What accompanying policies are needed to reap employment benefits in Egypt, Morocco and Tunisia?

TRADE, EMPLOYMENT AND POST-COVID INTEGRATION IN GLOBAL VALUE CHAINS (GVCS)

July 27, 2021, 15:00-17:30 Paris Time (09:00-11:30 AM EDT)
Our paper contributes to a growing literature assessing the impact of rising exports.

Several studies capture the impact of import competition and reduction in tariffs on local labor market outcomes in developed countries, particularly the United States and Europe. Some examples include: Romer, 1999; Noguer, Marta and Siscart Marc, 2005; Bhagwati and Srinivasan, 2002; Dollar and Kraay, 2004; Autor et al., 2013; Hakobyan and McLaren, 2016; Dix-Carneiro and Kovak 2017; Caliendo, Dvorkin, and Parro 2015; Harrison, McLaren, and McMillan 2010; McLaren 2016; Artuç and McLaren 2014.

Examples include Porto 2006; Marchand 2012; Nicita 2009; Nicita, Olarreaga, and Porto 2014.

Very few studies by academics and WB colleagues assessing the impacts of exports on labor market outcomes include McCaig and Pavcnik 2018, Artuc et al. 2019, Robertson et al. 2020; Robertson et al. 2021; Engel et al. 2021.
Main contributions of this paper

- Expands on the nascent literature on exports and local labor markets.
- Seminal contribution on analyzing the local labor market impacts of trade in the MENA region.
- Its empirical approach offers a replicable identification strategy for the labor market impacts of liberalization policies.
- Assesses the impact of trade liberalization policies and identifies a broken link between trade and labor markets in a developing economy.
- Provides possible explanations for the broken link.
OVERVIEW OF EGYPT’S TRADE SITUATION

• Egypt signed several trade agreements and implemented liberalizing trade policies.

• Exports continue to remain concentrated in products that are weakly traded in global markets.
  • For example, cotton, fertilizers, tobacco and oil seeds, for which Egypt’s share in global trade has been growing in the past few years but global demand has been declining.
  • Country is losing competitiveness in textiles, cement, aluminum, ceramic, and chemical as its share of world’s trade in these products has declined between 2012-2016 (Zaki and Youssef, 2019).

• Exports also remain limited to traditional markets.
  • Each product that Egypt exports goes to nine markets, on average (Egypt Private Country Diagnostic, 2020)

• Export activity continues to remain heavily concentrated in a small number of regions of the country, with poorest regions appear to have no linkages to overseas markets through exports.
INSTITUTIONAL REFORMS

Aimed to foster economic growth

- Domestic price liberalization
- Privatization Reforms
- Trade liberalization
- Removed government’s participation in the economy
- Remove business regulations
- Fiscal reform
- Foreign exchange market liberalized
# Egypt’s Trade Agreements

<table>
<thead>
<tr>
<th>FTA</th>
<th>Entry Force Year</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK-Egypt</td>
<td>2021</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>MERCOSUR</td>
<td>2017</td>
<td>Argentine, Brazil, Paraguay, and Uruguay</td>
</tr>
<tr>
<td>Agadir</td>
<td>2016</td>
<td>Tunisia, Jordan, and Morocco</td>
</tr>
<tr>
<td>European Free Trade Association (EFTA) - Egypt</td>
<td>2007</td>
<td>Iceland, Liechtenstein, Norway, the Swiss Confederation</td>
</tr>
<tr>
<td>Turkey-Egypt</td>
<td>2007</td>
<td>Turkey</td>
</tr>
<tr>
<td>Pan-Arab Free Trade Area (PAFTA)</td>
<td>1998 but completed in 2005</td>
<td>18 Arab countries (Iraq, Libya, Morocco, Qatar, Saudi Arabia, Syria, Tunisia, UAE, Yemen, etc.)</td>
</tr>
<tr>
<td>EU-Egypt Association</td>
<td>2004</td>
<td>European Union</td>
</tr>
<tr>
<td>Common Market for Eastern and Southern Africa (COMESA)</td>
<td>In 1998 Egypt became a member</td>
<td>19 African countries (Kenya, Ethiopia, Malawi, Rwanda, Somalia, Tunisia, Uganda, etc.)</td>
</tr>
<tr>
<td>Non-reciprocal arrangements that establish tariff preferences to Egypt under the Generalized System of Preferences (GSP).</td>
<td>Multiple dates</td>
<td>Australia, Belarus, Canada, Japan, Kazakhstan, Russia, Turkey and the US</td>
</tr>
</tbody>
</table>
Egypt has followed a liberal trade policy over time.
Undiversified trade basket and export partners

