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Revolutionary Changes in Institutions and Firm Exports

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Abstract

In general, it is difficult to identify the impact of institutions on trade due to well-known endogeneity problems. This is why we need a shock on institutions that is orthogonal to (same time) trade flows. One of these shocks can be revolutions, being defined as a radical overthrow of a regime by a movement of revolt, leading to the destruction of current institutions to rebuild new ones. Hence, in this paper, we ask what happens to firm level exports in an unstable period of a revolutionary change in institutions. To do so, we choose Egypt's 2011-revolution as it can be considered a quasi-natural experiment to study different sub-periods of transitions and de jure institutional changes in quite short period. We use firm-level exports data at monthly levels Egyptian Customs data from January 2005 to October 2016. Exports are observed at the firm, product (hs4), destination and monthly levels. Our main findings show that exporters are hurt, as expected, in the wake of a revolution. However, the absence of institutions (period of transitions) might hurt less than the setting of new, yet unconsolidated, institutions (non-market friendly/non-liberal institutions). In addition, the extensive margin appears to contribute to aggregate export losses more than the intensive margin (consistent with uncertainty to matter more than observable transaction costs per se). Finally, some informal or private institutions (long-term relationships/networks, cultural networks) appear as a substitute (dampen the losses from absence of institutions).

J.E.L.: F10, F12, F14, D74.

Keywords: Egypt, Exports, Institutions, Revolution, Political Instability

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1. Introduction

Conceptually, it is difficult to identify the role of institutions on trade due to well-known endogeneity problems (i.e. Nunn and Trefler, 2014; Beverelli et al 2024). Thus, to control for this reverse causation, one needs a shock on institutions that is orthogonal to (same time) trade flows. We argue that, in our case, revolutions can fill this condition. Indeed, a revolution represents a radical overthrow of a regime by a movement of revolt, which can lead to the destruction of current institutions to rebuild new ones. This shock is also exogenous: it appears out of nowhere, its time of start usually un-anticipated, some institutions are destructed but creating others takes time, which can create an unstable lasting period of change in institutions after a revolution. Thus, in this paper, we try to identify what happens to firm level exports in an unstable period of a revolutionary change in institutions. To do so, we focus on the case of Egypt.

Our paper bridges the gap between three strands of literature. The first strand on the nexus between trade and institutions is rich (Nunn and Trefler, 2014); Beverelli et al., 2024). The second one pertains to trade and civil conflicts/tensions (Glick and Taylor, 2010; Martin, Mayer and Thoenig, 2008,; Korn 2022; and Ksoll, Machiavello and Murjaria, 202) where conflicts are modeled as additional transaction costs. The third one is related to the nexus between trade, shocks and uncertainty (e.g. Bricongne, Fontagné et al., 2011; Hanley and Limao, 2015 and 2017; Mejean, Martin and Parenti, 2023; Carballo, Handley and Limao, 2022; 2024).

The Egyptian case is interesting for several reasons. First, we choose it as it experienced a period of revolution in 2011 followed by institutional changes. Thus, it represents a quasi-natural experiment to study different sub-periods of transitions and de jure institutional changes in quite a short period. Second, the period 2011 to 2014 witnessed many demonstrations and protests. This has constituted an important shock for Egypt, following that of the world financial crisis in 2008-2009. While the latter had hit the world economy thus reducing world demand, the former events have been more localized in Egypt (and in some of the Middle East and North Africa (MENA) region countries). In fact, since 2011, around 6,200 violent events, about 4500 of which are related to riots/protests took place in Egypt. Third, from a trade perspective, Egyptian foreign trade figures have deteriorated abruptly after the 2008 crisis and then continued to go down since the Arab Spring and terrorism events after 2011. Exports and imports with respect to GDP have been reduced by 15 to 25% since 2011.

To answer these questions, we use firm-level exports data (GOEIC, Egyptian Customs data) from January 2005 to October 2016. These data are observed at the firm, product (HS4), destination and monthly levels. Our main findings show that exporters are hurt, as expected in the wake of a revolution. Moreover, the absence of institutions (period of transitions) might hurt less than the setting of new, yet unconsolidated, institutions (non-market friendly/ non-liberal institutions). At the trade margins level, the extensive margin appears to contribute to aggregate export losses more than the intensive margin (consistent with uncertainty to matter more than observable transaction costs per se). Finally, some informal or private institutions

(long-term relationships/networks, cultural networks) appear as a substitute (dampen the losses from absence of institutions).

The paper is organized as follows. Section 2 presents the general background and the Egyptian context. Section 3 presents some stylized facts. Section 4 explains the theoretical framework with the main model predictions. Section 5 is dedicated to methodology and data. Section 6 presents the empirical findings and Section 7 concludes.

2. Background and Context

Between 2011 and 2016, Egypt experienced several political events and instability that created a significant uncertainty because of non-consolidated institutions and changing political regimes. Chronologically speaking (see Figure 1), many demonstrations and riots against Mubarak's ruling government took place in January and February 2011. After he stepped down on February 11th, the first transition period started in March 2011 until June 2012 led by the Supreme Council of the Armed Forces (SCAF). This period, while not conflictual, was characterized by the absence of a political regime, which led to a rather fragile situation and a significant uncertainty.

In June 2012, the first elections took place and Mohamed Morsi (the candidate of the Muslim brotherhood from the Freedom and Justice Party) became Egypt's first elected civilian president. Yet, as soon as he came into power, he reasserted civilian control and granted himself absolute powers at the executive and legislative levels. This period also witnessed a new constitution drafted by an Islamist-dominated assembly and approved by a referendum. This led to more polarization in the country and thus a surge in the conflicts' intensity (see Figure 2). Hence, in June 2013, the country witnessed nationwide protests calling for the resignation of President Morsi. In July 2013, the army, led by General Abdel Fattah El-Sisi, removes Morsi from power and suspends the constitution and named Adly Mansour the head of the supreme Constitutional Court an interim president. This was the second period of transition that was significantly conflictual as security forces dispersed pro-Morsi sit-ins, the government declared the Muslim Brotherhood a terrorist organization, and the Sinai Peninsula experienced several terrorist events and confrontations. In July 2014, General Abdel Fatah El-Sisi was elected, a new constitution was drafted and consolidated the regime of President Sisi, leading to a progressive drop in events.

Figure 1: Chronology of institutional changes

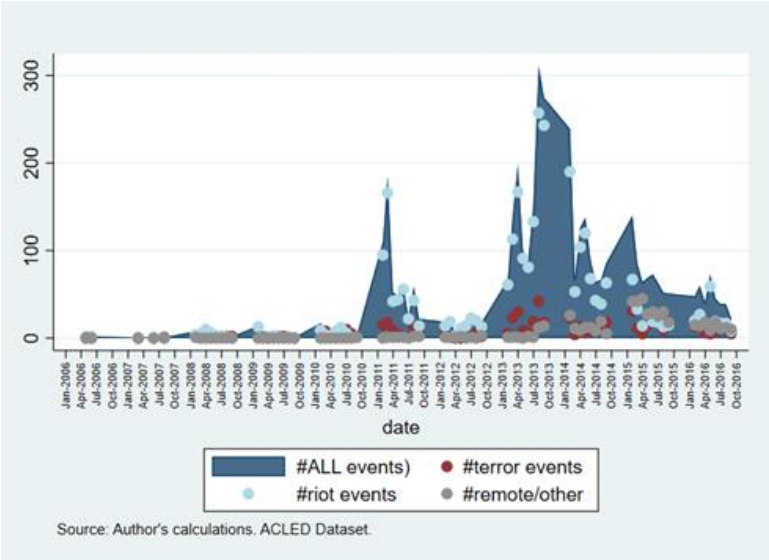
	Period 1	**Period 2**	**Period 3**	**Period 4**	**Period 5**
	Revolution →	Transition 1 →	Morsi Gov. →	Transition 2 →	Sisi Gov.
From	January 2011	March 2011	July 2012	August 2013	July 2014
To	February 2011	June 2012	July 2013	June 2014	now

Source: Authors' own elaboration.

These developments are confirmed by ACLED dataset. Figure 2 shows the surge of events in the wake of the political turmoil of 2011. Indeed, while most of these events were

chiefly riots[4] (blue dots) followed by terrorism events[5] (red dots), they were concentrated in specific periods of time with the highest level after the ouster of the Islamist President Mohamed Morsi in June 2013. Other events[6] were more frequent but very limited in terms of their number (the gray dots in Figure 2).

Figure 2: Monthly Events



If we look at the fatalities associated to monthly riots (see Figure 3), one can notice that they were also concentrated either during the revolution of January 2011 (especially after the death of 74 individuals in a match in Port-Said in February 2012); during the anti-Morsi demonstrations that took place in the first half of 2013 and other clashes that took place in August 2013. Hence, attacks and assassinations occurred with greater regularity after the summer of 2013, so too did counter-terror operations across the country, especially in North of Sinai. Moreover, while 50% of the attacks (around 1,343) have had claims of responsibility by established groups such as Ansar Bayt al-Maqdis (ABM) in North Sinai, Popular Resistance Movement and Revolutionary Punishment; or Hassm and Liwaa al-Thawra, the others took place in Wilayat Sinai.

