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Italian public guarantees to SME: the impact on regional growth

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Abstract

The paper evaluates the effects of the Central Guarantee Fund on the economic growth of the Italian provinces. The Central Guarantee Fund (from now CGF) is a public guarantee scheme directed to micro, small and medium enterprises to support access to bank credit, both for investments and cash, if only firms have the purpose of undertaking economic activity. The scheme was introduced by the Law 662, in 1996. Between 2009 and 2013, it guaranteed 47 billion euros loans. There are few papers in literature showing a moderate positive effect of CGF on subsidized firms. In this paper the evaluation question is different, and concerns the overall effect of CGF on a regional economy: does the CGF actually support territorial development, taking into account crowding out and spillover effects between treated and not treated firms? We assess the net effects generated by CGF in the area, and evaluate if an increase of guarantees, issued by the CGF, has been associated with employment or businesses growth in the area. The challenge of the empirical analysis is to capture macro effects of CGF, when its intervention covered on average only 3% of companies and 0.5% of funding at the provincial level. This is the first paper that evaluates overall net effects of CGF. Using different models based on a "long" DID approach, the estimation results suggest that there is a positive and statistically significant, albeit modest, correlation between the use of CGF and growth of the provincial economies, while controlling for sectoral differences, dimensional characteristics and several interactions. These results are robust to different assumptions, estimation strategies and variables used. Our findings therefore indicate that the intervention has mitigated the negative regional effects of the recent economic crisis in Italy.

JEL codes: G28, R11, H81

Key words: credit guarantees, public policy, evaluation, regional growth

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1. Background and motivation

Public guarantee schemes are well-known instruments aiming at facilitating small and medium-sized enterprises (SMEs)' access to external finance Many governments provide credit guarantees to SMEs for start-up and expansion. However, while these programs have been implemented for years, their evaluation has been rare. Recently, several contributions recently propose an assessment of the performance of credit lending programs (for instance, in Italy D'Ignazio and Menon (2013), Mariani et al. (2013), de Blasio et al. (2014)). All these papers evaluate the performance of the treated firms, comparing them to a credible counterfactual scenario. However, policy makers are concerned to the overall effects of the policy instruments to the regional economy: the net effects can be different from the effects on treated firms in presence of (negative or positive) spillovers, and any kind of economic interferences. This is the first paper (to our knowledge) that evaluates the overall effect of a Public guarantee scheme on regional growth.

From the point of view of the economic literature, there are several reasons that can justify a public guarantee scheme. The "classic" assumption is the presence of asymmetric information and moral hazard in the credit market (Stiglitz and Weiss, 1981): often this means that the supply of credit to businesses is lower than their credit demand, with rationing of loans granted. The problem of asymmetric information can be partially reduced if the firm that requires funds has collateral guarantees. Such guarantees may be used to distinguish between more or less risky debtor's applicants, thus reducing the problems associated with asymmetric information, as well as, of incentive mechanism against moral hazard. However, the availability of goods, often real goods, useful to produce collateral guarantees, is very rare, especially for SMEs, which have therefore difficulties to access loans and they are often rationed. Therefore can be convenient, for the government, designs interventions to guarantee credit for SMEs, that are considered "collateral guarantees " or as a form of insurance against the risk of insolvency.

Mariani et al. (2013) emphasize that the main reason, whereby this type of programs is particularly attractive, lies in the fact that they are less expensive for the public financing, compared to incentive programs through direct grants and co-financing. Moreover, public credit guarantees schemes are a form of intervention, in which the final decision on the loan, depends on the bargaining between private parties, and therefore has an approach that gives freedom to the market to define itself.

This choice produce various costs: not only financial burden, borne by the direct taxation, but also in terms of efficiency, if this weakens the attention to the profiles of competitiveness of the project. It is also unclear if the advantage that banks gain in terms of reduction of the dangerousness of the loan is transferred to enterprises, providing more access to credit and lower cost. Only an empirical analysis of the effects of the intervention offers a overall evaluation of the impact of the instrument. A first approach, richly present in the literature (as reported Mariani et al., 2013) concerns the effect of government guarantees on companies that participate in the Fund, compared to those who do not participate, measured in terms of output, employees, investments.

