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RED TAPE REDUCTION AND FIRM ENTRY:
EVIDENCE FROM AN ITALIAN REFORM

by Monica Amici*, Silvia Giacomelli*, Francesco Manaresi** and Marco Tonello*

Abstract

We estimate the effects of a simplification in the bureaucratic regulation for doing business on firm demographics in Italy, where a 2011 legislation reform required all municipalities to institute a one-stop shop for doing business. We use data for all Italian firms active in private non-financial industries and exploit the staggered implementation of the policy by municipalities in order to identify its causal effect. The results indicate that the one-stop shop increased entry rates and survival probability at one year. This effect is due essentially to sole proprietorships, which are plausibly those that benefit the most from reductions in red tape.

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1 Introduction[1]

Firm dynamics, of which the process of entry is an essential component, plays a relevant role in determining growth and aggregate productivity. In many countries, firm entry is limited by burdensome regulation that negatively impact long-term growth (Bjrnskov and Foss, 2008, Ciccone and Papaioannou, 2007, Dreher and Gassebner, 2013, Klapper et al., 2006) without pursuing other public interest objectives (Djankov et al., 2002). The growing awareness of the negative consequences of excessive regulation has prompted in many jurisdictions the adoption of regulatory reforms aimed at reducing entry costs and favoring firm start-ups. These reforms include both measures that lower the costs associated with the creation of firms as legal entity and measures that reduce the costs related to getting permits and authorizations to actually start business activities.

Italy has not been immune from this reformatory wave; indeed, in the past years, several measures have been adopted to reduce red tape related to entry by streamlining the procedures to set up companies and reducing their costs (limiting the amount of legal capital required and cutting legal and administrative fees), by eliminating legal barriers (including quotas and licenses) and by simplifying the procedures to obtain permits and authorizations. In this paper, we evaluate the impact on firm entry rates of one of the most significant measures introduced in Italy: the 2010 reform of the One-stop shop (henceforth, OSS) for doing business. One-stop shops are the administrative units at municipal level that handle, acting as a unique reference point for entrepreneurs, the procedures related to the establishment of business plants and the starting of economic activities and issue permits and authorizations. They were introduced in 1998, but over the years their implementation has been unsatisfactory and they proved to be not effective as simplification tools. The 2010 reform, aimed at strengthening the role of OSSs, substantially modified their mode of operations, mainly through the streamlining and computerization of the procedures they handle; the policy-maker expected this reform to induce a reduction in the costs of entry regulation, particularly of costs related to time.

We identify the effect of the reform on firm dynamics, exploiting its staggered quarterly implementation among 8,000 Italian municipalities, over the period 2011Q1-2012Q2. In our baseline model, we control for sector-municipality and quarter-year unobserved heterogeneity. Results show that the OSS induces an increase in entry rates, which stems exclusively from sole-entrepreneurs. These firms, usually involved in simpler economic activity and lacking organizational capital, are likely to be those for which this type of red tape reduction matters

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[1]We are indebted to *InfoCamere* for making available the data on the One-stop shops. We thank Paolo Sestito and Giuliana Palumbo for helpful comments. The views expressed in this paper are those of the authors and do not necessarily reflect those of the institutions they belong to. The usual disclaimers apply.

more. For sole-proprietor firms, the reform of OSS induced an increase in entry rates of 0.5 percentage points (11% of a standard deviation). We also find that OSS increases the survival rate at 1 year of sole proprietors firms. We test the robustness of our findings to other sources of unobserved heterogeneity, by including municipality-specific time trend or province-quarter-year fixed effects. The results are remarkably stable, providing reassuring evidence against the potential omitted variable bias that may affect them.

This paper contributes to the growing literature that assesses the effects of specific within-country policies aimed at lowering regulatory entry costs. The studies closest to our, both in terms of the identification strategy used and in the kind of entry regulatory costs analyzed (red tape costs), are Branstetter et al. (2014), Bruhn (2013), Kaplan et al. (2011). The first two studies analyze the SARE program adopted in Mexico that reduced the time and costs to get business licenses. They both find a positive effect of the program on firm entry and employment, though their point estimates differ in terms of implied magnitude of the effects. Branstetter et al. (2014) investigate the effects of the Portuguese reform *Empresa na ora* implemented in 2005 that lowered the time and monetary fees related to the obtainment of legal incorporation. They show that the reform increased both entry (by approximately 17 per cent) and employment, mainly due to the entrance of 'marginal firms'. A different set of studies focus on the impact of measures that liberalize the access to markets (i.e. reduction of legal barriers to entry). Aghion et al. (2008) analyzes the effect of the dismantling of a license system in the manufacturing sector in India on industry output and its interaction with market labor regulation. Bertrand and Kramarz (2002) and Schivardi and Viviano (2011) study the impact of deregulation in the retail sector (opening of large retail stores), respectively in France and Italy, on sectoral outcomes (including market concentration, employment, productivity). The effect of administrative start-up costs in Italy has previously been investigated by Bripi (2013) who, differently from us, analyzes the effect of cost and time needed to setup and register limited liability companies. Exploiting regional variation within the country, he finds that lengthier and costlier procedures reduces the rate of entry of this type of firms.