At the institutional level, because of these changes, investors, exporters and importers faced several obstacles leading to a strong business uncertainty. First, this period witnessed foreign-exchange controls, which affected imports and profit repatriation (EBRD, 2016). Second, bureaucratic inefficiencies and lengthy trade procedures negatively affected exports

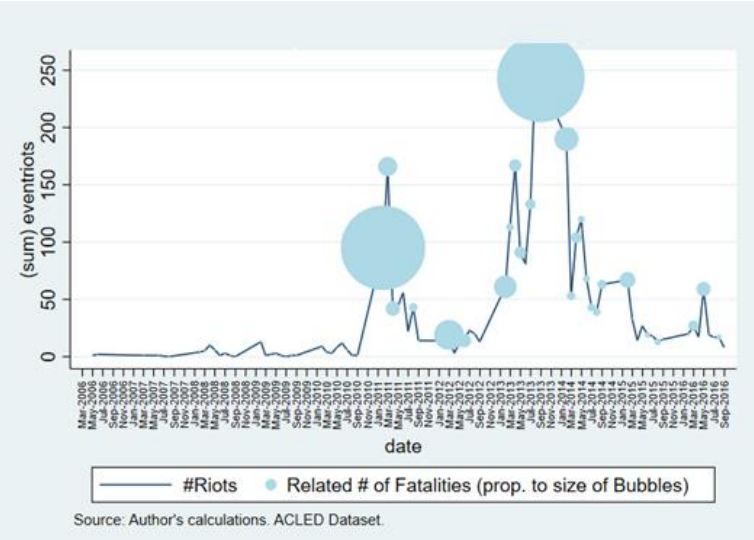
[4] Riots (Violent events where demonstrators or mobs engage in disruptive acts or disorganized acts of violence against property or people);

[5] Terrorism means violence against civilians, violent events where an organized armed group deliberately inflicts violence upon unarmed non-combatants).

[6] Other events include the following: *Demonstrations*: A public demonstration against a political entity, government institution, policy or group in which the participants are not violent; *Strategic development*: accounts for often non-violent activity by conflict and other agents within the context of the war/dispute. Recruitment, looting and arrests are included; *Battles*: Violent interactions between two organised armed groups; *Explosions/Remote violence*: One-sided violence events in which the tool for engaging in conflict creates asymmetry by taking away the ability of the target to respond.

and imports. Indeed, according to the World Bank Enterprise Survey, the share of Egyptian firms identifying customs and trade regulations as the biggest obstacle has been multiplied by 6.5 between 2013 and 2016 to reach 4.6% up from 0.7% (Zaki, 2024).

Figure 3: Monthly Riots and their fatalities



3. Data and Stylized Facts

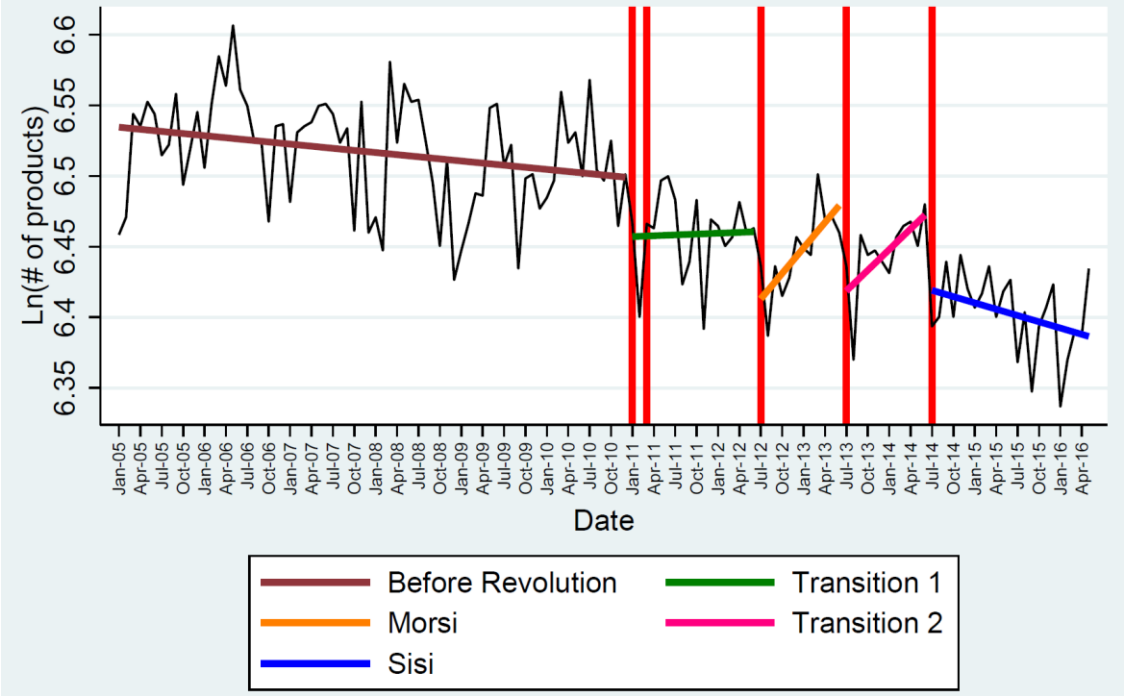
We have access to data on conflicts and tensions in Egypt provided by the ACLED dataset. This data source delivers information about the exact date of an event, the exact geo-localization coordinates and the number of fatalities and/or injuries due to the event.

On the trade side, we use the data provided by GOEIC at the monthly level. We already have access to yearly level data but we think that in order to identify clearly the effect of the events on trade flows, it is extremely important to coincide as much as possible the dates of the events with those of the date of registration of the flows being exported from Egypt. We have cross-checked the GOEIC data with the BACI-CEPII data on trade, one of the most used to run gravity equations. After aggregating up the monthly data to destination-product and yearly levels, we could indeed find good correlation between both datasets, for quantities of exports expressed in Tons (or Ton equivalents) and for values of exports with correlations between both datasets around 0.90.

Nevertheless, for a high proportion of flows at the firm level in the GOEIC, we have noticed that many firm level quantities were declared with positive figures while the corresponding values where registered as 0s (in the Egyptian currency and even more so, in Dollars). To anticipate the questions by the readers about the consequence of this truncation, our regressions are primarily based on the whole sample, around a million of observations. Here, all positive quantities in the GOEIC dataset are considered and the econometric model tries to look at the impact of the institutional changes on quantities at the finest level of observation (firm-product-destination-year and month of the year levels).

At the product level, the declining linear trend is even more pronounced since, over the period 2005-2016, a rationalization of the number of HS4 products has been observed with a significant shift downwards starting 2011 and with a steeper declining slope starting 2014. The latter figure might have to do with factors that are external to Egypt (probably linked to the reduction of world demand and the slowdown of Asia's growth). In any case, this is consistent with the idea that, during difficult times, firms tend to focus on less products or the ones they master most as it is shown in Figure 4. Meanwhile, severe troughs can be observed for periods with more riots and events. In addition, Figure 4 confirms the fact that because of institutional uncertainties, the decrease in the extensive margin measured by the number of products became more pronounced over time.

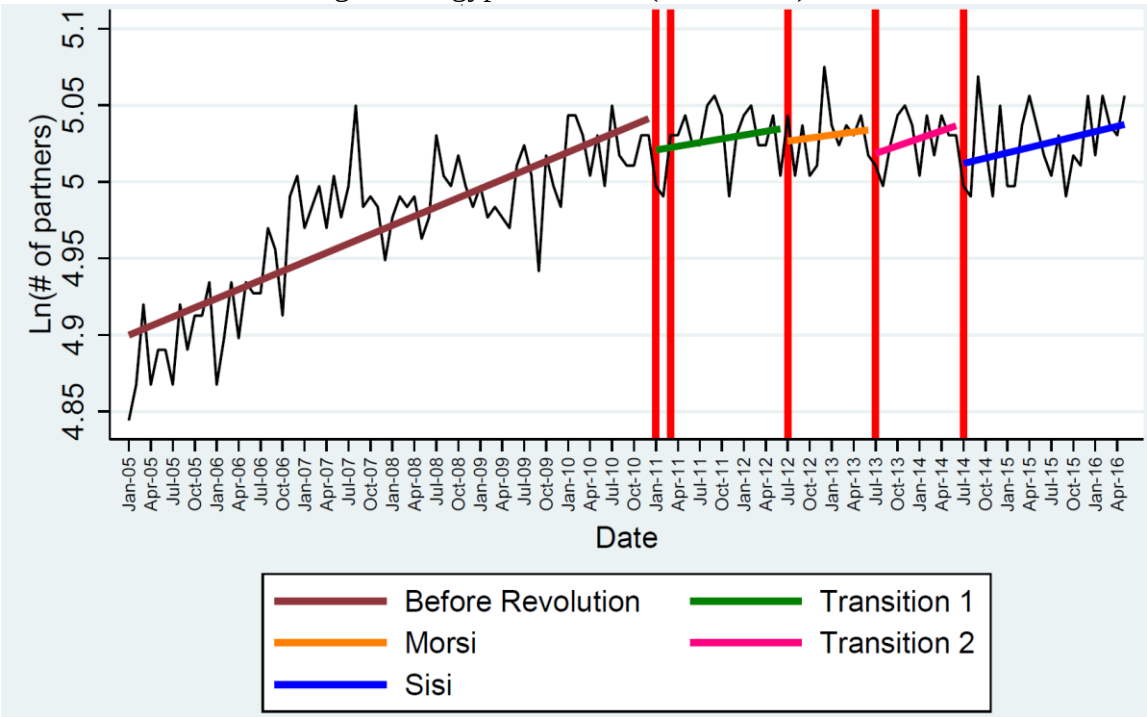
Figure 4: Exported Products in Egypt (2005-2016)



Source: Author's calculations. ACLED Dataset.

