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Egypt's Export Performance: Do Product Diversification and Exchange Rate Matter?

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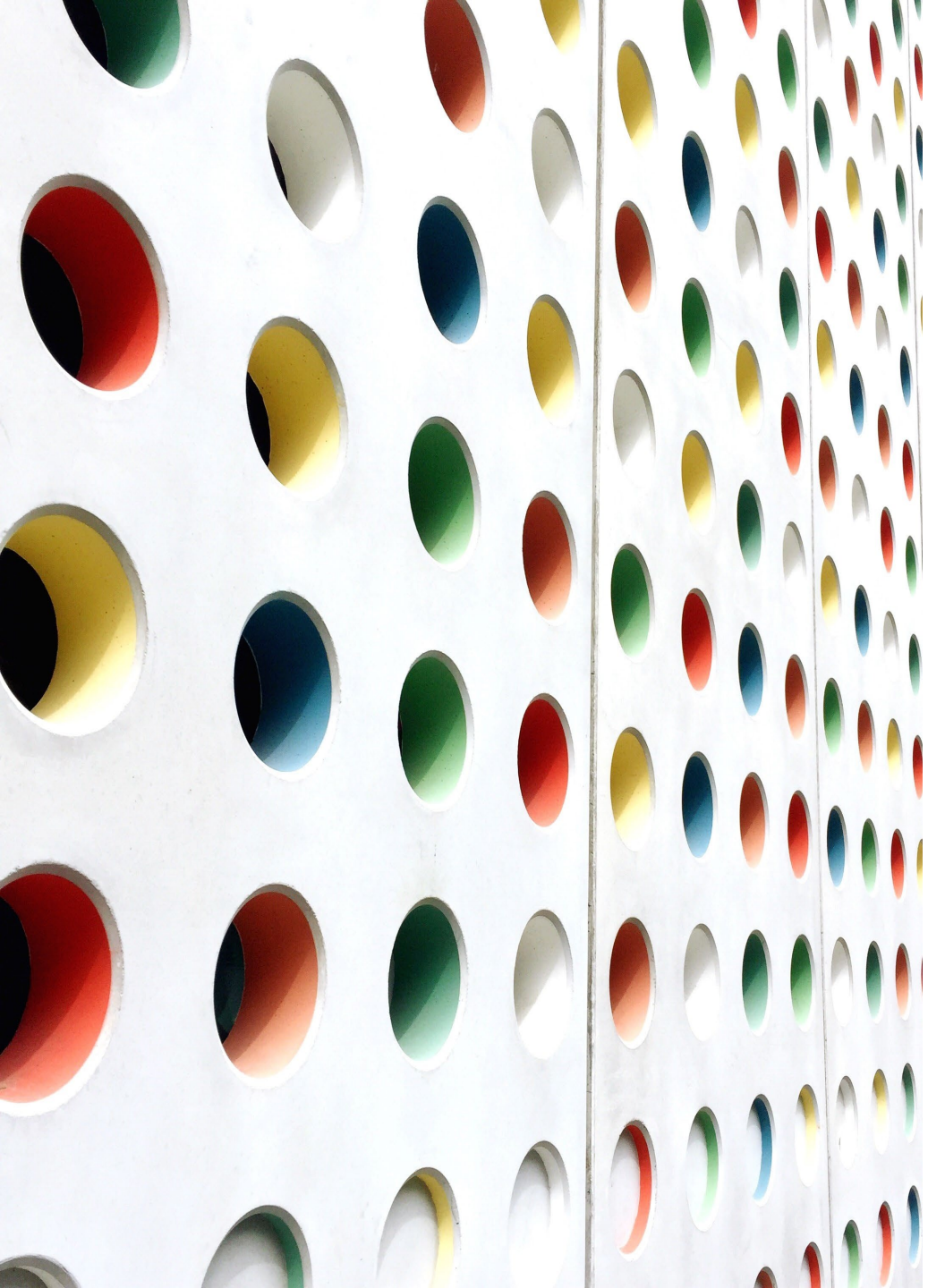

PART V (CHAPTER 4): Egypt's Export Performance: Do Product Diversification and Exchange Rate Matter?

