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State Business Relations and the Dynamics of Job Flows in Egypt and Turkey

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Abstract

Firm employment dynamics is at the core of the creative destruction process and it is important to have a clear picture of the gross and net job flows. This study is motivated by the ongoing interest of policy makers in the possible sources of job creation and destruction. The aim is to explore the dynamics of job creation, destruction and net job creation rates in Egypt and Turkey, including various firm characteristics, besides the firm size and age that have not been studied so far, such as the business-state relations (SBRs), whether the firm has been accredited with an international qualification of quality assurance and control and whether one of the owners is female. The analysis relies on firm-level data derived from the World Bank Enterprise Surveys. We implement weighted ordinary least squares (OLS). Since the main point of interest is the SBRs we apply an Instrumental Variables Approach and the Two-Stage Least Squares (2SLS) for robustness check and to deal with the endogeneity coming from the self-reported statements and the possible degree of reverse causality. The findings show constraints to finance and political instability are the main obstacles of SBRs in both countries, including also tax rates and constraints in electricity. The quality of SBRs is found to significantly contribute to job growth[1].

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1. Introduction

Employment growth, job creation and destruction and firm productivity have been always at the centre of interest of the governments around the globe and especially in the Middle East and North Africa (MENA) region, after the great recession of 2007. The MENA region countries are characterized by strong cyclical fluctuations and have experienced significant economic and political changes, such as the Arab Spring. Given the persistently high unemployment levels in emerging and developing economies, but also in developed and advanced countries and the slow and disappointing growth performance presented in the last 10 years, there is an increasingly strong focus amongst the policy makers about job creation and productivity growth. More specifically, while it is important to have a clear picture of the aggregate changes in employment and firm growth, it is even more important to investigate and describe the job growth rates, because these trends provide a much richer and insightful picture. This picture is useful to explore adjustment margins of the economy, such as whether the lower employment is a result of higher job destruction rates or lower job creation rates. Along with this analysis, it is equally important to know which groups of firms perform better (young vs. old, small vs. large), and whether governance and institutions expressed by the state business relations (SBRs) are important factors of job creation and destruction. Business cycles and the extent of the creative destruction process are important aspects to be investigated, as for example young entrepreneurs and pioneering young business and firms may become relatively more important as creators of jobs.

The aim of this study is to describe the dynamics of firms, focusing on the role of state business relations (SBRs) in the process of job creation and destruction in Egypt and Turkey. The analysis followed in this project can provide valuable insights about the firm dynamics assessment and employment growth. Various questions may arise, as whether the small firms result from high dynamism and if most of them are young startups or whether the lack of opportunities and especially

the obstacles in SBRs are present, especially dominated by large and old firms. Therefore, the main aim of this study is to explore the obstacles in SBRs faced by firms, such as electricity, trade, customs and labour regulations, corruption, practices of competitors in the informal sector, access to finance, tax administration and rates, and political instability among other factors. Overall, according to Davis and Haltiwanger (1999), the conventional measures that capture the job creation and destruction are based on gross terms, which is just the aggregation of net employment increases and decreases of firms, establishments or workplaces. To overcome these shortcomings, this study employs data including other firm characteristics and controlling for area-province, and exploring the impact of state-business relations on job flows.

The organization of the paper is as follows. Section 2 presents earlier studies and the value added in the literature. In section 3 we describe the methodological framework and the data employed in the empirical analysis. In section 4 we present the empirical results and in section 5 we discuss the main concluding remarks.

2. Literature Review

Earlier literature exploited administrative business-level data on employment dynamics and the job creation and destruction flows focusing mainly in USA. One of the first studies on job creation and destruction is by Davis et al. (1993) who investigated US firms in the manufacturing sector during the period 1972 to 1988. Their study shows that the most newly-created and newly-destroyed jobs are accounted by large firms and plants and the survival rates for the new and existing jobs are increased with the firm size. Furthermore, the authors found that smaller firms and plants exhibit higher gross job creation rates but not higher net job rates. The seminal works by Dunne et al. (1989), Davis and Haltiwanger (1990, 1999) and Davis et al. (1998) found that job creation and destruction occur simultaneously and the job reallocation shows systematic patterns over the business cycle, which

reallocation is defined as the sum of the absolute values of job creation and destruction. Various concluding remarks are derived from previous studies. Lotti et al. (2003), Neumark et al. (2011) and Hijzen et al (2010) found that the "Gibrat's Law" is violated (Gibrat, 1931), since their results support a negative relationship between firm size and growth. However, Haltiwanger et al. (2013) found an insignificant relationship between size and growth when the regressions control for firm age. Another field of literature focuses on the cyclicality of employment by different types of firms. A number of studies found that the small firms respond more to monetary and financial shocks (Gertler and Gilchrist, 1994; Sharpe, 1994), while Moscarini and Postel-Vinay (2012) shows that the employment in the large firms is more related to unemployment rates changes than in the small firms. Konings (1995) using a sample of 993 large UK manufacturing companies over the period 1972-1986 found an annual average job creation rate of 1.6 per cent and an average job destruction rate of 5.6 per cent. Fort et al. (2013) using data for USA over the years 1981-2010 found that in the downturns of the business cycles, the net job creation rates between large mature and small young firms declines. Other studies focus on the role of credit constraints, which is explored also here, where during the period of the financial crisis of 2007 new small-medium workplaces were hit mostly compared to the large incumbents (Butcher and Bursnall, 2013). In another study Davis and Haltiwanger (2001) use the same sample of firms and explore the impact of oil shocks on job flows. The main results show that a higher sensitivity is present for the job destruction than job creation except for young and small firms. Masso et al. (2005) investigated the job flows, labour reallocation and structural changes in Estonia, and they found that job creation and destruction rates are very high when these are compared internationally, higher than in almost any other European country and roughly at the levels reported in the USA. Criscuolo et al. (2014), used a sample of 17 OECD countries and Brazil, and they explored the job creation and destruction. The findings suggest that among small and medium sized enterprises (SMEs), young firms play a central role in creating jobs. On the other hand, the old SMEs contribute more to the

job destruction, so age is negatively related to employment growth. Furthermore, the authors found that young firms create new jobs throughout the business cycle, even during the financial crisis of 2008. Yang (2017) explores the job creation and destruction for Japanese firms. The empirical results show that the wage has a negative impact on job creation and increases job destruction. This can be explained by the fact that a higher level of wages reduces the expected value from an occupied job, leading to less job creation by firms, while higher wages also lead to higher reservation productivity; thus, more jobs fall below the reservation productivity and are destroyed. On the other hand, productivity increases job creation. Other studies have expanded the sample of analysis to explore global patterns. For instance the study by Ayyagari et al. (2011) investigates the contribution of small firms to employment, job creation, and growth in a large sample of 49,370 firms in 104 developing countries over the period 2006-2010. Their findings suggest that small firms significantly contribute to total job creation. However, the study reveals also that the small firms present lower growth productivity besides the job creation which is not necessarily associated with higher growth rates in these firms. Aga et al. (2015) using a large sample of firms in the World Bank ES in 117 developing economies found that the small-medium enterprises (SMEs) and older establishments contribute more to the employment growth and the net job creation is negatively associated with firm size and age. However, the authors suggest that the firm size can be sensitive to specifications. In particular, as in the study by Haltiwanger et al (2013) when the start-ups are removed from the analysis the net job growth rates become positively correlated with the firm size, leading to the conclusion that firm age is more important factor than size.

A similar study with ours is the paper by Dogan et al. (2017) that examines the relationship between job creation and firm size in all non-farm Turkish businesses with 20 or more employees over the period 2003-2010. Their main concluding remarks show that small firms, and specifically firms with employees between 20 and 100, have higher mean job flow rates, including job creation, job destruction and net job creation rates. Also the authors found that job creation rates in services are

higher than those in manufacturing. However, their study differs from various aspects. First, and very important, they use a large dataset from firm-level data provided by the Turkish Statistical Institute (TurkStat) which contains a much larger sample than ours. However, our aim is to use the World Bank Enterprise Surveys for Egypt and Turkey, allowing us to have the same variables used in the analysis. More specifically, the information provided in these surveys is more detailed, even though the sample is smaller. Furthermore, we have information on the SBRs, which is the main factor of our analysis and we describe them in more details in the next sections. These relations are important to be included in the analysis, as can be crucial for the job creation. Second, they examine the job flow rates only considering the firm size and age, while our study extends the analysis to include more factors of job flow rates.