The rest of the paper is organized as follows. Section 2 presents the institutional setting and the OSS functioning. Section 3 describes the dataset used and the empirical strategy. Section 4 discusses the results and presents the robustness checks. Section 5 concludes.

2 The institutional setting: the One-stop shop and its reform

The One-stop shop for doing business[2] (henceforth OSS) was firstly created in Italy in 1998 with the aim to provide entrepreneurs with a single administrative office of reference to get the information and authorizations required for establishing a business plant and starting an economic activity.[3] The OSSs are hosted and managed by municipalities (the smallest administrative entity in Italy). Over the years, however, the implementation of OSSs has produced disappointing results: their establishment has not been widespread, particularly in small towns, and their effectiveness has been limited.

In 2008 the law governing the functioning of OSSs was significantly revised to overcome the main obstacles that hindered the effectiveness of OSSs and to update its modes of operation.[4] The regulation implementing the 2008 reform was enacted in 2010. The main changes introduced by the reform include: (i) the full computerization of the work-flow (including access to information, filing, communications between administrations and communications with the firms, fees payments); (ii) the simplification of the rules governing the administrative procedures[5]; (iii) the broadening of the competencies of OSS (they now include the release of business-related construction permits).

Overall, the reform introduced a relevant simplification of start-up procedures that, although it did not imply a reduction of upfront monetary costs, may have determined significant reduction of non-monetary costs related to time. In this respect, the reformed OSS reduces the time needed by entrepreneurs to learn about the administrative steps to be followed and to comply with the procedures, and thanks to more efficient handling of the procedures by administrations, also reduces the time needed to obtain the permits and authorizations once filed. It is likely that the OSS reform has had a bigger impact on procedures related to the starting of simple economic activities (e.g. small retail shops) rather than complex ones (e.g. manufacturing plants), since the former are more easily speeded up through the tools used by OSS (e.g. silence is consent or computerization). The implementation of the reform was not simultaneous in all municipalities. We will exploit this staggered implementation in our empirical analysis to assess its impact on measures of firm dynamics.

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[2]*Sportello unico per le attività produttive* (SUAP).

[3]In this respect, it differs from the one-stop shop considered in Branstetter et al. (2014) that deals with the procedures related to incorporation (i.e. the creation of the firm as a legal entity) that precedes the actual starting of the business activity.
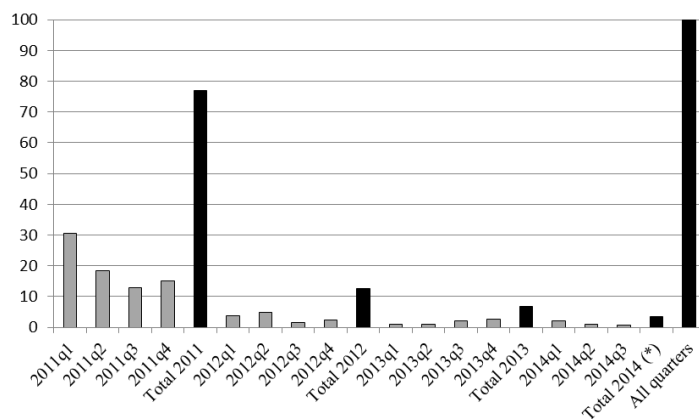
[4]Law No. 133/2008.

[5]Two broad types of procedures are dealt with by OSS: ordinary authorizations to be concluded within 90 days and fast track procedures for simple cases based on 'silence is consent'.

3 Data and Empirical Strategy

From Infocamere (the ICT service-providing company of the Italian association of Chambers of Commerce), we obtained the date in which the new OSS was implemented in each of the 8,013 Italian municipalities (99% of the universe). More precisely, we consider the date in which the OSS has begun to operate, after the Ministry of Economic Development verified its compliance with the standards provided for by the law.

