

On Trade, Employment and Gender: Evidence from Egypt

Chahir Zaki

Cairo University

Overview

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Introduction

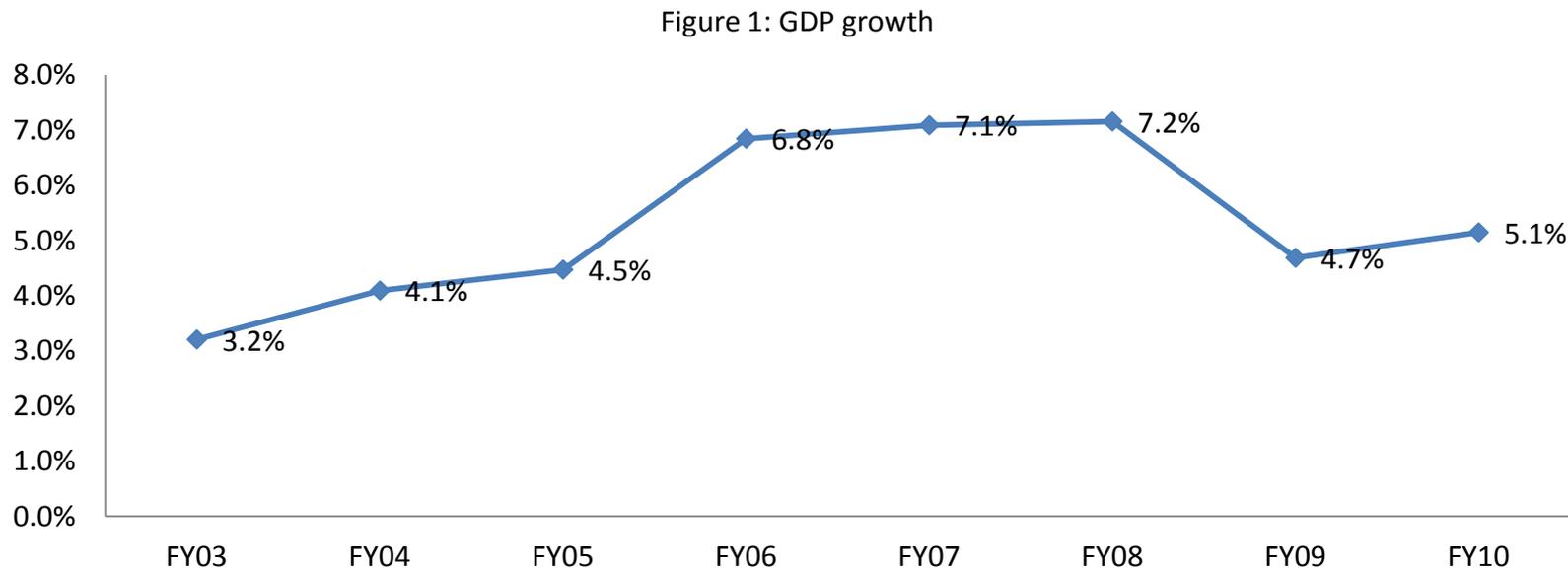
- More globalization and more trade liberalization
- Exports have become an engine of growth for developing economies.
- In a general equilibrium framework, more exports means more production, and thus more employment.
- A particular attention has been attributed to the gender impact of trade and whether trade has been favorable to women or not.
- Main question: finding the nexus between trade, employment and gender in Egypt.

Introduction

- Contribution:
 - Provide a descriptive analysis of the trade and employment characteristics.
 - Undertake an empirical analysis to evaluate the impact of trade on employment by applying two models.
 - Macro evidence: using a time series data, quantifies the macroeconomic impact of exports on employment over the period 1960 up to 2009.
 - Micro evidence: a human capital model assessing the impact of trade on wages and a Probit model measuring the impact of trade on employment. I distinguish between the effect on men vs. women in order to capture the gender effect of trade policies.

Growth in Egypt

- Egypt witnessed two main waves of reforms:
 - Early 1990s: ERSAP with the WB and IMF to rectify the macro-imbances (privatization, moving towards a market economy)
 - Since 2004: reforms aiming at promoting investment ,improving the business environment and promoting trade liberalization
- It had a sustainable growth between 2005 and 2008.



