Characteristics of Entrepreneurs and Performance of Micro, Small and Medium Enterprises in Post conflict State: *Evidence from Chad*

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Abstract

Using the third Chadian survey on consumption and informal sector (ECOSIT III), this study aims at assessing the relationship between the profile of entrepreneurs and the performance of SMEs in Chad. The study seeks to answer two main questions (1) what are the entrepreneur's characteristics which correlate more with job creation at the SMEs level? (2) Since Chad becomes an oil producer in 2003, what is the effect of oil windfall on job creation at the microeconomic level? We have two main finding: (1) three main characteristics correlate with the increase in the number of jobs: experience of the manager/owner, the state of the competition and access to credit. (2) There is no significant effect of the oil exploitation on job creation in Chad.

Key words: *characteristics of entrepreneurs; performance, jobs, profit, Chad*

JEL-Code : B21, J23, J24, M13.

Introduction

After long period characterized by social tensions, military conflicts and a succession of autocratic regimes, the history of Chad turned in 1990. Chad evolved toward a process of political stability which came along from 2003 with the exploitation of the oil resources. This new economic environment allowed an unprecedented development of the private sector and growth revival. This development of the private sector is mainly due to the explosion of the activities of subcontracting which in an obvious way gives a new dynamic to the entrepreneurship, and mainly to self employment. So, according to the survey on the consumption and the informal sector in Chad (ECOSIT III), more than 74 % of workers are self employed. In this context, Chad as most developing countries has recognized the importance of the development of Micro, Small and Medium Enterprise (MSMEs), because they play a significant role in social and economic development. The sector of MSMEs in Chad has performed poorly during the conflict period (1975 to 1990; 2008-2009). Due to the new context of Chadian economy, government has adopted in 2005 a national MSME development strategy for the promotion of MSMEs. In this sense, Small businesses and enterprises contribute significantly to the national economy by alleviating poverty and creating jobs. According to the World Bank (2009), the employment rate in private sector in Chad is around 12%. Comparatively, this rate is over 8%, the average of Sub Saharan countries in the same period. If the sector of MSMEs does create jobs, most of MSMEs face the issue of longevity. According to ECOSIT (III), 85% of micro enterprises have two-three years of life duration. This lack of sustainability affects the process of job creation and MSMEs profits in the long run.

In view of the important contribution of entrepreneurs and micro, small and medium-sized enterprises to economic growth, innovation and employment creation, both researchers and policy makers emphasize the need to obtain a better understanding of the factors that influence the performance of these firms. Interest in the characteristics of entrepreneurs and firm performance has received increased attention in recent years. A great deal of that literature explores characteristics of the entrepreneur related to the human, financial, and social capital factors that influence firm performance (Bekele and Worku, 2008; Holmes et al., 2010; Yogo and Atangana, 2012, Martin et al, 2013). Many authors have concluded that personal characteristics of entrepreneurs (education, experience, sex, gender) increase the performance of firm (van der Sluis et al., 2008; Peake and Marshall,2009).

However, all these studies focus on stable developed and developing countries. To the best of our knowledge, there is not a study which shed light on the case of post conflict developing countries, Chad to be specific. In fact three main reasons may justify the study of the determinants of firm performance in Chad. First, Chad is a post conflict country and Chadian entrepreneur might be more risk averse since they fear potential losses in investment due to the resurgence of conflict. Second, the informal sector is widespread and MSMEs are mainly made up of micro enterprises running subsistence activities. Third, the country started the exploitation of oil in 2003. This event may have affected the entrepreneurship landscape mainly because of the development of sub contracting activities.

Based on this argumentation, this study aims at assessing the relation between the characteristics of entrepreneurs and the MSMEs performance in Chad. Specifically, the study seeks to answer two main questions: (1) what are the entrepreneur's characteristics which correlate more with job creation at the SMEs level? (2) What is the effect of oil windfall on job creation at the microeconomic level?

Our contribution is twofold: (1) we empirically provide the profile of the entrepreneur which match with the increase in Job creation. (2) Taking the beginning of the exploitation of oil as an exogenous variation of economic policy and using difference in difference estimates, we provide an evidence of the absence of significant effect of oil exploitation on job creation at the microeconomic level in Chad.

The remaining of the paper is as follows: Section 2 provides a brief literature review. Section 3 is about the methodology and data description. We present the results in section 4 and section 5 concludes.

