 onward to register less than 9% of goods' deficit on average of the period from 2011 to 2022. Consequently, more attention should be directed to trade in services in Egypt.
- It is recommended to identify service categories that Egypt has comparative and competitive advantage on them, thus we can concentrate on those categories rather than focusing on the whole services sector. Tourism and travel, computer and information service and financial services are good examples of these categories as indicated by the paper.
- **Finally**, given the fourth industrial revolution, the services sector is becoming a major actor in boosting the economic growth of any economy. More research is recommended to investigate more in trade in services, its potential and challenges to economic development in Egypt and other developing countries. Moreover, investigating the effect of trade in specific categories of services on economic growth in Egypt is also highly recommended as a future work.

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APPENDIX

Table A1: Literature Review on the Effect of trade on Economic Growth

Author	Country	Variables	Methods	Results
Tahir & Hayat, 2020	Brunei Darussalam 1989 to 2018	Real GDP, human capital, trade openness, investment, natural resources	ARDL cointegration technique	A positive and statistically significant relationship between trade openness and economic growth is found in the long run, but no relationship in the short run.
Sghaier, 2023	panel of four North African countries (Tunisia, Morocco, Algeria and Egypt), 1991 to 2015	economic growth, financial development, trade openness	GMM in a panel data analysis	The results found strong evidence of a positive link between trade openness and economic growth. Moreover, trade openness appears to be working as a complement to financial development and that its effect is more pronounced in the presence of the financial development variable.
Youssef, 2023	Egypt 1982-2020	Economic growth, trade openness, employment, physical capital, and financial development, government size	ARDL	The results show that trade openness contributes positively to economic growth in Egypt both in the short run and long run.
Ijirshar, 2019	15 ECOWAS Countries: 1975-2017	GDPP, labor force, GFCE, exchange rate, FDI, government spending	PMG - MG	Results show that trade openness has positive effects on growth in the long-run, however the short-run impact of trade openness differs across countries. Moreover, international trade is more beneficial to countries that have improved quality of exports where the value is relatively higher than imports.
Osei-Assibey & Dikgang, 2020	South Africa 1989 to 2018	GDP, export, import	VECM, Granger causality	in the long run, both exports and imports drive economic growth; the positive long-run relationship suggests a healthy sustainable relationship between export growth and import growth.
Busse & Königer, 2012	108 countries (of which 87 are developing countries) 1971-2005	GDP per capita, the investment rate, population growth, human capital, trade share	Unbalanced panel OLS, FE, system GMM	There is evidence that the expansion of trade has a significant impact on income growth. The same results hold true for both exports and imports separately. Trade has been found to be effective in fostering economic growth in developing countries as well.
Owolabi Akeem, 2011	Nigeria 1970-2005	Real GDP, Export value, Import value, Economic openness, foreign exchange rate, Per capita income	Multiple regression analysis	The result shows that export, import, foreign exchange rate and economic openness are negatively related to real GDP. Only Per capita income is positively related to real output for the period reviewed

Author	Country	Variables	Methods	Results
Bhattacharya & Bhattacharya, 2016	BRICS countries 1991 to 2013	export of goods and services and import of goods and services and Gross Domestic Product (GDP) per capita	Panel Granger Causality,	exports and imports Granger cause economic growth in the long run. Moreover, imports and economic growth Granger cause exports while exports and economic growth Granger cause imports in the long run. Additionally short-run bidirectional causality is observed between exports and economic growth.
Mattoo, et al., 2001	60 countries worldwide 1990-1999 37 developing countries 1990-1999.	GNP per capita, trade in services, lagged value of investment rate, size of government, inflation rate, schooling ratio, political stability, quality of institutions, geographical and regional dummies, tariff and non-tariff barriers.	Panel regression	econometrics evidence for financial sector and telecommunication sector shows that openness in services affects the long-run growth positively. Moreover, the results suggest that countries with fully open in financial and telecommunication sectors growth 1.5% point faster than other countries.
Negem, 2008	Egypt 1970-2006	Human capital (education)- exports, imports, real GDP	Granger causality test under VECM	The results support the validity of exports led growth hypothesis. Unidirectional causality directed from exports to economic growth in both long run and short run. Moreover, both imports and human capital Granger cause economic growth.
Negem, 2008	Egypt 1970-2006	GDP, export growth, FDI/GDP, import duties, secondary school enrolment, export duties.	Simultaneous equation using FIML	The results support the validity of exports led growth hypothesis with a positive and significant effect of exports on economic growth, but negative and significant effect of imports on growth.
Bushra Kheir, 2019	Egypt 1980-2015	GDP growth, imports, exports and trade volumes	ARDL	trade openness promotes economic growth in both short run and long run. Exports led growth positively in the long run, while imports affect growth negatively in the long run.
El Feki & Ali, 2020	Egypt 1966-2018	Economic growth, consumption growth, export growth, import growth	multiple regression using OLS. Engel Granger	The results indicate a positively significant effect of exports on economic growth, but negative insignificant effect of imports on economic growth. In addition, bidirectional causality between economic growth and trade
Elakkad & Hussein, 2023	Egypt 1974-2021	GDP growth, real imports, average official exchange rate, foreign reserves, relative prices (PPP)	ARDL	Our main regressor, real imports (M) came significant with a positive and small impact on GDP growth rate whether in the long run or in the short run. This result can be