3. Conceptual Framework and Research Methodology

In this section we describe the methodology followed in the empirical work and the measures refer to job flows (Ayyagari et al., 2011; Criscuolo et al., 2014; Aga et al., 2015). To illustrate the job flows we need to define the following variables: the number of Units (I) which is the number of active units in a cell c, such as young and small-medium firms. The second variable is the employment (E). This is defined as the sum of employment across all firms in a cell c as:

$$E_{ct} = \sum_{i=1}^{I} E_{it} \tag{1}$$

Where i refers to firm and t to time-year. The Gross Job Creation (JC) is the sum of all positive firm-level job variations expressed as $\Delta E_{i,t+1}^{+}$ from year t to $t+1$ within a cell and is defined as:

$$JC_{ct} = \sum_{i=1}^{I} \Delta E_{i,t+1}^{+} \tag{2}$$

Similarly, the Gross Job destruction (JD) is the sum of all positive firm-level job variations expressed as $\Delta E^-_{t,\tau+1}$ from year t to $t+1$ within a cell and is defined as the absolute values of the following sum:

$$JD_{ct} = \left| \sum_{i=1}^{I} \Delta E^-_{i,t+1} \right| \qquad (3)$$

Next we consider the net job creation which is just the difference between job creation and job destruction and it:

$$NJC_{ct} = JC_{ct} - JD_{ct} = E_{c,t+1} + E_{ct} \qquad (4)$$

The next measures refer to job creation and destruction rates. The gross job creation rate (JCR) over the average employment in the 2-year period is expressed as:

$$JCR_{ct} = \frac{JC_t}{0.5 \cdot (E_{c,t+1} + E_{ct})} \qquad (5)$$

Next we define the Gross job destruction rate (JDR) over the average employment in the 2-year period as:

$$JDR_{ct} = \frac{JD_c}{0.5 \cdot (E_{c,t+1} + E_{ct})} \qquad (6)$$

Likewise, as in the case of the net job creation flow we will take the difference of (5)-(6) to calculate the net job creation rate ($NJCR$) and it will be:

$$NJCR_{ct} = JCR_{ct} - JDR_{ct} = \frac{E_{c,t+1} - E_{ct}}{0.5 \cdot (E_{c,t+1} + E_{ct})} \qquad (7)$$

The general regression for the job flows takes the following form:

$$Y_{k,j,t} = \beta_0 + \beta' \mathbf{X}_{k,j,t} + \mu_k + l_j + \theta_t + \varepsilon_{k,j,t} \tag{8}$$

Y denotes the outcome of interest, which job creation and destruction rates and the net employment growth for industry *k*, in district-governorate *j* and time *t*. **X** is a vector of standard control variables explored in the studies discussed before, and this includes the firm size and age. Set μ_k controls for fixed-industry effects, set l_j denotes the district-governorate fixed effects, and θ_t is the time-fixed effects, while ε is the error term. However, our aim is to expand the analysis including also additional firm characteristics and the obstacles mentioned earlier, such as access to finance, trade and labour regulations, and political instability among others. Thus, in the general regression framework (8) vector **X**, besides the obstacles and business-government relations, contains other variables. In particular, following earlier studies we include various firm characteristics, apart from the SBRs, to explore their relationship to the main outcomes and these are reported in table 1. We use the two main variables employed in the earlier literature, which is the firm size and age expressed in logarithms. Other variables include whether one of the principal owners is female, whether the firm has been accredited with an international qualification of quality control-assurance, if the establishment is a part of a larger firm, the legal status of the firm. Additionally we include the foreign ownership which is defined as a dummy variable taking value 1 if the firm has at least 10% foreign ownership, and whether the firm is exporter and we control for region and the year of survey (Aga et al., 2015; Aga and Francis, 2017).

(Inset Table 1)

As we mentioned earlier, while the main aim is to explore the impact of SBRs on job flows, another purpose of the analysis is also to explore the association between job flows and other firm characteristics. Also according to the study by Aga et al. (2015) we define the destruction rates also as contraction rates since the ES data do not contain information on establishments exiting from the market and this may create a "survival" bias. According to Stiglitz (1996) there is a clear rationale that

industrial policies supporting the market may promote the economic performance. The effects can vary greatly depending on the context. For instance the study by Kingombe and te Velde (2016) shows that whilst the special economic zones (SEZs) were instrumental in upgrading the economic production structures in China, Malaysia and Mauritius, this was much less important in countries, such as Nigeria and Tanzania. State-business relations (SBRs) are relations between the private and public sector and are shaped by the way businesses and states interact (Leftwich 2009). According to Sen and te Velde (2009) effective SMRs may affect the industrial development and firm growth by two opposite forces. First, overcoming market failures, such as the market alone may not be able to achieve the optimal allocation of resources including areas, such as the innovation, climate change and education. Second the state may not be able to address market failures on their own, because they can be captured by elites, suffer from moral hazard problems or are unlikely to have perfect information (Hausmann and Rodrik, 2003). Nevertheless, effective SBRs can address coordination, market and government failures through effective communication and removal of related binding constraints to growth, by improving the investment climate and reducing the policy uncertainty and instability.

Next we discuss the variables included in the regression analysis, which involves other firm characteristics apart from the firm size and age that have been used so far in earlier studies. We should notice that as these additional variables can be endogenous, but the estimates remain robust when we exclude them in terms of the estimated coefficient of SBRs explored. Nevertheless, the magnitude may change and this is explained that the variables we include can be confounders and excluding them we can also create confounding bias. The first two variables refer to firm age and size expressed as the logarithm of the total number of full-time permanent employment and the number of years the establishment has been in operation. Regarding the firm size an issue is that we are unable to capture precisely the firm size given the fact that it can be a part of another firm. Ayyagari et al. (2011) explored only the sample of these firms that are not part of a larger establishment as a robustness

check. However, to avoid using additional regressions, we include a dummy indicating whether the firm is part of a large organization. Moreover, we include a quadratic term in firm size and age following the studies by Jovanovic (1982), Evans (1987a; 1987b), Lawless (2014), Aga and Francis (2017) and Yang (2017). The quadratic term in firm size will allow us to explore Gibrat's law where the size and growth are independent. Furthermore, Lawless (2014) explored different age groups where and inverse relationship between employment growth and lagged size for the young firms was found, but this declines in magnitude when they implemented the analysis separately for older age groups. For this reason we include also the quadratic terms in firm size and age to explore whether the size or age matter and whether a firm has reached a mature state.

Lawless (2014) and Aga and Francis (2017) explored also a similar set of variables. Even though the main outcome of interest in their study was the probability of firm's exit, the justification of using these variables fits within our analysis. One variable is related with the firm's ownership and is defined by a dummy taking value 1 if the establishment has at least 10 percent foreign ownership. The nature of the firm's foreign-ownership has been explored in earlier studies (Bernard and Sjöholm, 2003; Baldwin and Yan 2011; Gelübcke and Wagner, 2012; Aga and Francis, 2017). These studies used this variable based on the assumption that foreign-owned could face lower probabilities and risk of exit due to international connection, economies of scales, access to information and markets and possible favours in terms of tax treatment. On the other hand, also foreign-owned firms may face problems related to lack of knowledge of the local market and culture. Even though we explore the job flows, the argument, as we mentioned earlier, relies on the fact that employment growth and job creation can be also related to the surviving of the firms. Another interesting variable, which has not been explored so far in the literature of job creation, is the gender of the ownership. Previous studies found that women are more risk averse and more likely to invest in activities with lower risk than men (Croson and Gneezy, 2009; Faccio et al., 2016). As before, this literature refers to the firm growth and exiting rates,

but since we analyse the employment growth and job creation, this variable can be strongly related to our topic. The legal status of the firm is another control which refers on whether the firm is shareholding company with shares traded or not, partnership or limited partnership. We include this variable to control for possible selection as firms with limited liability have higher growth compared with other firms with different legal structure (Harhoff et al., 1998).

Labour productivity is another control used and can be a proxy indicating the firm performance and whether it affects the firm's surviving probability. However, the direction of the impact can be mixed, because an increase in labour productivity could cause job losses as a fewer number of employees will be needed to produce the same amount of goods. On the other hand, a rise in the labour productivity may lead to firm's production expansion, products, markets, leading in this way to job creation. In other words, higher labour productivity may lead to higher demand for new workers.

The last control variables include the sampling region defined by the district-governorate and whether the establishment is operating in the manufacturing or services sector that intend to capture unobserved heterogeneity and time-invariant conditions at the sector and area level affecting particular firms. Also these controls will allow us to capture for location characteristics, where certain business areas provide a better or worse qualified labour force, demand preferences for specific products and services affecting firm's performance, and thus job creation. Following a similar logic we also include a dummy whether the firm has been accredited with an international quality certification and whether is exporter defined as if at least the 10 percent of firm's annual sales is going to exports. In particular, firms that export may have access to international markets and information as well as other advantageous positions that affect their performance.

However, we should notice that our main variable of interest which is the SBRs, may be endogenous to firm growth implying the coefficients derived by the effect of regression (8) would be invalid. The three main courses of endogeneity include the omitted variables bias, reverse causality and the self-

statement and perception about the obstacles. For example, some managers may report obstacles that are actually overestimated or on the inverse underestimated, or there could be cases where some inefficient firms may overstate the constraints and obstacles that they actually face (Beck et al., 2005; Carlin et al., 2006). Therefore, SBRs may be endogenous either because of measurement error due to perception, but also because of possible reverse causality between SBRs and the outcomes of interest explored in the study. In other words the direction of the effect can go from SBRs to job flows, while on the other hand firms with higher job creation rates may also over-report the effectiveness of SBRs and under-reporting the severity of the obstacles. For the endogeneity issue we implement the Two-Stage Least Squares (2SLS) method and we use a set of instrumental variables for SBRs which are available in the ES and are based on earlier studies. Additionally, this can be solved up to some degree by using 'objective' rather than 'subjective' indicators. These include whether the firm had to pay a gift or informal payment to receive electricity, water or phone line connection, and permits related to construction and operation. However, there is a large proportion of missing values and the analysis may further lead to selection bias.

A common practice of dealing with endogeneity in this literature is the implementation of Generalised Method of Moments (GMM). The study by Sen and Te Velde (2009) used lagged variables as instruments at the macro level, assuming that institutional development, determine the effectiveness of SBRs. However, due to proper data unavailability, such as long panel datasets, this method is infeasible. Furthermore, we argue that lagged instruments are not always enough to claim exogeneity. In addition, Rojid et al. (2009) estimated a system of equations which allows for endogeneity issues explicitly using the Vector Error Correction Model (VECM) estimations. Nevertheless, these studies were unable to provide suitable instruments. The World Bank ES and in particular the Global Methodology surveys, provide a rich and valuable pool of possible candidate instruments for the SBRs.