At the trade partners level, the rationalization effect was not observed. In fact, especially between 2005 and 2010, Egypt tended to diversify its markets by concluding different regional trade agreements and removing several non-tariff measures that affected both exports and imports. After the revolution of 2011 onward, the number of partners remained relatively stable despite a slight decline since 2014 (see Figure 5). Indeed, flows are reallocated across countries due to the degree of competition and competitiveness of exporters. Indeed, Egyptian exporters will avoid destination with a tougher competition since their competitiveness is partially eroded by political instability.

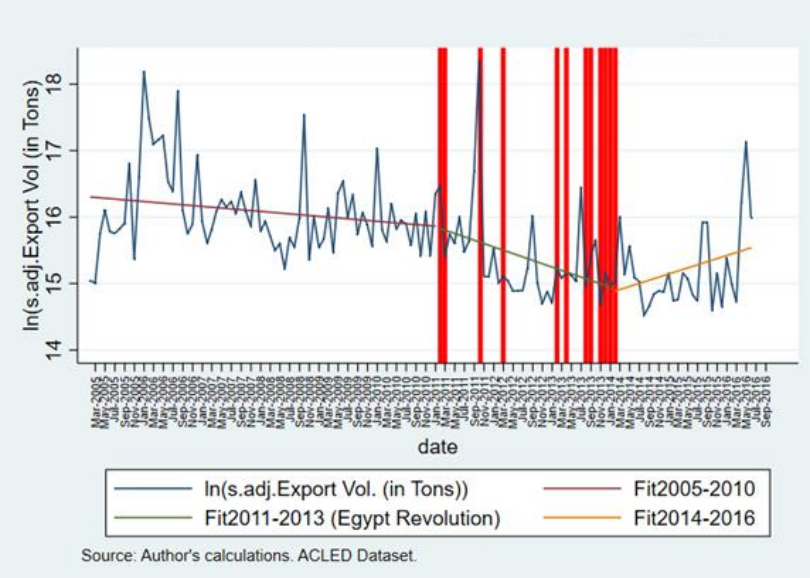
Figure 5: Egypt's Partners (2005-2016)



Source: Author's calculations. ACLED Dataset.
Intensive/Extensive Margins to Growth of Egyptian Exports.

At the intensive margin level, during the period of trade reforms (2005-2008), the total number of monthly business relationships between the Egyptian firms and the rest of the world (positive flows from GOEIC data) experienced a significant increase in tendency until 2010. Then, these flows decreased intensely with the revolution of 2011 (as highlighted by the green fitted line) and started to increase modestly to stabilize from 2014 to 2016. Hence, political instability might have led to a decrease in positive flows because of a higher uncertainty and higher transaction costs. When we analyze the evolution of total export volumes (Figure 6) at monthly dates, three main remarks are worth to be mentioned. First, during the pre-revolution period (2005-2010), while volumes of exports remained relatively stable in tendency, values of exports were dramatically increasing *a priori* due to increase in prices of Egyptian exporters, themselves being influenced by macroeconomic inflation in Egypt and world markets at that time. Yet, when political instability emerged in 2011, the downward trend of the volume of exports was strongly coupled with a decline in the values of exports but not at the same rate. At the firm level, this seems to indicate that export prices might not have been decreasing but rather increasing during the turmoil probably due to an induced increase in the costs of production or cost shipment. This might be also the result of a self-selection effect where a significant proportion of low-quality firms (low price firms) might have exited the market. In the last period, 2014-2016, these trends were rather reversed however, since exports volumes increased trivially coupled by a slight decrease in values of exports.

Figure 6: Export Volumes (in Tons) and Events



Note: Total monthly volumes shown here are seasonally-adjusted (i,e. monthly-adjusted) and specific-product-adjusted (adjusted to the nature of products). This is realized through a prior regression where each exported flow in volumes at the firm, month and hs4 product levels, is regressed on monthly and product fixed effects. The firm residuals of the volumes are then aggregated up to the monthly total. Of course, this is an imperfect measure of total volumes of exports, but we think that monthly changes in this total could give an idea about changes in the true volumes of Egyptian exports.

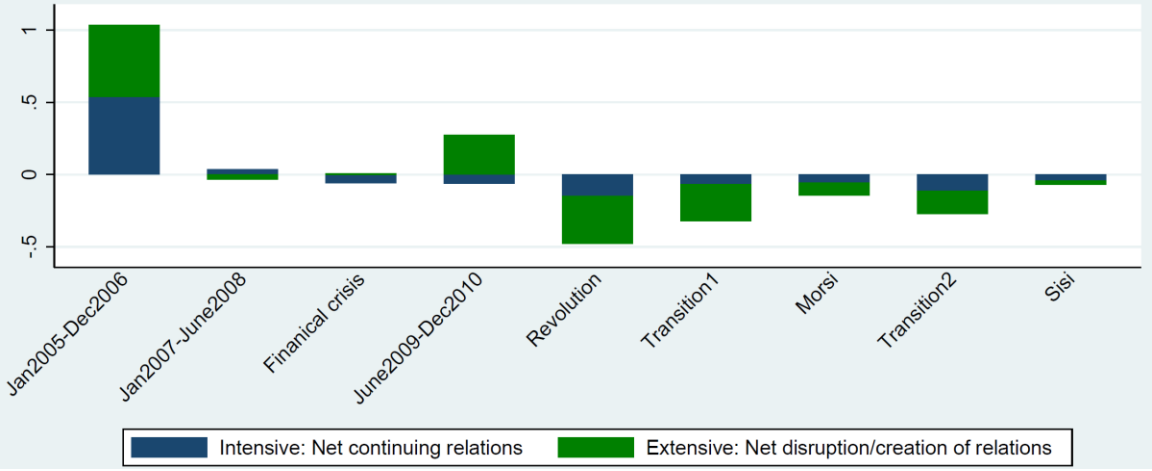
To better understand the trade dynamics, we follow Bricongne et al (2011) and Cabarello, Handley and Limao (2022, 2024) who propose the following method to decompose aggregate trade figures over time across intensive and extensive margins:

$$g_{fdkt} = \frac{y_t - y_{t-12}}{0.5[y_t + y_{t-12}]} \quad (1)$$

With g_{fdkt} an *elementary* mid-point growth in exports *y* between a month-year (*t*) (for instance January 2006) and a month-year (*t-12*) (for instance January 2005) for a firm *f*, exporting a product *k* to a destination *d* (market (dk)). This figure is delimited by -2 (exit situation) and +2 (entry).

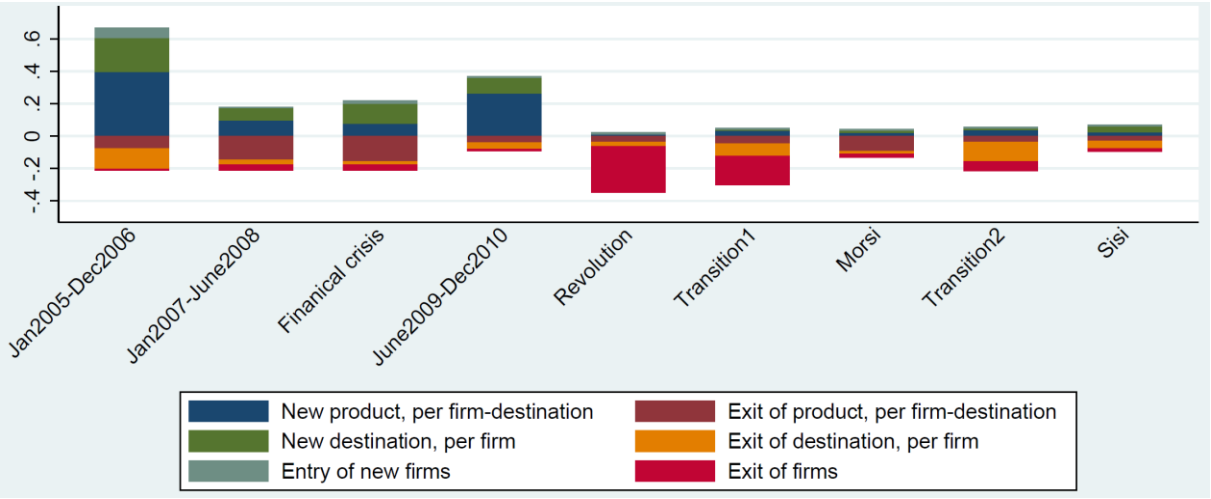
Figures 7 and 8 show the results of this decomposition and confirm three main points. First, over time, the negative effect of institutional uncertainties and political instability was more pronounced for the extensive margin than the intensive margin, as shown by the green bars in Figure 7. This was particularly the case in the revolution and the two transition periods. Second, in the extensive margin itself, the negative effect of institutional uncertainty was mainly due to firms' exiting from the whole market (red bar in Figure 8) or exiting from a specific destination (orange bar) or firms ceasing exporting specific products (dark red bar).

