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The Impact of Institutional Uncertainty on Employment Generation Perspectives of Firms in Jordan

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Abstract

Drawing on different traditions of institutional analysis, the present study aims at eliciting the perception of institutional uncertainty amongst private sector decision makers and to assess its effect on job creation perspectives. This is done by developing an original subjective indicator to measure the uncertainty induced by institutions and by analysing the results of a survey administered amongst a representative sample of 319 entrepreneurs, business owners, and top managers in Jordan. The estimation of binary logit models signals that our measure of institutional uncertainty is a good predictor for the perspectives of job creation and firm growth and that, in particular, uncertainty related to the judiciary, political instability, and waste has a significant effect on discouraging job creation expectations.

Keywords: Institutions, institutional uncertainty, entrepreneurship, binary logit regression.

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1. Introduction

The Arab countries of the MENA are experiencing a transition period, characterised by shocks, far reaching political and social changes, as well as by the volatility of economic conditions. Against this backdrop, uncertainties regarding political and economic events become important issues that need to be considered when doing business.

Uncertainty has been proven to negatively affect economic growth through hampering the business environment and discouraging investment (Dixit and Pyndick, 1994). Uncertainty also plays a pivotal role in influencing the decisions of entrepreneurs: entrepreneurship is, ultimately, a question of assuming the risk of market uncertainty (Cantillon, 2001; Say, 1971). Nevertheless, the role that uncertainty plays in entrepreneurial decision-making is still unclear (McMullen & Shepherd, 2006). One of the reasons for this may be that there are different forms of uncertainty and information and data is scattered which is, thus, difficult to capture in a unified framework (Bloom, 2014).

The present paper aims at adding to the debate on the effects of uncertainty on entrepreneurship and, specifically, it focuses on the effect of perceived uncertainty about institutions on the growth expectations (in terms of employment creation) of firms. The underlying idea is that institutions are very important for the business environment and for investment (Keefer, 2004; Stasavage, 2002; Faria and Mauro, 2009). Thus, institutional uncertainty, or better, its perception by the individuals involved in an economy (entrepreneurs and investors, *in primis*), can hamper the business environment and, herewith, discourage investment (Borner et al., 1995). This can be expected to negatively affect employment decisions made by firms.

If institutions are perceived to be weak, unstable, or their credibility is questionable, this will also generate uncertainty. The link between credibility of institutions, economic and firm growth has not been fully explored yet (Brunetti et al., 1998) and the present analysis intends to contribute towards reviving the debate in this regard.

The contribution of this paper is both theoretical and empirical; on the one hand, the paper develops an original framework to assess the perception of private sector decision makers about uncertainty related to institutions and it builds an indicator for institutional uncertainty. On the other hand, it presents the main findings of a survey, administered over a representative sample of 319 entrepreneurs, business owners, and managers in Jordan, relating to the perception of institutional uncertainty, to entrepreneurial characteristics and to job creation expectations.

The paper is articulated as follows: Section 2 introduces a review of the concept and on the literature on institutional uncertainty. Section 3 deals with the theoretical framework and the conceptualisation of institutional uncertainty. Section 4 presents the methodology of the survey, its sampling, and modality of administration. The main results and some econometric estimations are discussed in Section 5. Section 6 concludes with the main implications of the study.

2. Institutions and Institutional Uncertainty

Institutions are defined as shared mental models (Denzau & North, 1994) and as “humanly devised constraints that shape human interaction” (North, 1990). They are, thus, collectively recognized rules, or a “system of mutual expectations” (Sugden, 1998), symbols, and “social models” (Eggertsson, 2005). In game theoretical perspective, institutions are

rules that create expectations about other players' behaviour (Aoki, 2007) and, thus, tend to help the convergence towards equilibrium. Institutions are very important for reducing and managing uncertainty in a society (DiMaggio and Powell, 1983; Martens et al., 2007).

Thus, the link between institutions and uncertainty have inspired analyses both concerning the role played by institutions for economic performance and concerning their role in entrepreneurial activity and private sector development. Risk reduction is decisive for entrepreneurial activity (Baumol and Strom, 2007; Boettke and Coyne, 2003) and institutional theory can, thus, provide a useful framework for approaching an analysis of entrepreneurship. (Stenholm et al., 2013; Bruton et al., 2010).

Several contributions have dealt with the role of institutions in entrepreneurship and entrepreneurial success (Bruton et al. 2010), with the related aspect of innovation (Nelson, 1993) and with the importance of the context in which entrepreneurship takes place (Gartner, 1985). Nevertheless, the relationship between the uncertainty generated by institutions has, so far, mostly been neglected.

Institutional uncertainty can be defined as the uncertainty arising from the institutional environment (Bylund and McCaffrey, 2017). It is thus a broad concept, encompassing very different forms of uncertainties within the political and social environment. It has been proven to matter for several decisions (for example, tax compliance, Alm et al., 1992). Institutional uncertainty is important for business as it "changes entrepreneurs' relative costs of bearing uncertainty in their typical abiding activities" (Bylund and McCaffrey, 2017).

In particular, Brunetti and Weder (1998) disentangle uncertainty concerning institutions into four different aspects: the first concentrates directly on the stability of government, the second relates more to social stability, the third to stability of economic policies, and the fourth to the stability of the relationship between the private sector and the state.

Building on this framework, Brunetti et al. (1998) develop and test 73 countries as an indicator for institutional uncertainty, composed by the following four dimensions: (1) uncertainty about government policies (predictability of changes in laws and politics); (2) reliability of law enforcement (reliability of judiciary); (3) corruption (impact of corrupt bureaucracy) (4) political instability (political reversal and government turnover).

3. Indicators for Institutions and Institutional Uncertainty

One of the challenges in studying institutions is their operational definitions and measurement. The approaches in economics are hereby the definition of proxies and the development of indicators. Considering the literature on institutions and economic growth, several operational definitions of institutions have been proposed and tested in growth models. A well known example of measuring institutions is represented by the World Governance Indicators (WGI), developed and published by the World Bank. WGI measures governance, decomposing it into 6 broad dimensions, namely (1) voice and accountability (largely understood as a proxy for democracy), (2) political stability, (3) government effectiveness, (4) regulatory quality, (5) rule of law and (6) control of corruption. There is empirical evidence signalling a positive correlation between good governance (as expressed by WGI) and economic performance.