However, this is not the overall impact of the instrument on the regional economy. In fact, it is possible that the subsidized firms through government guarantees generate a crowding out effect versus the unsubsidized enterprises in terms of credit, investment, input or output. In other words, government guarantees generate can negative spill-over effects at the local area. In this case, the net effect of the policy on the territory could be uncertain: it must be examined empirically whether the positive effects outweigh (and how) the negative spill-over ones of the intervention itself on the territory. We implement a "long" DID estimator a NUTS3 level for Italy, taking into account endogeneity in the model.

The paper evaluates the effects of the Central Guarantee Fund (Law 662/96 Art. 2 Comma 100 Lett. A) on the economic growth of the Italian provinces. The Central Guarantee Fund (from now CGF) is a public guarantee scheme directed to micro, small and medium enterprises to support access to bank credit, both for investments and cash, if only firms have the purpose of undertaking economic activity. The econometric

analysis shows that there is a positive relationship between the use of the Fund and the growth of the provincial economy. Although the empirical evidence that this is a causal relationship remains very difficult and complex, the estimation strategies , in some direction innovative with respect to the literature, , seems robust to different assumptions and variables used.

The paper is constructed as follows: the next section presents the empirical data for the year, in the next one it gives an account of the assessment strategy, of the econometric model and finally we analyze the econometric results. The paper closes with some conclusions on the overall effects of the instrument.

2. The program

The CGF is a public instrument to set the credit market and help small and medium enterprises to get financing, as they have great difficulties to finance itself on the market. In Italy, since the beginning of the international crisis, both financial and economic, a great number of SMEs starts to feel the credit crunch and they experienced a reduction of credit flows and high interest rates to get credit.

The CGF offers guarantees only to SME operating in the manufacturing, construction and services sectors, excluding agriculture, automobile and finance. Enterprises can get up to 80% of the value of a bank loan, not exceeding the maximum amount of guarantees for each one, equal to 1,5 million euros. The CGF admits both short-term and long-term loans for the final use.

The admission procedure is the following: a SME that needs to borrow might ask the bank to apply for a public guarantee or, alternatively, a bank might propose to the firm to apply for the guarantee; the eligibility of the firm for the scheme is evaluated by a scoring system provided by the CFG that considers mainly financial stability, short-term financial burden and cash-flow; on the base of the score, the firms that are eligible have to go through a further assessment, that concludes with the ultimate approval or rejection

The CGF has been operating since 2000. In the period of approximately 13 years (as at 31 December 2013) the FDG granted 299115 guarantees to 173 833 SMEs: €47,34 billion of loans to SMEs benefited from the public guarantee. The scheme was recently re-financed, also with the reprogramming of the Structural Founds, and now is probably the most important instrument for policy intervention in the Italian economy.

The average size of companies guaranteed by the CGF is small, as expected: 66% are micro enterprises, 26% are small, the remaining 8% medium-sized enterprises. Usually firms access several times to the CGF. On average each company who had access to CGF had received 1.7 guarantees. Larger firms exceed 2 guarantees received by each company. On average, each company received loans secured by CGF for an amount of 272,331 euros. For micro enterprises this figure is 109,000 euros, for small is around 432,000 euros, for medium-sized companies around 1,073,000 euros. Most guarantees were granted on loans directed to finance firms' current operations, that also includes working capital and stocks (more than 81%).

3. The identification strategy

The regional net effect of the policy's instrument can be evaluated comparing the dynamics of regional development indicators (such as the employment growth rate, or value added growth rate, or firms's growth rate,) for a given spatial dimension to the level of the policy. The analysis evaluates the presence of a correlation, positive or negative, between the use of the guarantee funds and the economic growth. The effects that are identified, if any, would be the overall effects, and therefore net of existing spill-over. This approach also has an interesting advantage: it observes not only the presence or absence of the policy, but also its intensity.

A potentially serious problem in studying the effects of such policies is the presence of spillover effects across firms and areas. For example, evidence that Public guarantee schemes led to job growth might be regarded quite differently depending on whether the treated firms created new jobs, or workers moved from one firms to another to take advantage of better economic conditions. Of course, relocation across firms does not necessarily imply that a program has not succeeded. However, policymakers should value information on whether job creation in target firms comes at the expense of other firms, or via net job creation. The spillover can be also positive, for example by increasing activity and growth in some areas. However is not easy to obtain direct estimates net of spillovers (see De Castris and Pellegrini, 2012). Cerqua and Pellegrini (2013) presented a econometric approach based on a treated and affected sample matching. In this paper we follow another approach used in literature, that is based on data aggregated to the area level to capture any effects due to net entry, in addition to any changes in treated firms' covariates at the intensive margin, or due to spillovers across firms within areas (Criscuolo, 2013; Bondonio, 2013). Area-level outcomes is regressed on policy intensity conditioned on covariates, capturing the net effect of the policy.