By

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Outline

- Introduction and Background
- Some Stylized Facts
- Methodology and Data
- Empirical Findings
- Conclusion and Policy Implication

Introduction and Background

- The discussion surrounding the role of the Real Exchange Rate (RER) in macroeconomic policy and long-term export growth and diversification is considered a pivotal focus for both developing and emerging economies.
- While much literature shows a significant exchange rate pass-through effect on export promotion, myriad research also shows ambiguity and counterintuitive.
- Kang and Dagli (2018) revealed that exchange rate has a positive but short-lived effect on exports.
- Bussière, Gaulier, and Steingress (2020) argued that export prices are sensitive to fluctuations in exchange rates, and exchange rates play a crucial role in addressing trade imbalances.
- Yousaf and Mukhtar (2022) indicated that a flexible exchange rate regime provides a more accurate explanation for exchange rate fluctuations in these nations.
- In contrast, other studies have found no significant impact of exchange rates on export volumes whilst some have argued that the effect depends on economic orientation.

Introduction and Background Cont.

- Specifically, export-oriented countries tend to benefit more from fluctuations in currency values than import-dependent economies (Aslan, Çepni, and Gül 2021; Loto 2011).
- Regarding the relationship between exchange rate and export diversification, Kwasi Obeng (2018) found that currency depreciation enhances export diversification, while currency appreciation tends to hinder it.
- Conversely, (Sekkat 2016) contends that currency devaluation particularly benefits the export of non-traditional goods more significantly than it does for traditional goods.
- In addition to the real exchange rate and diversification, structural factors can significantly influence export performance ((Campa and Goldberg 2002).
  - Kearns (2016) argued that exposure to external debt can diminish the connection between trade and exchange rates.
  - Ghoneim (2000) indicates the importance of shift from government to non-government export promotion agencies due to the loss of credibility and bureaucratic procedures associated with state export promotion agencies.

Introduction and Background Cont.

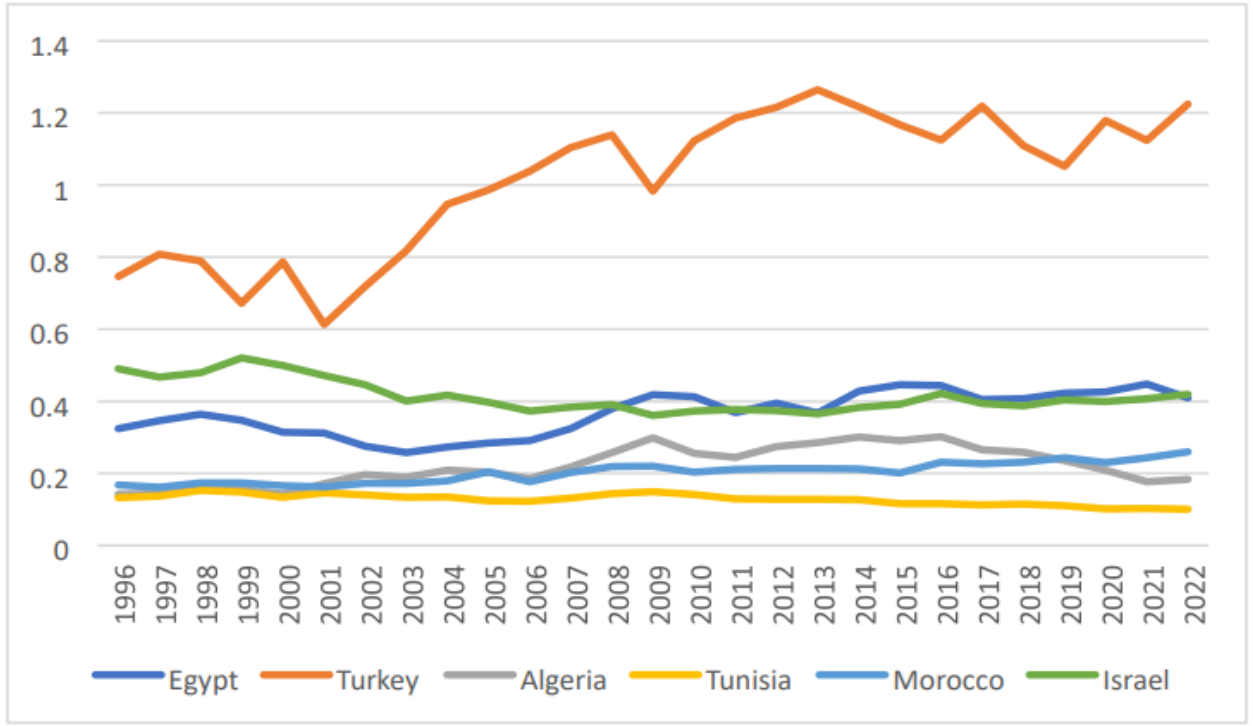
- In the recent strand of literature, Abdou et al. (2024) found that RER depreciation acts as a second policy option for developing countries with weak institutions and ineffective industrial policy to boost value-added export.
- In a nut shell, after the liberalization of the Egyptian pound in 2003, various studies examined the impact of currency depreciation on economic output.
- However, the dearth in the literature is that few studies have been conducted on Egypt to ascertain the impact of exchange rate and product diversification on export performance (both value and volume of trade) and the effect of exchange rate on the range of products exported.
- Thus, given the gap in the literature and policy relevance, this study primarily examines whether product diversification and exchange rate significantly affect export performance in Egypt or not.
- The study also examines the impact of the exchange rate on the range of products exported using data on Egypt and its 231 bilateral trade partners, spanning from 1996 to 2022.