There is further evidence pointing to the importance of institutions in stimulating private sector development and support of entrepreneurship and the creation of new

ventures. The ratings and indexes developed by Ease of Doing Business, in the Global Competitiveness Report, can be similarly interpreted as ways of capturing the institutional quality of a country and benchmarking it internationally.

Most of the indicators that have been developed for institutions, their quality, and/or stability, are based on objective measures. However, objective indicators can measure institutional instability, not uncertainty. Hereby, Brunetti et al. (1998) suggest and empirically test a subjective indicator for the credibility of institutions.

Motivated by similar considerations, we develop a subjective indicator for institutional uncertainty. It is reasonable to assume that, in studying the impact of institutions on the economic and business environment of a country, it is not only the actual administrative procedures or regulations that matter, but their perception by the affected parties (Grilo and Irigoyen 2006).

The importance of perception, rather than of objective conditions, is also indirectly inspired by the seminar analysis of institutional uncertainty by Bylund and McCaffrey (2017). Relying on the classification of institutions, based on the levels of economising (Williamson, 1998 and 2000), Bylund and McCaffrey (2017) posit that “institutional uncertainty exists when entrepreneurs doubt the future compatibility of institutions at different levels”. Thus, institutional uncertainty is a case of beliefs shaping reality, in the sense that no matter how solid and stable institutions may be, if decision makers perceive institutions to be weak and/or unstable, they will modify their behaviour (and in primis their investment behaviour) according to this belief.

4. Theoretical Background (Classification of Institutions)

Several classifications of institutions have been formulated in the literature. In general, institutions can be classified depending on their crafting and their enforcement, which can be endogenous or exogenously. Endogenous crafting and enforcement generates informal institutions, e.g. norms, traditions, conventions, and codes of conduct. Exogenously created institutions are formal institutions, i.e. legislative, judicial, and regulatory framework (for more, see North, 1991, and Bosma and Schutjens, 2011).

A very comprehensive framework, which has originated the new institutional theory, is the one proposed by Williamson (1998 and 2000) based on the levels of economising. The underlying conceptualisation of institutions sees them as emerging out of the need to minimise the transaction costs (this is the sense of “economising”) generated by interaction of individuals. Interactions occur, then, on the four main levels of informal institutions (L1, norms and habits), formal institutions (L2, institutional environment and regulation), governance (L3, “playing the game”), and market institutions (L4, resources allocation).

A very convincing framework to discuss institutional uncertainty, applying Williamson’s levels of economising to entrepreneurial decision making, is provided by Bylund and McCaffrey (2017). The main idea is, hereby, that “uncertainty is created when entrepreneurs anticipate misalignments, incongruences, or contradictions between institutions on different levels” (Bylund and McCaffrey, 2017).

According to Scott (1995), institutions have the main function of generating and granting stability in a system and they are “social structures with high degree of resilience”. They can be disentangled, according to their main pillars, into cultural-cognitive, normative and regulative.

The regulative institutional pillar encompasses laws, regulations, and the structures for their enforcement. The normative pillar deals with the actions of both organisations and individuals, including standards of behaviour and commercial praxes. The cognitive institutional pillar encompasses cultural cognitive elements of institutions, i.e., norms, behaviours and habits, and is, as such, strongly influenced by the sociocultural context (Bruton et al. 2010) and is transmitted via social interaction and learning (Urban, 2013). All these three elements are important for organisational change (Palthe, 2014) and are, therefore, to be considered in relation to institutional uncertainty and entrepreneurial decisions.

5. Theoretical framework and structure of the survey

The aim of this study is, thus, to develop an instrument to empirically measure the perception of institutional uncertainty by the private sector and to test it via a survey administered among private sector decision makers (in particular, entrepreneurs, business owners, and top managers).

To do that, we merge different traditions of institutional theory into an original framework to conceptualise institutional uncertainty. In particular, we go beyond the approaches by Scott (1995) and Brunetti and Weder (1998) to develop our own operational definition of institutional uncertainty and a subjective index to measure it.

Specifically, we posit and test in a questionnaire that institutional uncertainty can be measured (according to Scott's classification) as it relates to regulative, normative and cognitive pillars of institutions. To empirically test this framework and assess institutional uncertainty in a real setting, we operationalise each of these pillars, disentangling them into different dimensions of institutional uncertainty (beyond the analysis by Brunetti and Weder, 1998). Table 1 schematically represents our theoretical framework and highlights the dimensions and their elements of institutional uncertainty, as elicited in the survey.

Table1: Theoretical framework, indicators, and dimensions of institutional uncertainty

Pillars of institutions	Uncertainty Source / Dimension	Elements of uncertainty
Regulative pillar (policies and work rules)	Government policies	<ul style="list-style-type: none"> • Predictability of policies • Credibility of policies • Participativeness of policy making
	Law and law enforcement	<ul style="list-style-type: none"> • Transparency of laws • Completeness of laws • Efficiency of judiciary • Cost of judiciary • Security of persons and property rights
Normative Pillar (work norms and habits)	Political instability	<ul style="list-style-type: none"> • Effects of strikes and demonstrations
	Relationship between the private sector and the state	<ul style="list-style-type: none"> • Bribery • Wasta
Cognitive-cultural pillar (beliefs and values)	Social capital	<ul style="list-style-type: none"> • Networking • Trust

Source: Authors' representation

In this framework, the three pillars of institution are decomposed into different dimensions, corresponding to potential sources of institutional uncertainty. Each dimension of institutional uncertainty is then articulated into elements, as they can be elicited via questionnaire items.

As visualised by Table 1, the regulative pillar of institutions is articulated into government policies, law and law enforcement. Uncertainty related to government policies is elicited in the questionnaire, in terms of their predictability and reliability, their credibility, as well as participativeness of policy making. Uncertainty generated by laws and by law enforcement is captured as transparency and completeness of laws and regulation, as well as efficacy and cost of judiciary. Security of persons and property rights is also elicited.