Structure of the Egyptian GDP

- *By expenditure:* consumption has the highest share to GDP. Yet, investment impact is becoming more important:
 - Starting 2004, numerous reforms to improve the climate investment. Top reformer in the region in 2008 according to WB's Doing Business Report
 - Privatization of many state-owned enterprises.
 - A surge in FDI: 8% of GDP in FY08 up from 0.5% of GDP in FY04.
- *By factors of production:* Egypt is becoming more capital-intensive
 - Share of capital in value added increased from 57% in FY76 to 73% in FY07.
- *By economic activity:* services represent on average 56% of the GDP followed by manufacturing (18%), agriculture (15%) and mining (11%).

The Egyptian Labor Market

- High unemployment (9%), especially among women (19%) and youth (25%) → inadequacy between the education outcome and the labor market needs.
- High and increasing informality (Wahba, 2009):
 - As a share of total employment (58% in 2006 up from 52% in 1998)
 - As a share of non-agriculture employment (44% in 2006 up from 41% in 1998).
 - 76% of private non-agricultural waged-workers.

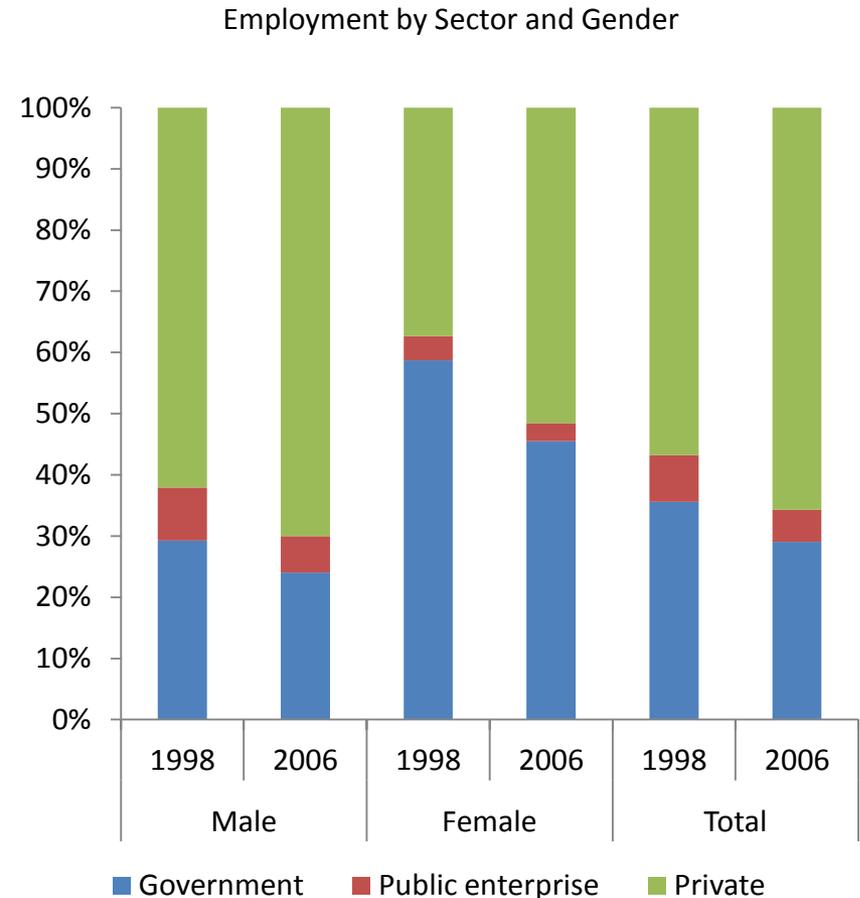
The Egyptian Labor Market

- Female participation rate remains low (20%), according to ELMPS.
- The relative increase for females is larger (33%) between 1998 and 2006 against 19% for males.



The Egyptian Labor Market

- Women are mainly concentrated in the government sector; but private sector's share increasing.
- Men are mostly working in the private sector whose share increased from 62% in 1998 to 70% in 2006.