Some Stylized Facts

Egypt's Export Expansion: Trends and Insights

- Prior to the financial crisis in 2008 and the Arab Spring in 2011, Egypt's share of global exports was modest and stunted (Figure 1).

Figure 1: Egypt's share in World Export Markets Versus Comparator Countries' Shares Within the MENA Region, 1996 to 2022

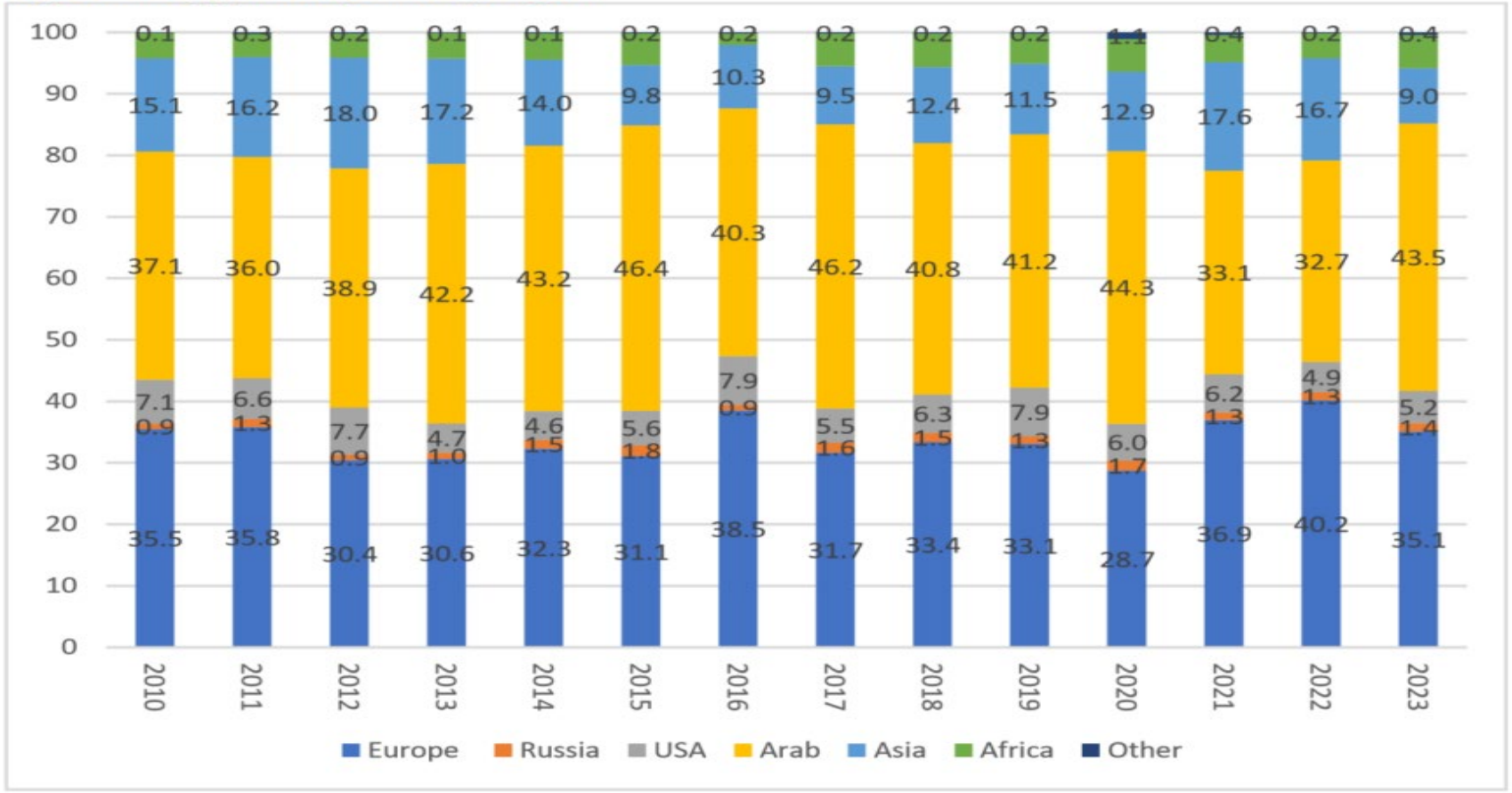


- Source: Authors' construct based on WTO Data

Some Stylized Facts Cont.

- Regarding Egypt's export destinations, Europe and Arab countries collectively account for over two-thirds of its exports (**Figure 2**). In contrast, Asia and Africa comprise less than one-third of the total.

Figure 2: Egypt's exports by region



Source: Authors' Construct based on IMF Database of Trade

Some Stylized Facts Cont.

Egypt's Export Structure and Its Trend

Table 1a: Structure of Egypt's Exports (2005/2006 to 2015/2016)

	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015**	2015/2016**
Fuel, Mineral Oils & Products, of which :	56.5	46.6	50.3	45.2	44.5	46.7	46.3	48.8	47.9	40.6	30.8
Crude oil	17.4	14.2	16.7	15.9	18.7	21.0	20.8	27.1	29.6	27.7	19.0
Petroleum products [x]	38.0	31.7	32.6	27.8	24.2	24.0	24.0	21.2	17.8	12.3	11.3
Coal & types thereof	0.1	0.2	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.2	0.2
Raw Materials, of which :	3.6	3.3	3.7	3.7	5.3	5.2	4.7	5.0	5.7	7.8	9.8
Cotton	0.8	0.5	0.7	0.3	0.5	0.8	0.5	0.4	0.3	0.2	0.3
Potatoes	0.0	0.1	0.1	0.0	0.2	0.2	0.2	0.3	0.6	0.6	1.0
Citrus fruits	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.4	0.7	1.1