The normative pillar of institutions is reflected in uncertainty generated by political instability (which is operationalised as the effects of strikes and demonstrations on business) and into uncertainty arising from the state-private sector relationship. This essentially translates into corruption, in the sense of all practices mining institutions and their certainty. This is made operational by assessing the frequency of bribery and *wasta*. *Wasta* is a particular dimension introduced specifically for Middle Eastern countries. *Wasta* is using personal relationships and connections to obtain services and favours. Even though *wasta* can be said to be an important determinant of resources allocation in the Middle East (Barnett et al, 2013), this topic has received insufficient attention by economic analysis.

The cognitive-cultural pillar of institutions is captured in our framework in the form of social capital, which we elicit in the survey via questions on the importance of networking and trust in business. Social capital is generated by trust (Nooteboom, 2007) and consists of shared norms, values and understandings that facilitate co-operation within or among groups, exchange and innovation (OECD, 2007). Networking is elicited in the questionnaire as the role of connections in doing business. We refer, in this regard, to the concept of the social network, which is a theoretical construct useful in social sciences to study relationships between individuals, groups, organisations, or even entire societies (Jackson, 2010).

6. Methodology and sampling

The elements of institutional uncertainty are elicited in a questionnaire via 17 questions, in which the respondents are asked to express their answers on a Likert scale from 0 to 6. There are contrasting views concerning the optimal number of responses in a Likert scale; in general, we refer to the interesting discussion by Matell and Jacoby (1972). Further, Lee et al. (2002) points to the importance of cultural differences. Munschi (2014) posits the importance of pretest, in order to tailor the scale to the analysis. Accordingly, in this study the choice of a Likert scale with 6 items, was validated via pretests, showing that 6 items increased the answering time, but also the construct validity. In addition, the pretest participants did not perceive the absence of a neutral response (i.e., the central category in case of a scale with an odd number of responses) as biasing. Thus, a 6 item scale seems to be an appropriate way to encourage thoughtful answers by the respondents.

The elements of institutional uncertainty are elicited in a questionnaire and are related to entrepreneurial characteristics (innovativeness and opportunity versus necessity entrepreneurship), to a firm's characteristics (size, sector, and year of establishment), as well as to the perspectives for job creation and fear of changes in laws and regulations as a constraint to firm growth.

The questionnaire is presented in Appendix. Before running the survey over a full sample of 319 entrepreneurs and top managers, the questionnaire was validated via peer review and via a pretest, which was run over a sample of 44 entrepreneurs and managers. The questionnaire was translated into Arabic.

The survey targets private sector decision makers, such as entrepreneurs, business owners, and top managers. It is primarily this specific group of persons that are taking strategic decisions in a firm, so that their perception of institutional uncertainty may be reflected in firm expansion and job creation, or not.

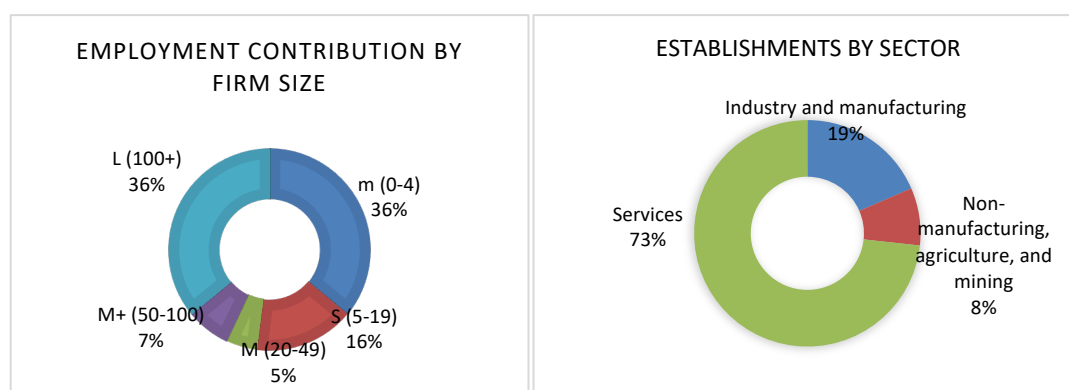
To make sure that only the targeted group of persons took part in the survey, the questionnaire was administered face-to-face by the authors. This modality of administration was time consuming, but seemed to be necessary, in order to ensure the quality of data.

To ensure fair representation, sampling was done by applying a stratifying random sampling, with the following two strata:

1. sector of economic activity, divided into industry (including manufacturing), non-manufacturing, and services
2. employment contribution of firms by size of employment

The real distribution of firms in Jordan, according to these two strata (employment contribution by number of employees and the sector of economic activity), is represented by Fig. 1. The sample was selected so to closely approximate the real distribution of firms in Jordan.

Figure 1: Employment contribution of firm by size of employment and establishments by sector in Jordan for the year 2016



Data source: Jordan Department of Statistics, 2016

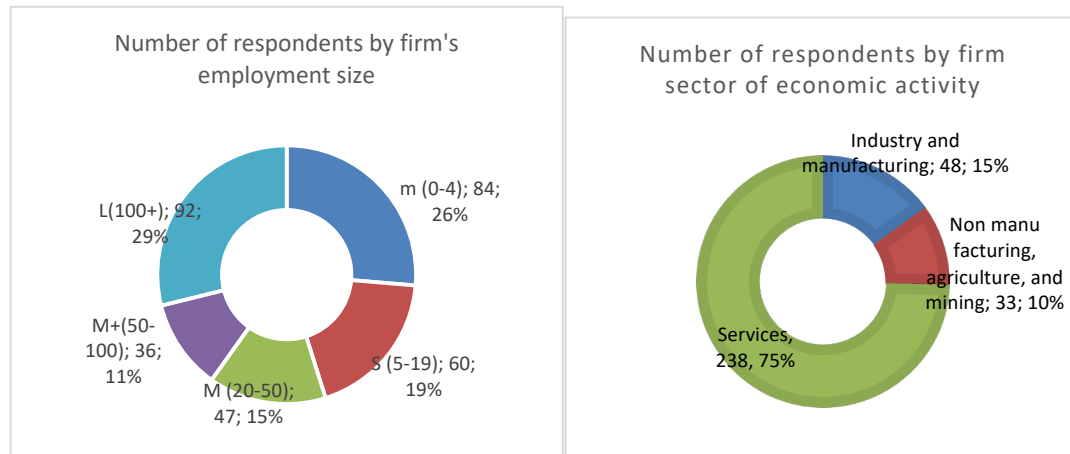
Furthermore, the sample size was determined by approximating Slovin's formula, with a 95% degree of confidence, with population size being the number of establishments engaged in social security in Jordan, as indicated by statistics of the Social Security Corporation (44,169 establishments in the year 2016).