2. Literature Review

SME performance is an essential factor both as a means of generating employment, and as a means of encouraging economic growth. There are several theoretical determinants of firm performance that have been tested empirically. Among them are access to credit, risk attitude, innovation, social capital, labor market experience, business climate, family background, psychological traits, etc(Wahba et Zenou, 2009 ;Bekele et Workul, 2008; Dethier et al, 2010). According to Islam et *al.* (2011) and Chittithaworn et *al.* (2011), these factors could be classified in to three groups: the characteristics of the entrepreneurs; the characteristics of the SMEs; and the contextual elements which relate to business environment.

Dethier et *al.* (2010) reviews the main studies on the effect of business climate on firm performance. Using more than 122 enterprise surveys, they highlighted four main aspects of the business climate that may have significant impact on firm performance: infrastructure, finance, competition and regulation. Specifically, the quality of electricity provision may act as a major constraint for small firms since they lack scale economies to operate a generator efficiently (Aterido et *al*, 2007). Since small firms have a high potential in job creation, the potential lose in terms of employment creation is potentially huge (Dethier et al, 2010). Against this backdrop, Blasco et *al.* (2013) use a large scale experiment in Denmark to show that active labor market policies affect firm performance. According to these authors, job search assistance may increase the quality of job matching and therefore leads to improvement in firm performance. There is a widely shared wisdom according to which competition has a positive effect on firm performance since it leads to more efficiency (Aghion and Griffith, 2005). However as shown by Li et *al.* (2014), this effect differs depending on whether the firm is leader or follower in the market. Using a sample of insurance firms in China, these authors find that competition is a major driver of performance, especially for the firms which enter the market as followers. In fact, by imitating the market diversification strategy of the early entry firm, they develop multi-market contacts with other firms and therefore increase their productivity and profitability. In contrast, the early entry firms may suffer from the competition since it leads to the decrease in market shares. Access to finance is reported as one of the most severe constraints faced by enterprises. Using Moroccan data on manufacturing enterprises, Fafchamps and Schündeln (2013) find that local bank availability is positively associated with faster growth of small and medium size firms. They interpret this result as the proof of the relevance of credit access in mobilizing investment fund.

Another strand of the literature focuses on the effect of the characteristics of the leader or the firm owner on performance. Two competitive views emerge in this line. The optimistic view suggests that the formal education and the previous experience of the entrepreneur stimulate the growth of the firm and therefore impact both performance and survival (Woldie et al., 2008; Kwabena, 2011). In fact, higher education and the previous experience are expected to enhance the ability of the entrepreneur to cope with shocks and seize opportunities that are important to the growth of the firm. A review of the effect of formal education on firm performance is provided by Van der Sluis et al (2008). They carried out a meta-analysis of more than 42 studies and document a positive and significant effect of formal education on

firm performance. The measures of performance include business survival, firm growth and firm returns on investment. In addition, they find higher returns for female compared to male. Likewise, Martin et al (2013) examines the effect of entrepreneurship education on firm performance. Undertaking a meta-analysis over 42 independent studies, they report a positive and significant relationship between entrepreneurship education and firm performance as proxied by business survival and personal income from owned business. This optimistic view has been challenged by some authors including Unger et al, (2011). For instance, Unger et al (2011) find a positive but small relationship between education and entrepreneurial success. Using 70 independent samples, their meta-analysis suggests a weak effect of education on the firm financial performance. Likewise, Jalbert and Furumo (2011) examine the effect of the educational background of CEO (Chief executive Organizer) on firm financial performance. From a large sample of US firms over the period 1997-2006, they conclude on an insignificant or weak effect of educational background of the CEO on firm performance. Specifically, they found that the fact to be graduate or undergraduate doesn't have any significant effect on the financial return (return on assets or returns on investment). However they find a positive effect of Age and interpret this result as the fact that new CEO are more aggressive and take more risks than the old ones. Although less studied, the gender of the leader seems to matter for the firm performance. In this line, Julizaerma and Sori (2012), using a sample of Malaysian companies show that gender diversity in the board is positively associated with firm performance. Likewise, Liu et al (2013) document a positive and significant relationship between board gender diversity and firm performance on China's listed firms over the period 1999-2011. In contrast, Robb and Watson (2012) on a sample of 4000 new ventures in United States don't find any difference in the performance (as measured by the four year closure rate, return on asset and risk adjusted measure) of male and female-owned new ventures.