Figure 1
Distribution of the dates of OSS reform implementation: per cent.

Notes: per cent figures are calculated over the total number of municipalities which implemented the OSS reform by 2014q3 (i.e. 8,013, about 99% of the universe of Italian municipalities); the black columns indicate the total for each quarter and for the whole period. (*) The total for the year 2014 excludes the last quarter. **Source:** own elaborations from Infocamere.

The histogram in Figure 1 shows the distribution of dates of implementation by quarter. By the end of 2011, over 77% of municipalities in our sample implemented the new OSS, and this share increased to 89% in 2012. Yet, the implementation has been much more staggered if we observe it at the quarter-level: we will exploit precisely this quarter-by-quarter variation in our empirical specification.

To compute indicators of firm dynamics at the municipal level, we exploit the Infocamere database, which contains administrative information on entry and exit of all Italian firms taken from the Business Register. We focus on non-financial firms belonging to manufacturing, construction, and private services, excluding professional activities: for this set of industries, the Infocamere database provides reliable information on all existing firms in Italy. The data is currently available only up to 2014q2.

We restrict our observation to municipalities for which we observe the complete two-year window around the quarter of implementation: this implies excluding from the sample all municipalities that implemented OSS after 2012q2 (1,143 municipalities). The resulting sample of 6,870 municipalities encompasses over 73% of all Italian population. For each of the two years before and after OSS implementation we compute three firm dynamics indicators: entry rate,

Table 1
Descriptive statistics

Variable	Mean	St. Dev.	Min	Max	No. of Obs.
Entry Rates					
All Firms	1.397	2.428	0	50	156,288
Sole-Proprietors	1.990	4.530	0	100	156,288
Other Firms	0.536	2.031	0	100	156,288
Exit Rates					
All Firms	1.119	1.896	0	40	156,288
Sole-Proprietors	1.407	3.077	0	100	156,288
Other Firms	0.601	2.321	0	200	156,288
Survival Rates at 1 Year					
All Firms	59.416	178.263	0	100	156,288
Sole-Proprietors	47.796	166.245	0	100	156,288
Other Firms	11.619	54.936	0	25	156,288
Heterogeneity Variables					
Share in Construction	0.139	0.346	0	1	156,288
Share in Services	0.441	0.496	0	1	156,288
Share in Central Italy	0.171	0.376	0	1	156,288
Share in Southern Italy	0.260	0.438	0	1	156,288
Share of OSS Externalized	0.380	0.485	0	1	156,288

Notes: *Other Firms* include partnerships and corporations; OSS Externalized are the OSS of the municipalities that exploits the uniform ICT platform offered by the Chambers of Commerce. **Source:** own elaborations from Infocamere.

exit rate, and the 1-year survival rate of the cohort entered in that year. We measure these indicators at the municipal×sector-level. Entry (exit) rates are computed as the percentage ratio of newly registered firms (ceased firms) over the stock of existing firms. Table 1 shows the descriptive statistics of our sample of 156,288 municipality by sector observations: sole-proprietors firms show an entry rate which amounts to almost four times that of partnerships and corporations, and similar figures hold for exit and survival rates.

We estimate the effect of the OSS reform on each of these three outcomes using the following linear model:

$$DV_{sqymt} = \beta OSS_{mt} + \gamma_{sm} + \delta_{qy} + \varepsilon_{sqymt} \qquad (1)$$

where DV is a dependent variable measured in sector s of municipality m during quarter q of year y, which is t years away from the implementation of the OSS in municipality m ($t \in \{-2, -1, 0, 1\}$); OSS is a dummy taking value 1 if OSS was implemented in municipality m at time t (i.e., if $t = 0$ or $t = 1$); γ_{sm} is a vector of sector-municipality fixed effects; δ_{qy} is a vector of year-quarter fixed effects; and ε_{sqymt} is an error term allowed to display serial correlation at the municipality and sector-year levels.[6] This specification effectively controls for all municipal characteristics that are time-invariant, at least over a four-year window (such as civic and social capital, overall economic and financial development, etc.), and for any aggregate time-varying

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[6]We are forced by data availability to rely on a 2-digits NACE Rev.1.1 classification. Using such a coarse classification leave us with 24 sectors in our sample: too few to compute cluster robust standard errors at the sector level (Cameron et al., 2011). We, thus, allow for sector-year serial correlation.

shock.

We will also test the robustness of our findings by introducing a municipality-specific time-trend, to capture any potential correlation between the OSS implementation and the trend in the dependent variables; or by interacting δ_{qy} with a province fixed-effect, to identify the effect of the OSS net of any possible time-varying province-level shock.