The obtained sample size is approximately 300 respondents. This is also consistent with the rule of thumb typically applied for questionnaire studies.

7. Results

The results of the survey are based on 319 valid responses. As it emerges from the comparison between Fig. 1 and Fig. 2, the sample can be considered to be representative, as its characteristics are very close to the real distribution of firms by size of employment and by sector of economic activity in Jordan.

Figure 2: Characteristics of the sample



Source: Survey data

The sample consisted of 226 male and 93 female respondents, i.e. almost 71% males and 29% females. This apparent imbalance between genders actually reflects the composition of the labour force in Jordan, where the female participation rate in the labour market is among the lowest world-wide (World Bank Data). Specifically, according to a survey by the Jordan Department of Statistics, in 2015 the female refined economic activity rate was around 13.3%, vis a vis a rate of 60% for males.

Concerning education level, the majority of respondents (58%) has a Bachelor Degree. 21% has a Master Degree, 13% a secondary education certificate, 7% a Doctoral title, and only 1% achieved less than secondary education. The mean age of respondents was 37 years and median age 36.

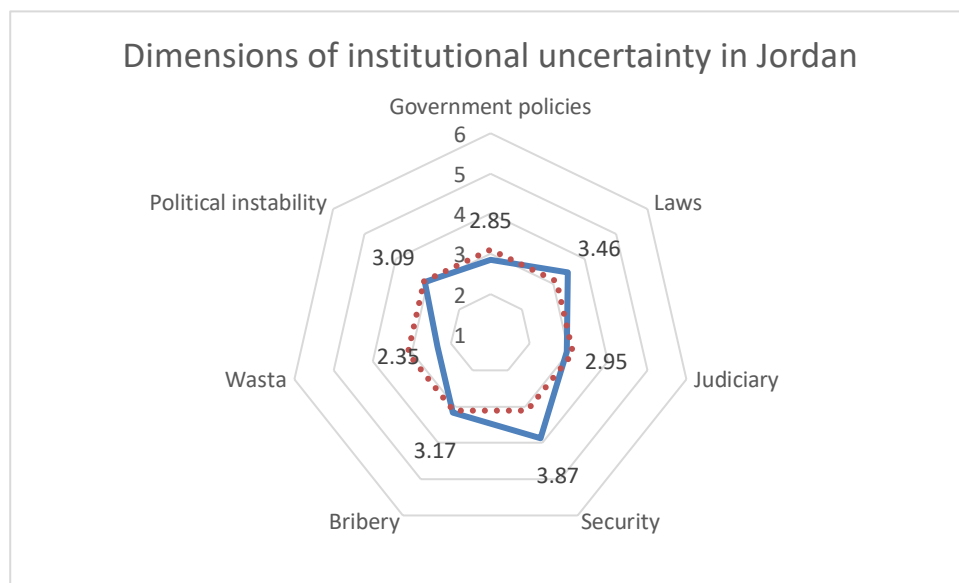
The year of company establishment ranges from 1836 (an outlier, a private school, that was first established in Palestine) to 2017. In general, the median year of establishment was 2005, thus revealing that the firms in the sample are typically young. This is also in line with the high discontinuation rate of businesses, as signalled by the Global Entrepreneurship Monitor (GEM) 2016-17 report for Jordan.

Ventures can, in general, be classified according to the motives of their establishment; it can hereby be differentiated between opportunity driven and necessity driven entrepreneurship (e.g. Minniti et al., 2006). Opportunity driven entrepreneurship means that a firm is starting to pursue a business opportunity, whereas necessity driven entrepreneurship is the case where a firm has started out of necessity. Concerning our

sample, 53% of firms can be classified as opportunity driven and 25% as necessity driven ventures (22% of respondents did not know). This is consistent with the findings by the GEM report for Jordan 2016-17, according to which 53% of enterprises in Jordan are opportunity driven enterprises and 26.4% are necessity driven.

The main finding of the survey is an assessment of the institutional uncertainty, as perceived by the focus group of private sector decision makers. Figure 3 shows the score for the main dimensions captured by the survey, as presented in Table 1. The interpretation key is that scores range from 1 to 6, with 1 indicating great uncertainty and 6 no uncertainty at all.¹

Figure 3: Assessment of institutional uncertainty in Jordan



Source: Survey data

Fig. 3 reveals that the scores range between 2.35 (wasta) to 3.87 (security of persons and property rights). An aggregate index for institutional uncertainty can be calculated as the arithmetic average of the scores for the different dimensions (as suggested by Brunetti et al., 2007).² Thus, the average perception of institutional uncertainty in Jordan is 3.1 (red dotted line in Fig. 3), which is below 3.5, the median value of the scale. This score signals an overall negative perception of certainty and predictability of institutions. In particular, private sector decision makers suffer uncertainty concerning government policies, wasta, and judiciary. Security of persons and property rights seem, on the contrary, to be perceived as stable institutions.

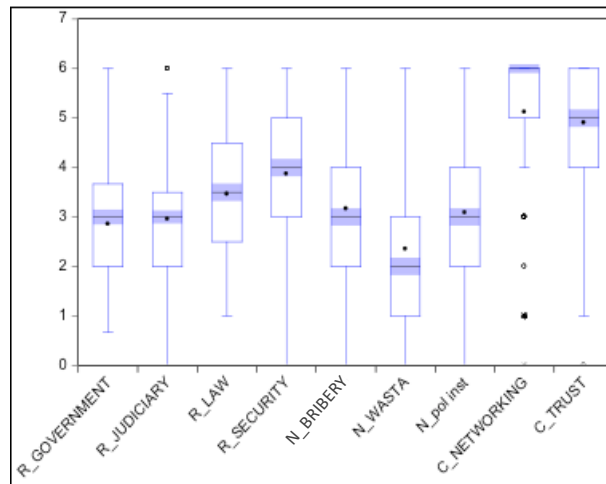
¹ To avoid biasing the respondents, some of the questions presented a reversed scale (i.e. 6 stated high uncertainty and 1 certainty). The responses to these questions were appropriately transformed for evaluation purposes.