The Egyptian Labor Market

Table 2: Share of Employment by Economic Activity and Gender

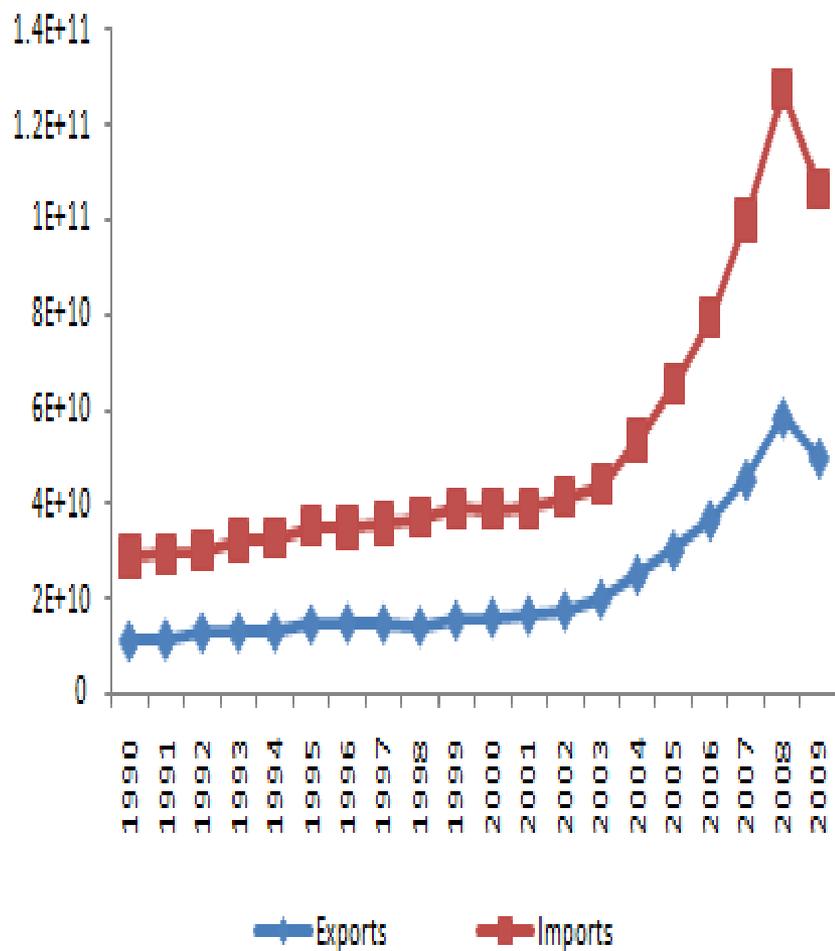
		1990	1995	2000	2005	2006
Male	Agriculture	34.9	32	27.4	27.1	28.3
	Industry	23.9	24.9	24.6	25.4	25.8
	Services	40.9	43.1	48	47.2	45.6
Female	Agriculture	52	42.5	39.4	46.5	43.3
	Industry	10.2	9.2	6.9	5	6
	Services	37.5	48.3	53.7	48.4	50.6
Total	Agriculture	39	34	29.6	30.9	31.2
	Industry	20.7	21.9	21.3	21.5	22
	Services	40.1	44.1	49.1	47.5	46.6

Source: World Development Indicators, 2011.