Figure 7: Intensive/Extensive Margins to Growth of Egyptian Exports



Source: Author's calculations. Egyptian Customs data for volume quantities.
Weights (shares expressed in 2010 values per destination and product, Global Trade Tracker data).

Figure 8: Decomposition of Extensive Contributions to Growth of Egyptian Exports



Source: Author's calculations. Egyptian Customs data for volume quantities.
Weights (shares expressed in 2010 values per destination and product, Global Trade Tracker data).

In a nutshell, with the surge of riots and other events in Egypt, while exporters kept their relatively geographically diversified structure of their markets, they rationalized the products they export and exported less quantities. In other words, the effect was more pronounced for the extensive margin than the intensive one.

4. Theory and conceptual framework

In order to have a better idea of how the events experienced by the Egyptian economy druing the 2011-2014 turmoil, might have been affecting the exports of the firms, we propose a simple set-up, built on two main settings: gravity models and firm-heterogeneity where an increase in both the fixed and the variable cost of exporting leads to lower exports.

Our main argument is that the increase in the fixed and variable costs is primarily due to insitutional uncertainties because of the absence of institutions (the absence of political

regime) in transition periods or the creation of new, yet unconsolidated institutions (weakening of contractual and property rights).

Prediction 1: The absence of institutions (period of transitions) might hurt less than the setting of new, yet unconsolidated, institutions (non-market friendly/non-liberal institution).

More precisely, uncertainty could arise from both demand and the supply sides. On the supply side, Egyptian producers might be less willing to invest in the short term which should be reducing exports in the medium term. As we study more what happens in the short run this effect is beyond the scope of our work, however. We are more interested in this paper in the rise of uncertainty from the demand side. Because of an uncertainty climate, buyers (here foreign importers) might be less willing to import from Egyptian export suppliers. Moreover, transportation networks could be further affected by the setting of security measures by the authorities (checkpoints, and banning access to some roads and ports), which leads to significant delays in exports and imports delivery. Second, producers might not receive on time raw materials or other intermediary inputs that they need to enable the production of their goods. This can have two main implications: first, more disorganization and disruption, reducing the firms' capabilities to produce, export or reach new markets (which affects the extensive margin); second a change in the behavior of importers towards Egyptian suppliers because of uncertain future production and delivery (which increases exits from export markets and reduces entry, both reflecting the extensive margin).

Prediction 2: Intensive and extensive margins of firm level trade are affected both affected by uncertainty. Yet, the extensive margin appears to contribute to aggregate export losses more than the intensive margin (consistent with uncertainty to matter more than observable transaction costs per se)

Yet, conditioning out for the size of the producers, exports to some destinations for some typical exporter might be more resilient than for others because of long standing networks and solidarity purposes, referring to what we call informal institutions. For instance, one would expect exports to Arab and Mediterranean countries to be more resilient than export to faraway countries.

Prediction 3: Some informal or private institutions (long-term relationships/networks, cultural networks) appear as a substitute (dampen the losses from absence of institutions).

The next section tries to empirically answer this question using firm-level data.

5. Methodology

Following a gravity-type equation, we transform our variables into growth values (thus removing all factors that are time invariant), one obtains:

$$g_{fdkt} = \text{a} + \alpha_1 . gD_{dkt} + \alpha_2 . \pi_{dkt} + \sum_{r=1\ to\ 5} \beta_r\ Instability._r + FE_f + FE_{dk} + u_{fdkt} \quad (2)$$

where g_{fdkt} is the growth of export, gD_{dkt} is growth in demand for k in destination d and time t and π_{dkt} measures the growth in prices (unit values) *k* at destination *d* and time *t*. Instability refers to the five periods of interest namely: revolution (first quarter of 2011), the first transition period (second quarter of 2011 until the end of the second quarter of 2012), the period of the Muslim brotherhood (third quarter of 2012 until the end of the second quarter in 2013), the second period of transition (from the third quarter of 2013 until the end of the second quarter in 2014), and finally the period following the election of president Sisi. These different subperiods measure the institutional changes that took place in Egypt. To control for unobservables, we introduce firm (FE_f) and destination product (FE_{dk}) fixed effect, and u_{fdkt} is the error term.

Our analysis is extended in several ways. First, we examine the impact of these institutional changes on different trade margins (intensive vs. extensive ones). Second, in the absence of formal institutions (especially in transition periods), other forms of informal institutions can substitute formal ones (Nunn and Trefler, 2014). To do so, we interact the subperiods of instability with a measure of product stickiness of relationships (long term duration of relationships) (Mejean et al., 2023). Third, we interact subperiods of instability with a relation with MENA countries (to test for a solidarity/altruism between culturally similar populations). Fourth, to test whether these institutional uncertainties go beyond specific subperiods but reflect a deteriorating trend over time, we replace the sub-periods by semestrial and annual dummies. Finally, to test the robustness of our results, we implement an event study.

6. Empirical Results *(in progress)*

Our empirical results confirm the previous testable hypotheses where the absence of institutions (transition periods) reduce more the extensive than the intensive margin. However, unconsolidated new institutions reduce even further exports, reflected in a higher coefficient for the sub-period of Sisi compared to other sub-periods (see Table 1). A more detailed look at the extensive margin, Table 2 shows that results of the extensive margin are manifested by a decrease in the entry of new exporters, the exit of existing ones and the decrease in the number of products. Yet, this deteriorating environment goes beyond specific sub-periods are Tables 3 and 4 show that semestrial and annual dummies are negative and increasing over time.

When such formal institutions deteriorate, informal ones can represent a substitute (Nunn and Trefler, 2014). In our case, we consider two informal institutions at the product and the destination levels. The former measures the product stickiness of relationships (long term duration of relationships), taken from Mejean et al. (2023). The second measures whether the

destination is a MENA country to test for a solidarity/altruism between culturally similar populations. Thus, in Tables 5-7, we interact these two variables with subperiods of instability. The results show that stickiness does play a role up till Morsi government, which explains why exporters of products with dense relationships between buyers and sellers are seldom hurt in the short run. However, afterwards, buyers cease to rely on Egyptian producers because of additional uncertainties and search for other suppliers. When it comes to the MENA region, similar results are obtained given that the interaction of subperiods of instability with a relation with MENA countries reduce the negative impact of instability on exports in the short run. Yet, after the Morsi sequence, the interaction becomes insignificant. Our results are verified by the event study presented in Figures 9 and 10.

6.1. Decomposing Trade Margins

Table 1: Changing Institutions and Firm level exports

	Intensive and Extensive	Intensive
Revolution	-0.387***	-0.121***
	(0.071)	(0.024)
Transition 1	-0.349***	-0.0997***
	(0.081)	(0.024)
Morsi	-0.360**	-0.0939***
	(0.118)	(0.026)
Transition 2	-0.473***	-0.103***
	(0.111)	(0.030)
Sisi	-0.636***	-0.139***
	(0.093)	(0.026)
Financial crisis	-0.121	-0.0105
	(0.124)	(0.035)
Demand (growth)	0.180***	0.124***
	(0.014)	(0.009)
Unit value (growth)	0.148***	0.0872***
	(0.024)	(0.016)
Constant	0.601***	0.0865***
	(0.078)	(0.023)
Observations	955445	243647
R^2	0.114	0.056
Firm FE	Yes	Yes
Destination-Product FE	Yes	Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.

Table 2: Changing Institutions and Firm level exports

	Exit	Entry	Number of products per firm-destination
Revolution	0.0331***	-0.0124*	-0.00955
	(0.005)	(0.006)	(0.010)
Transition 1	0.0310***	-0.0130*	-0.0320***
	(0.009)	(0.007)	(0.004)
Morsi	0.0264	-0.00581	-0.0504***
	(0.015)	(0.008)	(0.008)
Transition 2	0.0360**	-0.0238**	-0.0573***
	(0.014)	(0.008)	(0.008)
Sisi	0.0448***	-0.0269***	-0.0658***
	(0.010)	(0.007)	(0.007)
Financial crisis	0.0152	-0.00678	-0.00766
	(0.014)	(0.005)	(0.010)
Demand (growth)	-0.0112***	0.00993***	0.00424
	(0.002)	(0.001)	(0.005)
Unit value (growth)	-0.0114**	0.00770***	0.000348
	(0.004)	(0.002)	(0.005)
Constant	0.0713***	0.0902***	1.334***
	(0.009)	(0.004)	(0.009)
Observations	894700	894700	527697
R2	0.310	0.233	0.397
Firm FE	Yes	Yes	Yes
Destination FE			Yes
Destination-Product FE	Yes	Yes	

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.