Regarding the instruments used we follow similar procedures from earlier studies (Fisman and Svensson, 2007; Şeker and Yang (2014; Alm et al., 2016), and also we propose a set of new variables that have not been employed so far. In particular, the first variable is completed by the interviewer and the question is "It is my perception that the responses to the questions regarding opinions and perceptions are", and the possible answers include a) Truthful; b) Somewhat Truthful and c) Not truthful. The second variable answers to the question "Accuracy of responses to questions regarding figures" with the possible answers a) Are taken directly from the establishment's records; b) Are estimates computed with some precision; c) Are arbitrary an unreliable numbers and d) Some cases in books and some from estimates. The third variable answers to the question "This questionnaire was completed in" and the possible answers include a) One visit in face-to-face interview with one person; b) One visit in face-to-face interview with different managers/staff and c) Several visits. Our suggestion of using these three categorical variables lies on the argument that they are correlated with the state-business perceptions and cannot directly affect the outcomes of interest. About the first two variables, even though the state-business relations can have an impact on firm's performance, the judgment and perception of the interviewer cannot affect them, but it may have a correlation with the reliability of the individual's response. The third variable is also a strong instrument, as the perception about obstacles and state-business relation may vary depending if the questions are replied by the same person, different person, but even by the same person across several visits. This will also be confirmed by our 2SLS estimates where the endogeneity hypothesis is rejected; implying that conditioning on these variables there is no correlation between the instruments, outcomes and the error term. Furthermore, in all cases we reject the null hypothesis that instruments are weak. The rest of the instrumental variables include: percent of firms identifying various obstacles as a major obstacle related to access to finance, crime, percent of firms with loan. We report the instrumental variables in table 1 for more details.

Alm et al. (2016) used two methods to deal with endogeneity; a propensity score matching (PSM) and two stage least squares to estimate the relationship between corruption and tax evasion in 32 countries. The instruments employed in their empirical work involve other bribery activities of the firms. These variables include whether the firm bribed authorities or paid an informal payment, such as to get connection to infrastructure, business permit and license and to obtain a government contract. While we could make use of the same variables as instruments, our analysis is limited due to the missing values and the very small number of observations left, which most likely will lead to selection bias and the use of a non-representative sample. Şeker and Yang (2014) explored the impact of bribery solicitations on performance of firms in Latin America. Our identification strategy is similar to theirs, as the authors for the firm's bribery exposure use as instrument the average bribery exposure in the firms' sector and location cluster. While they explore the bribery solicitations our aim is to explore the impact of SBRs on firm job flows. Similarly, we obtain the total percentage of the variables presented in table 1 by the 4-digit International Standard Industrial Classification (ISIC) code that applies to the main operations of the firms and location. In a similar study by Fisman and Svensson (2007), the relationship between bribery payments and firm growth in Uganda over the period 1995–1997 was examined. The authors used industry-location averages of bribe payments as instruments and they found that the negative effect is considerably stronger compared with the ordinary least squares method. Following these studies we use as instruments for the SBRs the three main variables proposed, which refer to the truthfulness of the responses regarding the opinions and perceptions, the number of visits to complete the questionnaire and the accuracy of responses. For the rest of the variables we take the percentages at industry-location level, where the industry is indicated by the ISIC and location refers to the sampling region. This is expressed by governorates in Egypt and Nomenclature of Territorial Units for Statistics (NUTS) at level 1-region in Turkey.

4. Data

The analysis relies on data derived from the Enterprise Surveys (ES) provided by the World Bank[2]. One characteristic of the data is that the surveys are stratified by firm size, industry and geographical location which shows that the sample could be quite representative; however, other characteristics, such as age, are excluded from the sampling and therefore the firms may not be representative even though the strata are randomly selected. Also, another advantage of the sampling is that job flows measures are well defined and they capture new jobs at the establishment level than changes occurred due to mergers and acquisitions. On the other hand, this leads to the problem that we are unable to measure the firm size accurately for multi-establishment firms (Ayyagari et al., 2011) and this may lead to similar results as in the study by Aga et al. (2011). However, we may limit this bias, as we known from the survey that the establishments report whether they are part of a larger firm. In particular, we could estimate a regression including only those firms. Nevertheless, we will include this information as a control variable as we discussed in the previous section. In an effort to use representative samples we limit our analysis to the global surveys conducted by World Bank in the countries we explore. In particular we use the cross section surveys in Turkey over the years 2008 and 2013 and the respective surveys in Egypt in years 2013 and 2016. We should notice that these surveys include also the panel component where the same firms are followed in two years. Nevertheless, we follow the strategy of earlier studies and we make use of the full cross section surveys, including both panel and non-panel component, which provides us the possibility to view and follow a comparative analysis of the trends across the two economies (Aga et al., 2015; Aga and Francis, 2017).

The World Bank (ES) cover many topics, and are followed by a core questionnaire that allows us to make a comparative analysis across firms, sectors, countries and years. The core questionnaire contains questions answered by the business owners and high ranked managers providing objective, but also

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[2] Enterprise Surveys (http://www.enterprisesurveys.org), The World Bank.

subjective information about the business environment. More specifically, the subjective questions refer to evaluations about the severity of obstacles that firms face. The interviewers ask firms to rank 16 components of the business environment, indicating which one presents the largest obstacle and to rank them on a scale of 1-5, with 1 being no obstacle and 5 being a severe obstacle. Thus, this allows us to identify the top obstacles of a firm.

First, we report the summary statistics for the job flows in table 2. We present the proportions by size class which is constructed using the full-time permanent employees and is classified in three categories defined as small for the firms with less than 20 but more than 4 employees, as medium with a number of employees between 20 and 99 and large for those with more than 99 employees. The second category is by age which is split in three classes, as 0-2, 3-5 and older than 5 years. In figures 1-2 we illustrate the histograms for the firm size respectively in Egypt and Turkey. Similar with the summary statistics presented in table 2, we observe that the structure of the firm size in both countries is almost identical where small firms dominate in both economies. We should note that in the descriptive statistics reported we use the sampling weights provided by the World Bank ES, as we will use them in the regression analysis.

Overall, the main concluding remark is that the majority of the establishments in both countries are small ranging between 60 and 63 per cent followed by the medium-size firms at 33-38 percent and the large firms at 7.40 and 9.37 percent respectively in Egypt and Turkey. While there are some similarities in the firm size when we consider firms in both manufacturing and services sectors, the differences become more obvious when we split the sample. In particular, the 59 percent of the establishments in the manufacturing sector are small in Egypt compared to 52 percent in Turkey. Also the 8.5 percent of the firms in Turkey are large compared to the 4.70 percent of firms in Egypt. So far we saw that the majority of the firms are small, but the age presents a different picture where the majority of the firms have been established more than 5 years ago. Nevertheless, there is more heterogeneity in the

economies explored regarding the age structure. More specifically, the 7.5 percent of the firms are very young, while the respective percentage in Turkey is 2.2. Similarly, the 14.5 percent of the firms in Egypt have been established between 3-5 years ago compared to the 10 percent in Turkey. Regarding both sectors, the majority of the firms are older than 5 years at 78 and 87 percent respectively in Egypt and Turkey. A similar situation is illustrated for the firms operating in the manufacturing sector, while the number of very young firms is significantly larger than the proportion of those firms in Turkey with percentages 8.7 and 1.4 respectively.

(Insert Table 2)

(Insert Figures 1-2)

In figures 3 and 4 we illustrate the major obstacles in SBRs respectively in Egypt and Turkey. The reason of presenting figures 3-4 is that we aim to examine the impact of the most significant SBR separately to be able to disentangle their effects. The figure is based on proportions about how the respondents evaluate the obstacles and which ones affect mostly the operation of the establishment. While we could include them in one regression this could create problems with multicollinearity which will not allow us to explore the actual impact and unable to disentangle their effects. On the other hand we could create an index using all the 15 obstacles within a factor or principal component analysis. One problem is that some loadings will be low that the item will be uncorrelated with the factor, while also the loadings may vary within items with reasonably high loadings. In the case we would be interested to create an index using weighted averages, the factor or principal components analysis could be useful to investigate the overall impact of the total SBRs. However, we are not interested on the effect of the SBRs in total, but we aim to explore individually the impact of the major obstacles in SBRs, so creating and aggregated index will not be useful to our analysis.

In figure 3 we observe that the major obstacles affecting the operations of the establishment include the access to finance and credit, electricity and political instability. Even though the latter dropped in

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2013, still remains the most important obstacle in SBRs. Tax rates, business permits, and corruption, as well as, the obstacles in labour regulations which increase in 2013 are other major obstacles. However, we will limit our analysis to the three most important obstacles mentioned above. Similarly, in figure 4 we observe that the major obstacles in SBRs for Turkey is the access to finance and credit; inadequate education; political instability; practices of competitors in the informal sector and tax rates. Nevertheless, we observe a large reduction in 2013 for the obstacle related to access to finance, inadequate education and political instability, but a large increase in tax rates and competition from firms operating in the informal sector. Also, we note an increase in corruption and electricity. Even though the reduction in access to finance and political instability has been noted, we will explore them as they remain two of the four most important obstacles in 2013. Additionally we will explore the tax rates, competition from the informal sector.

(Insert Figures 3-4)

The sampling methodology followed in the ES is a stratified random sampling where the units are grouped within homogeneous groups and then simple random samples are selected within each group. Following previous studies (Aga et al., 2015; Aga and Francis, 2017) in order to yield accurate population estimates for the main parameters of interest in the empirical work of this study we account for sampling weight in both descriptive statistics presented in this section, and in the regression analysis illustrated in the empirical results section. As we mentioned earlier, the strata for the ES includes the firm size, business sector and geographical location-region within a country.