Medicinal plants	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Spices & vanilla	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Dairy products, eggs and honey	0.1	0.1	0.1	0.3	0.5	0.6	0.7	0.7	0.9	1.2	1.1
Flax, raw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi-finished goods, of which :	6.4	9.0	6.2	7.6	6.8	7.7	7.8	7.4	8.5	8.8	9.0
Carbon	0.1	0.1	0.3	0.3	0.3	0.4	0.7	0.7	0.5	0.6	0.5
Essential oils & resins	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.2	0.3
Aluminium, unalloyed	1.1	1.5	0.2	0.2	0.2	0.3	0.4	0.4	0.1	0.1	0.3
Cotton yarn	0.6	0.6	0.3	0.4	0.5	0.8	0.4	0.3	0.5	0.4	0.4
Organic & inorganic chemicals	1.5	1.6	1.3	2.2	2.0	2.2	2.3	1.9	2.1	2.5	1.9
Finished goods, of which :	28.0	34.2	37.2	41.9	42.2	40.2	41.3	38.8	37.8	42.8	50.4
Rice	0.7	0.7	0.6	0.3	0.9	0.1	0.1	0.2	0.2	0.5	0.2
Soap, washing preparations & artificial waxes	0.1	0.3	0.6	0.8	1.0	1.2	1.6	1.3	1.0	0.9	1.3
Dried onion	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Pharmaceuticals	0.7	1.1	2.4	1.8	1.6	1.7	1.5	1.4	1.1	1.2	1.2
Fertilizers	0.8	1.4	1.3	2.9	3.0	4.2	3.4	3.1	2.7	1.6	2.8
Carpets & other floor coverings	0.6	0.6	0.5	0.5	0.7	0.7	0.7	0.6	0.7	0.9	0.9
Articles of iron and steel	2.6	2.9	2.5	1.9	2.4	2.0	1.1	1.4	1.3	1.1	1.1
Aluminium articles	0.7	0.5	1.6	1.3	1.5	1.2	1.2	0.8	1.0	1.3	1.1
Ready-made clothes	1.9	2.1	1.5	2.4	2.8	2.9	2.9	2.7	3.0	3.6	3.7
Cotton textiles	1.2	1.2	1.7	2.1	2.0	2.3	2.3	2.9	2.9	3.3	3.7
Undistributed Exports	5.4	6.9	2.5	1.7	1.1	0.2	0.0	0.0	0.0	0.0	0.0
Total Exports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Some Stylized Facts Cont.