Using this approach, the identification of the effects depends on the importance of the policy instrument with respect to confounding factors. Usually the economic importance of the group of subsidized firms is negligible compared to the total economic values at stake on the analyzed territorial, so the impact of the policy becomes virtually indistinguishable from the changes produced by confounding factors, often of economic importance vastly superior to that of the policy. Bondonio (2002) suggests that the geographic unit, on which measure the results, should represent an economic dimension as close as possible to the financial measure of business activity stimulated by the policies. This means that local policies require a geographic local dimension for the analysis, and the national politics the national one.

To overcome these difficulties we adopt a composite evaluation strategy. The relevant territorial dimension we choose is that of the province, the minimum unit for which robust statistical information is available but also includes relevant territorial effects. Sectoral and dimensional heterogeneity is the major confounding factor, and the analysis is conditioned on it. The policy dimension can be captured by different variables. We consider various policy's variables and outcomes, in order to increase the robustness of the econometric analysis. The presence of endogeneity of the policy's variable is reduced by the adoption of different econometric strategies, based on IV approach. The econometric model we use in the analysis is described in the apposite section

4. Data

The empirical analysis is based on a data set constructed in order to bring together three different sources of data: information on companies who have used the guarantees of the Guarantee Fund, the anagraphic information on firms (from the National Statistical Institute archive on enterprises) that provides information on sector, size and geographical location, and a dataset relating to bank loans by provinces make available by the Bank of Italy. The scope of the analysis is to identify the effects of the CGF on territorial growth. We consider the administrative grid of 110 Italian provinces in 2007, that corresponds to the NUTS3 spatial level in Italy, a sharp territorial disaggregation.

The sectoral composition we adopted considers four macro-sectors (industry and energy, construction, trade and hotels, other services) and it excludes the sectors not eligible to Fund support such as agricultural, transport, metallurgy, fiber, transport and some of smaller size. For the firm's size, we classify the firms in to two groups: firms with less than 20 employees and firms between 20 and 250 employees, where 250 is the upper limit admitted by the CFG.

The data cover the period from 2008 to 2011. We use a model of long differencing, where output variables are expressed in terms of growth rates from 2008 to 2011. Our dataset consists of 880 observations, that corresponds to 110 units, the provinces, for 4 years, for 2 firm's size. We represent the territorial growth by the growth rate of employment and firms. The output variables chosen were employment growth rate by province, sector and size class from 2008 to 2011 and firms' growth rate by province, sector and size class from 2008 to 2011

The policy intervention is captured by 3 different variables:: the maximum value of the guarantees that can be granted; the level of funding descendants from the collateral; the firms that have benefited from these guarantees. Since the provinces have different size, it is necessary to standardize the variables: the first two were normalized with the number of employees by sector, size and province, the last with the number of firms.

For all three variables we considered the cumulative sum for the years 2009-2010-2011, divided by the cumulative sum of employees in the same period, in order to obtain an estimate of the average of the intervention of the Fund in the period considered. The treatment's variable is continuous because it represents the treatment intensity. This allows us to estimate the elasticity of growth rate by the intensity of the aid in the province.

Table 1 presents the average values of the policy variables and output variables used, with average, minimum and maximum values. These values refer to the 880 observations, classified across three variables, province, size and sector. As shown in the table, in the sample we are on average about 270,000 guarantees per employee corresponding to slightly less than double in terms of funding. In addition, firms are guaranteed by the Fund on average about 3 percent of the total (taking into account the industry and the allowable size). The employees' growth rate in the period is negative, amounting to about 11% in terms of employees, -7% in terms of firms.