Egypt's Trade

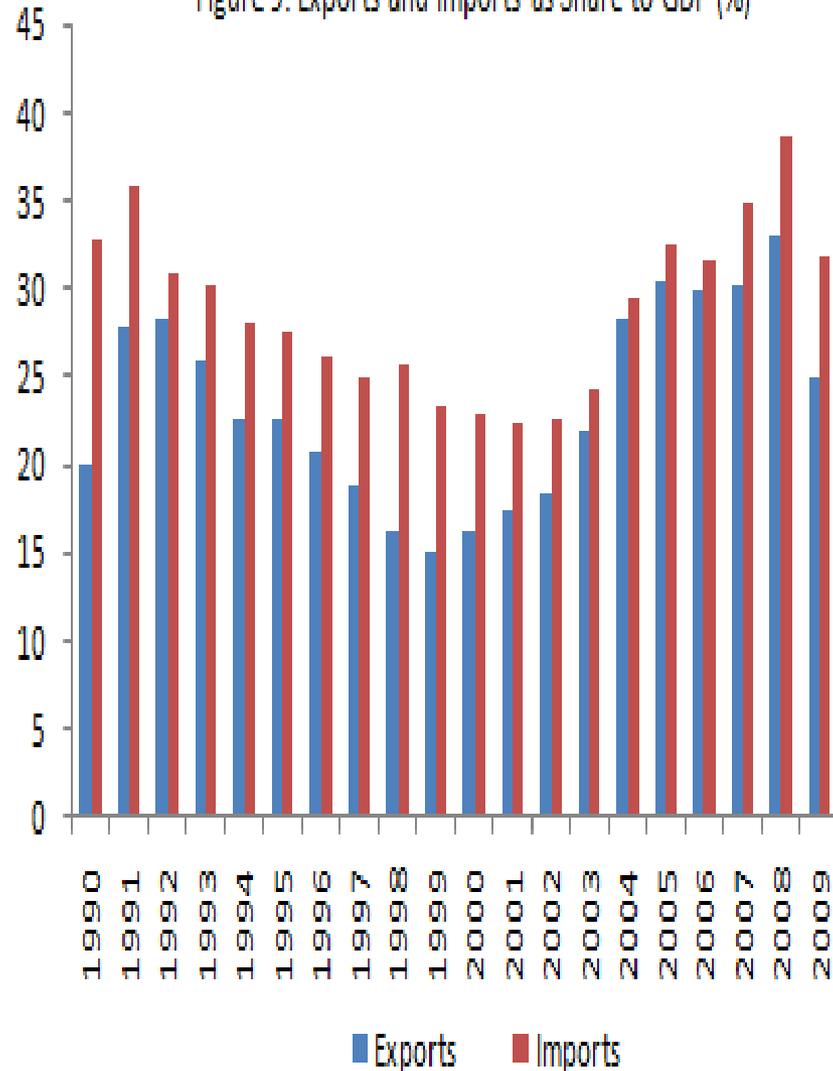
- Strong growth (24% each) in both exports and imports since 2004. Why?
 - Unilateral trade liberalization:
 - The number of tariff bands was narrowed from 27 tariff brackets to 6.
 - Tariff dispersion measured by standard deviation declined from 16.1 in 2000 to 12.7 in 2004
 - Tariff lines reduced from 8,000 to 6,000.
 - Effective protection has declined in the manufacturing sector from 23.3% to 14% after the 2004 reforms.
 - Several trade agreements:
 - At the bilateral level: with the European Union (2004), the members of EFTA (2004), Turkey, other Arab countries (Syria).
 - At the regional level: GAFTA, COMESA, the Agadir Free Trade Agreement (with Tunisia, Jordan and Morocco).
 - Framework agreements with MERCOSUR countries and with WAEMU.
 - The Qualified Industrial Zones (QIZ) Protocol with USA and Israel.

Figure 8: Exports and Imports Evolution



Source: CAPMAS

Figure 9: Exports and Imports as Share to GDP (%)



Source: CAPMAS

Egypt's Trade Policy

- Significant liberalization in manufacturing sectors.

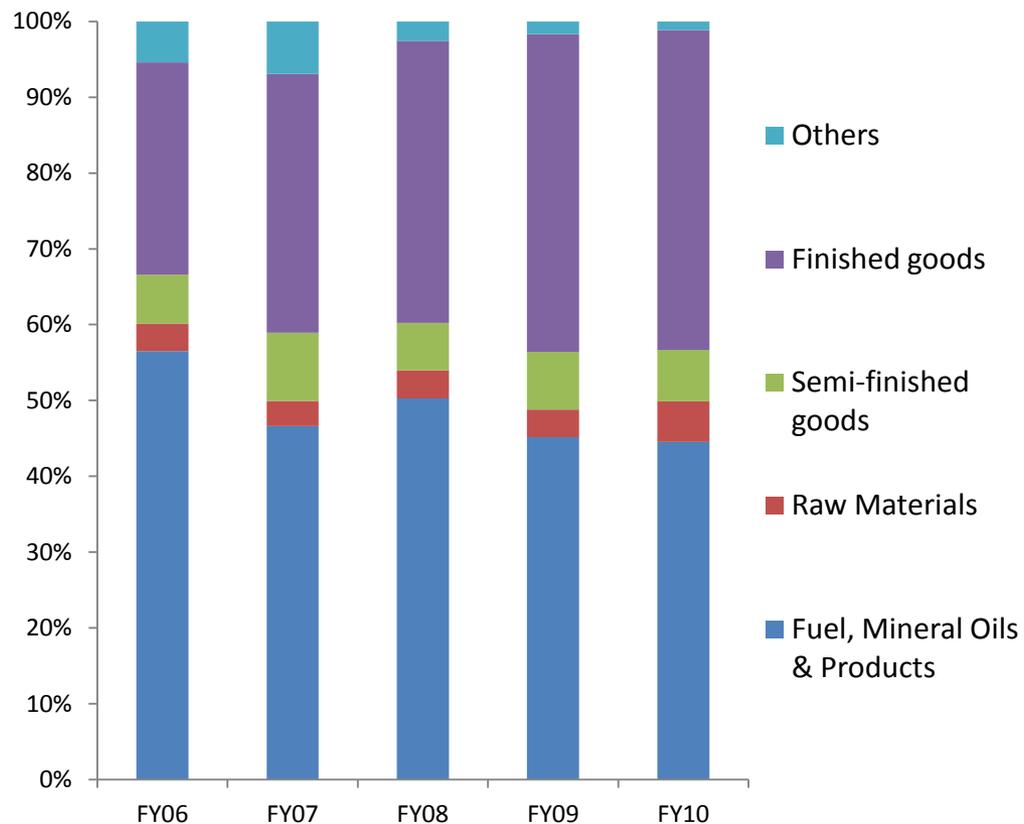
Table 4: Tariff Rate by Sector, 1995-2009