6.2. Institutions fragility beyond politics

Table 3: Institutions fragility beyond politics – semestrial dummies

	Intensive and Extensive	Intensive
2011– Sem 1	-0.338***	-0.0846***
	(0.074)	(0.024)
2011– Sem 2	-0.380***	-0.107***
	(0.080)	(0.022)
2012 – Sem 1	-0.405***	-0.136***
	(0.108)	(0.026)
2012 – Sem 2	-0.373**	-0.0939**
	(0.118)	(0.030)
2013 – Sem 1	-0.395***	-0.111***
	(0.117)	(0.026)
2013 – Sem 2	-0.471***	-0.126***
	(0.120)	(0.028)
2014 – Sem 1	-0.525***	-0.102***
	(0.123)	(0.030)
2014 – Sem 2	-0.515***	-0.130***
	(0.125)	(0.028)
2015 – Sem 1	-0.609***	-0.152***
	(0.116)	(0.027)
2015 – Sem 2	-0.728***	-0.149***
	(0.108)	(0.029)
2016 – Sem 1	-0.842***	-0.172***
	(0.095)	(0.030)
Financial crisis	-0.134	-0.0151
	(0.125)	(0.035)
Demand (growth)	0.176***	0.122***
	(0.015)	(0.010)
Unit value (growth)	0.142***	0.0830***
	(0.026)	(0.018)
Constant	0.624***	0.0944***
	(0.080)	(0.024)
Observations	955445	243647
R^2	0.116	0.056
Firm FE	Yes	Yes
Destination Product FE	Yes	Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.

Table 4: Institutions fragility beyond politics – yearly dummies

	Intensive and Extensive	Intensive
2011	-0.357***	-0.0948***
	(0.075)	(0.021)
2012	-0.390***	-0.116***
	(0.111)	(0.028)
2013	-0.430***	-0.118***
	(0.117)	(0.026)
2014	-0.520***	-0.115***
	(0.122)	(0.027)
2015	-0.663***	-0.150***
	(0.113)	(0.026)
2016	-0.841***	-0.171***
	(0.094)	(0.029)
Financial crisis	-0.134	-0.0149
	(0.125)	(0.035)
Demand (growth)	0.176***	0.123***
	(0.015)	(0.010)
Unit value (growth)	0.143***	0.0841***
	(0.026)	(0.017)
Constant	0.624***	0.0943***
	(0.079)	(0.024)
Observations	955445	243647
R^2	0.116	0.056
Firm FE	Yes	Yes
Destination Product FE	Yes	Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.

6.3. Informal institutions an alternative

Table 5: Impact of political instability on Firm level exports

	Intensive and Extensive		Intensive	
	Stickiness	MENA	Stickiness	MENA
Revolution	-1.074***	-0.460***	-0.260**	-0.122***
	(0.125)	(0.080)	(0.103)	(0.025)
Revolution*Dim.	0.254***	0.109**	0.0523	0.0177
	(0.034)	(0.034)	(0.030)	(0.023)
Transition 1	-0.703***	-0.424***	-0.159*	-0.0971***
	(0.111)	(0.107)	(0.087)	(0.025)
Transition 1*Dim	0.128***	0.0649*	0.0217	-0.0189
	(0.019)	(0.030)	(0.029)	(0.015)
Morsi	-0.387*	-0.455**	-0.0690	-0.0857**
	(0.177)	(0.159)	(0.101)	(0.027)
Morsi*Dim.	0.00980	0.0915*	-0.00906	-0.0321*
	(0.032)	(0.050)	(0.034)	(0.016)
Transition 2	-0.532***	-0.571***	-0.107	-0.0952**
	(0.161)	(0.151)	(0.092)	(0.032)
Transition 2*Dim.	0.0210	0.0652	0.00152	-0.00946
	(0.030)	(0.053)	(0.027)	(0.020)
Sisi	-0.808***	-0.768***	-0.106	-0.127***
	(0.157)	(0.111)	(0.088)	(0.027)
Sisi*Dim.	0.0625	-0.00719	-0.0120	-0.0311
	(0.035)	(0.037)	(0.028)	(0.020)
Financial crisis	-0.121	-0.147	-0.0100	-0.0135
	(0.125)	(0.174)	(0.036)	(0.034)
Demand (growth)	0.180***	0.190***	0.124***	0.122***
	(0.016)	(0.019)	(0.010)	(0.010)
Unit value (growth)	0.148***	0.154***	0.0862***	0.0846***
	(0.027)	(0.035)	(0.017)	(0.016)
Constant	0.600***	0.642***	0.0865***	0.0842***
	(0.078)	(0.096)	(0.023)	(0.024)
Observations	953207	940862	243058	242323
R^2	0.114	0.104	0.056	0.057
Firm FE	Yes		Yes	
Destination FE		Yes		Yes
Destination Product FE	Yes		Yes	
Product Firm FE		Yes		Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.
Dim refers to Stickiness and MENA that are interacted with each period dummy.

Table 6: Impact of political instability on Firm exit/entry (all markets)

	Exit		Entry	
	Stickiness	MENA	Stickiness	MENA
Revolution	0.0300*	0.0377***	-0.0683***	-0.0183**
	(0.014)	(0.006)	(0.015)	(0.007)
Revolution*Dim	0.00134	-0.0136***	0.0208***	0.00775*
	(0.004)	(0.004)	(0.006)	(0.004)
Transition 1	0.0882***	0.0360**	-0.0354***	-0.0184*
	(0.021)	(0.012)	(0.008)	(0.009)
Transition 1* Dim	-0.0208**	-0.00903***	0.00813**	-0.00182
	(0.007)	(0.003)	(0.003)	(0.003)
Morsi	0.0676	0.0334*	0.00753	-0.0130
	(0.038)	(0.018)	(0.011)	(0.010)
Morsi* Dim	-0.0149	-0.0105**	-0.00480*	0.00378
	(0.010)	(0.003)	(0.002)	(0.004)
Transition 2	0.0907**	0.0439**	-0.00937	-0.0301***
	(0.032)	(0.017)	(0.011)	(0.009)
Transition 2* Dim	-0.0198**	-0.0139***	-0.00521	-0.00203
	(0.008)	(0.004)	(0.004)	(0.004)
Sisi	0.0658**	0.0551***	-0.0147	-0.0358***
	(0.021)	(0.012)	(0.011)	(0.007)
Sisi* Dim	-0.00758	-0.000741	-0.00436	-0.00369
	(0.006)	(0.003)	(0.003)	(0.003)
Financial crisis	0.0152	0.0151	-0.00671	-0.00787
	(0.014)	(0.017)	(0.005)	(0.008)
Demand (growth)	-0.0112***	-0.0111***	0.00997***	0.00990***
	(0.002)	(0.002)	(0.001)	(0.001)
Unit value (growth)	-0.0113**	-0.0114**	0.00767***	0.00742***
	(0.004)	(0.004)	(0.002)	(0.002)
Constant	0.0713***	0.0647***	0.0900***	0.0919***
	(0.009)	(0.010)	(0.004)	(0.004)
Observations	892615	879392	892615	879392
R^2	0.309	0.330	0.233	0.262
Firm FE	Yes		Yes	
Destination FE		Yes		Yes
Destination Product FE	Yes		Yes	
Product Firm FE		Yes		Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.
Dim refers to Stickiness and MENA that are interacted with each period dummy.

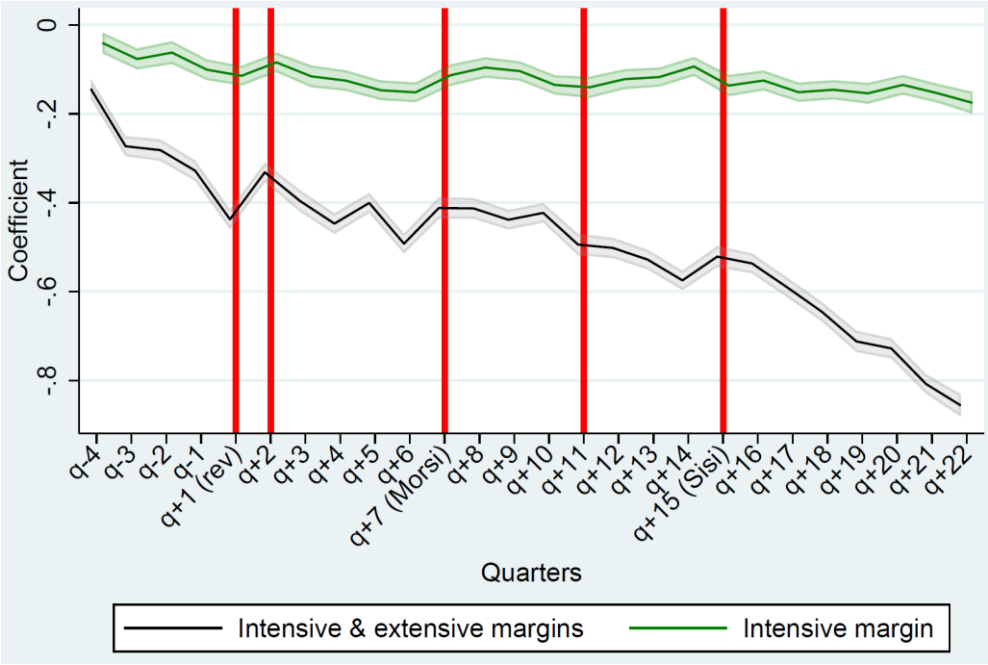
Table 7: Impact of alternative institutions on the number of products per firm-destination (MENA)

	Number of products
Revolution	-0.0104
	(0.012)
Revolution*MENA	0.00545
	(0.014)
Transition 1	-0.0356***
	(0.005)
Transition 1*MENA	0.0233**
	(0.007)
Morsi	-0.0546***
	(0.008)
Morsi*MENA	0.0260*
	(0.012)
Transition 2	-0.0625***
	(0.010)
Transition 2*MENA	0.0319*
	(0.016)
Sisi	-0.0681***
	(0.007)
Sisi*MENA	0.0145
	(0.013)
Financial crisis	-0.00735
	(0.010)
Demand (growth)	0.00421
	(0.005)
Unit value (growth)	0.000389
	(0.005)
Constant	1.334***
	(0.009)
Observations	527697
R2	0.397
Firm FE	Yes
Destination FE	Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.