Table 1b: Structure of Egypt's Exports (2016/2017 to 2022/2023)

	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022**	2022/2023**
Fuel, Mineral Oils & Products, of which :	31.3	34.7	41.5	32.7	30.6	41.4	35.3
Crude oil	17.8	17.8	17.0	12.3	9.3	8.8	5.9
Oil products [x]	12.5	16.2	23.5	19.8	20.6	32.2	29.0
Raw Materials, of which :	8.7	8.7	8.4	10.3	11.0	8.0	9.7
Fresh, chilled, or cooked vegetables	1.9	2.0	1.8	2.1	1.9	1.3	1.7
Fresh or dried fruits	1.6	1.8	1.7	2.0	1.8	1.3	1.3
Potatoes	0.9	0.8	1.0	1.4	1.4	1.0	1.4
Raw cotton	0.3	0.3	0.4	0.3	0.6	0.4	0.3
Semi-finished goods, of which :	18.4	16.6	12.8	19.9	19.0	13.5	14.9
Gold	8.6	6.8	4.3	10.6	7.0	2.7	4.5
Ethylene-propylene polymer	2.4	2.7	2.6	1.9	1.8	2.1	2.2
Organic and inorganic compounds	2.5	2.2	2.4	3.3	4.0	3.9	2.8
Animal or vegetable fats, greases, and oils	0.7	0.4	0.4	0.8	1.3	0.7	0.4
Pipes, tubes, and hoses	0.2	0.1	0.1	0.0	0.0	0.0	0.0
Cast iron	1.6	1.4	0.9	0.8	1.3	1.1	1.3
Finished goods, of which :	41.5	40.1	37.2	37.2	39.4	37.1	40.1
Textiles	3.5	3.5	3.5	3.2	2.3	1.9	1.9
Household electrical appliances	2.3	2.9	2.3	1.8	3.0	2.5	1.8
Ready-made clothes	3.0	2.8	2.6	3.0	3.0	2.8	2.7
Milk, Dairy products and cheese	1.3	0.9	0.9	0.8	0.7	0.5	0.6
Phosphate or mineral fertilizers	3.5	3.7	3.6	3.7	4.1	4.7	5.7
Medicines, serums, vaccines, and pharmaceuticals	1.4	1.5	1.2	1.9	1.7	1.8	1.8
Wires and cables	2.1	2.1	1.8	1.2	2.0	1.7	1.6
Cane or beet sugar and pure sucrose	1.0	0.7	0.6	0.6	0.7	0.7	0.7
Aluminum and articles thereof	1.2	1.3	1.4	1.1	1.6	1.2	1.1
Communication and telephone equipment	1.4	0.4	0.4	0.2	0.3	0.1	0.0
Passenger vehicles	1.0	0.3	0.3	0.3	0.2	0.2	0.3
Carpets and other floor coverings	0.8	1.0	0.8	0.8	1.2	0.8	0.8
Glass & glassware	1.0	1.2	0.9	1.0	1.1	1.0	1.1
Soap and organic detergents	1.1	0.9	1.0	0.9	0.7	0.7	0.5
Undistributed Exports	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Exports	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* According to the Harmonized System (Degree of Processing) .
** Provisional.
*** Including exports of free zones.
x Including natural gas & bunker and jet fuel.

Source: Author's Calculation based on UN Commodity Trade Statistics, 2024.

Some Stylized Facts Cont.