The characteristics of the firms have also been associated with performance in the literature. Lun and Quaddus (2011) show that large firms perform better than small ones because they easily adopt new technology (electronic commerce for instance). Specifically, they find that the electronic commerce is more likely to be adopted by large firms and results in to sales growth. In the same line, Barringer et al (2005) investigate the main characteristics of rapid growth firms compared to their slow-growth counterparts in United States. They find that the rapid-growth firms have a strong commitment to growth, are more involved in interorganizational relationships and utilize a growth-oriented mission statement to a greater

extent. Focusing on Ghana's manufacturing sector, Söderbom and Teal (2004) find that observable skills are not important as determinants of the productivity. Moreover, they find that technical inefficiency is also present in older and large firms. In addition, they show that large firms face far higher labor costs compared to small firms. This suggests that small firms should potentially hire more than large firms.

Overall, this review of the existing studies suggests that the firm performance is associated with the business climate, the characteristics of the firm and the characteristics of the leader. However, the firm performance is mainly measured by financial output such as asset return or returns on investment. Few papers address the aspect of job creation. Besides, there is little evidence on African countries. Finally, the firms analyzed are mostly located in the formal sector. This paper fills this gap by providing an empirical investigation of the effect of the characteristics of the entrepreneurs on firm performance in Chad. Contrary to others studies, we investigate the potential of job creation of small firms in the informal sector. We postulate that job creation is mainly determined by the characteristics of the entrepreneurs and the state of the economic environment. Since the lack of infrastructure, credit access and the poor business climate are more pronounced in a post conflict country like Chad, we expect the characteristics of the leader/ owner of the firm to be the main driver of performance.

3.Methodologie and data

3.1. Methodology

The main objective of this study is to assess the effects of the characteristics of entrepreneurs on the SMEs performance in Chad. In this vein, the paper revolves around two parts: The first part is about the determinants of performance with an emphasis on job creation. The second sheds light on the effect of oil exploitation on the job creation at the level of MSMEs.

3.1.1. Modeling the determinants of MSMEs performance in Chad

According to the world enterprise survey (World Bank, 2009), SMEs refer to enterprises with less than one hundred employees. In fact this definition takes into account small enterprises (1 to 19 employees) and medium enterprises (19 to 99 employees). It is worth noting that in this paper, we focus mainly on small enterprises which are widespread in the specific context of Chad.

By job creation of SMEs, we mean the difference between the initial level of employees and the number of employees at the date the survey was carried out. Following Mallaye and Yogo (2012), Martin et al (2013), the below specification is adopted:

$$job_{ji} = \delta_0 + X_i'\delta + \lambda_1 eage_j + \lambda_2 cmp_j + \lambda_3 loan_j + \varepsilon_{ji} \quad (1)$$

In (1), job_{ji} is the n number of job created by the enterprise j which is managed by the entrepreneur i, $eage_j$ is the age of the firm j, that is the number of year it has been in operation, cmp_j is the reported perception of the competition faced by the enterprise j in its sector of activity, the variable takes 1 if the manager reported that the level of the competition is higher and 0 otherwise; $loan_j$ is a binary variable which takes 1 if the manager has taken a loan for his enterprise over the last 12 months and 0 otherwise. X is the set of the individual characteristics of the entrepreneur including the gender, age, education and the experience of the leader proxied by the squared of age and a dummy which takes 1 if the manager is member of a professional association. We also control for three dummies respectively for the region, the location (urban/rural) and the branch of activity. These dummies control for unobserved heterogeneity which may be specific to the region, sector or branch. Since the dependent variable is continuous, we run a simple OLS estimates.

3.1.2. **Has the oil discovery affected the performance of SMEs in Chad**?

This subsection seeks to evaluate the effect of the exploitation of oil on job creation in Chad. As mentioned before the number of job created is the difference between the initial level of employees (at the very beginning of the operations) and the current level of employees at the time the survey was carried out. We consider the beginning of the exploitation of oil in Chad in 2003 as an exogenous change in policy. Then we split our sample between the firms which has been created before 2003 and those which has been created after 2003 in one hand. In the second hand we split the sample between the firms which are located in the region where oil is exploited and the other regions of the country[1]. Oil is mainly exploited in the Logone Oriental region where the main areas of exploitation (Doba, Miandoum and Bolobo) are located. Based on this information, we estimate the following model:

[1] We also include the three nearest regions (not far from 200km) in order to avoid the contagion effect. In fact the people living in nearest neighborhood are more likely to benefit from oil boom, especially through migration in the oil region.

$$job_{jt} = \alpha + \gamma r + \lambda dt + \delta (r * dt) + \upsilon_{jt} \quad (2)$$

Where r is a dummy which take 1 if the enterprise is located in the region where oil is exploited and 0 otherwise; dt is the time dummy which takes 1 if the enterprise has been created after 2003 and 0 otherwise. The coefficient δ will be the effect of oil on job creation. We further add controls in the specification. The controls are the same as in equation (1). However, we further add the regional unemployment rate and the population by region in order to control for the differences between regions.