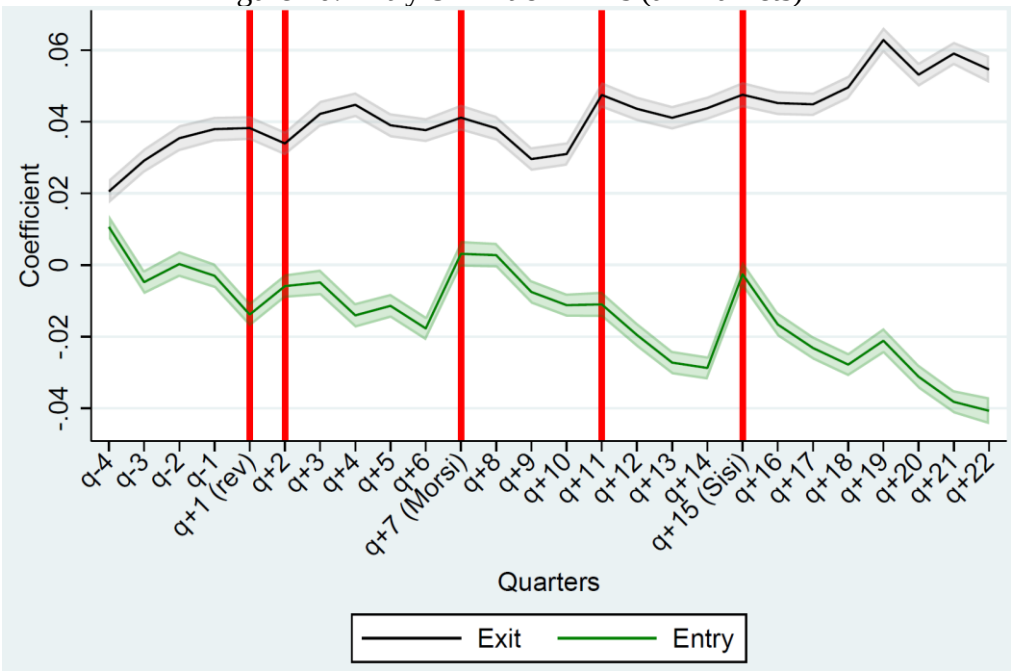
6.4. Robustness Checks: Event Study

Figure 9: Coefficient Plot for Quarters around the revolution



Source: Author's calculations.

Figure 10: Entry & Exit of Firms (all markets)



Source: Author's calculations.

7. Conclusion and Policy implications

Revolutions are an institution changer. They can affect firm exports in transition period but even more so when new unconsolidated institutions are set. Meanwhile, informal institutions (long term relationship/cultural relationships) substitute to the absence/dysfunction of institutions, up to a certain limit.

In this paper, we examine what happens to firm level exports in an unstable period of a revolutionary change in institutions. To do so, we choose Egypt's 2011-revolution as it can be considered a quasi-natural experiment to study different sub-periods of transitions and de jure institutional changes in quite short period. We use firm-level exports data at monthly levels Egyptian Customs data from January 2005 to October 2016. Exports are observed at the firm, product (hs4), destination and monthly levels.

Our main findings show that exporters are hurt, as expected, in the wake of a revolution. However, the absence of institutions (period of transitions) might hurt less than the setting of new, yet unconsolidated, institutions (non-market friendly/non-liberal institutions). In addition, the extensive margin appears to contribute to aggregate export losses more than the intensive margin (consistent with uncertainty to matter more than observable transaction costs per se). Finally, some informal or private institutions (long-term relationships/networks, cultural networks) appear as a substitute (dampen the losses from absence of institutions).

From a policy standpoint, given the important consequences of institutions, it is indispensable to see how the latter can affect trade in general and particularly exporters in Egypt. This point is fundamental as policymakers in Egypt are currently aiming at increasing and upgrading exports. This cannot happen unless stable and consolidated institutions are guaranteed.

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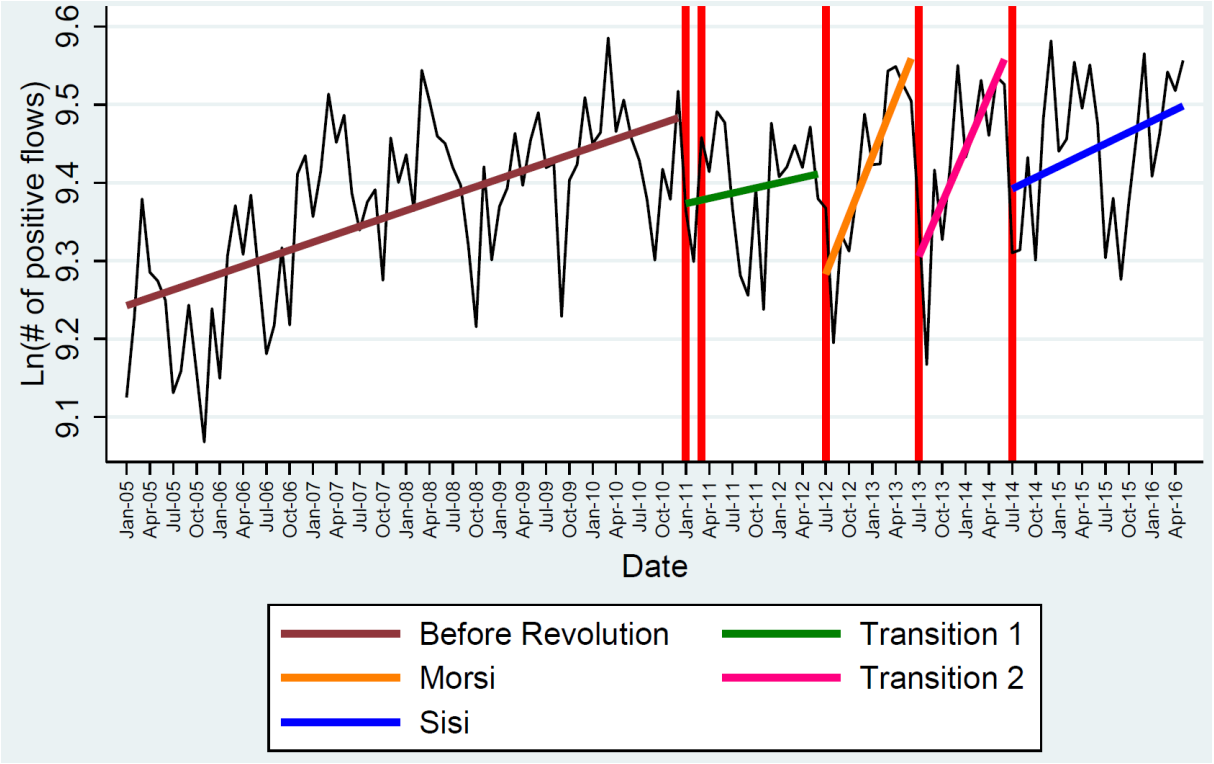
Appendix