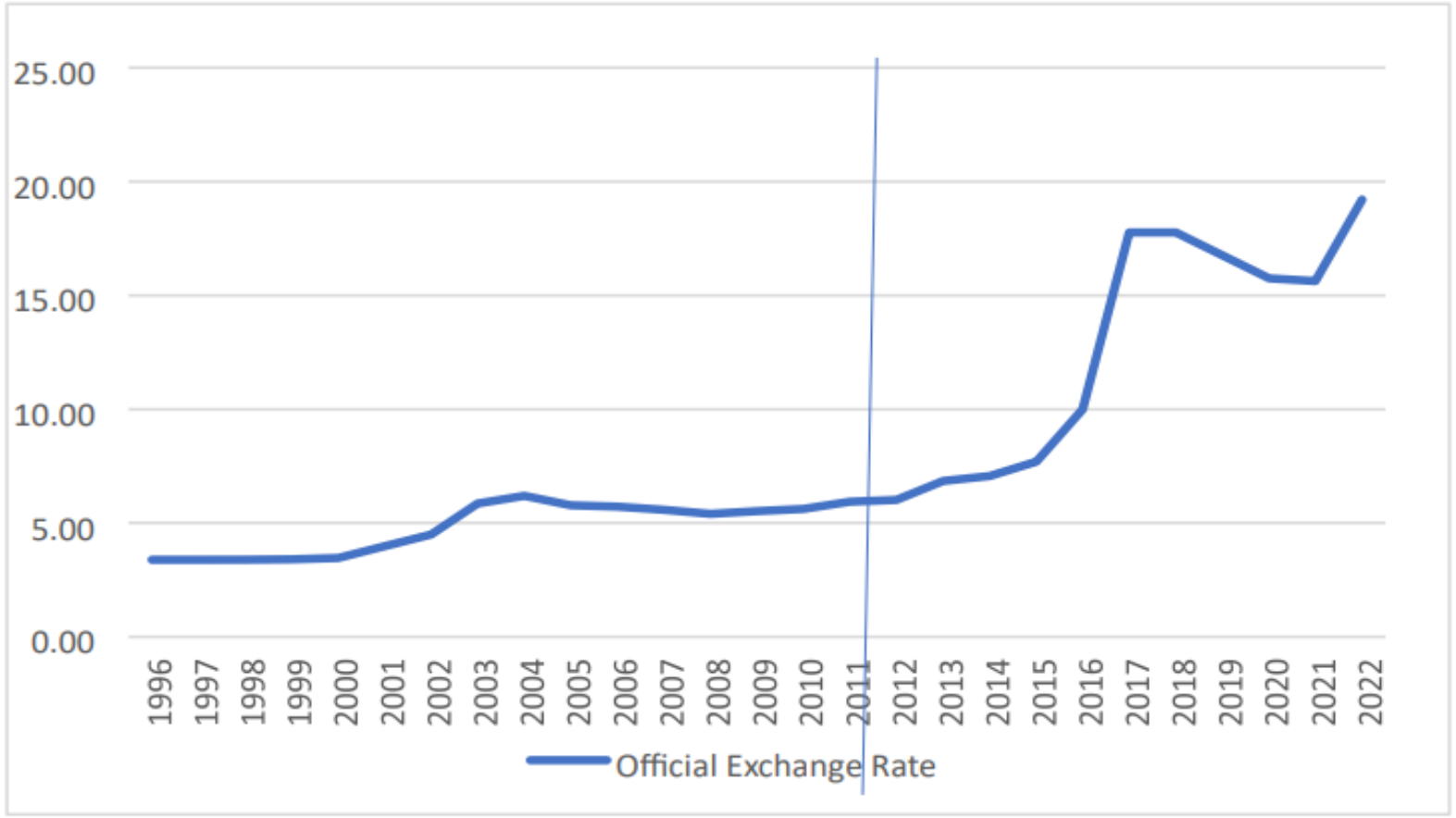
Egypt's Export Structure and Its Trend

- As illustrated in Tables 1a and 1b, the share of exports in fuel, mineral oils, and related products has notably declined since 2005/2006, reaching its lowest point in 2020/2021.
- In contrast, the export shares of raw materials—including cotton, potatoes, citrus fruits, medicinal plants, spices, vanilla, dairy products, eggs, and honey—have steadily increased from 2005/2006 to 2022/2023, peaking in 2020/2021.
- Additionally, the export share of semi-finished goods, including carbon, essential oils, resins, unalloyed aluminum, cotton yarn, and organic and inorganic chemicals, has significantly improved during this period.
- Meanwhile, the export share of finished goods—such as rice, soap, washing preparations, artificial waxes, dried onion, pharmaceuticals, fertilizers, carpets, various floor coverings, iron and steel articles, aluminum products, ready-made clothing, and cotton textiles—has experienced notable fluctuations.

Some Stylized Facts Cont.