² The aggregate score for each of the dimensions of institutional uncertainty has been also calculated as arithmetic mean of the respective elements, as the results of exploratory factor analysis corroborated the idea of equal weights.

A further result is that social capital is perceived to be important for doing business in Jordan. Both elements, trust and networking, receive high scores; the average assessment of trust is 4.91 and of networking 5.12, leading to an aggregate assessment of the cognitive cultural pillar of institutions of 5.01.

Fig. 4 shows the boxplot for the different dimensions of institutional uncertainty and social capital.

Figure 4: Boxplots for the dimensions of institutional uncertainty



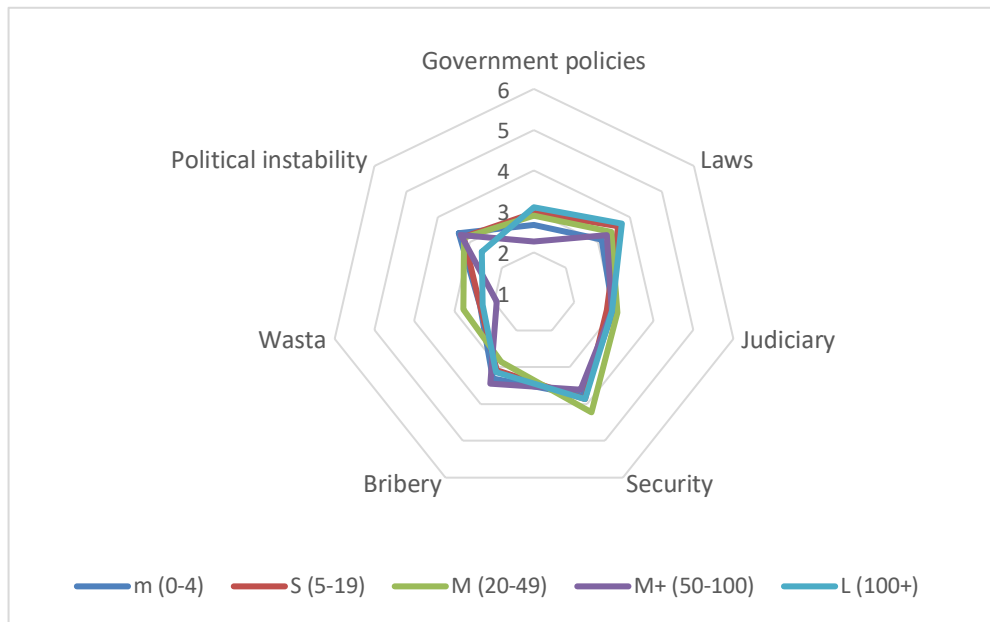
Source: Survey data

In Fig. 4, the suffix before each variable refers to the pillar to which they respectively belong (see Table 1): «R» stays for regulative, «N» for normative, and «C» for cognitive.

Another aspect that should be mentioned is the significant difference (t-test is significant at $p=0.000$) between the perception of waste and of bribery. Waste, i.e. favouritism (not related to the payment of money), is perceived to be more present than bribery. This fact has important implications, as most of the measures that are currently used to assess the level of corruption in a country (e.g. the Corruption Perception Index by Transparency International) focus on bribery.

Disentangling the perception of institutional uncertainty by a firm's size of employment (Fig. 5), the results are consistent across the different groups in signalling institutional uncertainty (all scores are below 3.5). A slight trend that can be noticed is that medium-large companies (employing between 50 and 100 employees) have the most negative perception of the uncertainty about institutions in the country over the other sizes of companies. Their average aggregate score is namely 2.9 versus evaluations ranging between 3.08 and 3.2.

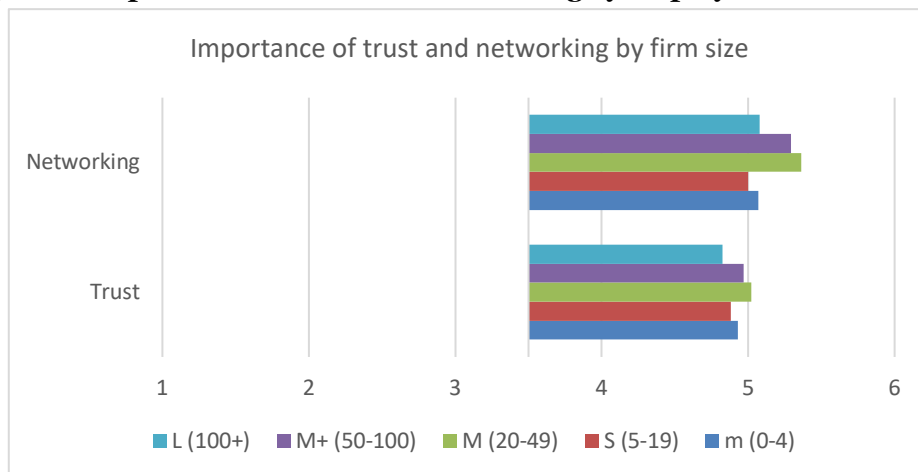
Figure 5: Institutional uncertainty by firm's size of employment



Source: Survey data.

Also, the evaluation of trust and networking seems to be consistent across firms of different employment size (Fig. 6). Furthermore, responses both concerning institutional uncertainty and social capital do not significantly differ by age group.

Figure 6: Importance of trust and networking by employment size of firms



Source: Survey data

Interestingly, there are significant differences ($p < 0.05$) in the perception of institutional uncertainty and of the importance of trust and networking amongst managers and business owners (Fig. 7). In particular, the results suggest that owners perceive

institutions to be less certain than managers.³ Their estimation of the importance of trust and networking is also higher.