In table 3 we report the summary statistics using sampling weights for the main control variables. The purpose of presenting the descriptive statistics is mainly to highlight the similarities but most importantly the differences that characterize the firms across the two economies explored. Regarding firm size and age we observe that the averages are very close to both economies, where the average

number of employees is 115 and the average age is 21 in Egypt, while the respective values in Turkey are 138 employees and 24 years. However, the rest of the variables present large difference between the two countries. In particular the female ownership in Egypt is only 6.8 percent, while the percentage in Turkey reaches the 30 percent. This shows that female entrepreneurship is more common in Turkey, while women in Egypt have rather less opportunities to establish or take part to business activities. Also, the 19 percent of the sample if a part of a larger firm, while only the 8.8 percent of the firms in Turkey is part of another establishment. This may be explained also by the foreign ownership, where the 6 percent of the Egyptian firms in our sample has at least 10 percent of foreign ownership and the respective percentage in Turkey is 4.3 percent. Regarding the international quality certification only the 10 percent of the sample has been accredited with it in Egypt compared with the 31.5 percent in Turkey. Also large differences are observed in the firms that are defined as exporters which is only 7.6 percent in Egypt compared to 20 percent in Turkey. These statistics illustrate the openness of the firms which is significantly higher in Turkey. Moreover, the average labour productivity in Egypt is negative at -3 percent, while in Turkey is positive and equal at 4.8 percent.

(Insert Table 3)

5. Empirical Results

We start our analysis by presenting the job flows by sector in table 4 and by firm size in table 5. We observe major differences between the two economies, as in Egypt the net job flows are all positive when we consider the total sample of the firms, but also when we split the sample to manufacturing and services workplaces, while in Turkey the net job flows are positive in the services sector, and they become negative in the manufacturing sector and the total economy. Furthermore, another difference is that the net job rates are higher in the services sector in Turkey and in manufacturing sector in Egypt. As the Turkey's GDP is significantly higher than Egypt's we would expect that the employment

growth would be also higher in the manufacturing sector in Turkish firms. However, when we consider the net job creation rates, these are very low in both economies, even when these are expressed in negative terms. One important fact is that the small and young firms seem to be the engine of job creation growth in Egypt, as according to the table 5 we observe that the share of the employment in the small-medium firms employing between 1 and 100 workers is almost 75 per cent, while the rest of the 25 per cent of the employment share consists of the large firms with more than 100 employees. The exact same situation holds in the case of Turkey where the 73 per cent of the employment share consists of firms with less than 100 employees.

In figures 5-8 we illustrate the net job creation rates in Egypt and Turkey for firms operating in manufacturing and services sector by firm size and age. At a first glance we observe major differences not only between firms in the two sectors, but also between firms across the two economies. In particular, the net job creation rate is higher in medium-sized firm in Egypt and the manufacturing sector, but also to Turkey, but negative. On the contrary, in the services sector we show that large firms present the largest and positive net job creation rate. The situation in Turkey differs in terms that the net job creation rates in the manufacturing sector are negative, while the rates in services sector are positive and higher in the large firms. Regarding the firm age the two economies present also differences, where the young firms (aged 3-5 years) present the higher net job creation rates, while older firms in Egypt perform better. This could be explained by the three-age group classification. Overall, the results show that firm size and age are not always monotonic and for this reason also we will include quadratic terms in these variables to capture also these variations. Also, the net job creation rates are very low in both economies, even though in the case which are positive, indicating rather a slow growth and stagnation.

(Insert Tables 4-5)

(Insert Figures 5-8)

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The first major and common obstacle in the SBRs across Egypt and Turkey is the access to finance and the second is the political instability. The remained two obstacles differ, as in Egypt the majority of the firms state that electricity is a major constraint, while corruption is chosen because it is increased over the period 2013-2016. For Turkey the other two main obstacles in SBRs include the tax rates and practices of competitors in the informal sector. Obstacles regarding the firms' access to finance and also corruption allow large firms to be unfairly subsided and small firms more "taxed" creating less jobs in the economy. Large firms in both countries have not actually grown in the process and therefore have not created more jobs but are born large and are results of the privatization process of public and state-owned firms, including supply of power, post offices, telecommunications and transportation (Şeker and Correa, 2010; World Bank, 2014). In Turkey the labour force is even shrinking considering a part of privatisation in the national post services. These obstacles are more common to small-medium firms making them unable to compete with the old and large privileged firms. Constraints to access to finance and political instability have a negative impact on the net job creation rates in both countries, while the 2SLS coefficients are higher indicating that OLS may underestimate the real effect of these obstacles. Previous studies confirm that constraints about access to finance are reported more frequently to small-medium firms and have less access to formal sources of external finance (Beck and Demirguc-Kunt, 2006). This can be explained by poorly developed capital markets, but also by corruption that favour only large and privileged firms and isolate the small firms that are in more need of financing their operations. These limitations have a negative impact on firm's performance, including financial performance and sales and thus an overall negative effect on employment growth. Klapper et al. (2006) found also that regulations fostering property right protection and access to finance enhance entry and thus job creation.

In line with limitations and constraints on access to finance we observe also that the competition from firms in the informal sector is another major obstacle of SBRs in Turkey. This can be also a result

of the related constraints to finance and credit that forbid the firms in the formal sector to employ more workers. This is also connected with the tax rates, which is a major constraint in Turkey. More specifically, high tax corporate taxes will create obstacles to firms, and especially the small firms that are in more need for finance and capital, allowing workplaces in the informal sector to attract more employment. The practices from the informal sector can be also related with product pricing as workers employed in these firms are not registered in social security and they do not pay taxes resulting to lower prices of the final product and less job creation for firms in the formal sector. Earlier studies also support that electricity is a major constraint for the firm growth and therefore an unreliable supply of electricity can have also a significant adverse effect on job creation and growth. A World Bank report (2008) finds that expensive, unreliable or unavailable electricity is a major barrier for firms in Kenya. In another study by Lea and Hanmer (2009) unreliable supply of power and electricity is a major binding constraint in business in Malawi, as well as, a constraint of investments in industries with high demand for power. Similarly, firms in Tanzania and Liberia recognize unreliable electricity as a major obstacle to firm operations. Therefore, power outages due to lack of proper infrastructure and also expensive supply of power will have a negative impact on sales and consequently on job creation. Power outages in Tanzania cost firms around 15 per cent of annual sales, according to a 2013 survey of 813 firms (Lemma et al., 2016).

In table 6 we report the results for the firms in Egypt. While political instability is the major obstacle in SBRs according to figure 3, constraints related to access to finance and electricity present a stronger effect, while corruption is insignificant. Following also the results for Turkey, we estimated the tax rates as a proxy for SBRs in Egypt and the results were found again insignificant. The results in table 7 confirm the obstacles of SBRs illustrated in figure 4, where tax rates present the higher proportion as the major constraint to businesses, followed by access to finance constraints and political instability. However, the estimates about the firms operating in the informal sector are found insignificant, even

though the proportion is among the highest in the obstacles of SBRs in figure 4. The only significant and negative impact is on the gross job creation rate.

Overall, the most important constraint in Egypt is access to finance, followed by electricity and political instability. In particular, the effect of constraints to access to finance reduce the gross and net job creation rates, but have no impact on the job destruction rates. The effect becomes even stronger when we estimate the repressions with 2SLS. The second stronger effect is observed in electricity. Even though the effect on gross job rates is insignificant, it becomes negative and significant in the net job creation rates regressions. Finally, political instability presents a significant negative sign in both gross and net job creation rates. As we mentioned, the results in table 7 are in line with the figure 4, where in the majority tax rates are the major constraints in businesses in Turkey. As we see the negative effect on net job creation rates is almost tripled compared to political instability and almost 50 percent higher than the access to finance. On the other hand, constraints in SBRs related to practices from firms in the informal sector are insignificant in the job destruction, as well in the net job creation rates regressions, while are negative and significant only when the outcome is the gross job creation rates. Our results also confirm the study by Ayyagari et al. (2005) who used firm level survey data on the business environment across 80 countries and found that finance, crime and political instability are the only obstacles that have a direct impact on firm growth with access to finance being the most robust and most important among those. Furthermore, we should notice, that according to figure 4, corruption and electricity can be also considered as other major constraints of SBRs in Turkey. Nevertheless, we estimated the relevant regression and we found insignificant coefficients.

For the remained variables in the empirical work we observe that the results are significantly different compared to those we found in the case of firms in Egypt. In particular, firms in Turkey with female owners and accredited with an international certification of quality present higher gross and net job creation rates, while the relationship between job destruction rates and international certification of

quality is negative. However, the information about the gender ownership is not detailed as the number of female owners is not provided. While this study has not discussed so far any theoretical framework explaining this positive relationship between female employers and job creation, a survey conducted by EY in 2016 among 2,673 entrepreneurs around the globe, entitled as Global Job Creation Survey, reveals some related results. First, it seems that women lead the job creation stakes who anticipate an average growth rate of 10.9 per cent in the next year (2017), compared to the 8.3 per cent among the male entrepreneurs. Furthermore, the 43 per cent of the women stated that they hired more employees than expected in the previous year -2015- compared to the 39 per cent of the male entrepreneurs. Another characteristic of the survey's results is that the 56 per cent of the female entrepreneurs younger than the age of 35 reported a better job creation rate than the expected in 2015, while the 16 per cent expect a 16 per cent average increase in the workforce size. The respective values for the men in the same age brackets are 56 and 13 per cent (EY, 2016).