Table 1 – Descriptive statistics of policy variables and dependent variables

Variables	**Mean**	**Minimum**	**Maximum**
Guarantees by employee (thousands euros)	286	0	2342
Funding by employee (thousands euros)	494	0	4164
Share of guaranteed firms	2.98 (%)	0	21.4
Employees growth rate (%)	-11.25	-68.72	53.51
Firms' growth rate (%)	-7.7	-68.75	58.06

As regards the distribution of the policy variables, we have asymmetric distribution where the maximum frequency is at the zero value and then decreases in a constant way, as we see in the graphs below (figures 1,2,3).

Figure 1 -

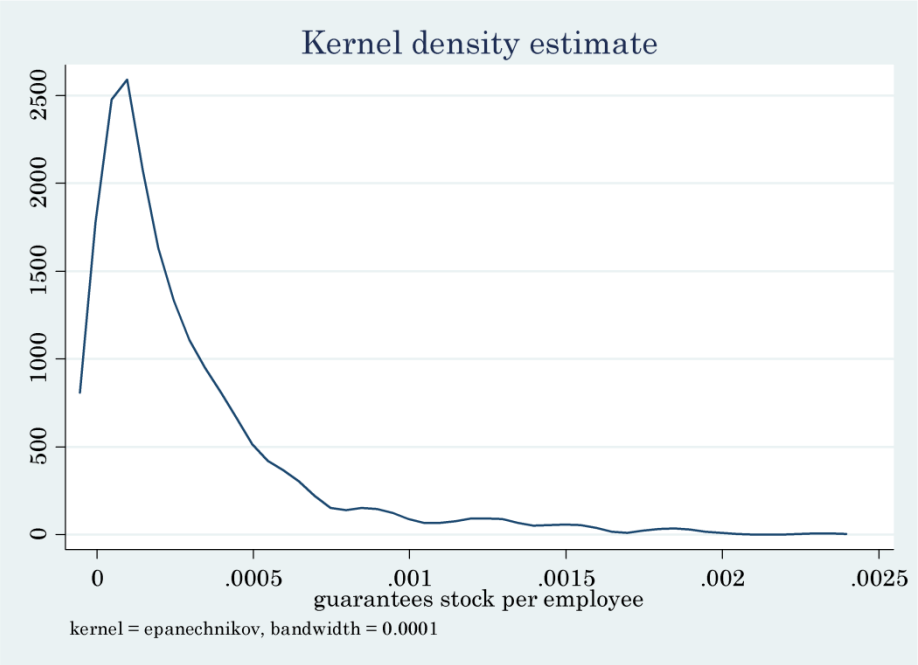


Figure 2 -

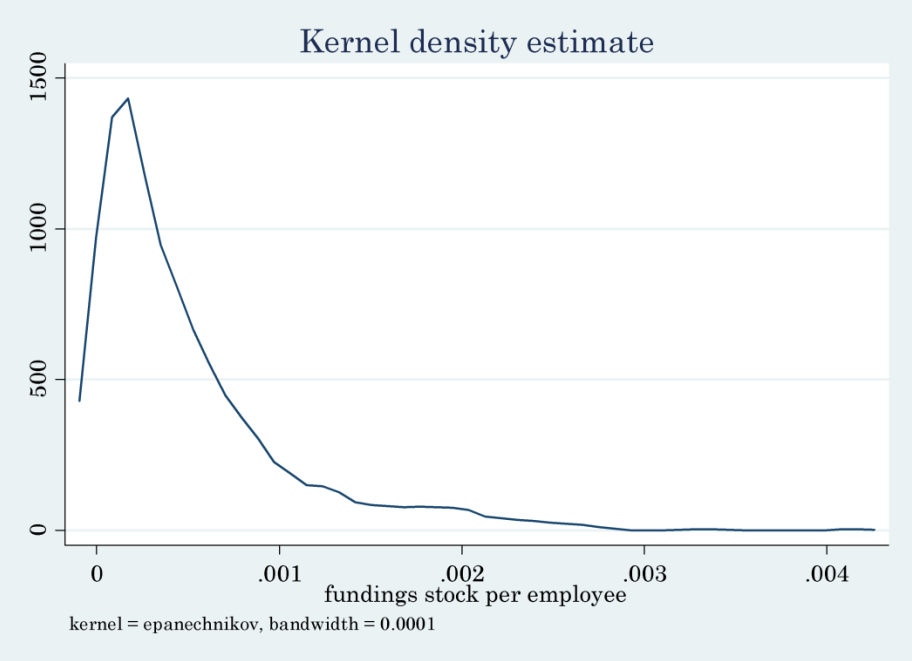
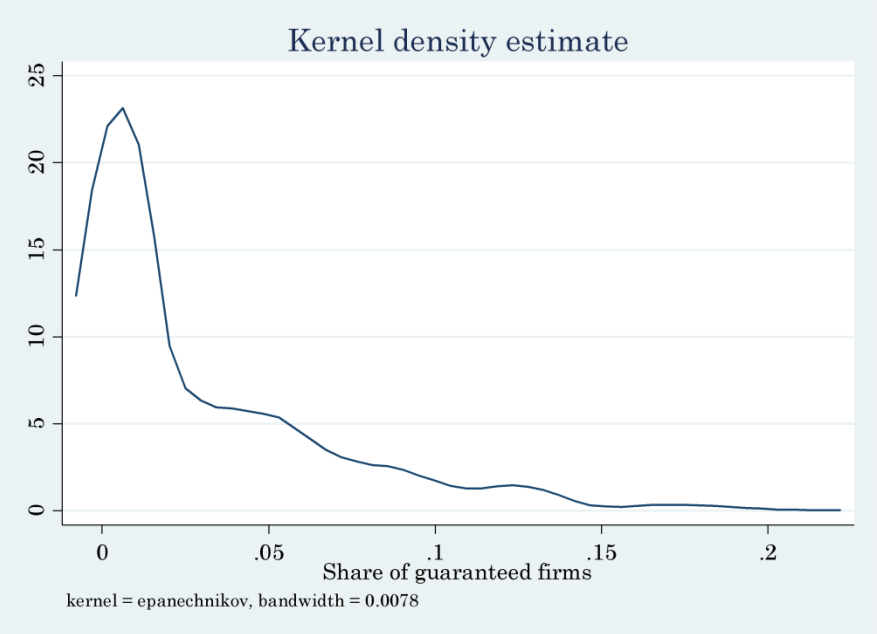


Figure 3



We consider different covariates to describe the structural dimension of provinces. Province, sectoral and size effect are controlled by dummy variables and interactions. We also add a variable on the share of direct guarantees on the total, to model the operational procedure of the fund.

A key aspect of the analysis concerns the endogeneity of the policy's variables: in a growing region the request of guarantees is higher. To take into account this bias, at least partially, we have used two joint strategies, based on IV. One approach uses employees' growth at national level, by sector and size as instrument. The variable is often used as typical instrument in the literature, for instance in Moretti (2010). The variable is re-weighted at the provincial level with the sectoral share of workers (in 2008). In this way we get an indicator of demand exogenous shock nationwide, that can take into account the different composition of the economy at the provincial level. This indicator has been used not only as exogenous variable but also to decompose the provincial growth (in terms of size and industry) into the national component and the idiosyncratic component.