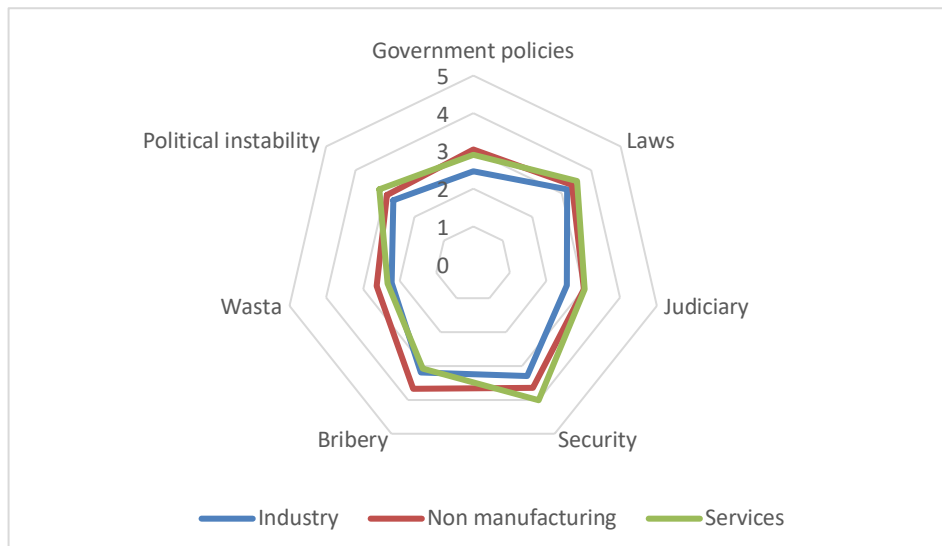
Figure 7: Networking, trust, and dimensions of political instability among managers and business owners



Source: Survey data.

The economic activity sector seems to influence the perception of institutional uncertainty, too. As it is represented in Fig. 8, firms that are active in industry perceive institutions to be less certain and institutional uncertainty to matter more to their business than to firms that are active in the services and non manufacturing sectors.

Figure 8: Uncertainty of institutions by sector of economic activity



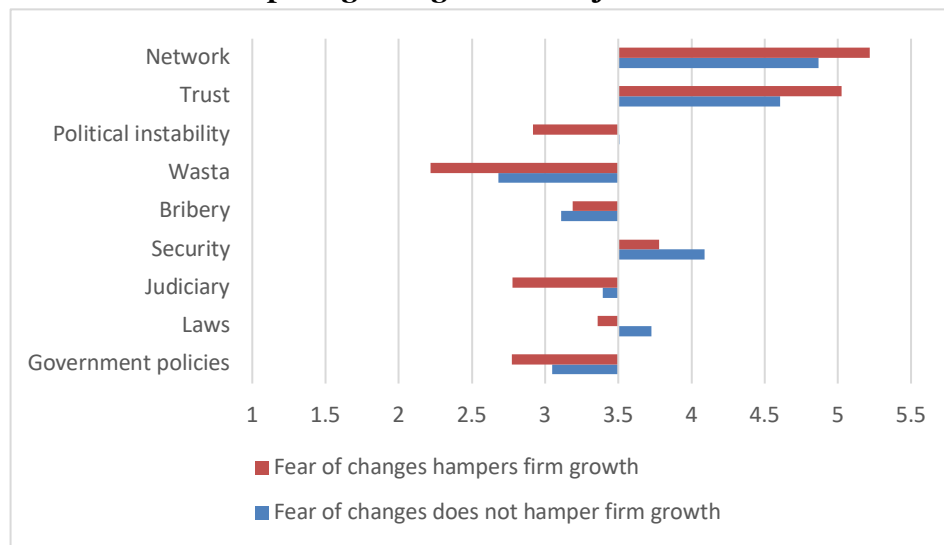
Source: Survey data.

³ The only exception is for bribery and political instability.

An important dimension, further elicited by the survey as a sort of dependent variable for the analysis, is whether the uncertainty about institutions hampers firm growth and job creation. Respondents had to precisely rate how much they agreed with the statement “the fear of changes in laws and regulations hampers the growth of your company and job creation.” As follows, we label this variable “fear of changes in institutions” which is an indicator of institutional uncertainty and its implications for firm growth and job creation.

Fig. 9 disentangles the perception of institutional uncertainty by respondents who considered fear of changes relating to institutions as being among the factors hampering job creation and growth potential of firms, and those who did not.

Figure 9: Institutional uncertainty (“fear of changes in institutions”) as factor hampering firm growth and job creation



Source: Survey data.

From Fig. 9, it emerges that the respondents who stated that fear of institutional changes was hampering firm growth and job creation, perceive institutions to be less certain and stable. This is a very important result, as it points to the fact that institutional uncertainty matters for job creation and the perspective of firm growth.

To better understand this result, we want to check which dimension of institutional uncertainty better predicts fear of institutional changes discouraging job creation. The estimation is based on binary logit regressions, where a binary variable for fear of change is the dependent variable and the independent is the different dimensions of institutional uncertainty.⁴ Specifically, the binomial dependent variable equals 1, if fear of changes in institutions is considered to hamper job creation expectations and 0 otherwise.

Three models have been estimated, one per pillar of institutional uncertainty:

$$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = \beta_0 + \beta_1 r_{government} + \beta_2 r_{law} + \beta_3 r_{judiciary} + \beta_4 r_{security} \quad (\text{Model 1})$$

⁴ Correlation analysis reveals a weak correlation between the different dimensions of institutional uncertainty and, as shown by a determinant larger than 0.00001, the hypothesis of multicollinearity can be rejected. The correlation matrix is presented in Appendix.

$$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = \beta_0 + \beta_1 n_{bribery} + \beta_2 n_{pol\ inst} + \beta_3 n_{wasta} \quad (\text{Model 2})$$

$$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = \beta_0 + \beta_1 C_{trust} + \beta_2 C_{networking} \quad (\text{Model 3})$$

Hereby, P_i is the probability of the binary variable “fear of changes in institutions” being equal to one and L is the logarithm of the odd ratio (the Logit).

The regressions have been estimated using the software EViews8. The output for model 1 is presented in Table 2.