Firm size and age are two main variables employed in the literature. As we mentioned earlier we include quadratic terms for both variables. One major difference between the two countries explored is that the quadratic term of firm size is significant in firms in Egypt, while only the linear term is significant in the case of Turkey. In particular, according to table 6 the firm size is significant in job creation and net job creation rates, but insignificant regarding job destruction rates. The turning point for the job creation rate and the OLS estimates is 267 employees, while the respective turning point using the 2SLS is 372. This indicates that after some point of firm size the job creation rates become negative. The same applies also for the net job creation rates with a turning point at 25 employees. Thus, firms employing more than 25 workers are more likely to contribute negative to the net employment growth. A similar concluding remark is observed for the firm age but the coefficients are significant only in the case of the job creation rates. In particular, according to the OLS and 2SLS estimates, firms older than 15-16 years create a fewer number of jobs compared to the young firms.

The situation is quite different in Turkey, where firm size in linear terms is significant, and both linear and quadratic terms of firm age are insignificant. Aga et al. (2015) explored a large sample of firms derived from the World Bank ES. They found that when the regressions control also for the firm age the negative association between net job creation rates and firm size disappears and in some cases becomes positive. In our case the results remain the same when we also exclude the firm age. Additionally, we estimated the regressions excluding the quadratic term of the firm size and we found positive and significant coefficients at 1 percent level and equal at 0.2834; 0.2994 and 0.0242 respectively for the gross job creation, destruction and the net rates. Also we estimated the regression excluding the firm size and still the firm age coefficient remained insignificant.

Another major difference is the firms accredited with an international quality of certification which is found to be negative in Egypt and the job creation rates, but positive and significant in both gross and net job creation rates in Turkish firms. This can be explained by the fact that large firms in Egypt are more likely to be qualified with this certification. As we have shown earlier these firms also create fewer jobs. In particular, the average number of employees in firms with this type of certification is almost 400, and the respective average number of employees reaches almost 55 in firms with no quality certification. However, the estimated coefficients in the job destruction and net job creation rates regressions become insignificant. On the contrary, in Turkey firms with international quality certification present higher gross and net job rates. This is in line also with the firm size, where large firms also are more likely to have this type of certification, as also more likely that at least one female will be the owner-employer. Furthermore, the firms that are part of a larger establishment present a positive correlation with the net job creation rates.

On the contrary common characteristics among the two countries include that foreign ownership and exporting countries are not significantly correlated with the job creation and destruction rates. While this can be owned to the model specification and inclusion of variables that may block their effects, we

do not explicitly analyse in the study. Also in both economies we observe that firms in the services sector create fewer jobs, but at the same time they also destroy fewer jobs, resulting to an insignificant net job creation rate. Regarding the labour productivity we observe that the estimated coefficients of job creation and the net job creation are positive and significant, while the coefficient of job destruction is insignificant. One possible explanation for the positive exhibition of productivity is that more productive jobs may increase the job creation by firms, because higher productivity contributes to the expected value from a job and so firms create more jobs due to increases on productivity. The results are consistent with the study by Yang (2017) who found that productivity is positively related to job creation in a sample of Japanese firms. We should note that this variable can be endogenous and exhibit a reverse causality with the outcomes of interest. Nevertheless, our main aim of the study is to explore the impact of SBRs on job flows. Also, excluding this variable from the regressions, the estimated coefficients of the SBRs remain similar.

Also we check whether the instruments used in the 2SLS are valid. In all cases we reject the null hypothesis of the weak instruments test, implying that the instruments proposed in the analysis are causing or are correlated with the main endogenous SBRs variables. Also according to the Hansen J test we accept the null hypothesis of no endogeneity concluding that the instruments are exogenous, uncorrelated with the error term and they have an indirect effect on the outcomes explored through the SBRs variables.

However, the analysis is not without drawbacks. First, the sample of the firms and the period examined, and specifically the waves, is very short. Second, another major drawback in our opinion is the quality of the job created. In particular, the analysis should be concentrated not only on the quantity of the jobs created, but also on the quality, in terms of skills acquired, future perspectives and wage. More skilled job may lead also to higher economic growth.

(Insert Tables 6-7)

6. Conclusions

This study investigated the determinants of job flows in Egypt and Turkey and the impact of SBRs on job flows. The main concluding remarks is that the impact of firm size and age on employment growth differs in both economies, while obstacles in the state-business relations have a negative and significant impact on the net job creation rates.

While our main aim of the study was to illustrate the job flows, and their relationship with various firm characteristics, the study could have been expanded by exploring also reforms and their impact on the productivity and job creation. These reforms could have been used as natural experiments that may have created exogenous variations on labour market and firm performance allowing us to explore their effects. Nevertheless, we suggest for the future studies the investigation of various reforms, such as employment, subsidies to specific industries and regions, and their impact valuation on the above-mentioned outcomes. Examples include the investment incentives system in Turkey effective as of January 1st of 2012, which has been comprised by four schemes, including also investment incentives in specific underdeveloped areas. The purpose of these schemes is to support specific sectors and industries that are determined in accordance with the scale of the local economy and the potential of the region. For Egypt future studies may explore the industrial policy followed over the period 2004-2011, including the general authority for investment, free and industrial zones, the income tax law passed in 2005 and the economic reforms followed after Mubarak in 2011. Using all these policies-reforms as possible natural or quasi-natural experiments creating exogenous variation on resource allocation, investment, employment and others, may offer valuable insights about their effectiveness and impact.

Thus, more in-depth investigation and analysis of determinants and reforms that affect the job creation rate, productivity and firm performance is important in future studies. State-business relations

can be also important factors. For instance labour and trade regulations may hinder the job creation rates, so flexible labour markets could be more desirable; however, the reforms should encourage investment and job creation, but also the policy challenges is to improve at the same time the worker protection. This is also in line with fact that the countries we explored in this study have a large informal economy, where a large proportion of the workers are not registered with the social security institution and therefore do not enjoy the protections associated with these systems. Many more cases and obstacles can be discussed, but the main point is that state-business relations, among the other factors we explored, may determine the job creation and employment growth.

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Table 1. Variables and Descriptions

| Panel A: Main outcomes and independent variables			
Variable	**Description**	**Variable**	**Description**
Job Flow	The outcomes refer to the variable described in the methodology section, including job creation, destruction and net job creation and their rates.	Foreign ownership	A dummy taking value 1 if firm has at least 10% foreign ownership
Log(Size)	logarithm of total number of employment in year *t*.	Exporter	A dummy taking value 1 if firm exports at least 10% of its annual sales
Log(Size)	logarithm of the number of years that the firm has been in operation	Legal status	A categorical variable indicating the legal status of the firm 1 for Shareholding company with shares traded; 2 for Shareholding company with shares non-traded; 3 for Sole proprietorship; 4 for Partnership and 5 for Limited Partnership
Female ownership	A dummy taking value 1 if there is female participation in ownership	Region	Sampling region
Part of Larger Firm	A dummy taking value 1 if the establishment is part of a larger firm?	SBRs	State-Business Relations indicating the obstacle e.g. of access to finance and credit, electricity, corruption, political instability, tax rates and others. It takes value 1 if the obstacle is major or very severe.
Quality certification	A dummy taking value 1 if the establishment has an internationally- recognized quality certification?	Sector	Dummy indicating whether the firm is operating in manufacturing or services sector.
Labour productivity	Annual labour productivity growth is measured by a percentage change in labour productivity which is the sales divided by the number of full-time permanent workers.	ISIC	4-digit International Standard Industrial Classification code that applies to the main operations of the firms and location
Panel B: Instrumental Variables			
Variable	**Description**	**Variable**	**Description**
IV1	It is my perception that the responses to the questions regarding opinions and perceptions are", and the possible answers include a) Truthful; b) Somewhat Truthful and c) Not truthful	IV9	Percent of firms that were visited or required to meet with tax officials
IV2	Accuracy of responses to questions regarding figures" with the possible answers a) Are taken directly from the establishment's records; b) Are estimates computed with some precision; c) Are arbitrary an unreliable numbers and d) Some cases in books and some from estimates	IV10	Percent of firms identifying tax administration as a major constraint
IV3	"This questionnaire was completed in" and the possible answers include a) One visit in face-to-face interview with one person; b) One visit in face-to-face interview with different managers/staff and c) Several visits.	IV11	Percent of firms identifying corruption as a major constraint
IV4	Percent of firms identifying access to finance as a major constraint	IV12	Percent of firms identifying transportation as a major constraint
IV5	Percent of firms with loan-credit	IV13	Percent of firms identifying electricity as a major constraint
IV6	Percent of firms paying for security	IV14	Percent of firms competing against unregistered or informal firms
IV7	Percent of firms identifying crime, theft and disorder as a major constraint	IV15	Percent of firms formally registered when they started the operations
IV8	Percent of firms experiencing losses due to theft and vandalism	IV16	Percent of firms experiencing electrical outages

Table 2. Percentage of Firms by Size and Age Class

	Panel A: Firm Size- All Sectors		
	Small (5-19 employees)	Medium (20-99 employees)	Large (>99 employees)
Egypt	63.86	28.74	7.40
Turkey	60.94	29.69	9.37
	Panel B: Firm Size- Manufacturing		
Egypt	58.58	31.26	10.16
Turkey	52.35	37.29	10.36
	Panel C: Firm Size- Services		
Egypt	69.08	26.24	4.68
Turkey	68.32	23.16	8.52
	Panel D: Age- All Sectors		
	Very young (0-2 years)	Young (3-5 years)	Old (>5 years)
Egypt	7.54	14.45	78.01
Turkey	2.21	10.84	86.95
	Panel E: Age- Manufacturing		
Egypt	6.35	12.99	80.66
Turkey	3.17	9.03	87.80
	Panel F: Age- Services		
Egypt	8.71	15.89	75.40
Turkey	1.38	12.39	86.23