		1995	1998	2002	2004	2009
Total	Applied simple	24.3	19.65	47.92	20.29	12.56
	Applied weighted	16.65	14.17	23.69	13.1	7.98
	MFN simple	34.65	25.23	61.76	19.94	17.21
	MFN weighted	16.65	14.17	23.69	13.1	8.67
Primary	Applied simple	25.88	23.3	19.06	88.27	37.53
	Applied weighted	7.65	8.86	9.33	18.07	6.18
	MFN simple	52.88	34.79	18.56	41.61	41.05
	MFN weighted	7.65	8.86	9.33	18.07	7.22
Manufacturing	Applied simple	24.02	19.15	50.58	12.96	9.3
	Applied weighted	22.2	17.53	30.71	11.41	9.12
	MFN simple	28.92	22.1	72.79	13.53	9.95
	MFN weighted	22.2	17.53	30.71	11.41	9.63

Source: World Development Indicators, 2011.

Egypt's Trade Structure

Proceeds of Merchandise Exports by Degree of Processing

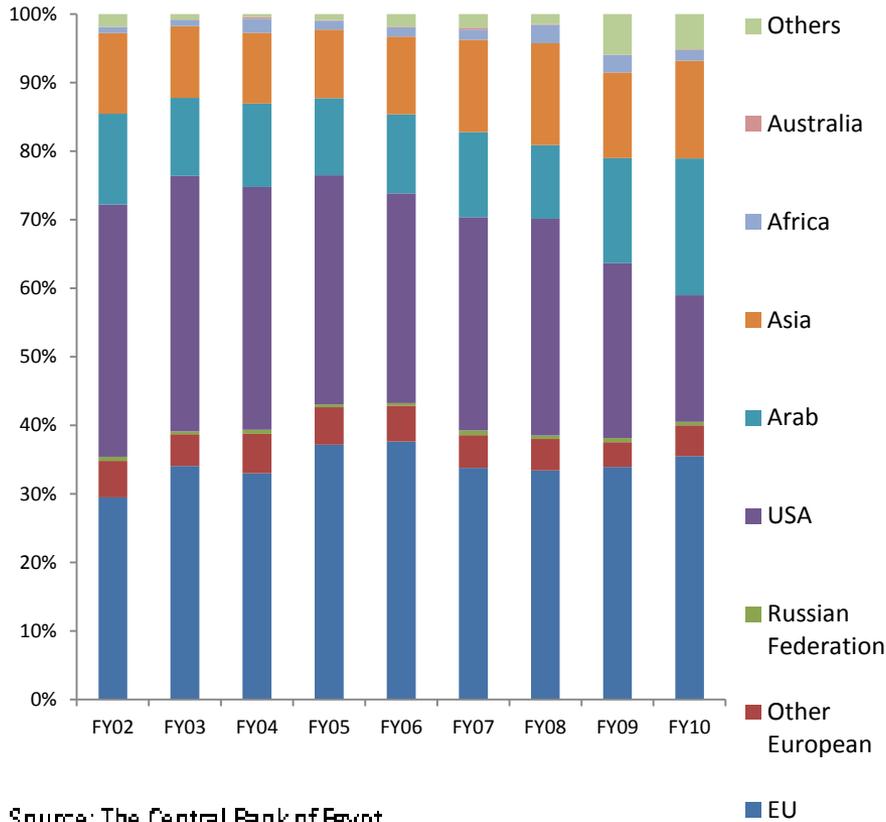


- Declining share of fuels and increasing share of processed products

Source: The Central Bank of Egypt.