Table 2: Model 1

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	2,80561	0,530323	5,290382	0
R_GOVERNMENT	0,006685	0,132515	0,050444	0,9598
R_JUDICIARY	-0,477927	0,129054	-3,703303	0,0002
R_LAW	-0,156934	0,119653	-1,311577	0,1897
R_SECURITY	0,031061	0,090665	0,342586	0,7319
McFadden R-squared	0,056601			
LR statistic	21,5897			
Prob(LR statistic)	0,000242			

Uncertainty related to the judiciary has a significant (less than 1%) negative effect on the dependent variable. The coefficients in a logit model represent partial slope coefficients, so that a more meaningful interpretation should be based in term of odds by taking the antilog of the coefficients (Gujarati and Porter, 2009). The coefficient for $r_{judiciary}$ translates into an odd ratio (i.e. $\left(\frac{P_i}{1-P_i}\right)$) of 0.62. This means that, if there is uncertainty about judiciary (ceteris paribus), 38% of the private sector decision makers are likely to perceive fear of institutional changes as a factor discouraging employment creation (the probability of fear of changes hampering job creation, p_i , is 0.38).

When using a binary logit regression, the value of the pseudo R square (McFadden, in Table 2) can often be biased and it is, as a rule, very low for models predicting individual behavior. Thus, it is more appropriate to estimate the overall significance of the model according to the LR statistic. This statistic tests the null hypothesis that all slope coefficients are simultaneously equal to zero (Gujarati and Porter, 2009). The highly significant p-value (0.000242) for the LR statistics shows that the null hypothesis can be rejected and that the model is significant.

The overall predictive ability of the model can be appreciated, based on the Expectation-Prediction-Evaluation output (Table 3).

Table 3: Model 1 - Expectation-Prediction-Evaluation output

	Estimated Equation		
	Dep=0	Dep=1	Total
P(Dep=1)≤C	8	7	15
P(Dep=1)>C	83	221	304
Total	91	228	319
Correct	8	221	229
% Correct	8,79	96,93	71,79
% Incorrect	91,21	3,07	28,21

From the Expectation-Prediction-Evaluation output (Table 3) it is possible to estimate the Count R^2 , which is a simple, yet reliable, indicator for the fitness of the model (Gujarati and Porter, 2009). The Count R^2 equals the number of correct predictions over the total number of observations. For Model 1, thus the Count R^2 is 0.6928.

Furthermore, from Table 3 it emerges that the hit rate of Model 1 is 96.93%, which is higher than the random hit rate of 50%. This means that the indicators for uncertainty related to the regulative pillar of institutions enable a good prediction of the dependent variable, so that the perception of regulative institutional uncertainty lowers expectations of job creation and firm growth.

The results of the estimation of Model 2, which refers to institutional uncertainty related to the normative pillars of institutions, are presented in Table 4.

Table 4: Model 2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	2,363764	0,464341	5,090582	0
N_BRIBERY	0,077294	0,080031	0,96581	0,3341
N_POL_INST	-0,375909	0,11163	-3,36745	0,0008
N_WASTA	-0,196346	0,095056	-2,06559	0,0389
McFadden R-squared	0,052936			
LR statistic	20,19167			
Prob(LR statistic)	0,000155			

The results show that both political instability and wasta have a significant negative effect (respectively at $p < 0.0001$ and $p < 0.05$) on the dependent variable. Specifically, the coefficients reflect in odd ratios of, respectively 0.68 and 0.82. This means that, if there is political instability (*ceteris paribus*), on average almost 41% of private sector decision makers are likely to perceive fear of institutional changes as a factor discouraging employment creation. *Ceteris paribus*, if there is wasta, this share is 45%. The fact that bribery has a non significant effect supports the view that, for the case of Jordan, bribery (which several indicators consider as a proxy for corruption) is not an appropriate measure of corruption.

The probability of the LR statistic for Model 2 is highly significant, so that Model 2 also has a high overall significance. The Count R^2 that can be calculated from the Expectation-Prediction-Evaluation output (Table 5) is 0.6990, so that the model has a good fit, too.

Table 5: Model 2 - Expectation-Prediction-Evaluation output

	Estimated Equation		
	Dep=0	Dep=1	Total
P(Dep=1)≤C	6	5	11
P(Dep=1)>C	85	223	308
Total	91	228	319
Correct	6	223	229
% Correct	6,59	97,81	71,79
% Incorrect	93,41	2,19	28,21

In addition, Model 2 has an overall good predictive ability, as its hit ratio is 97.81%. This means that the indicators for uncertainty related to the normative pillar of institutions are also good predictors for the job creation expectations of firms.

Table 6 and Table 7 summarise the results for Model 3, which focuses on the cultural cognitive pillar of institutions, that is on social capital.

Table 6: Model 3

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0,873104	0,608011	-1,436	0,151
C_NETWORKING	0,15976	0,10293	1,552118	0,1206
C_TRUST	0,203346	0,099658	2,040435	0,0413
McFadden R-squared	0,024378			
LR statistic	9,298502			
Prob(LR statistic)	0,009569			

Table 7: Model 3 - Expectation-Prediction-Evaluation output

	Estimated Equation		
	Dep=0	Dep=1	Total
P(Dep=1)≤C	3	4	7
P(Dep=1)>C	88	224	312
Total	91	228	319
Correct	3	224	227
% Correct	3,3	98,25	71,16
% Incorrect	96,7	1,75	28,84

Also, Model 3 is highly significant (LR probability<0.01) and has a good fit (Count $R^2=0.7021$). Trust has a significant and positive effect on the dependent variable.

The estimated coefficients reflect in odd ratios of 1.17 for networking and 1.22 for trust, signalling that networking increases the chances of positive job creation expectations by firms, by almost 54% and trust by 55%.

8. Conclusion

Institutions are complex constructs and emerge out of the specific history of a country and, as such, have some path dependencies. Political uncertainty and the coexistence of formal and informal institutions may also contribute to increasing the uncertainty about institutions. This inevitably reflects into institutional uncertainty, in the sense that trust and stability of institutions may come into question. If this is true, or better, if this is the perception of the individuals involved in an economy (entrepreneurs, in primis), then investments may, at best, be volatile.

With the exception of Brunetti et al. (1998), this study is the only contribution trying to empirically assess the perception of institutions and of their uncertainty by private sector decision makers. To do that, we focus on the case of Jordan. We believe, this provides precious insights into better understanding the link between entrepreneurship, firm growth, and uncertainty at the institutional level.