The other approach uses the employees' growth in the not-subsidized sector as instrument. The analysis considers the sectors of transport, equipment manufacturers, metallurgy, financial services, transportation services, while the excluded sectors are agriculture and the public sector. This variable could help to eliminate shock at provincial level that also affects the policy variables.

5. The evaluation model

The econometric base for the evaluation of territorial effects is a Diff-in-diff model designed to capture "long" differences (differencing across several years). However, the policy variable is continuous, so the model compares and identifies the effects of the CGF for different levels of "treatment", that is for the different weights of interventions in the province.

The basic model is constructed in the following way:

$$\Delta y_{ijr} = \alpha + \beta_1 P_{ijr} + \beta_2 X_{ijr} + \beta_3 D_i + \beta_4 D_j + \beta_5 D_r + \beta_6 Int_{ij} + \varepsilon_{ijr}$$

Growth rate outcomes (province, size, sector) = f (dummies (province, sector, size), interactions (sector *size), other covariates, variable policy)

Where:

ΔY_{ijr} is the growth rate outcome by province (r), sector (j) and size (i)

P_{ijr} policy dummy variables by province (r), sector (j) and size (i)

Dr is the provincial dummy

Dj is the sector's dummy

Di is the size's dummy

Int_{ij} = Di * Dj interaction variable between sector and size

$\varepsilon_{i,j,r}$ = error variable

other covariates: share of direct guarantees on the total, provincial average interest rate of CGF operations

The analysis is based on two estimators:

- OLS estimator, that it is robust but it is affected by endogeneity problem related to the policy variable. Actually, the level of guarantees may be high because the provincial economy is growing, in contrast to the hypothesized causal model.