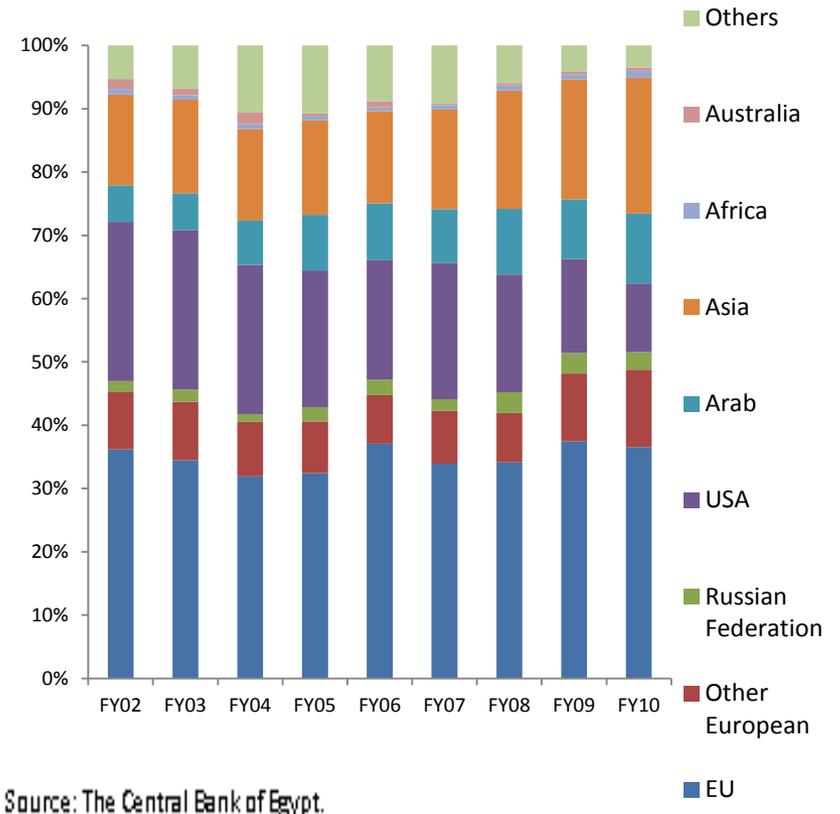
Egypt's Trade Partners

Geographical Distribution of Exports



Source: The Central Bank of Egypt.

Geographical Distribution of Imports



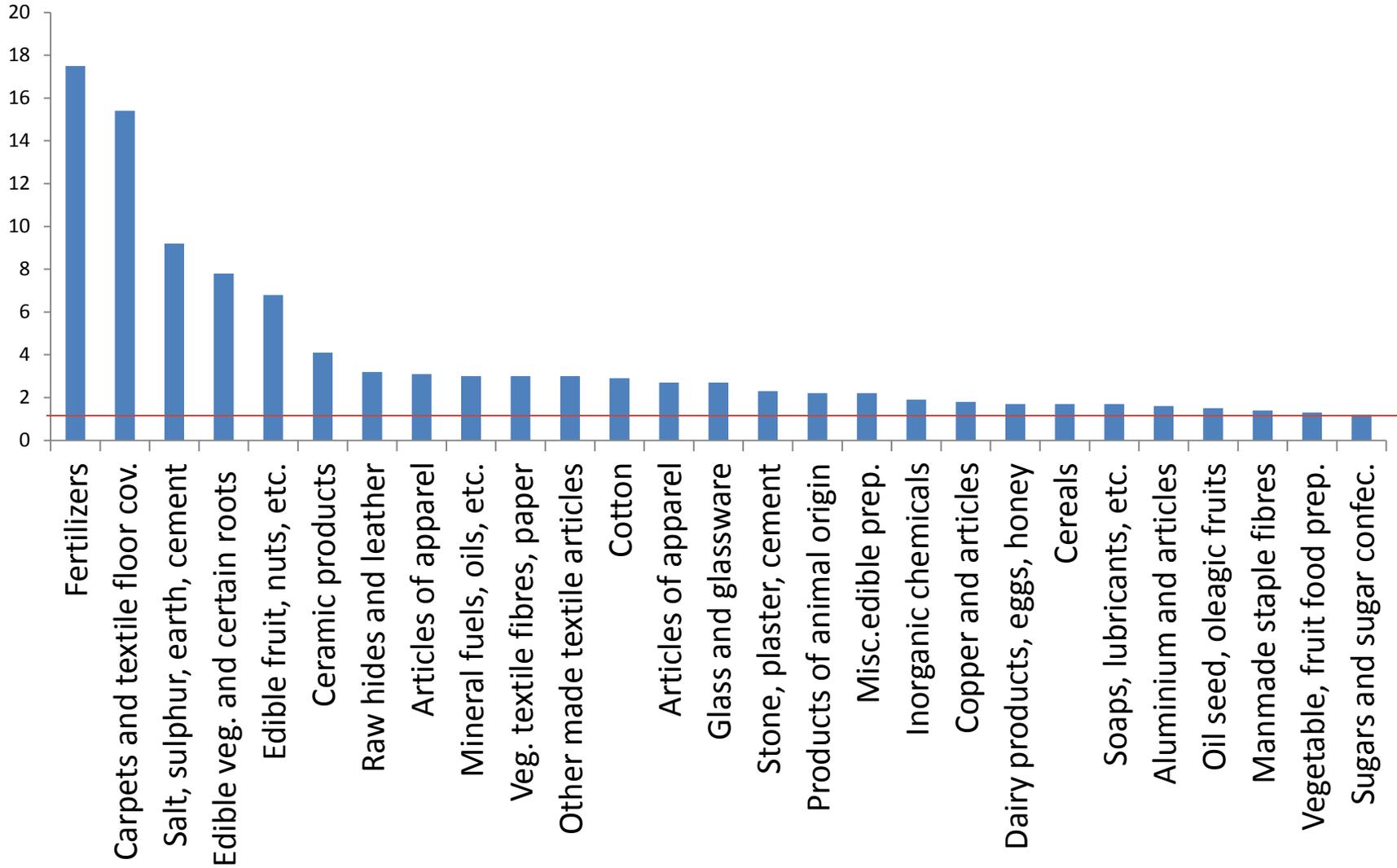
Source: The Central Bank of Egypt.