Number of products exported
Source: WITS - Country Profile

Merchandise exports by destination, Egypt, 1910 to 2014
Figures correspond to the value of merchandise exports by destination as a share of GDP. All partner countries are classified into income groups according to the latest World Bank classification.

Source: Fouquen and Huget (CEPII 2016)
OVERVIEW OF EGYPT’S LABOR CHALLENGES

• Growth in Egypt has been steady and relatively high, and despite its growing trade openness, it continues to perform poorly with respect to formal sector job creation and earnings, negatively affecting poverty and share prosperity outcomes.

• Job creation in Egypt is concentrated in smaller scale, less formal and less productive economic activities (Adly, 2020; Assaad, Krafft, Rahman, & Selwaness, 2019).

• The labor market is geographically segmented. The share of formal employment and total employment is also higher in metropolitan areas and Lower Egypt governorates than in Upper Egypt, particularly in governorates that are not proximate to Cairo.

• Weekly mean wages experienced a recent decline in the period analyzed (2009-2017). Through time, wages for female workers have been consistently lower than those for males, and the gender wage gap has not fallen significantly. Further, returns for higher education have decreased over time.
Wages saw a decline and Unemployment rate remains high

Real average weekly earnings, Egypt 2010-2018

Unemployment Rates Egypt 1991-2019

Source: Egypt Labor Market Panel Surveys of Households
Informality and FLFP have remained stubborn

Informality rates in Egypt, 2009-2017

Female Labor Force Participation in Egypt, 2009-2017

KEY RESEARCH QUESTIONS

1. Do trade agreements produce the same increase in exports in Egypt as has occurred in other countries?

2. Do higher exports generate better local labor market outcomes in Egypt?
EMPIRICAL APPROACH

**Trade Policy**
- Trade Agreements
- Institutional Reform

**Trade Flows**
- Exports
- Imports

**Labor Markets**
- Wages
- Informality

**PPML Gravity Model**
Annual bilateral trade flows from 1996 to 2018 from the COMTRADE database.
Bilateral information on transport costs and tariff barriers from the (CEPII) gravity dataset.

**Export-focused Bartik Approach:**
Cross-sectional LFS data from 2009 to 2018 matched with Egypt's trade data.
Starting from a dataset of 733,786 observations covering 29 years (1990-2018) and 182 countries, we estimate that the overall average increase in trade from regional (including bilateral) trade agreements is about 25 percent.

**MAIN FINDING:** Egypt trades less than other countries, holding the other gravity variables constant. However, Egypt experiences an increase in trade much more than the “average” increase due to a trade agreement. (See table to the left).

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt Total</td>
<td>-0.794*</td>
<td>-0.794*</td>
<td>-0.794*</td>
</tr>
<tr>
<td></td>
<td>(0.457)</td>
<td>(0.457)</td>
<td>(0.457)</td>
</tr>
<tr>
<td>Egypt as Importer</td>
<td>0.120</td>
<td>-0.152</td>
<td>0.480***</td>
</tr>
<tr>
<td></td>
<td>(0.435)</td>
<td>(0.151)</td>
<td>(0.137)</td>
</tr>
<tr>
<td>Egypt as Exporter</td>
<td></td>
<td>-1.077**</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.445)</td>
<td></td>
</tr>
<tr>
<td>Regional Trade Agreement</td>
<td>0.249***</td>
<td>0.250***</td>
<td>0.248***</td>
</tr>
<tr>
<td></td>
<td>(0.058)</td>
<td>(0.058)</td>
<td>(0.058)</td>
</tr>
<tr>
<td>Egypt x RTA</td>
<td>0.052</td>
<td>-0.152</td>
<td>0.480***</td>
</tr>
<tr>
<td></td>
<td>(0.130)</td>
<td>(0.151)</td>
<td>(0.137)</td>
</tr>
<tr>
<td>Observations</td>
<td>733,786</td>
<td>733,786</td>
<td>733,786</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.873</td>
<td>0.873</td>
<td>0.873</td>
</tr>
</tbody>
</table>