- IV estimator. We use a 2SLS with national re-weighted growth rate of employees and provincial sectoral growth rate of employees for sectors that are not admissible in the Fund as instruments.

Models for two outcome variables (Employees growth rate, Firms' growth rate), for three policy variables (maximum Guarantees by employee, maximum Fundings by employee, Share of guaranteed firms, all normalized) and with two estimation methods are evaluated, in order to have a large and statistically robust framework of territorial effects of the CGF.

6. Results

The results are summarized in Tables 1-6, which show the coefficients, their significance and explanatory power of the different models. In Table 1 and 4 the results of the baselines model (without policy variables) for employment and firms growth are presented. The results for OLS (tables 2 and 5) and IV (tables 3 and 6) follow.[1]

Bondonio's criticism concerning the irrelevance of territorial intervention can be applied to CGF action. However, in several models the policy variables have an overall reasonable statistical significance and the expected sign. Considering that the subsidized loans from the CGF cover on average only 3% of total loans

[1] In the baseline model the variable Average interest rate was not statistically significant and was not used in the rest of the analysis.

by area, and subsidized firms are on average only 0.5% of the overall firms in the area, then the relevance of the results can be appreciated.

The significant effects are mainly related to the funding per employee indicator, definitely more correlated to growth than the other policy variables. Also the effect of the guarantees per employee is significant, even not in all models. The models describing the firms growth have less explaining power, probably for the higher heterogeneity of the depend variables.

IV impacts are higher and often statistically more significant that in OLS models. Considering endogeneity the impacts of the CGF is stronger: probably the results are related to the period of negative growth. However the results require further study.

Considering the results and the average value of the variables involved, we estimate that a 10% increase per employee of collateral would result in an increase of approximately 0.1% of the growth rate of employees in the province. The elasticity is double for funding, with an increase of 0.2%. So the impact is positive, significant but overall modest.

7. Concluding remarks

Policy makers are interested in evaluating the net impact of the instruments on a specific area. Even in the case of the CGF for SMEs, where the link between instrument and territorial dynamics appears weaker, it is useful to analyze the existence of positive net effects at the local level of the increase in loans related to the CGF operations. The existence of such effects is not obvious: it is often discussed whether in fact the operation of the CGF was likely to transfer at least part of the advantage enjoyed by banks to firms. This would justify the high public contributions to the CGF.

The analysis was conducted at the provincial level, an adequate territorial dimension to the effects of the Fund. While using this grid, the impact of the CGF covered on average only 3% of companies and 0.5% of loans. This, however, has still created leverage effects in the territory, apparently by stimulating productive activity and investment and thus growth at local level. The results obtained, using a variety of analysis and estimators, generally agree to report a positive, statistically significant, although modest, effect of the CGF. On average, an increase of 10% of the guarantees would be reflected in an average of 0.1% increase in the employment growth rate. Increased more than 10% of the funding would have a double effect, 0.2% growth rate of employees.

These results depend on the ability of models to isolate the endogenous component that characterizes the instrument with respect to the territorial growth. Several attempts have been made in this direction in our paper, although it is still necessary caution in interpreting the results, in view of the need for further study in this direction.

Concluding, the CGF appears a useful tool not only to overcome the imperfections in the credit market but also to provide enterprises with the necessary financial resources to develop the local economy. However, it is not enough to stimulate local stable growth. It must be accompanied by measures devoted to support long-lasting local development, as incentives to innovation and human capital development.