4 Results

Baseline results. The baseline empirical specification (equation 1) includes sector-municipality fixed effects and year-quarter fixed effects, with robust standard errors clustered at province and sector-year level (see Section 3). Table 2 shows the baseline results for the entry rates. The first column shows the results for the whole sample, while the second and third column show the results for the sole-proprietors firms and all the other firms (i.e., partnerships and corporations). We distinguish the sole-proprietors as we might expect the OSS implementation had greater effects on the creation of these simpler forms of firms, as compared to partnerships and corporations.

Table 2
Baseline results: the effect of OSS implementation on entry rates

	All Firms	Sole-proprietors	Other Firms
OSS	0.168**	0.497***	-0.005
	(0.065)	(0.145)	(0.053)
Sector-Munic. FE	yes	yes	yes
Quarter-Year FE	yes	yes	yes
No. of Obs.	156,288	156,288	156,288

Notes: OLS regression with robust standard errors cluster at province and sector-year levels (6,870 and 128 clusters, respectively); *Other Firms* include partnerships and corporations. **Source:** own elaborations from Infocamere.

Overall, the creation of the OSS in the municipality has positive and statistically significant effects on the entry rates, which increases by 0.17 percentage points (about 7% of a standard deviation). Distinguishing between sole-proprietors and the other types of firms uncovers that the effects is totally originating from the dynamics of the sole-proprietors firms, whose entry rate increases by almost 0.5 percentage points following the creation of the OSS (about 11% of a standard deviation). Thus, our results show that the simplification of the bureaucratic procedures to start a business have a positive effect on the creation of new firms, and that this increase can be attributed to the simplest juridical form of firms (i.e. the sole-proprietors), for which the simplification might have had marginally higher effects. This somehow confirms that OSS is an effective tool especially for procedures related to the starting of simple economic

activities like the ones typically run by sole-proprietors firms, while it may not be enough to reduce the costs faced by firms than run complex activities (see Section 2).

Table 3
Heterogeneity analysis: the effect of the OSS implementation on Sole-Proprietor Firms.

	(1)	(2)	(3)
OSS	0.132	0.370**	0.529***
	(0.195)	(0.145)	(0.151)
OSS × Construction	0.518***		
	(0.162)		
OSS × Services	0.608***		
	(0.113)		
OSS × Central Italy		0.271***	
		(0.066)	
OSS × Southern Italy		0.276***	
		(0.056)	
OSS × OSS Externalized			-0.072
			(0.054)
Sector-Munic. FE	yes	yes	yes
Quarter-Year FE	yes	yes	yes
No. of Obs.	156,288	156,288	156,288

Notes: OLS regression with robust standard errors cluster at province and sector-year levels (6,870 and 128 clusters, respectively). The OSS dummy variable is interacted with dummies indicating the firm sector (column 1, the omitted category are firms belonging to the manufacturing sector), with dummies indicating the municipality location (column 2, the omitted category are the municipalities in Northern Italy), with the variable *OSS Externalized* which is equal to 1 if the municipality has an externalized OSS, zero otherwise (column 3). **Source:** own elaborations from Infocamere.

To go further in the analysis, we seek to evaluate the heterogeneous effects across sectors (i.e. manufacturing, construction and services), across geographical areas (Northern, Central and Southern Italy), and across the two main types of OSS, i.e. those managed in-house by the municipality and those externally provided by the Chambers of Commerce.[7] The results are shown in Table 3, where we interact the main variable of interest (i.e. the OSS dummy in equation 1) with dummy variables indicating the construction and the services sector (the manufacturing is the omitted category) (column 1), with dummy variables indicating whether the municipality is located in Central or Southern Italy (Northern Italy is the omitted category in this case) (column 2), and with a dummy variable indicating whether in the municipality an externalized OSS was activated. Notice that we only focus on the sole-proprietors firms, which we show to determine to the estimated baseline effect.

Table 3, column 1, shows that the estimated effect of the OSS implementation are higher for the construction and services sectors, as compared to the manufacturing. The estimates in column 2 show that the effect on the entry rate is higher in Central and Southern Italy, as

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[7]There exists two main types of OSS: those directly developed and managed *in house* by the municipalities, and those managed by the municipalities exploiting the ICT platforms externally provided by the Chambers of Commerce, that we label *Externalized*.

compared to the Northern part of the country. Finally, the way in which the services of the OSS are provided (i.e. in house versus externally provided by the ICT platform of the Chambers of Commerce) does not affect the entry rate (column 3).