Table 3. Descriptive statistics for the control variables

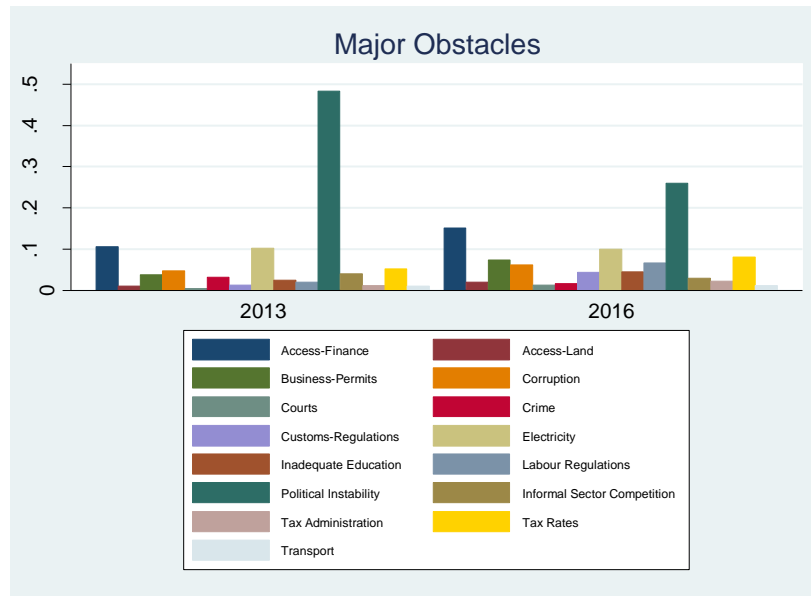| Panel A: Egypt					
Variable	Average	Linearized Standard Error	Variable	Average	Linearized Standard Error
Log of Firm Size	2.740	0.0356	Quality certification	0.104	0.0115
Log of Firm Age	2.503	0.0358	Labour productivity (%)	-2.969	1.240
Female ownership	0.068	0.0107	Foreign ownership	6.098	0.6567
Part of Larger Firm	0.190	0.0149	Exporter	7.600	1.017
Panel B: Turkey					
Variable	Average	Linearized Standard Error	Variable	Average	Linearized Standard Error
Log of Firm Size	2.859	0.0545	Quality certification	0.316	0.0330
Log of Firm Age	2.551	0.0485	Labour productivity (%)	4.787	1.7913
Female ownership	0.301	0.0327	Foreign ownership (%)	4.365	0.4913
Part of Larger Firm	0.087	0.0115	Exporter (%)	20.337	2.2640

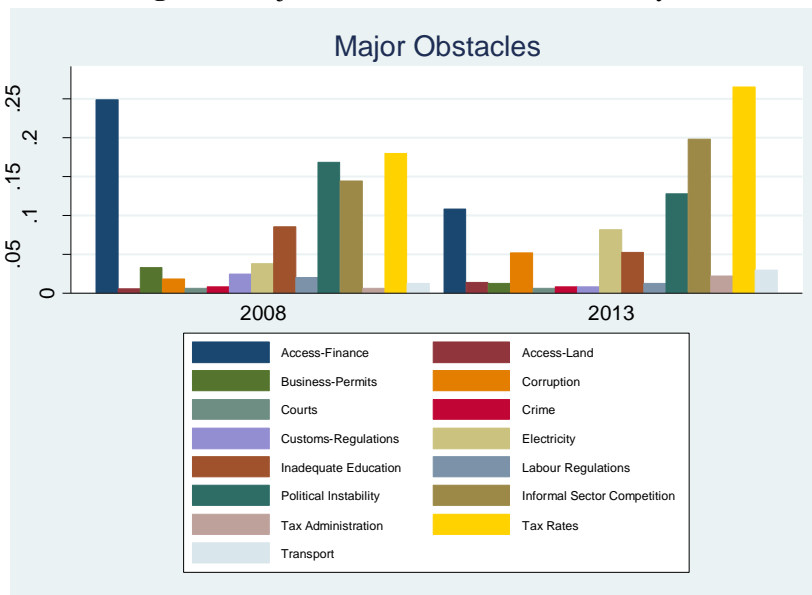**Figure 1**. Histogram for Firm Size Class in Egypt
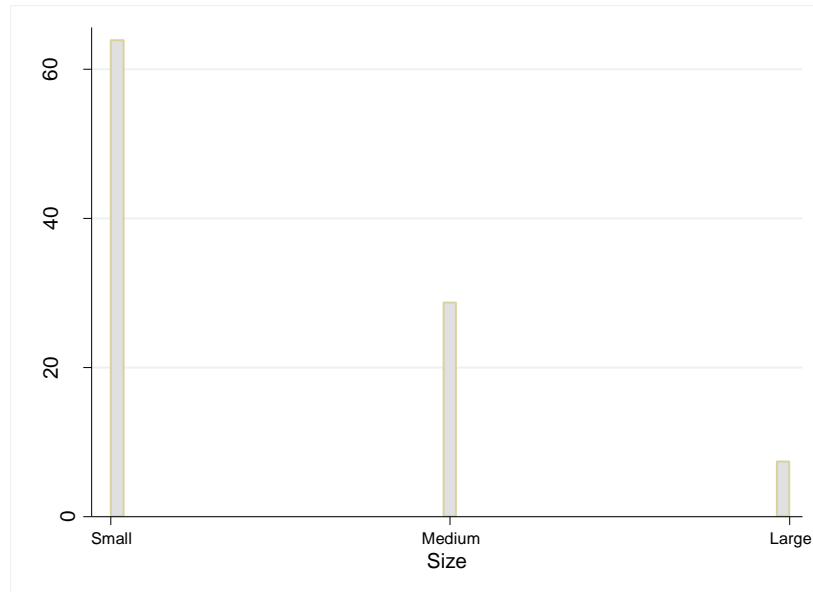
Figure 2. Histogram for Firm Size in Turkey
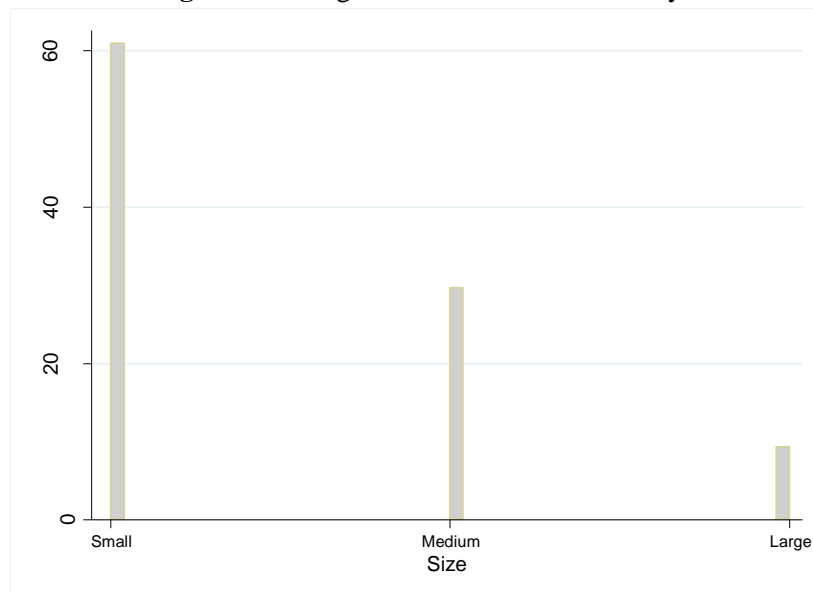
Figure 3.Major Obstacles in SBRs for Egypt

**Figure 4**.Major Obstacles in SBRs for Turkey

Table 4. Job Flows and Rates by Sector

Sector	Gross Job Creation	Gross Job Destruction	Net Job Creation	Gross Job Creation Rate (%)	Gross Job Destruction Rate (%)	Net Job Creation Rate (%)
	Panel A: Egypt					
All	9,079.613	9,001.659	77.954	8.995	8.827	0.168
Manufacturing	10,436.32	10,347.65	88.670	9.645	9.454	0.191
Services	6,220.317	6,143.795	76.522	7.601	7.579	0.022
	Panel B: Turkey					
All	3,183.712	3,314.096	-130.384	2.665	2.672	-0.007
Manufacturing	3,765.515	3,949.908	-184.393	3.079	3.113	-0.034
Services	813.930	746.853	67.077	1.141	0.966	0.175

Table 5. Job Flows Shares in Employment by Firm Size

Firm Size	Egypt				Turkey			
	Gross Job Creation Rate (%)	Gross Job Destruction Rate (%)	Net Job Creation Rate (%)	Share in Employment	Gross Job Creation Rate (%)	Gross Job Destruction Rate (%)	Net Job Creation Rate (%)	Share in Employment
5-19	7.578	7.492	0.086	0.4228	2.369	2.373	-0.004	0.3618
20-99	8.968	8.828	0.140	0.3373	2.739	2.710	0.029	0.3750
+100	9.875	9.769	0.106	0.2399	2.915	2.895	0.020	0.2632