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Table 1 -Baseline model

Dependent variable: provincial employment growth, OLS

VARIABLES	(1)	(2)
d_sizeover20	0.019**	0.057***
	(0.008)	(0.015)
q_direct_guarantee	-0.000	-0.001
	(0.001)	(0.001)
d_construction	-0.125***	-0.104***
	(0.011)	(0.009)
d_trade&hotel	0.043***	0.066***
	(0.011)	(0.009)
d_otherservices	-0.006	0.026***
	(0.012)	(0.008)
Int_size*construction	Construction	-0.044**
		(0.022)
Int_size* trade&hotel		-0.045*
		(0.023)
Int_size*otherservices		-0.067***
		(0.023)
provincial dummies	yes	yes
Constant	-0.172**	-0.192**
	(0.080)	(0.079)
Observations	880	880
R-squared	0.359	0.366

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 2- Policy effects

Dependent variable: provincial employment growth, OLS, policy variables

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Funding by employee	33.620***	33.962***				
	(11.154)	(11.610)				
Guarantees by employee			36.080**	35.565*		
			(17.994)	(18.693)		
Share of guaranteed firms					0.320*	0.229
					(0.183)	(0.190)
d_sizeover20	0.002	0.042**	0.008	0.048***	0.002	0.044**
	(0.010)	(0.017)	(0.010)	(0.017)	(0.012)	(0.020)
q_direct_guarantee	-0.001	-0.001	-0.001	-0.001	-0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
d_construction	-0.121***	-0.095***	-0.123***	-0.099***	-0.124***	-0.103***
	(0.012)	(0.016)	(0.012)	(0.016)	(0.012)	(0.016)
d_trade&hotel	0.046***	0.072***	0.044***	0.069***	0.044***	0.066***
	(0.011)	(0.017)	(0.011)	(0.017)	(0.011)	(0.017)
d_otherservices	0.010	0.038**	0.004	0.033**	0.001	0.028*
	(0.013)	(0.016)	(0.013)	(0.016)	(0.012)	(0.016)
Int_size*construction		-0.053**		-0.050**		-0.044*
		(0.023)		(0.023)		(0.023)
Int_size* trade&hotel		-0.051**		-0.050**		-0.044*
		(0.023)		(0.024)		(0.023)
Int_size*otherservices		-0.058**		-0.061***		-0.060**
		(0.023)		(0.023)		(0.023)
provincial dummies	yes	yes	yes	yes	yes	yes
Constant	-0.179***	-0.200***	-0.174***	-0.195***	-0.177***	-0.194***
	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)
Observations	880	880	880	880	880	880
R-squared	0.367	0.374	0.362	0.369	0.362	0.368

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3 – Policy effects using IV variables

Dependent variable: provincial employment growth, IV, policy variables

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Funding by employee	21.337	156.079**				
	(51.214)	(61.703)				
Guarantees by employee			34.830	291.283**		
			(96.098)	(121.000)		
Share of guaranteed firms					0.719	1.859**
					(0.863)	(0.799)
q_direct_guarantee	-0.001	-0.001**	-0.001	-0.002*	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
d_sizeover20	0.007	-0.013	0.007	-0.018	-0.019	-0.053
	(0.026)	(0.032)	(0.029)	(0.036)	(0.044)	(0.050)
d_construction	-0.123***	-0.065***	-0.123***	-0.064***	-0.122***	-0.095***
	(0.013)	(0.023)	(0.013)	(0.024)	(0.012)	(0.017)
d_trade&hotel	0.045***	0.097***	0.044***	0.097***	0.047***	0.072***
	(0.013)	(0.021)	(0.012)	(0.022)	(0.012)	(0.018)
d_otherservices	0.004	0.078***	0.003	0.081***	0.010	0.040**
	(0.027)	(0.026)	(0.028)	(0.029)	(0.022)	(0.018)
Int_size*construction		-0.087***		-0.092***		-0.045*
		(0.030)		(0.032)		(0.024)
Int_size* trade&hotel		-0.074***		-0.087***		-0.038
		(0.027)		(0.031)		(0.025)
Int_size*otherservices		-0.025		-0.023		-0.011
		(0.029)		(0.031)		(0.034)
provincial dummies	yes	yes	yes	yes	yes	yes
Constant	-0.131**	-0.224***	-0.135**	-0.268***	-0.135***	-0.168***
	(0.052)	(0.059)	(0.062)	(0.074)	(0.048)	(0.048)
Observations	880	880	880	880	880	880
R-squared	0.365	0.282	0.362	0.214	0.358	0.306