Author	Country	Variables	Methods	Results
				interpreted easily knowing that more than 60% of the import structure in Egypt are manufacturing inputs and raw materials, which are used in production.
Maune, 2019	10 SADC Countries 1992 - 2015	Economic growth, Exports of goods, Exports of services, imports of goods and imports of service,	Panel FE and RE	The marginal effects of service and goods exports were positive while those of goods and service imports were negative and highly significant. The effect of Service exports on growth are threefold that of service imports and greater than goods exports.
Sandri, et al. (2016)	Jordan 1980-2014	Trade in goods, trade in services, labor, capital, trend	FMOLS	trade in goods has a negative effect on GDP, whereas trade in services positively affects economic performance.
Karam & Zaki (2015)	21 MENA countries 1960-2011	Real GDP, trade in goods, trade in services, intersection between trade in goods and services investment, human resources, population growth, education, oil dummy	panel estimations FE and RE and Arellano- Bond dynamic panel	The results show a positive association between real GDP and both service and goods trade, while the effect of service trade on real GDP is smaller than the effect of good trade on growth. However, Egypt regression reveals negative effect of good trade on growth (-0.313), while positive effect of service trade on growth (0.806).
Mansour & Hassan, 2021	Egypt and Saudi Arabia 1970-2018	GDP growth, financial liberalization indices: Broad money/ GDP, Domestic bank credit to the private sector/GDP, Monetary sector credit to the private sector / GDP, Net inflows of foreign direct investment /GDP	ARDL	financial and external liberalization policies in both countries do not have a significant long-run effect on economic growth. In addition, no causality effect run from trade to economic growth in both countries.

Table A2: Trade Values and Share of Trade of Goods by Product (2000, 2019)

Product	2019		2000	
	Value (M\$)	Share	Value (M\$)	Share
Mineral Products	22378	18.4	4814	16.8
Machines	18925	15.5	5300	18.5
Vegetable Products	14330	11.8	2593	9.1
Chemical Products	12342	10.1	2146	7.5
Metals	11183	9.2	2413	8.4
Textiles	8615	7.1	2761	9.6
Plastics and Rubbers	6781	5.6	1128	3.9
Transportation	5679	4.7	2107	7.4
Foodstuffs	4106	3.4	1343	4.7
Animal Products	2928	2.4	809	2.8
Paper Goods	2428	2.0	640	2.2
Precious Metals	2338	1.9	53	0.2
Instruments	2331	1.9	465	1.6
Stone And Glass	1966	1.6	376	1.3
Miscellaneous	1562	1.3	273	1.0
Wood Products	1553	1.3	522	1.8
Animal and Vegetable Bi-Products	1492	1.2	458	1.6
Footwear and Headwear	272	0.2	95	0.3
Animal Hides	252	0.2	81	0.3
Arts and Antiques	157	0.1	24	0.1
Weapons	90	0.1	215	0.8

Source of data: The Observatory of Economic Complexity (OEC), 2023.

Table A3: Share of Trade in Service by Category (2000, 2019)

Parent Service	share 2000	share 2019
Transportation	20.8	36.9
Travel	36.9	35.8
Services not allocated	28.9	11.4
Other business services	0.7	11.4
Insurance services	0.3	5.6
Government services	5.4	3.4
Computer, communications, and information services	3.1	3.3
Construction services	1.2	2.1
Royalties and license fees	2.8	0.6

Source of data: The Observatory of Economic Complexity (OEC), 2023.

أثر تجارة السلع مقابل تجارة الخدمات على النمو الإقتصادي

في مصر (1995-2022)

د. شيرين عادل حسن نصير

ملخص البحث باللغة العربية

اهتمت معظم الدراسات التطبيقية بدراسة أثر التجارة على النمو الإقتصادي في مختلف دول العالم، بينما ركزت دراسات أخرى على تأثير التجارة في السلع أو التجارة في الخدمات بشكل منفصل على النمو الإقتصادي. تهدف هذه الورقة إلى سد هذه الفجوة من خلال تحليل ومقارنة أداء التجارة في السلع مقابل التجارة في الخدمات على النمو الإقتصادي في مصر خلال الفترة (1995-2022) باستخدام منهج التكامل المشترك ومتجه تصحيح الخطأ (VECM). قام الباحث بتقدير ثلاثة نماذج مختلفة للوصول إلى هدف الدراسة. قام النموذج الأول بتقدير أثر التجارة على النمو الإقتصادي في مصر (1995-2022). بينما تم فصل إجمالي التجارة إلى واردات وصادرات في النموذج الثاني لتحديد دور كل منهما في النمو. وأخيراً تم تقسيم إجمالي التجارة في مصر إلى تجارة السلع وتجارة الخدمات لتحديد دور كل منهما بدقة في النمو الإقتصادي والمقارنة بينهما خلال فترة الدراسة. وأوضحت النتائج وجود علاقة توازن طويلة المدى بين النمو الإقتصادي من جهة والتجارة والتضخم وسعر الصرف وإجمالي تكوين رأس المال والعمالة من جهة أخرى خلال فترة الدراسة. وقد تبين أن اختلال التوازن على المدى القصير قد تم تصحيحه بسرعة خلال حوالي عامين بالنسبة لجميع النماذج. وتشير النتائج أيضاً إلى أن التجارة تؤثر على النمو الإقتصادي بشكل إيجابي مع تأثير بسيط. وتحظى تجارة الخدمات بأهمية كبيرة في مصر مقارنة بتجارة السلع، حيث تعزز النمو الإقتصادي بشكل كبير. وفي المقابل، تعيق التجارة في السلع النمو، وهو ما يفسر التأثير الضئيل لإجمالي التجارة على النمو في مصر. خلال فترة الدراسة.

الكلمات الدالة: تجارة السلع، تجارة الخدمات، VECM، النمو الإقتصادي، مصر.

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