Sectoral Analysis

- The effect of trade on employment:
 - From a gender perspective, and according to the HOS model, women are likely to take advantage from trade if countries start to export goods or services using intensively female labor.
 - Becker (1971) argues that women should be expected to gain from trade independently of the resulting export structure, since trade leads to more competition and therefore urges firms to reduce their cost of discrimination by hiring more women.
 - Thus, it is important to identify the sectors where Egypt has a comparative advantage

Sectoral Analysis

Revealed Comparative Advantage Index, 2009



Sectoral Analysis

	Males	Females	Total		Males	Females	Total
Food and Beverage	19%	18%	19%	Food and Beverage	88%	12%	100%
Tobacco	1%	1%	1%	Tobacco	88%	13%	100%
Textiles	10%	14%	10%	Textiles	83%	17%	100%
Garment	7%	39%	11%	Garment	53%	47%	100%
Leather Goods	2%	4%	2%	Leather Goods	78%	22%	100%
Wood Product (except furniture)	3%	1%	3%	Wood Product (expt Furniture)	97%	3%	100%
Paper	2%	1%	2%	Paper	90%	10%	100%
Publishing and Printing	3%	2%	3%	Publishing and Printing	92%	8%	100%
Coke and Petroleum Products	5%	4%	5%	Coke and Petro. Products	89%	11%	100%
Chemical Product	7%	9%	8%	Chemical Product	85%	15%	100%
Rubber Product	1%	0%	1%	Rubber Product	100%	0%	100%
Non-metallic Mineral	10%	1%	9%	Non-metallic Mineral	98%	2%	100%
Basic Metal	3%	1%	2%	Basic Metal	96%	4%	100%
Metallic Product	8%	0%	7%	Metallic Product	100%	0%	100%
Machinery and Equipment	5%	1%	5%	Machinery and Equipment	96%	4%	100%
Electrical Equipment	1%	1%	1%	Electrical Equipment	71%	29%	100%
Radio, TV, and Com. Equip.	1%	1%	1%	Radio, TV, and Com. Equip.	90%	10%	100%
Medical Equipment	0%	1%	0%	Medical Equipment	60%	40%	100%
Other Transport Equipment	1%	1%	1%	Other Transport Equipment	86%	14%	100%
Furniture	14%	0%	12%	Furniture	100%	0%	100%
Total	100%	100%	100%	Total	87%	13%	100%

Source: Constructed by the author from ELMPS, 2006.