3.2.Data requirements and sources

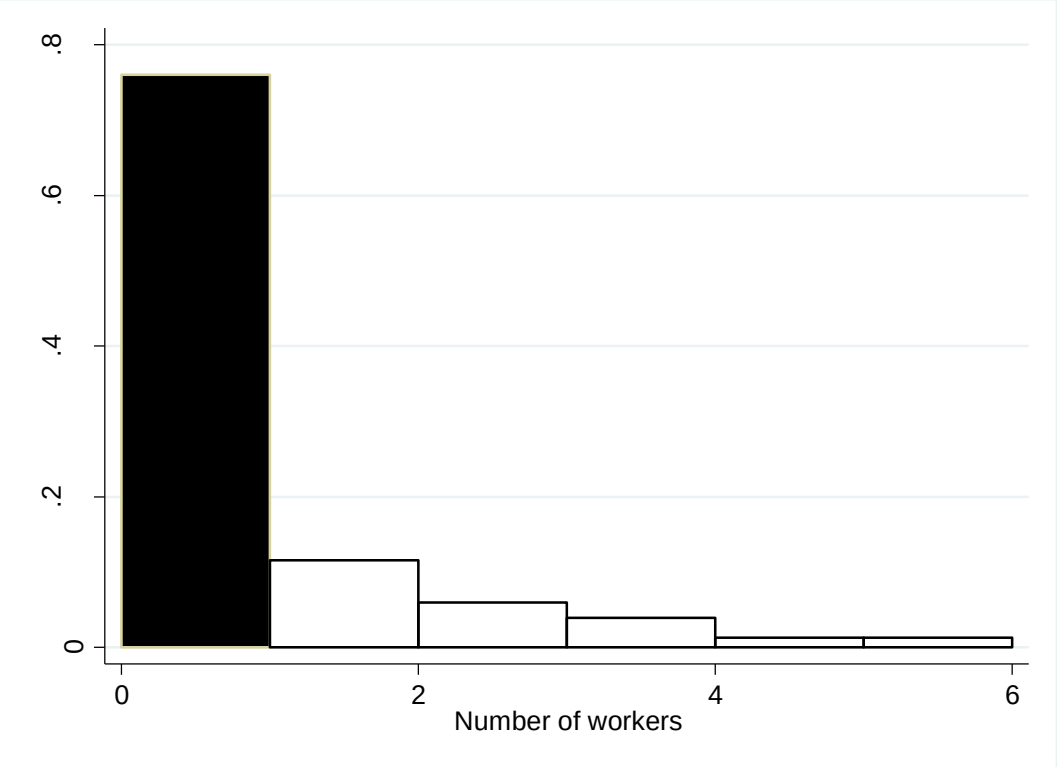
Data used are drawn from to the third Chadian survey on consumption and informal sector (ECOSIT III) which has been collected by the national institute of statistics and economic and demographic studies. This survey has been carried out between June 2011 and July 2011. With the support of the World Bank, this survey seeks to generate reliable information for the purpose of poverty alleviation strategy and the Chadian strategic development plan.

The third Chadian survey on consumption and informal sector (ECOSIT III) is made up of 10080 households (whose 2100 households in N'djaména) drawn from a whole population living in the 20 regions out of the 23 regions of the countries[2]. That is 32581 individuals surveyed with a response rate of 85%. People surveyed are for 6 and above. Household heads were asked about their economic activities. Then a questionnaire was filled out by those who reported to be own account workers during the household survey. From this, we obtain a sample of 8656 microenterprises with single owner. For the purpose of the analysis, we keep in our final sample firms with at least one paid worker.. Therefore, we have a sample of 788 enterprises. Figure 1 presents the distribution of enterprises by size and shows that almost 80% of the firms have no more than one employee.

ECOSIT III is the most recent and representative survey ever done in Chad. It provides information about the level of enterprise's sales and costs, demographic characteristics of the leader, the status of informality, the number of employees, the gender of the owner, the state of the competition etc. All these information are suitable for the analysis. Table 1 provides the descriptive statistics of the variables used.