Reforms, Exchange Rate Regimes and Exchange Rate Development

Figure 3: Development in the Exchange rate over 1996-2022



Source: Central Bank of Egypt

Some Stylized Facts Cont.

Reforms, Exchange Rate Regimes and Exchange Rate Development

- Before the 1970s, Egypt adopted a multiple exchange rate regime (Mohieldin and Kou.chouk, 2004).
- From the 1980s to 1990s, continuous appreciation of the real exchange rate of the pound and an increase in the spread between different rates was experienced (Mohieldin and Kouchouk, 2004).
- As part of the economic reforms and Structural Adjustment Program adopted by Egypt in 1991 to 2003, the multiple exchange rate was abolished and replaced by a unified exchange rate maintained within an implicit band at US $1=EGP 3.33 and then moved to a crawling peg regime (Elbadawi and Kamar, 2006).
- In 2003, Egypt announced the adoption of a floating exchange rate regime. However, its nominal exchange rate was still far from the market-clearing equilibrium, resulting in gradual depreciation in the value of the Egyptian Pound, attributing to the de facto crawling peg regime (Selim, 2012).
- Corrective measures were taken to stabilize the nominal exchange rate and eliminate the black market through establishing a foreign exchange interbank market in 2004, which caused strong capital inflows that boosted the pound against the US dollar.
- In October 2021, CBE continued to apply a durably flexible exchange rate and also cancelled letters of credit for import finance gradually, resulting in the appreciation of the Egyptian pound again to 15.68 in 2021(Central Bank of Egypt, 2023b), as shown in Figure 3.

Methodology and Data

- We utilize an export gravity model that aligns with established literature in this field to analyze the impact of exchange rate and diversification on intensive margin of exports.
- We also analyze the impact of exchange rate on extensive margin of exports.
- The gravity model has become a crucial framework for examining the determinants of bilateral trade flows, drawing on various trade factors (McCallum, 1995; Feenstra, 2002; Anderson and van Wincoop, 2003; Zaki et al., 2018).
-

$$\ln(V_{ijkt}) = \alpha_0 + \alpha_1 \ln(GDP_{it}) + \alpha_2 \ln(distcap_{ij}) + \alpha_3 \ln(REER_{it}) + \alpha_4 comlang_{ij} + \alpha_5 comrelig_{ij} + \alpha_6 WTO_j + \varepsilon_{ijkt} \quad (1)$$

$$\ln(V_{ijkt}) = \alpha_0 + \alpha_1 \ln(GDP_{it}) + \alpha_2 \ln(distcap_{ij}) + \alpha_3 \ln(NumProduct_{ijt}) + \alpha_4 comlang_{ij} + \alpha_5 comrelig_{ij} + \alpha_6 WTO_j + u_{ijkt} \quad (2)$$

$$\ln(NumProduct_{ijt}) = \beta_0 + \beta_1 \ln(GDP_{it}) + \beta_2 \ln(distcap_{ij}) + \beta_3 \ln(REER_{it}) + \beta_4 comlang_{ij} + \beta_5 comrelig_{ij} + \beta_6 WTO_j + \upsilon_{ijt} \quad (3)$$

Methodology and Data Cont.

- Trade data are obtained from Centre des Etudes Prospectives et d'Information Internationales (CEPII) gravity datasets.
- On the other hand, data on Real Effective Exchange Rates (REER) are obtained from Brugel's datasets.
- The data spans from 1996 to 2022, covering all the 231 trading partners of Egypt listed in Appendix 2.

Empirical Findings

Table 2: Results of the Intensive Margin- Value and Volume of Exports

	In(Value of Exports)		In (Value of Exports)		In (Volume of Exports)		In (Volume of Exports)	
	Coeff. (α)	*t-values*	*Coeff. (α)*	*t-values*	*Coeff. (α)*	*t-values*	*Coeff. (α)*	*t-values*
In(GDP of trading partner)	1.084***	80.74	1.023***	36.03	0.031***	13.41	0.008***	4.88
In(distcap)	-1.37***	-31.50	-1.416***	-30.45	0.022	0.93	0.007	1.23
In(REER)	-0.360***	-2.42			-0.463***	-20.00		
In(NumProduct)			2.981***	2.42			1.111***	77.10
comlang	0.893***	6.44	0.871***	6.28	0.012	0.55	0.004	0.26
comrelig	1.182***	7.74	1.066***	6.57	0.047*	1.86	0.003	0.20
WTO	0.813***	8.60	0.642***	5.47	0.055***	3.90	-0.010	-0.97
Constant	2.152***	2.63	-45.65***	-2.39	18.83***	140.11	-0.570**	-2.46
Observations		3, 589		3,589		4,758		4,758
Adjusted R-squared		74.0%		74.0%		9.9%		58.5%

*** significant at 1%, **significant at 5% and * significant at 10%.

Empirical Findings Cont.