Figure 5. Net Job Creation Rate by Firm Size: Egypt
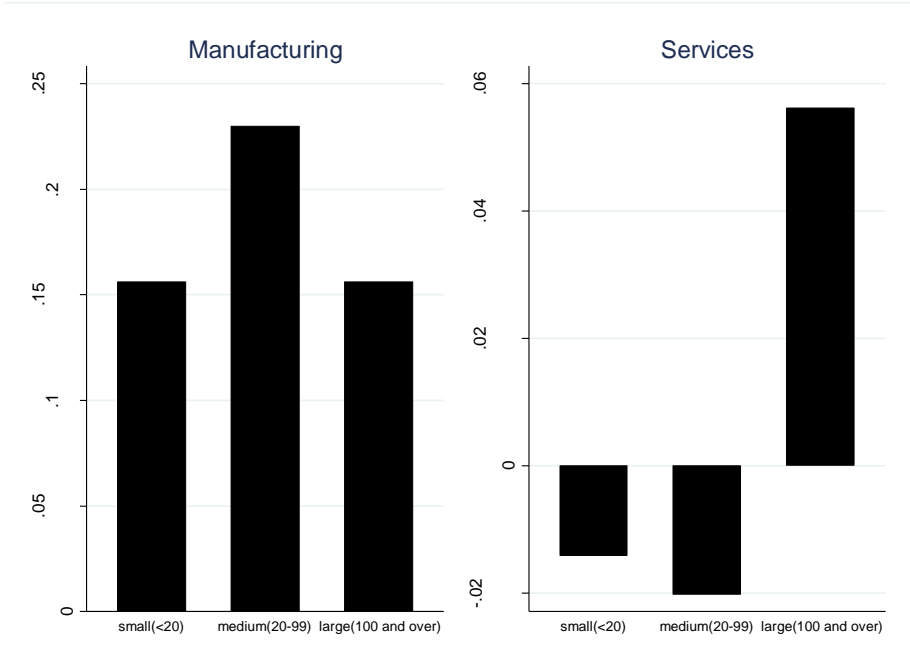
Figure 6. Net Job Creation Rate by Firm Age: Egypt
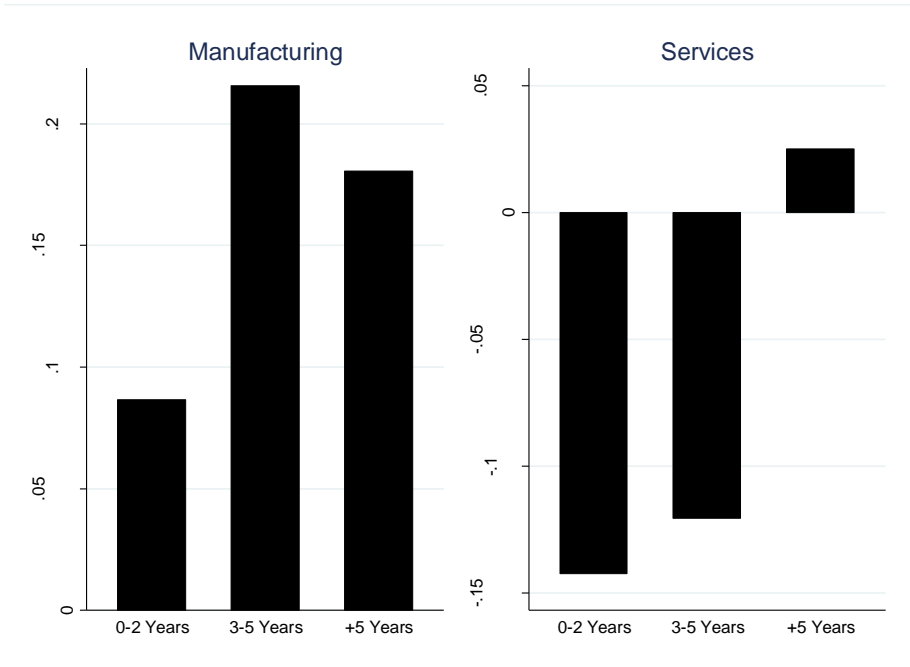
Figure 7. Net Job Creation Rate by Firm Size: Turkey

Figure 8. Net Job Creation Rate by Firm Age: Turkey

Table 6. Job Flows Regressions in Egypt

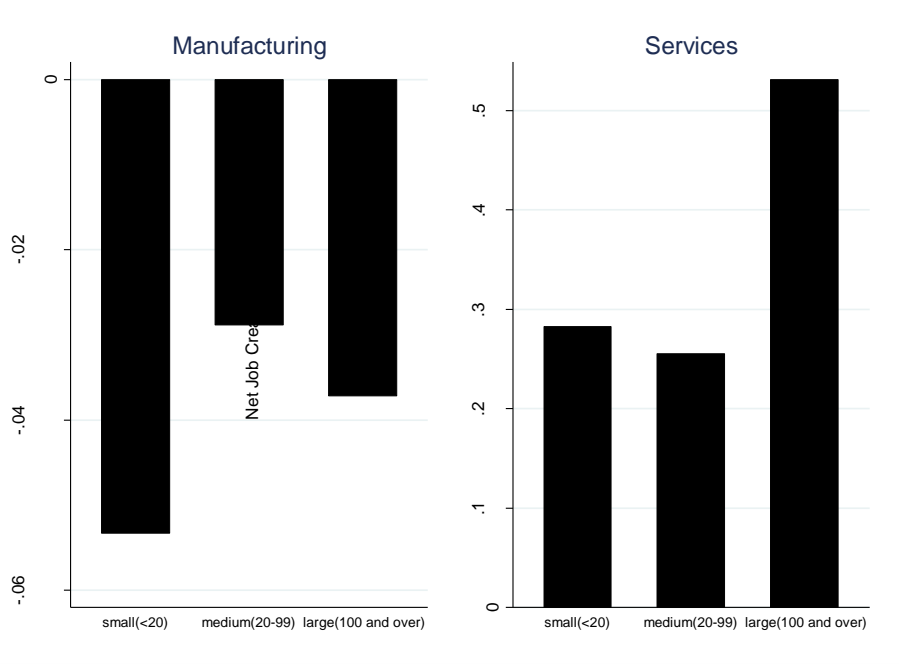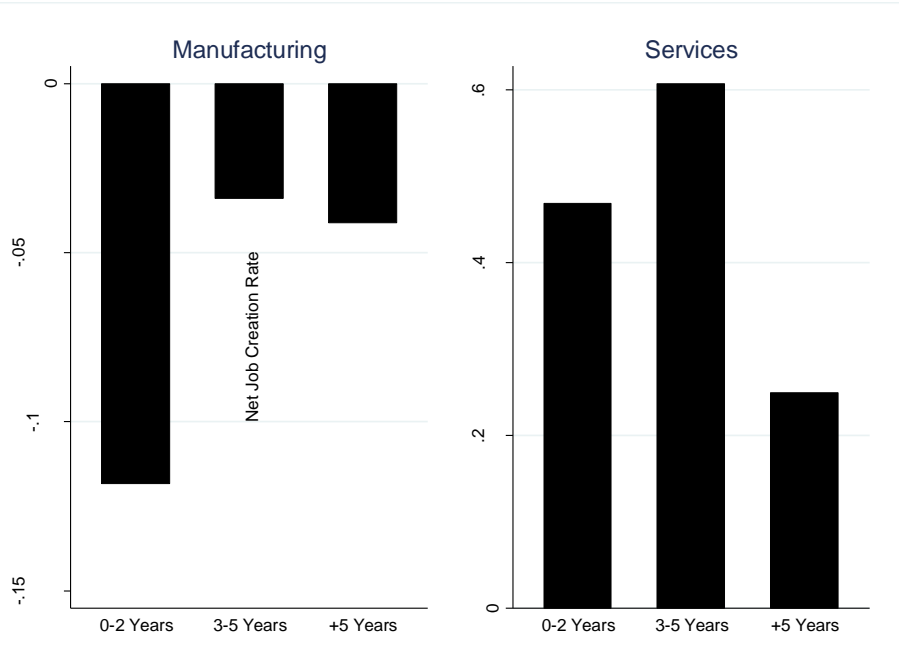| Coefficients	OLS			2SLS		
	DV: Gross Job Creation Rate	DV: Gross Job Destruction Rate	DV: Net Job Creation Rate	DV: Gross Job Creation Rate	DV: Gross Job Destruction Rate	DV: Net Job Creation Rate
Panel A: Access to Finance and Credit						
Business-Government Relations (Major and Severe Obstacle)	-0.0372*** (0.0135)	0.0014 (0.0060)	-0.0091** (0.0042)	-0.0451*** (0.0129)	0.0037 (0.0149)	-0.0132** (0.0064)
Log of Firm Size	1.7513*** (0.6182)	0.6898 (0.7849)	0.1560* (0.0886)	1.8045*** (0.6150)	0.7128 (0.8321)	0.1505* (0.0772)
Log of Firm Size Squared	-0.1564** (0.0732)	-0.1052 (0.1322)	-0.0247** (0.0115)	-0.1524** (0.0783)	-0.0960 (0.1258)	-0.0234** (0.0106)
Log of Firm Age	1.4851* (0.7629)	1.6833 (1.2857)	0.0237 (0.1030)	1.4670* (0.7631)	1.4479 (1.1372)	0.0271 (0.0939)
Log of Firm Age Squared	-0.2720* (0.1541)	-0.2725 (0.2597)	-0.0192 (0.0205)	-0.2582* (0.1362)	-0.2242 (0.2120)	-0.0151 (0.0189)
Labour Productivity	0.0114* (0.0060)	0.0058 (0.0085)	0.0015* (0.0008)	0.0098* (0.0054)	0.0101 (0.0099)	0.0019* (0.0011)
Is one of the owners female? (Yes)	-0.1701 (0.4930)	1.4543 (1.0616)	-0.0982 (0.0864)	-0.1957 (0.5373)	1.3703 (1.0615)	-0.1146 (0.0952)
Is the firm part of another establishment (Yes)	-0.2583 (0.5320)	0.2888 (0.6361)	-0.0614 (0.0721)	-0.2839 (0.5691)	-0.2529 (0.6268)	0.0578 (0.0751)
Has the firm granted with international certification of quality (Yes)	-1.397* (0.5690)	-0.0880 (0.6943)	0.0105 (0.0796)	-1.3902** (0.6717)	-0.1070 (0.6811)	0.0252 (0.0878)
Foreign Ownership (Yes)	-0.0043 (0.0055)	-0.0071 (0.0090)	0.0030 (0.082)	-0.0038 (0.0060)	-0.0108 (0.0088)	0.0029 (0.0053)
Exporter (Yes)	0.0030 (0.0064)	0.0014 (0.0083)	0.0024 (0.0076)	0.0045 (0.0070)	0.0030 (0.0091)	0.0036 (0.0082)
Services Sector (reference manufacturing)	-1.0126* (0.5780)	-1.0484* (0.5442)	0.0549 (0.0549)	-1.0905** (0.5139)	-1.1508* (0.6248)	0.0580 (0.0552)
No. observations	1,383	1,295	2,678	1,321	1,156	2,477
R-Squared	0.1948	0.1474	0.1264	0.1420	0.1770	0.1052
Weak Instrument Test				24.042 [0.000]	18.329 [0.000]	32.331 [0.000]
Hansen J Statistics				15.401 [0.3513]	11.925 [0.6123]	16.362 [0.2918]
Panel B: Political Instability						
Business-Government Relations (Major and Severe Obstacle)	-0.0076** (0.0038)	0.0055 (0.0044)	-0.0007** (0.0003)	-0.0281*** (0.0105)	0.0083 (0.0114)	-0.0009** (0.0004)
No. observations	1,383	1,295	2,678	1,321	1,156	2,477
R-Squared	0.1991	0.1505	0.1288	0.2649	0.2709	0.2589
Weak Instrument Test				17.559 [0.000]	16.223 [0.000]	20.399 [0.000]
Hansen J Statistics				16.678 [0.2738]	12.054 [0.6020]	18.924 [0.1679]