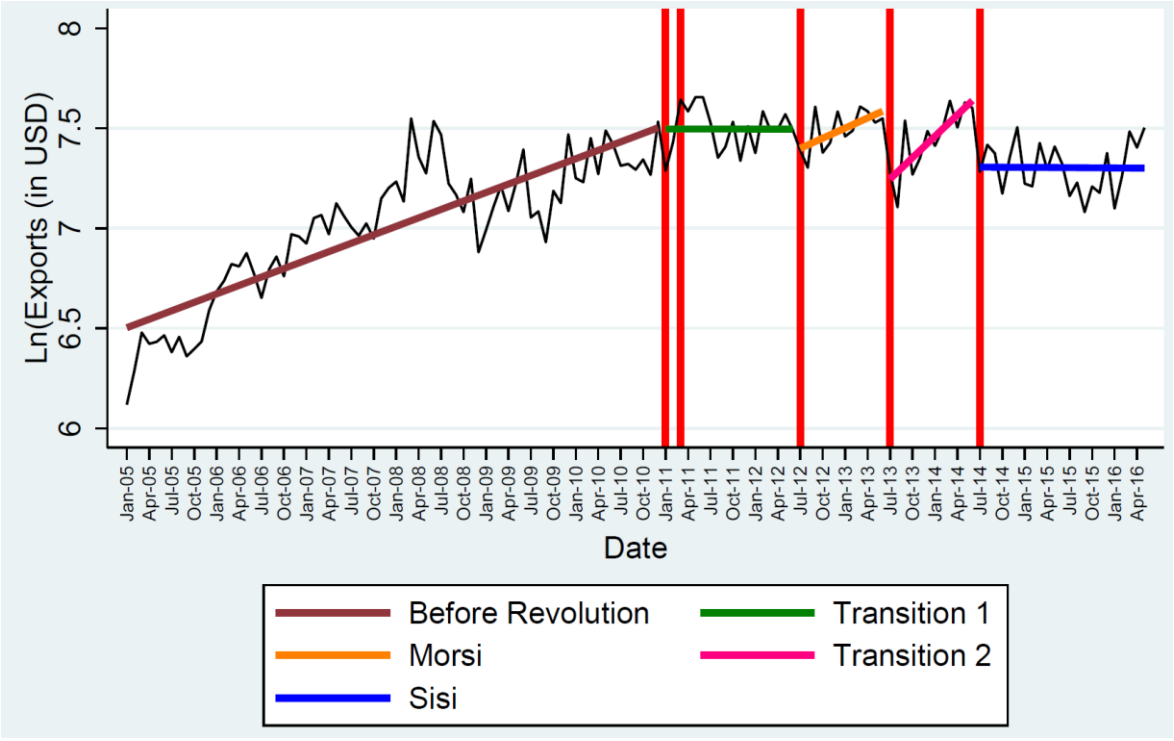
Appendix 1: Descriptive Statistics

Figure A.1. Positive Flows in Egypt (2005-2016)



Source: Author's calculations. ACLED Dataset.

Figure A.2. Egyptian Exports' Value in USD (2005-2016)



Source: Author's calculations. ACLED Dataset.

Appendix 2: Empirical Results

Table A.1. Institutions fragility beyond politics and extensive margin- semestrial dummies

	(1) Exit	(2) Entry
2011 – Sem 1	0.0299***	-0.0115
	(0.006)	(0.007)
2011 – Sem 2	0.0370***	-0.0119
	(0.008)	(0.008)
2012 – Sem 1	0.0323**	-0.0167*
	(0.013)	(0.009)
2012 – Sem 2	0.0331**	0.0000628
	(0.014)	(0.009)
2013 – Sem 1	0.0244	-0.0118
	(0.014)	(0.010)
2013 – Sem 2	0.0395**	-0.0185*
	(0.014)	(0.010)
2014 – Sem 1	0.0368**	-0.0297**
	(0.014)	(0.010)
2014 – Sem 2	0.0408**	-0.0123
	(0.014)	(0.010)
2015 – Sem 1	0.0424**	-0.0276**
	(0.013)	(0.010)
2015 – Sem 2	0.0532***	-0.0298***
	(0.013)	(0.009)
2016 – Sem 1	0.0535***	-0.0415***
	(0.012)	(0.008)
Financial crisis	0.0163	-0.00707
	(0.014)	(0.005)
Demand (growth)	-0.0108***	0.00977***
	(0.002)	(0.001)
Unit value (growth)	-0.0110**	0.00742***
	(0.004)	(0.002)
Constant	0.0696***	0.0909***
	(0.009)	(0.005)
Observations	894700	894700
R^2	0.310	0.233
Firm FE	Yes	Yes
Destination Product FE	Yes	Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.

Table A.2. Institutions fragility beyond politics and extensive margin - yearly dummies

	(1) Exit	(2) Entry
2011	0.0332***	-0.0117
	(0.006)	(0.007)
y2012	0.0326**	-0.00887
	(0.013)	(0.009)
2013	0.0313*	-0.0150
	(0.014)	(0.010)
2014	0.0385**	-0.0217**
	(0.014)	(0.009)
2015	0.0471***	-0.0289**
	(0.013)	(0.009)
2016	0.0533***	-0.0416***
	(0.012)	(0.008)
Financial crisis	0.0163	-0.00707
	(0.014)	(0.005)
Demand (growth)	-0.0109***	0.00976***
	(0.002)	(0.001)
Unit value (growth)	-0.0112**	0.00732***
	(0.004)	(0.002)
Constant	0.0697***	0.0909***
	(0.009)	(0.005)
Observations	894700	894700
R^2	0.310	0.233
Firm FE	Yes	Yes
Destination Product FE	Yes	Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.

Table A.3. Informal institutions: Stickiness - semestrial dummies

	(1) Intensive & Extensive	(2) Intensive	(3) Exit	(4) Entry
2011– Sem 1	-0.842***	-0.225**	0.0473***	-0.0380***
	(0.115)	(0.097)	(0.014)	(0.010)
2011– Sem 1*Stickiness	0.184***	0.0519*	-0.00633	0.00972***
	(0.027)	(0.027)	(0.004)	(0.003)
2011– Sem 2	-0.748***	-0.161	0.0891***	-0.0220*
	(0.115)	(0.089)	(0.019)	(0.011)
2011– Sem 2*Stickiness	0.133***	0.0194	-0.0188***	0.00365
	(0.029)	(0.029)	(0.005)	(0.004)
2012– Sem 1	-0.724***	-0.115	0.123***	-0.0566***
	(0.142)	(0.105)	(0.021)	(0.011)
2012– Sem 1*Stickiness	0.116***	-0.00778	-0.0330***	0.0145***
	(0.025)	(0.034)	(0.005)	(0.004)
2012 – Sem 2	-0.457**	-0.0567	0.116***	0.0159
	(0.161)	(0.101)	(0.022)	(0.019)
2012 – Sem 2*Stickiness	0.0306	-0.0137	-0.0299***	-0.00567
	(0.022)	(0.029)	(0.004)	(0.005)
2013 – Sem 1	-0.370*	-0.0481	0.0443	0.00407
	(0.173)	(0.117)	(0.025)	(0.015)
2013 – Sem 1*Stickiness	-0.00955	-0.0232	-0.00725	-0.00576
	(0.032)	(0.039)	(0.005)	(0.005)
2013 – Sem 2	-0.477**	-0.129	0.117***	0.0120
	(0.188)	(0.112)	(0.026)	(0.013)
2013 – Sem 2*Stickiness	0.00172	0.00109	-0.0281***	-0.0110**
	(0.036)	(0.035)	(0.005)	(0.004)
2014 – Sem 1	-0.603**	-0.0782	0.0793**	-0.0237
	(0.192)	(0.093)	(0.025)	(0.016)
2014 – Sem 1*Stickiness	0.0276	-0.00924	-0.0155**	-0.00215
	(0.035)	(0.027)	(0.006)	(0.004)
2014 – Sem 2	-0.558**	0.00352	0.0772**	0.0260
	(0.219)	(0.088)	(0.025)	(0.018)
2014 – Sem 2*Stickiness	0.0164	-0.0481	-0.0132**	-0.0138**
	(0.048)	(0.028)	(0.005)	(0.006)
2015 – Sem 1	-0.580**	-0.129	0.0365	0.00404
	(0.229)	(0.096)	(0.025)	(0.025)
2015 – Sem 1*Stickiness	-0.0110	-0.00831	0.00230	-0.0115
	(0.047)	(0.027)	(0.005)	(0.006)
2015 – Sem 2	-0.984***	-0.0781	0.0875***	-0.0366**
	(0.235)	(0.095)	(0.026)	(0.013)
2015 – Sem 2*Stickiness	0.0932	-0.0255	-0.0124*	0.00256
	(0.057)	(0.031)	(0.006)	(0.004)
2016 – Sem 1	-1.228***	-0.0861	0.0994***	-0.0510**
	(0.189)	(0.111)	(0.024)	(0.018)
2016 – Sem 1*Stickiness	0.142***	-0.0319	-0.0168**	0.00358
	(0.041)	(0.036)	(0.006)	(0.005)
Financial crisis	-0.134	-0.0145	0.0163	-0.00700
	(0.126)	(0.039)	(0.014)	(0.005)
Demand (growth)	0.176***	0.122***	-0.0108***	0.00985***
	(0.017)	(0.011)	(0.002)	(0.001)
Unit value (growth)	0.142***	0.0818***	-0.0109**	0.00746**
	(0.027)	(0.020)	(0.004)	(0.002)
Constant	0.623***	0.0945***	0.0696***	0.0908***
	(0.080)	(0.024)	(0.009)	(0.005)
Observations	953207	243058	892615	892615
R^2	0.116	0.056	0.310	0.233
Firm FE	Yes	Yes	Yes	Yes
Destination FE				

Destination Product FE	Yes	Yes	Yes	Yes
Product Firm FE				

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.