Table 2: Results of the Intensive Margin- Value and Volume of Exports__Old Results

	In (Value of Exports)		**In (Volume of Exports)**	
	Coeff. (α)	***t-values***	***Coeff. (α)***	***t-values***
In(GDP of trading partner)	1.039***	70.65	0.003**	2.39
In(distcap)	-1.42***	-28.62	0.002	0.51
In(ExchRate)	2.387***	3.20	1.579***	26.67
In(PDI)	-8.744***	-3.97	-5.808***	-32.05
In(ExchRate_PDI)	3.806***	2.70	2.578***	22.42
Absence_Poliviolence	-0.004	-0.87	-0.005	-0.43
comlang	0.901***	6.27	0.001	0.06
comrelig	1.126***	7.13	-0.002	-0.14
GATT	0.293***	3.45	0.003	0.36
WTO	0.464***	3.96	-0.013	-1.31
Constant	-3.473***	-2.76	14.031***	137.54
Observations		3, 195		4, 211
Adjusted R-squared		74.8%		67.3%

*** significant at 1%, **significant at 5% and * significant at 10%.

Empirical Findings Cont.

Table 3: Results of the Extensive Margin- Number of Products

	ln (Number of Products)	
	Coeff. (ß)	***t-values***
ln(GDP of trading partner)	0.020***	12.72
ln(distcap)	0.144***	2.66
ln(REER)	-0.121***	-8.81
comlang	0.007	0.47
comrelig	0.039**	2.26
WTO	0.057***	5.57
Constant	16.035***	187.83
Observations		4,211
Adjusted R-squared		5.9%

Empirical Findings Cont.

Table 3: Results of the Extensive Margin- Number of Products_Old Results

	In (Number of Products)	
	Coeff. (α)	*t-values*
In(GDP of trading partner)	0.004***	3.64
In(distcap)	0.003	1.08
In(ExchRate)	0.213***	34.76
Absence_Poliviolence	-0.008***	-41.82
comlang	-0.002	-0.27
comrelig	0.011	1.1
GATT	-0.024***	-5.49
WTO	0.037***	5.29
Constant	15.646***	388.72
Observations		4,211
Adjusted R-squared		65.0%

*** significant at 1%, **significant at 5% and * significant at 10%.

Conclusion and Policy Implication

- This paper explores the effects of exchange rates and product diversification on the volume and value of exports (the intensive margin of trade) and the influence of exchange rates on the number of products exported to trading partners (the extensive margin of trade).
- Utilizing annual data on bilateral trade flows between Egypt and its 231 trading partners, the study employs a pooled Ordinary Least Squares regression model to assess the impact of exchange rates on both margins.
- At the intensive margin, the findings indicate that a depreciation of the exchange rate leads to increases in both the value and volume of exports, highlighting the significance of both price and quantity effects.
- Conversely, at the extensive margin, the range of products exported also positively responds to exchange rate depreciation.
- Based on our findings, the policy implications are as follows: First, exchange rate depreciation can enhance exports' volume and value.

Conclusion and Policy Implication Cont.

- However, the risks associated with exchange rate volatility may counteract these benefits, especially if inflationary pressures arise, leading to rapid upward adjustments in the exchange rate and diminishing competitiveness gains from devaluation/depreciation.
- Second, product diversification can be adopted as a catalyst to boost export performance. Thus, Egypt needs to increase the range of products that it exports to its trading partners.
- Third, exchange rate depreciation can facilitate export diversification at the product level. This supports the notion that currency devaluation creates a comparative advantage for more sophisticated exports, helping to reduce Egypt's reliance on specific products or markets.
- Fourth, the potential gains from devaluation/depreciation may be limited if Egypt's trading partners are experiencing economic downturns.
- Finally, merely devaluing/ depreciating the Egyptian currency is insufficient to improve export performance; additional measures are necessary. Policymakers should leverage preferential trade agreements to expand access to diverse foreign markets.

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THANK YOU