Our operational definition of institutional uncertainty is developed, based on Scott's classification of institutions into regulative, normative, and cognitive.

The results point to the fact that institutional uncertainty affects the decision of a firm and hampers job creation and firm growth. Respondents with a higher perception of institutional uncertainty tend to consider it as a factor hampering firm growth and employment creation. The estimation of binary logit models corroborates the fact that institutional uncertainty is a good predictor for the perspectives of job creation and firm growth and that, in particular, uncertainty related to the judiciary, political instability, and *wasta* have a significant effect on job creation expectations.

This corroborates the idea that institutional uncertainty represents a matter of concern for entrepreneurs and private sector decision makers in Jordan. Considering differences among different groups of respondents, business owners estimate institutional uncertainty to a larger extent than managers, as well as firms who are active in the industrial sector, rather than in other sectors of economic activity. This is an interesting result that can be interpreted, based on the typically higher level of investment (and thus higher risk) carried by industrial companies.

Furthermore, in the case of Jordan, bribery seems to underestimate corruption, while *wasta* seems to be a more reliable concept of capturing the real "transparency" of doing business. This finding implies the need for tailoring instruments and measures to the specific reality of a country and/or of a country group.

As for the cognitive cultural dimension of institutions, which is a way of capturing informal institutions, the results point to the importance of social capital and networking for doing business in Jordan. This result was consistent across all groups of respondents.

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10. Annexes

Annexe 1: Questionnaire in English

Note: The translation of the questionnaire in Arabic can be made available upon request.

Dear Ladies and Gentlemen,

We herewith kindly ask you to take part in our survey on Doing Business in your country.

This study is part of the research project of the Euro Mediterranean Network for Economic Studies (EMNES), supported by the European Union. The data from the questionnaire will be used only for the purpose of academic research.

We are sending this questionnaire to entrepreneurs, business owners, and top management.

With the following questions, we are interested in getting some general information and your opinion about Doing Business in your country.

From this survey, we expect to derive some recommendations that may be of interest to policy makers in your country.

Thank you very much for your time and willingness to support our research!

Please, consider that **all information will be analysed strictly anonymously**, will be kept confidential, and will be only used for the purpose of academic research.

1. What is your gender? Male Female

2. Your age _____

3. Education
 Less than secondary education
 Secondary education
 Bachelor degree
 Master degree
 PhD and above

4. When was your company established? _____

5. Has your company been formally established by registering with the appropriate government agency?
 Yes No

6. In which sector is your company operating? (You can select more than one option)

Agriculture

Mining

Manufacturing

Electricity and water

Construction

Wholesale and retail trade

Transportation and storage

Hotels and restaurants

Information and communication

Financial, insurance, and real estate activities

Services (health, education, technical, professional, personal, and other services)

7. Does your company invest in Research & Development (R&D)?

Yes

No

8. Are you the business owner / one of the business owners?

Yes

No

9. Your company was established because ...

the owner(s) planned and wanted from the beginning to work in the sector where the company operates

the situation in the market led to work in the sector where the company operates

Don't know / Does not apply

10. Was the business started to take advantage of a business opportunity or because there were no better choices for work?

To take advantage of a business opportunity

There were no better choices for work

A combination of both

Do not know / Does not apply

11. How many employees are working full time in your company?

0-4

5-19

20-49
50-100
more than 100

12. What is your expectation about the number of the employees in your company in the next 5 years?

I expect the number of employees to INCREASE
I expect the number of employees to DECREASE
I expect the number of employees NOT TO CHANGE
Don't know

13. Changes in laws and government policies that are relevant for your business are usually

	1	2	3	4	5	6	
completely unpredictable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely predictable

14. Do you expect the government to stick to announced major policies?

	1	2	3	4	5	6	
never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	always

15. The government usually consults businesses before doing important changes in laws or policies. This is true

	1	2	3	4	5	6	
never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	always

16. Are laws and government policies that are relevant to your business transparent and clear to understand?

	1	2	3	4	5	6	
never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	always

17. The laws and regulations that are relevant to your business cover all aspects that are needed for your business.

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

18. Changes in governments and electoral results usually have a negative impact on your business, because they can imply changes in rules and regulations.

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

19. Strikes, demonstrations, and riots negatively affect the business of your company

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

20. You are confident that the state authorities are able to protect your personal and your property rights

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

21. Informal activities are serious problems in Jordan that can substantially increase the cost of doing business.

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

22. You are confident that the judiciary is able to solve the disputes in your business field

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

23. Judiciary procedures in your country are very complex and costly (both in terms of time and money)

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

24. It is common for firms in your line of business to have to pay some “additional payments” not mentioned by the law and by the regulation, just to get things done.

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

25. For doing business in your country, connections are very important and help to achieve success.

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

26. In your country, before starting any procedure with a public administration, you check whether there is someone you know in the responsible offices and institutions

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

27. For doing business in your country, knowing someone in public offices is more important than knowing the law and the regulation

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

28. Trust is important for operating a business in your country

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

29. The fear of changes in laws and regulations hampers the growth of your company and the creation of new jobs.

	1	2	3	4	5	6	
fully disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

30. Could you please explain the reasons for your answer to the last question?

We have now come to the end of the questionnaire.

THANK YOU AND GOODBYE!



11. About EMNES

The Euro-Mediterranean Network for Economic Studies - EMNES is a network of partner and associate research institutions and think tanks working in the Mediterranean region. EMNES aims to provide a renewed vision for socio-economic development in the Mediterranean region, mainly focusing on employment creation, social inclusion, and sustainable development.

EMNES' areas of research include the role of institutions and institutional reforms, macro-economic policies, private sector and micro, small and medium sized enterprises and employment creation, the role of education, innovation, skill mismatch and migration, finance, regulation and the real economy and regional integration.

EMNES will produce books, studies, scientific and policy papers and will disseminate through the organisation of annual conferences and workshop meetings in the region, bringing together leading senior and junior researchers, academics, policy makers and representatives in civil society to discuss and debate optimal policies for the future of the region.

EMNES is built on four core principles: independence, excellence, policy relevance and deep knowledge on Euro-Mediterranean affairs.

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