[2]We have to mention that at the time of the survey the country was made up of 20 regions, Ndjamena been set aside as specific area of survey since it is the main city.

Figure 1: Distribution of enterprises by size



Source: Authors based on ECOSIT III

Table 1: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Number of jobs(firm size)	788	0,47	1,02	0	6
Sex	788	0,68	0,47	0	1
Age	788	28,52	8,67	16	64
Age squared	788	888,47	568,90	256	4096
Age of the firm	788	6,80	3,79	0	36
Education	764	1,71	0,87	1	4
Professional association membership	717	0,05	0,22	0	1
Creditaccess	723	0,29	0,45	0	1
Competition	751	0,73	0,44	0	1
Unemployment rate	231	0,12	0,08	0,01	0,40
Population	231	351905	163750,40	51562,59	589566,6

Source: Author's calculations

4. Results

4.1.Individual characteristics, firms characteristics and job creation in Chad

Table 2 provides the OLS estimates of the determinants of job creation by SMEs in Chad. According to this table [see column 7], the number of job created by the SMEs is associated with the owner/manager experience, credit access and the reported state of the competition. The number of job created is positively correlated with the experience of the manager/owner. Specifically, there is an inverse U relationship between the age of the owner/manager and the number of jobs created. Any additional year leads to a 5% increase in the number of jobs until the age of 32[3] and a decrease after. The positive effect of the age on the firm performance is in line with the findings of Jalbert and Furumo (2011) and is consistent with the idea that young managers are more aggressive and take more risks. The negative effect of age beyond the threshold of 32 years may be an insight of the fact that there is an optimal size for small enterprises above which labor costs are not sustainable. This result could also be interpreted as the fragility of small firms in the specific case of Chad. In the same line, the results suggest that while the access to credit increases the number of job created by 52%, the number of job created is 65% lower for the firms which are in the higher competitive sectors. The positive effect of credit access on job creation is well documented in the literature, especially the literature on business climate (Dethier et al, 2010). The main explanation is that having access to credit ease the mobilization of investment funds which turn to be crucial for the enterprise growth and job creation (Fafchamps and Schündeln, 2013). The negative effect of competition on firm contrasts with the widespread idea according to which competition increases the productivity through knowledge diffusion and economies of scale. However, this result is understandable on the specific context of informal sector made up of services and commercial activities. In this specific context, high competition induces the decrease in market shares. It is worth noting that the effect of education is not significant. One possible explanation lies in the nature of the activities in the informal sector. As mentioned early, the main activities undertaken by the firms are of commercial nature and don't require a specific level of education. The lack of gender effect is in line with the literature (see Robb and

[3] This threshold is computed as Age/(2*Age squared)

Watson, 2012) and is consistent with both liberal and social feminist theory.

[Insert Table 2 here]

4.2. Comparing job creation between oil region and non-oil region

The purpose of this sub-section is to compare the number of job created by the firms between oil region and non-oil region, before and after 2003 which is the year of the beginning of the exploitation of oil in Chad.

We start by simple graphical evidences. Figure 2 portrays the distribution of the number of jobs respectively between oil region and non-oil regions and across time. The first panel compares the number of job created between oil regions and non-oil regions. Let's recall that the number of job created is the difference between the current number of employees and the number of employees the enterprise had when it starts functioning. Figure 2 shows that irrespective to the period, more jobs have been created in non-oil regions. The second panel makes the comparison between the firms created before 2003 and those created after 2003. The figure shows that, the firms which started their activities after 2003 have created more jobs than their counterparts who started their activities before 2003. This result may suggest more job losses from the firms created before 2003. The key conclusion raised by the Figure 2 is that more jobs have been created after the beginning of the exploitation of oil, but mainly in non-oil regions.

Figure 2 about here

Figure 3 provides a more disaggregated picture. The first panel of Figure 3 presents the comparison between the number of jobs created before and after 2003 only for on-oil regions. The figure shows that more jobs have been created in non-oil regions after 2003. The second panel provides a similar result for the oil region, but with a lesser magnitude.

Figure 3 about here

In order to see how significant these results are, we run several mean comparison tests. Table 3 present the sample mean comparison test of the number of jobs created between oil region and non-oil regions. The results suggest a statistical significant difference between the two regions both before 2003 and after 2003. Table 4 runs a similar comparison, but between 2003 and after 2003 separately for oil and non-oil regions. The result suggests that firms created after 2003 in the oil region have generated more jobs. However, the difference is not

statistically significant. In contrast, they have been significantly more job created after 2003 in non-oil regions. Table 4 confirms the fact that more jobs have been created after 2003, but mainly in non-oil regions.