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Table 6 (cont.) Job Flows Regressions in Egypt

Coefficients	OLS			2SLS		
	DV: Gross Job Creation Rate	DV: Gross Job Destruction Rate	DV: Net Job Creation Rate	DV: Gross Job Creation Rate	DV: Gross Job Destruction Rate	DV: Net Job Creation Rate
Panel C: Electricity						
Business-Government Relations (Major and Severe Obstacle)	-0.0028* (0.0015)	0.0086 (0.0074)	-0.0019*** (0.0007)	-0.0082** (0.0038)	0.0152 (0.0276)	-0.0027** (0.0012)
No. observations	1,383	1,295	2,678	1,321	1,156	2,477
R-Squared	0.1923	0.1500	0.1127	0.1971	0.2210	0.2035
Weak Instrument Test				12.237 [0.0003]	9.216 [0.0019]	13.369 [0.000]
Hansen J Statistics				20.810 [0.1066]	8.619 [0.0203]	10.462 [0.7276]
Panel D: Corruption						
Business-Government Relations (Major and Severe Obstacle)	-0.0072 (0.0058)	0.0185*** (0.0065)	-0.0091 (0.0081)	-0.0115 (0.0251)	0.0264** (0.0116)	-0.0117 (0.0089)
No. observations	1,383	1,295	2,678	1,321	1,156	2,477
R-Squared	0.1939	0.1550	0.1070	0.2735	0.1832	
Weak Instrument Test				8.218 [0.0255]	8.608 [0.0212]	10.004 [0.0005]
Hansen J Statistics				18.481 [0.1857]	11.890 [0.6151]	18.247 [0.1958]

Standard errors within brackets, p-values within square brackets, ***, ** and * indicate significance at 1%, 5% and 10% level

Table 7. Job Flows Regressions in Turkey

Coefficients	OLS			2SLS		
	DV: Gross Job Creation Rate	DV: Gross Job Destruction Rate	DV: Net Job Creation Rate	DV: Gross Job Creation Rate	DV: Gross Job Destruction Rate	DV: Net Job Creation Rate
Panel A: Access to Finance and Credit						
Business-Government Relations (Major and Severe Obstacle)	-0.0089* (0.0049)	0.0114 (0.0080)	-0.0052* (0.0028)	-0.0110* (0.0060)	0.0152 (0.0104)	-0.0099* (0.0531)
Log of Firm Size	0.9551* (0.5601)	1.0625* (0.5709)	-0.0842 (0.1110)	0.9104* (0.4930)	1.1865* (0.6440)	-0.0758 (0.1202)
Log of Firm Size Squared	-0.0555 (0.0652)	-0.0776 (0.0809)	0.0148 (0.0133)	-0.0616 (0.0579)	-0.0766 (0.0932)	0.0144 (0.0142)
Log of Firm Age	-1.6465 (1.4133)	-0.0309 (0.0289)	-0.1883 (0.1613)	-1.5101 (1.1445)	-0.0252 (0.0353)	-0.2981 (0.2054)
Log of Firm Age Squared	0.2477 (0.2518)	0.00048 (0.0006)	0.0056 (0.0313)	0.2225 (0.2638)	0.00083 (0.0007)	0.00076 (0.0118)
Labour Productivity	0.0080* (0.0046)	-0.0042 (0.0063)	0.0027** (0.0012)	0.0066* (0.0036)	-0.0041 (0.0068)	0.0025** (0.0011)
Is one of the owners female? (Yes)	0.5533** (0.2261)	0.2866 (0.6697)	0.3212** (0.1442)	0.6764** (0.2593)	0.2239 (0.5478)	0.2620** (0.1283)
Is the firm part of another establishment (Yes)	0.0086 (0.0347)	-0.6609 (0.6394)	0.1677** (0.0766)	-0.0088 (0.0345)	-0.7289 (0.6148)	0.1858** (0.0916)
Has the firm granted with international certification of quality (Yes)	0.9622*** (0.2181)	-0.9205* (0.5380)	0.0713** (0.0290)	1.1977*** (0.2622)	-1.3416** (0.6002)	0.0884** (0.0360)
Foreign Ownership (Yes)	0.0118 (0.0085)	0.0013 (0.0123)	0.0069 (0.0110)	0.0145 (0.0091)	0.0036 (0.0112)	0.0035 (0.0116)
Exporter (Yes)	0.0018 (0.0031)	0.0042 (0.0049)	0.0016 (0.0073)	0.0054 (0.0036)	0.0028 (0.0045)	0.0012 (0.0080)
Services Sector (reference manufacturing)	-2.0262*** (0.2577)	-3.1435*** (0.4190)	-0.0399 (0.0643)	-2.1994*** (0.2832)	-3.0569*** (0.4349)	-0.0427 (0.0732)
No. observations	1,066	792	1,858	1,032	762	1,794
R-Squared	0.3124	0.3642	0.1853	0.2857	0.3699	0.1986
Weak Instrument Test				15.892 [0.000]	13.788 [0.000]	22.114 [0.000]
Hansen J Statistics				10.771 [0.7040]	17.268 [0.2422]	13.321 [0.5014]
Panel B: Political Instability						
Business-Government Relations (Major and Severe Obstacle)	-0.0018 (0.0103)	0.0336*** (0.0105)	-0.0032** (0.0013)	-0.0030 (0.0126)	0.0491*** (0.0182)	-0.0056** (0.0024)
No. observations	1,066	792	1,858	1,032	762	1,794
R-Squared	0.2674	0.3845	0.1859	0.2936	0.3561	0.1841
Weak Instrument Test				14.792 [0.000]	6.524 [0.0537]	8.910 [0.0148]
Hansen J Statistics				12.534 [0.5636]	19.009 [0.1646]	11.496 [0.6467]

Table 7 (cont.) Job Flows Regressions in Turkey

Coefficients	OLS			2SLS		
	DV: Gross Job Creation Rate	DV: Gross Job Destruction Rate	DV: Net Job Creation Rate	DV: Gross Job Creation Rate	DV: Gross Job Destruction Rate	DV: Net Job Creation Rate
Panel C: Practices of Competitors in the Informal Sector						
Business-Government Relations (Major and Severe Obstacle)	-0.0073** (0.0035)	0.0014 (0.0029)	-0.0026 (0.0080)	-0.0122* (0.0069)	0.0060 (0.0130)	-0.0057 (0.0022)
No. observations	1,066	792	1,858	1,032	762	1,794
R-Squared	0.2729	0.3644	0.1847	0.2922	0.3887	0.1983
Weak Instrument Test				19.125 [0.000]	15.765 [0.000]	19.652 [0.000]
Hansen J Statistics				12.288 [0.5832]	17.332 [0.2389]	13.524 [0.4857]
Panel D: Tax Rates						
Business-Government Relations (Major and Severe Obstacle)	-0.0057** (0.0025)	0.0133** (0.0057)	-0.0158** (0.0074)	-0.0075*** (0.0020)	0.0182*** (0.0062)	-0.0151* (0.0015)
No. observations	1,066	792	1,858	1,032	762	1,794
R-Squared	0.1536	0.2027	0.1932	0.2735	0.1916	
Weak Instrument Test				15.716 [0.000]	21.155 [0.000]	26.853 [0.000]
Hansen J Statistics				13.344 [0.4997]	13.989 [0.4506]	15.743 [0.3293]

Standard errors within brackets, p-values within square brackets, ***, ** and * indicate significance at 1%, 5% and 10% level