Sectoral Analysis

- By observing the most important sectors intensive in female labor:
 - Textiles and garments, retail and trade; and education and health rank first.
 - In particular, textiles and garments are witnessing a significant openness at both national and international levels:
 - Dismantling of the MFA
 - QIZ Protocol
 - Women are likely to take advantage from this sector.

Empirical Evidence: Macro

$$\Delta l_t = \alpha + \beta_1 \Delta y_{t-1} + \beta_2 \Delta w_t + \beta_3 INV_t + \beta_4 \Delta x_t + \varepsilon_t$$

where l is log of employment;

y is log of real GDP;

w is log of real wages;

INV is the ratio of gross fixed capital formation (GFCF or investment) to GDP;

x stands for the log of real exports;

and ε is the discrepancy term.

- Note that the lower-case letters denote logs.
- This model is estimated using annual data (1960-2009)
- Data: come from WDI and national accounts.

Results

	1960-2009		
	(1)	(2)	(3)
Log(Exports)	0.039*	0.038*	0.043*
	(0.020)	(0.021)	(0.023)
Log(GDP-1)	0.353***	0.358***	0.354***
	(0.043)	(0.048)	(0.050)
Inv/GDP		0.006	0.000
		(0.069)	(0.075)
Inflation			-0.000
			(0.000)
Observations	47	43	43
R-squared	0.789	0.774	0.777

	1990-2009		
	(1)	(2)	(3)
Log(Exports)	0.037*	0.040*	0.056***
	(0.019)	(0.020)	(0.018)
Log(GDP-1)	0.475***	0.475***	0.449***
	(0.047)	(0.051)	(0.046)
Inv/GDP		-0.082	-0.080
		(0.097)	(0.081)
Inflation			-0.001*
			(0.000)
Observations	19	19	19
R-squared	0.920	0.922	0.941

Notes: i. Robust standard errors in parentheses

ii. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

iii. First differences have been used to control for unit-roots.

Empirical Evidence: Micro

- The impact of trade on employment: a Probit model

$$Prob.Empl = \alpha_1 + \alpha_2 X_s + \alpha_3 M_s + \alpha_4 Z_{ig} + \epsilon_{igs}$$

- The impact of trade on wages, a human capital model:

$$Log(Wage)_{igs} = \beta_1 + \beta_2 X_s + \beta_3 M_s + \beta_4 Z_{ig} + \epsilon_{igs}$$

Exports shares (X_s), import penetration (M_s) of the sector where the individual is working, individual characteristics (Z_{ig}) such as education attainment measured by the number of years of schooling, years of experience and years of experience squared, membership in a trade union and regional dummies.

Results

- Impact on employment:
 - Being a female reduces the probability of working (given the fact that private sector employers prefer not to hire females
 - Imports do not affect the probability of working: employment is not negatively affected by import penetration.
 - Whereas exports have a positive and significant impact on the probability of being employed for females, they do not affect the one of males.

[Female share doubling in export sector (garments):15% in 1998 to 30% in 2006 (Assaad and El Hamidi, 2009)].

Results, cont.

- Impact on wages:
 - Being a female reduces wages!
 - Imports do not have a significant impact on wages.
 - Exports have a positive impact on the male wages. But there is no evidence that they affect female wages. T

Conclusion and Policy Implications

- The private sector in Egypt needs to be more hospitable to married women: some gender policies need to be promoted aiming at reducing the double burden of family vs. work:
 - promoting the formalization of private employment,
 - providing publicly-financed childcare services,
 - encouraging employers to offer part-time jobs for female workers.
- Since exports had a sizeable impact on employment, Egypt should pursue its liberalization efforts as well the conclusion of new trade agreements:
 - More attention has to be attributed to non-tariff barriers as well administrative barriers to trade.
 - The trade literature showed that removing red tape costs should increase exports diversification, especially in developing countries (Zaki, 2011).

Conclusion and Policy Implications

- As Egypt has a comparative advantage in textile and garments that are highly intensive in female workers, the government must put in place a policy aiming at developing these sectors:
 - Providing technical training for these workers to increase their productivity in order to better face the fierce competition.
- New mechanisms have to be implemented to attract the informal sector into the mainstream business community:
 - Women's participation is expected to increase since this sector is a major contributor to females jobs.
 - To formalize the informal sector: simplifying the rigid regulations that pushing employers and workers into the informal sector
 - Consequently, the informal sector can benefit from the trade openness effects when it is formalized.

Thank you for your attention