Extensions. We extend our analysis focusing on two other measures of firms dynamics, namely the survival rate at one year and the exit rate. Indeed, the OSS is not only the legal public entity entitled to handle all the administrative procedures to start a new business, but it also handles all the procedures to obtain any kind of permit while the business is already running. This may induce an effect of the OSS also on the survival rate of new firms. On the other hand, it could also be the case that higher entry rate may feed back into a higher exit rate of less efficient firms existing in the market, or of the same newly created firms if not as efficient as the incumbents. For these reasons, also the exit rate might be influenced.

Table 4
Extensions: the effect of the OSS implementation on survival and exit rates.

	All Firms	Sole-proprietors	Other Firms
Panel A: *Survival Rates at 1 Year*			
OSS	0.212***	0.226***	-0.014
	(0.062)	(0.060)	(0.015)
Sector-Munic. FE	yes	yes	yes
Quarter-Year FE	yes	yes	yes
No. of Obs.	156288	156288	156288
Panel B: *Exit Rates*			
OSS	0.065	-0.009	0.099*
	(0.050)	(0.071)	(0.052)
Sector-Munic. FE	yes	yes	yes
Quarter-Year FE	yes	yes	yes
No. of Obs.	156,288	156,288	156,288

Notes: OLS regression with robust standard errors cluster at province and sector-year levels (6,870 and 128 clusters, respectively). *Other Firms* include partnerships and corporations. **Source:** own elaborations from Infocamere.

The results in Table 4 show that the survival rate is influenced in a positive and statistically significant way by the OSS implementation. In particular, the implementation of the OSS in the municipality increases the survival rate by 0.21 percentage points. Again, the result only originates from sole-proprietors firms (+0.26 pp). Conversely, the overall exit rate is not affected. If anything, the exit rate of firms other than sole-proprietors is positive and marginally statistically significant, suggesting that the increase in the entry rate of sole-proprietors firms may have had indirect effects on other types of firms.

Robustness checks. We test the robustness of our findings along three main directions. First, by introducing a municipality-specific time-trend, to capture any potential correlation between the OSS implementation and the trend in the dependent variables. Second, by interacting

the year-quarter fixed effects (i.e. δ_{qy} in equation 1) with a province fixed-effect, to identify the effect of the OSS net of any possible time-varying province-level shock. Third, by interacting δ_{qy} with sector fixed-effects, to capture time-varying sector-level shocks. We perform the robustness checks on both entry and survival rates. Results reported in Table 5 appear remarkably robust to all the specification tests.

Table 5
Robustness checks on Sole-proprietor firms

	Entry Rates (1)	Survival Rates at 1 Year (2)
Panel A		
OSS	0.497***	0.226***
	(0.145)	(0.056)
Sector-Munic. FE	yes	yes
Quarter-Year FE	yes	yes
Munic. Time Trend	yes	yes
Panel B		
OSS	0.294**	0.210***
	(0.126)	(0.055)
Sector-Munic. FE	yes	yes
Province-Quart.-Year FE	yes	yes
Panel C		
OSS	0.490***	0.243***
	(0.154)	(0.060)
Sector-Munic. FE	yes	yes
Sector-Quart.-Year FE	yes	yes
No. of Obs.	156,288	156,288

Notes: OLS regression with robust standard errors cluster at province and sector-year levels (6,870 and 128 clusters, respectively); *Other Firms* include partnerships and limited liability companies. Specification in Panel A includes municipality-specific time trend; specification in Panel B includes province-quarter-year fixed effects; specification in Panel C includes sector-quarter-year fixed effects. **Source:** own elaborations from Infocamere.

5   Conclusions

This study estimates the effect of an Italian reform that reduced regulatory entry costs, *via* the establishment of municipal One-stop shops, on measures of firm dynamics. Exploiting the staggered implementation of the reform in about 8,000 municipalities, we are able to assess its causal effect. We find that the introduction of the One-stop shop increases entry rates; however, by distinguishing the firms by their legal forms we find that the effect comes entirely from sole-proprietorship, typically very small firms that run simple businesses. These firms also benefit from a significant increase in their survival at 1 year of age.

Our work is thus supportive of the general consensus in the literature that red tape costs can deter entrepreneurship. Yet, the medium-term impact of the reform, and its full impact on the economy, should be studied more deeply, possibly exploiting a longer time-series and characterizing the new entrepreneurs which started their business *because of* the reform. We leave these analyses to future research.

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