Notes: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. RTA stands for Regional Trade Agreement. Egypt Total is a dummy variable equal to one if Egypt is either an importer or exporter. GDP, distance, common currency, contiguity, GATT/WTO membership, and common currency included as controls. PPML estimates.
**BARTIK ANALYSIS: WAGE RESULTS**

- **Impact on wages:** Areas (markaz or kism) that are more exposed to an export shock (a USD 100 increase) experience a 207.85 Egyptian pound decrease in average wages relative to those less exposed, in the short-run (2009-12).

- We see some dissipation of this effect over 2009-2015 in terms of both magnitude and significance of the increase.

- At least in the short run (between 2009-2015), these effects from positive export shocks seem to have a differentiated impact on different types of workers. Workers in services sector, males, and low skilled workers seem to be affected the most in terms of wages.
SUMMARY OF FINDINGS

• At the national level, trade agreements increase exports than the "average" agreement to increase Egypt's trade flows.

• At the local level, we do not find a statistically significant relationship between domestic local labor market outcomes and exports. Labor market responses to export shocks differs across regional labor markets in the short run, but these effects seem to dissipate gradually and remain statistically insignificant for most types of workers in Egypt.
WHY IS THE LINK BETWEEN LABOR MARKETS AND TRADE BROKEN IN EGYPT?

Our paper suggests some possible explanations for the broken link between trade and labor markets:

• **Composition of Egypt’s low diversified export basket in goods, with eroding global demand**: Oil exports account for almost a fourth of its exports, followed by apparel, fertilizers, and fruits – and since 2010, none of the non-oil exports have managed to take off- a good reason for Egypt to rethink its export basket.

• **Egypt doesn’t enjoy the low-cost advantage**: Egypt’s wage levels are one of the highest among countries that export the same goods, suggesting that it has a relatively weak comparative advantage in currently exported goods
GVC PARTICIPATION IN MAJORITY MENA COUNTRIES IS LOW

Regional GVCs are minimal in MENA

Foreign added value in exports, 2018

Global trade faces a restructuring of GVCs due to COVID-19 and increasing calls for GVC regulations in the EU (a major trade partner for MENA countries such as Morocco, Tunisia, and Egypt).

Since MENA countries have low GVCs participation, this could be an opportunity to increase their involvement.

For example: COVID-19 has allowed Tunisia to reposition itself within global value chains to take advantage of the near-shoring trend that seems to be emerging – especially for critical products and services (such as pharmaceuticals, medical, agribusiness, and tourism), targeting both European and Sub-Saharan markets.
But reshuffling of GVCS will also have distributional implications that need to be carefully assessed.

- If openness is achieved and trade increases, it will mostly benefit MENA’s largest cities.

- Firm structure will determine employment opportunities in a more open economy.

- It is not only about more trade but looking at the export basket composition and focusing on exporting goods with a global growing demand.
### Caveats of methodology

- **Captures only differential effects:** How much a district benefits relative to another district.

- **Non-linear effects:** Larger shocks can lead to a substantially larger impact.

- **Dynamic gains from trade cannot be captured:** For example, increased FDI, innovation, spillovers to human capital etc.

### Considerations in Future Work

- **The importance of Imports and position in Global Value Chains:** Egypt also relies heavily on imported raw materials and inputs for both domestic production and exports (for example, the manufacturing sector imports about 48 percent of intermediate inputs). We include imports in separate analysis.