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4 -Baseline model

Dependent variable: provincial firms growth, OLS

VARIABLES	(1)	(2)
d_sizeover20	-0.047***	-0.020*
	(0.008)	(0.012)
q_direct_guarantee	-0.001	-0.000
	(0.001)	(0.001)
d_construction	-0.071***	-0.023***
	(0.011)	(0.008)
d_trade&hotel	0.048***	0.021**
	(0.010)	(0.008)
d_otherservices	0.011	0.047***
	(0.011)	(0.007)
Int_size*construction		-0.093***
		(0.020)
Int_size* trade&hotel		0.052**
		(0.021)
Int_size*otherservices		-0.068***
		(0.021)
provincial dummies	yes	yes
Constant	-0.055	-0.076**
	(0.036)	(0.036)
Observations	880	880
R-squared	0.290	0.338

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

Table 5 - Policy effects

Dependent variable: provincial firms growth, OLS, policy variables

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Funding by employee	23.529**	21.931**				
	(10.926)	(11.043)				
Guarantees by employee			24.390	17.725		
			(17.616)	(17.775)		
Share of guaranteed firms					0.258	0.155
					(0.176)	(0.178)
d_sizeover20	-0.059***	-0.030*	-0.055***	-0.025	-0.060***	-0.029
	(0.010)	(0.016)	(0.009)	(0.016)	(0.012)	(0.019)
q_direct_guarantee	-0.001	-0.000	-0.001	-0.000	-0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
d_construction	-0.068***	-0.017	-0.069***	-0.020	-0.070***	-0.022
	(0.011)	(0.015)	(0.011)	(0.015)	(0.011)	(0.015)
d_trade&hotel	0.050***	0.025	0.049***	0.023	0.049***	0.021
	(0.011)	(0.016)	(0.011)	(0.016)	(0.011)	(0.016)
d_otherservices	0.022*	0.055***	0.018	0.051***	0.017	0.049***
	(0.012)	(0.016)	(0.012)	(0.016)	(0.012)	(0.015)
Int_size*construction		-0.099***		-0.096***		-0.093***
		(0.022)		(0.022)		(0.022)
Int_size* trade&hotel		0.048**		0.050**		0.053**
		(0.022)		(0.022)		(0.022)
Int_size*otherservices		-0.062***		-0.065***		-0.063***
		(0.022)		(0.022)		(0.022)
provincial dummies	yes	yes	yes	yes	yes	yes
Constant	-0.072*	-0.092**	-0.069	-0.086**	-0.063	-0.080*
	(0.043)	(0.042)	(0.044)	(0.043)	(0.043)	(0.042)
Observations	880	880	880	880	880	880
R-squared	0.294	0.341	0.291	0.339	0.292	0.339

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6 – Policy effects using IV variables

Dependent variable: provincial firms growth, IV, policy variables

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Funding by employee	-221.144***	148.123**				
	(67.700)	(64.921)				
Guarantees by employee			-406.788***	270.218**		
			(129.474)	(123.308)		
Share of guaranteed firms					-6.058**	2.804**
					(2.362)	(1.292)
q_direct_guarantee	-0.000	-0.001	-0.000	-0.001	-0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
d_sizeover20	0.061*	-0.086***	0.072*	-0.089**	0.256**	-0.184**
	(0.035)	(0.033)	(0.039)	(0.036)	(0.119)	(0.078)
d_construction	-0.096***	0.014	-0.095***	0.015	-0.097***	-0.010
	(0.016)	(0.023)	(0.017)	(0.024)	(0.021)	(0.018)
d_trade&hotel	0.025	0.050**	0.035**	0.049**	0.016	0.030
	(0.016)	(0.021)	(0.015)	(0.022)	(0.022)	(0.018)
d_otherservices	-0.092***	0.096***	-0.097**	0.098***	-0.123**	0.068***
	(0.035)	(0.027)	(0.038)	(0.029)	(0.056)	(0.020)
Int_size*construction		-0.134***		-0.137***		-0.094***
		(0.029)		(0.032)		(0.025)
Int_size* trade&hotel		0.025		0.013		0.063**
		(0.027)		(0.031)		(0.026)
Int_size*otherservices		-0.028		-0.027		0.016
		(0.029)		(0.031)		(0.046)
provincial dummies	yes	yes	yes	yes	yes	yes
Constant	0.035	-0.196***	0.094	-0.235***	0.040	-0.161***
	(0.067)	(0.058)	(0.082)	(0.074)	(0.086)	(0.053)
Observations	880	880	880	880	880	880
R-squared		0.228		0.163		0.146

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1