Tables 3 & 4 about here

To ascertain the correlation between the exploitation of oil and job creation in Chad, we resort to a type of difference in difference estimation as presented in equation (2). Table 5 presents the results. We test several specifications. The first column of the table gives the estimates without controls. According to this specification, the effect of oil production on job creation is not significant. However, when we add controls, the effect of oil exploitation becomes significant and negative, starting from column (4) to (10). Looking at column (10), compared to the period before the oil exploitation, the number of job created decreased by 57%. However, this result may be biased because it could only reflect structural or initial difference between the oil region and the non-oil regions. In fact, as shown in the descriptive analysis (see Table 3), there are significant differences between oil and non-oil region other than the fact that the former is an oil area. Therefore this result might be driven by some characteristics that are specific to each region. In this vein, we add two more controls in the regression, notably, the unemployment rate and the population of the regions. The results are presented in column (11) and show a positive and insignificant effect of oil exploitation on job creation. This result is consistent with the descriptive analysis suggesting that more jobs have been created after 2003, but with a proportionally high amount in non-oil regions. One possible explanation is that oil exploitation is an activity which is capital-intensive and requires high skilled people. Since most of the people working in the informal sector are less skilled, they cannot apply for the jobs provided in the oil sector[4]. They can only benefit indirectly through, an increase of demand resulting from the raise of the purchasing power of those who are working or conduct activities that are related to the oil sector.

Table 5 about here

[4]It could be interesting to check this explanation using sectorial data. Unfortunately, the data doesn't allow testing this hypothesis.

V. Conclusion

The aim of this paper was to assess the relationship between the characteristics of entrepreneurs and the MSMEs performance in Chad. Addressing this relationship is of particular importance since Chad is a post conflict country and since 2003 an oil producer. These two characteristics may make the entrepreneurship landscape and entrepreneur behavior different from what is currently observed in the other developing countries.

The analysis of the Third Chadian survey on consumption and informal sector (ECOSIT III) leads to two main results: (1) three main characteristics correlate with the increase in the number of jobs: experience of the manager/owner, the state of the competition and access to credit. (2) There is no significant effect of the oil exploitation on job creation in Chad. Although we cannot claim this effect to be causal, the obtained results are consistent with the intuition provided by the descriptive analysis.

Though some results are quite intuitive, further analyses are needed in order to deeply understand what is behind some of the findings we got at this stage. For instance, it will be interesting to have a comprehensive understanding of the rationale behind the no effect of education. Moreover, further investigation may be needed to carefully identify the causal effect of oil exploitation on the job creation in Chad.

This study is policy relevant for at least two reasons. First, the widespread of informality in Africa in general and in Chad in particular is often seen as the source of low paid jobs and working poverty. Therefore several initiatives are undertaken in order to pull the firms out of the informality. Identifying the profile of the firms who perform better may help design appropriate programs to help them move out of the informality. Second, the lack of the effect oil exploitation suggests the necessity to use the oil rent in order to create labor intensive activities and to invest more on specific human capital.