Table A.4. Informal institutions: Stickiness - yearly dummies

	(1) Intensive & Extensive	(2) Intensive	(3) Exit	(4) Entry
2011	-0.793***	-0.192*	0.0636***	-0.0310***
	(0.093)	(0.087)	(0.015)	(0.005)
2011*Stickiness	0.158***	0.0354	-0.0111**	0.00703***
	(0.018)	(0.025)	(0.005)	(0.002)
2012	-0.615***	-0.0986	0.119***	-0.0286**
	(0.139)	(0.100)	(0.020)	(0.011)
2012*Stickiness	0.0816***	-0.00652	-0.0313***	0.00714*
	(0.013)	(0.031)	(0.004)	(0.003)
2013	-0.408**	-0.0804	0.0733**	0.00790
	(0.172)	(0.105)	(0.026)	(0.009)
2013*Stickiness	-0.00831	-0.0137	-0.0153**	-0.00828***
	(0.029)	(0.034)	(0.006)	(0.002)
2014	-0.586**	-0.0391	0.0769***	-0.00577
	(0.195)	(0.080)	(0.023)	(0.014)
2014*Stickiness	0.0241	-0.0277	-0.0139**	-0.00575
	(0.036)	(0.023)	(0.005)	(0.004)
2015	-0.733**	-0.110	0.0554*	-0.0140
	(0.239)	(0.093)	(0.026)	(0.019)
2015*Stickiness	0.0255	-0.0147	-0.00297	-0.00532
	(0.052)	(0.027)	(0.006)	(0.005)
2016	-1.229***	-0.0876	0.0995***	-0.0507**
	(0.188)	(0.110)	(0.024)	(0.017)
2016*Stickiness	0.143***	-0.0313	-0.0169**	0.00342
	(0.039)	(0.035)	(0.006)	(0.004)
Financial crisis	-0.134	-0.0143	0.0163	-0.00700
	(0.125)	(0.043)	(0.014)	(0.005)
Demand (growth)	0.176***	0.122***	-0.0110***	0.00984***
	(0.019)	(0.010)	(0.002)	(0.001)
Unit value (growth)	0.143***	0.0831***	-0.0112**	0.00736***
	(0.027)	(0.018)	(0.004)	(0.002)
Constant	0.623***	0.0944***	0.0698***	0.0908***
	(0.079)	(0.024)	(0.009)	(0.005)
Observations	953207	243058	892615	892615
R^2	0.116	0.056	0.310	0.233
Firm FE	Yes	Yes	Yes	Yes
Destination Product FE	Yes	Yes	Yes	Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels.
* p<0.1, ** p<0.05, *** p<0.01.

Table A.5. Informal institutions: MENA - semestrial dummies

	(1) Intensive & Extensive	(2) Intensive	(3) Exit	(4) Entry
2011 - Sem 1	-0.417***	-0.0867***	0.0355***	-0.0181*
	(0.092)	(0.025)	(0.007)	(0.009)
2011 - Sem 1*MENA	0.120***	0.0154	-0.0147***	0.00894**
	(0.031)	(0.017)	(0.003)	(0.003)
2011 - Sem 2	-0.455***	-0.0976***	0.0414***	-0.0168
	(0.106)	(0.023)	(0.011)	(0.010)
2011- Sem 2*MENA	0.0500	-0.0583**	-0.00810*	-0.00547
	(0.041)	(0.019)	(0.004)	(0.003)
2012 - Sem 1	-0.489**	-0.134***	0.0380**	-0.0216*
	(0.161)	(0.027)	(0.017)	(0.012)
2012 - Sem 1*MENA	0.0274	-0.00943	-0.00579	-0.00809**
	(0.038)	(0.019)	(0.003)	(0.003)
2012 - Sem 2	-0.463**	-0.0847**	0.0402**	-0.00645
	(0.171)	(0.031)	(0.018)	(0.013)
2012 - Sem 2*MENA	0.0254	-0.0371	-0.0117***	-0.00331
	(0.038)	(0.023)	(0.003)	(0.003)
2013 - Sem 1	-0.507**	-0.103***	0.0322	-0.0201
	(0.167)	(0.028)	(0.018)	(0.012)
2013 - Sem 1*MENA	0.137***	-0.0318	-0.00937*	0.00814
	(0.040)	(0.020)	(0.005)	(0.005)
2013 - Sem 2	-0.582***	-0.122***	0.0482**	-0.0265*
	(0.171)	(0.029)	(0.018)	(0.013)
2013 - Sem 2*MENA	0.132***	0.0141	-0.0189***	0.00398
	(0.035)	(0.022)	(0.003)	(0.006)
2014 - Sem 1	-0.624***	-0.0903**	0.0449**	-0.0350**
	(0.170)	(0.030)	(0.018)	(0.012)
2014 - Sem 1*MENA	-0.00178	-0.0326	-0.00963**	-0.00888*
	(0.044)	(0.019)	(0.004)	(0.004)
2014 - Sem 2	-0.618***	-0.117***	0.0488**	-0.0180
	(0.174)	(0.028)	(0.017)	(0.013)
2014 - Sem 2*MENA	-0.00859	-0.0279	-0.00568	-0.0132**
	(0.038)	(0.025)	(0.004)	(0.004)
2015 - Sem 1	-0.715***	-0.139***	0.0510**	-0.0341**
	(0.163)	(0.028)	(0.016)	(0.012)
2015 - Sem 1*MENA	-0.0817*	-0.0462	0.00167	-0.00777
	(0.039)	(0.030)	(0.004)	(0.004)
2015 - Sem 2	-0.900***	-0.131***	0.0662***	-0.0430***
	(0.152)	(0.030)	(0.015)	(0.011)
2015 - Sem 2*MENA	-0.00888	-0.0567**	0.000874	0.000447
	(0.036)	(0.022)	(0.004)	(0.005)
2016 - Sem 1	-1.033***	-0.162***	0.0683***	-0.0537***
	(0.134)	(0.030)	(0.015)	(0.010)
2016 - Sem 1*MENA	0.0439	0.000205	0.000136	-0.0000444
	(0.035)	(0.022)	(0.003)	(0.004)
Financial crisis	-0.163	-0.0179	0.0164	-0.00837
	(0.176)	(0.035)	(0.017)	(0.008)
Demand (growth)	0.184***	0.120***	-0.0107***	0.00967***
	(0.020)	(0.011)	(0.002)	(0.001)
Unit value (growth)	0.146***	0.0803***	-0.0109**	0.00710***
	(0.038)	(0.018)	(0.005)	(0.002)

Constant	0.671***	0.0918***	0.0626***	0.0930***
	(0.100)	(0.025)	(0.010)	(0.005)
Observations	940862	242323	879392	879392
R^2	0.107	0.057	0.330	0.262
Firm FE				
Destination FE	Yes	Yes	Yes	Yes
Destination Product FE				
Product Firm FE	Yes	Yes	Yes	Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels. * p<0.1, ** p<0.05, *** p<0.01.

Table A.5. Informal institutions: MENA - yearly dummies

	(1) Intensive & Extensive	(2) Intensive	(3) Exit	(4) Entry
2011	-0.434***	-0.0917***	0.0382***	-0.0176
	(0.097)	(0.023)	(0.008)	(0.010)
2011*MENA	0.0861**	-0.0206	-0.0115***	0.00215
	(0.029)	(0.018)	(0.003)	(0.003)
2012	-0.477**	-0.111***	0.0390**	-0.0146
	(0.164)	(0.028)	(0.017)	(0.012)
2012*MENA	0.0272	-0.0212	-0.00863***	-0.00558**
	(0.029)	(0.017)	(0.002)	(0.002)
2013	-0.542***	-0.111***	0.0395*	-0.0232*
	(0.167)	(0.027)	(0.018)	(0.012)
2013*MENA	0.135***	-0.00982	-0.0137***	0.00619
	(0.032)	(0.019)	(0.003)	(0.005)
2014	-0.620***	-0.103***	0.0465**	-0.0272**
	(0.170)	(0.027)	(0.017)	(0.012)
2014*MENA	-0.00474	-0.0306	-0.00767**	-0.0106**
	(0.036)	(0.019)	(0.003)	(0.004)
2015	-0.798***	-0.135***	0.0577***	-0.0384***
	(0.157)	(0.028)	(0.016)	(0.012)
2015*MENA	-0.0501	-0.0507**	0.00157	-0.00395
	(0.033)	(0.022)	(0.003)	(0.004)
2016	-1.033***	-0.162***	0.0682***	-0.0539***
	(0.133)	(0.030)	(0.015)	(0.009)
2016*MENA	0.0454	0.000606	-0.0000518	-0.00000205
	(0.035)	(0.022)	(0.003)	(0.004)
Financial crisis	-0.163	-0.0178	0.0164	-0.00837
	(0.176)	(0.034)	(0.017)	(0.008)
Demand (growth)	0.185***	0.120***	-0.0108***	0.00965***
	(0.019)	(0.011)	(0.002)	(0.001)
Unit value (growth)	0.147***	0.0814***	-0.0110**	0.00700***
	(0.037)	(0.017)	(0.004)	(0.002)
Constant	0.671***	0.0917***	0.0627***	0.0930***
	(0.100)	(0.025)	(0.010)	(0.005)
Observations	940862	242323	879392	879392
R^2	0.107	0.057	0.330	0.262
Firm FE				
Destination FE	Yes	Yes	Yes	Yes
Destination Product FE				
Product Firm FE	Yes	Yes	Yes	Yes

Robust standard error between brackets.
Errors are clustered at the yearly and monthly levels. * p<0.1, ** p<0.05, *** p<0.01.