- **The impact of external shocks such as COVID-19 on reshuffling value chains and associated opportunities and challenges**

- **Consider firm structure to explain the broken link.** Test whether excess capacity, prevalence of public firms or firms’ size drive the labor market results.
A TWO-STAGE ECONOMETRIC ANALYSIS

First stage: We estimate the contribution of US and European Union import demand to the increase in Egyptian exports

Second stage: We estimate the effect of an increase in exports on local economic outcomes. These economic outcomes would include informality rates and wages for different worker types (male, female, rural, skilled, unskilled, young, and old)

$$y_{t+n}^d - y_t^d = \beta_0 + \beta_1 x_{t,t+n}^d + X_c \beta_c + \epsilon_d,$$

- \(y_{t+n}^d - y_t^d\): change in outcomes (average wage, employment, etc.)
- \(x_{t,t+n}^d\): trade exposure index (change in exports weighted by sectoral employment).
- \(X_c\): control variables (for example \(y_t^d\) to control for trends)
• **Trade Exposure Index**

\[
x_{t,t+n}^d = \sum_i \frac{L_{t}^i (M_{t+n}^i - M_{t}^i)}{(\sum_j L_{t}^j)^i},
\]

• \(x_{t,t+n}^d\): the change in exports per person in an area* between \(t\) and \(t+n\) (for example between 2009 to 2012, or 2009 and 2014 or 2009 and 2017).

• \(M_{t+n}^i\): the exports of Egypt to the US and European Union destinations of industry “i” products

• The index \(x_{t,t+n}^d\) is weighted by industry employment within an area \(L_{t}^i\) and calculated as per person.
NON-OIL EXPORTS HAVE FAILED TO TAKE OFF

Inconsistently Rising Trade Values
Imports and exports of goods and services, constant 2010 $US

Many Non-Fuel Exports Peak in 2010

Top Exports without Fuels
- Apparel
- Fruits
- Iron & Steel
- Precious Metals
- Fertilizers

Year
1990 2000 2010 2020

Imports
Exports

Values
50 100 100
520 560 600 640 680 720

Constant 2010 $US

4.00e+09 3.00e+09 2.00e+09 1.00e+09
Despite growing GDP and GDP per capita, Real wages have declined for all categories of workers:

- Earnings have declined since 2006 to 2018 for men and women, both formal and informal employees, and for workers at all educational levels (Said, Galal, & Sami, 2019)
- Using the Egypt Labor Market Panel surveys of households, we observe a decline in real earnings of 9 percent between 2012 and 2018. That reduction in labor income might be a key contributor to the poverty increase that occurred between 2015 and 2017–18.

![Real average weekly earnings, Egypt 2010-2018](chart.png)

Source: Bulletin of Employment and Wages
Regional concentration in economic activity

- According to the latest round of the Labour Market Panel Survey (ELMPS), there persists widespread regional divide in employment growth and job quality between Upper and Lower Egypt.

- There also exists some variations in average real wages across governorates overtime i.e. between 2008 and 2017 (as shown in the figure).

- In addition, estimates based on the recent round of ELMPS highlight a steep decline in employment shares of labour-intensive manufacturing sectors like garments and furniture. On the other hand, employment in low-end services like construction, storage and communication has been expanding.

Source: LFS, 2008-2017
The informal economy is the main employer in MENA countries and Egypt

Share of non-agricultural employment in the informal economy, 2005-10

Informality rates in Egypt, 2009-2017

* Data refer to the period 2000-04.

Source: Own estimation using EMLPS
The gravity model is the most common empirical tool used by economists to estimate factors that contribute to trade flows.

To increase bilateral trade, countries sign trade agreements to reduce trade costs associated with policy.

• Baier and Bergstrand (2007) and many others.

• Trade agreements usually reduce tariffs, which directly affect the cost of trade, and increasingly include other measures (such as rules of origin and labor provisions) that may also reduce trade costs.

In the case of Egypt, we compare the changes in trade that Egypt experiences in its trade agreements with the global average using a common gravity model estimated with the Poisson Pseudo Maximum Likelihood (PPML) method.
Bartik analysis: concept

• We begin by rigorously estimating the relationship between the change in national exports on local labor markets using the share of local employment in each industry as weights.

• The intuition is that a region will experience a larger effect of an increase (or decrease) in exports if there is a larger share of workers in the labor market working in the industry experiencing increasing (or decreasing) exports. This approach thus helps us identify the effect of a change in exports on local labor market outcomes (like wages, employment, and informality).
The pandemic will hit specially hard the most vulnerable.

Poverty Projections pre and post-Covid

Women labor force participation rate, 2019

Source: World Bank staff calculations
Note: Poverty is defined at the $5.50 poverty line.