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Figures

Figure 2: Distribution of jobs across regions and periods

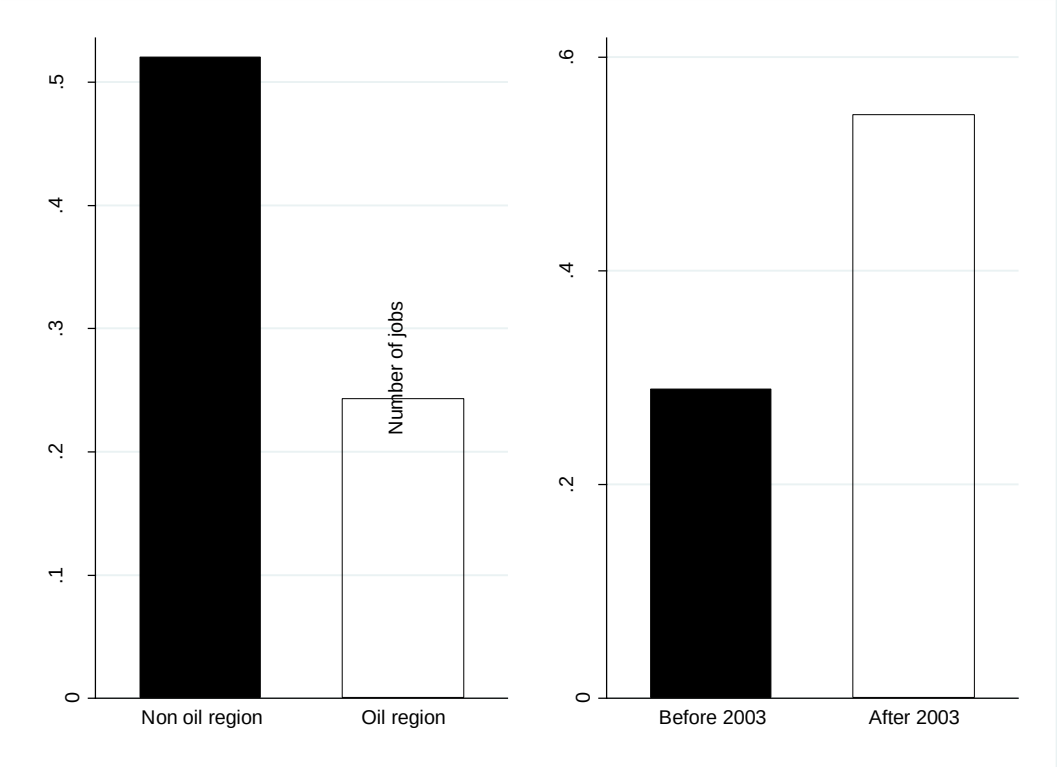
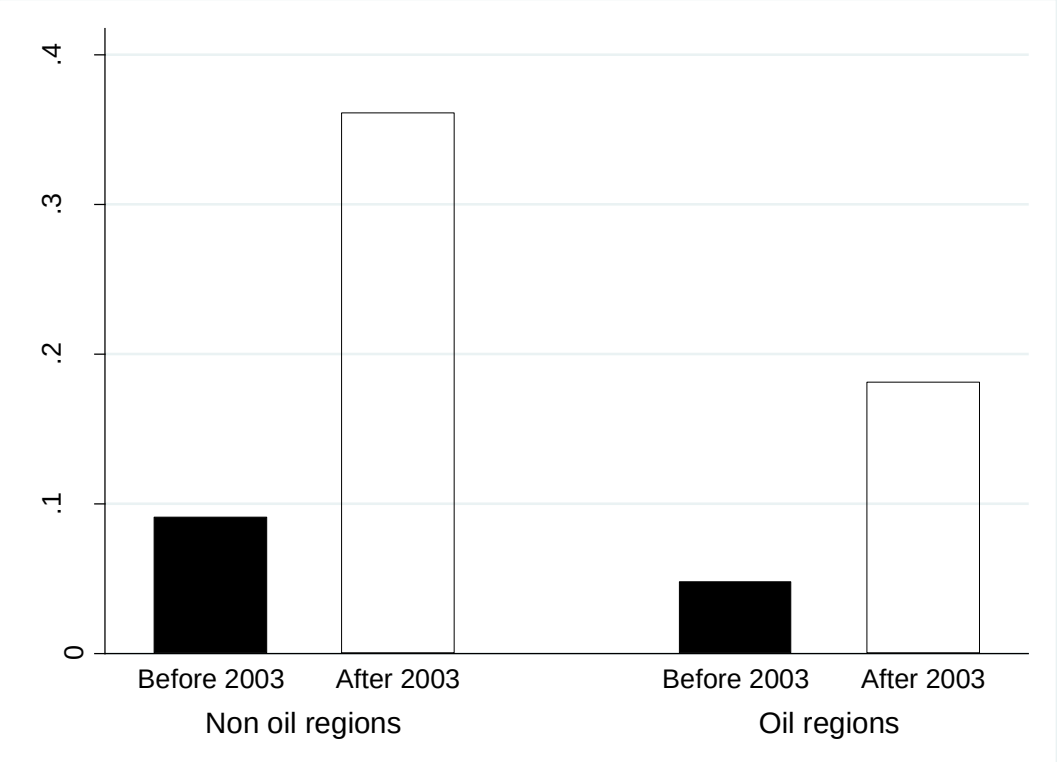


Figure 3: Number of job created between oil region and non-oil regions



Tables

Table 3: Mean comparison test :before 2003 and after 2003

	Before 2003		After 2003	
Group	Observation	Mean	Observation	Mean
Control	197	.31	447	.60
Oilregion	38	.13	106	.28
Difference		**.18**		**.32**
T-stat		**1.85**		**3.80**

Table 4: Mean comparison test : oil region versus non-oil regions

	Oil region		Control	
Group	Observation	Mean	Observation	Mean
Before 2003	38	.13	197	.31
After 2003	106	.28	447	.60
Difference		**-.15**		**-.28**
T-stat		**-1.48**		**-3.39**

Table 2:OLS estimates of the determinants of job creation

Dependent variable: employment	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sex	-0.124	-0.0946	-0.122	-0.202**	-0.206*	-0.205	-0.107
	(0.0849)	(0.0864)	(0.0863)	(0.103)	(0.115)	(0.132)	(0.144)
Age		0.0789***	0.0764***	0.0632**	0.0583**	0.0683***	0.0507**
		(0.0280)	(0.0281)	(0.0285)	(0.0285)	(0.0249)	(0.0246)
Age squared		-0.00115***	-0.00112***	-0.000929**	-0.000843**	-0.00100***	-0.000779**
		(0.000408)	(0.000411)	(0.000423)	(0.000416)	(0.000365)	(0.000361)
Age of the firm			-0.0201**	-0.0143	-0.0149	-0.00563	0.00479
			(0.00911)	(0.00939)	(0.00953)	(0.00794)	(0.00784)
Primaryeducation				0.194*	0.222**	0.151	-0.0287
				(0.101)	(0.103)	(0.107)	(0.116)
Secondaryeducation				0.324**	0.358**	0.199	0.173
				(0.163)	(0.172)	(0.161)	(0.160)
Highereducation				0.513	-0.214	-0.384**	0.00919
				(0.386)	(0.159)	(0.153)	(0.195)
Professional association membership					-0.376**	-0.168	0.0345
					(0.154)	(0.175)	(0.183)
Creditaccess						0.371***	0.520***
						(0.0864)	(0.0907)
Competition							-0.659***
							(0.114)
Constant	-1.657***	-2.859***	-2.549***	-0.712	-0.712	-1.421***	-1.131**
	(0.355)	(0.522)	(0.529)	(0.516)	(0.516)	(0.496)	(0.485)
Regiondummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rural/urbandummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Branch of activitydummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	749	749	749	725	657	620	608
R-squared	0.696	0.703	0.704	0.722	0.737	0.771	0.790

Note : Robust standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Table 5: Estimates of the effect of oil exploitation of job creation

Dependent variable: employment	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
After 2003=1	0.289***	0.289***	0.286***	0.629***	0.695***	0.683***	0.745***	0.746***	0.743***	1.022***	0.495*
	(0.0834)	(0.0860)	(0.0834)	(0.106)	(0.108)	(0.115)	(0.133)	(0.140)	(0.140)	(0.106)	(0.284)
Oilregiondummy	-0.188*	-0.189*	-0.194*	-0.109	-0.0607	-0.107	-0.112	-0.0800	-0.0726	0.105	0.241
	(0.106)	(0.101)	(0.101)	(0.102)	(0.102)	(0.110)	(0.109)	(0.115)	(0.113)	(0.126)	(0.291)
Oilregion*After 2003	-0.137	-0.136	-0.139	-0.258**	-0.316**	-0.281**	-0.316**	-0.316**	-0.316**	-0.576***	0.0897
	(0.132)	(0.125)	(0.126)	(0.124)	(0.127)	(0.136)	(0.134)	(0.144)	(0.141)	(0.164)	(0.295)
Sex		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age squared			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age of the firm				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Primaryeducation					Yes	Yes	Yes	Yes	Yes	Yes	Yes
Secondaryeducation					Yes	Yes	Yes	Yes	Yes	Yes	Yes
Highereducation					Yes	Yes	Yes	Yes	Yes	Yes	Yes
Professional association membership						Yes	Yes	Yes	Yes	Yes	Yes
Creditaccess							Yes	Yes	Yes	Yes	Yes
Competition								Yes	Yes	Yes	Yes
Region-unemployment rate											Yes
Region-population											Yes
Rural/urbandummies									Yes	Yes	Yes
Branch of activitydummies										Yes	Yes
Observations	788	788	788	788	764	695	658	642	642	608	231
Adjusted R squared	0.026	0.026	0.027	0.066	0.078	0.087	0.099	0.114	0.114	0.248	0.281
Number of replications	500	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Note: Robust standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1.