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The Role of Regulation on Entry

Evidence from the Italian Provinces

Francesco Bripi

WORLD BANK GROUP
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Operations and Strategy Team
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Abstract

This paper studies the effects of differences in local administrative burdens in Italy in the years 2005–2007 preceding a major reform that sped up firm registration procedures. Combining regulatory data from a survey on Italian provinces before the reform (costs and time to start a business) with industry-level entry rates of limited liability firms, it explores the effects of regulatory barriers on the average of the annual entry rates across industries with different natural propensities to enter the market. The estimates of the cross-sectional analysis show that lengthier and, to some extent, more costly procedures reduced entry in sectors with naturally high entry. A one-day delay in registration procedures reduces the entry rate in highly dynamic sectors by more than 1 percent. These results hold when I include measures of local financial development and of efficiency of bankruptcy procedures are included.

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The authors may be contacted at francesco.bripi@bancaditalia.it.

The Role of Regulation on Entry: Evidence from the Italian Provinces

Francesco Bripi

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Francesco Bripi is a researcher of the Bank of Italy at the Research Unit in Milan; his email address is: francesco.bripi@bancaditalia.it. The opinions expressed in this paper are those of the author alone and do not necessarily reflect those of the Bank of Italy. I would like to thank all the seminar participants at the SIDE / ISLE Conference (2011) in Turin, at the Bank of Italy (2011) in Rome, at the SIEP Conference (2013) in Pavia, at the Spanish Economic Association Annual Conference (2013) in Santander (Spain), at the Doing Business Research Conference (2014) in Washington, DC, and at the Royal Economic Society (2014) in Manchester (UK). I would also like to thank L. Benfratello, L. Conti, D. Scalise, and two anonymous referees.

The importance of firm creation for the development of modern economic systems is widely acknowledged. Indeed, entry fosters competition, lowers prices, and promotes employment growth.[1] One of the main obstacles to firm creation is the burden of bureaucratic procedures. Costly regulation or burdensome legal procedures for firm creation hamper the creation of new corporations and economic growth. Since the works of De Soto (1989) and of Djankov et al. (2002), this issue has been widely reiterated by a growing and consolidated empirical literature that has drawn heavily on the international regulatory measures developed by the World Bank from 2004 onwards (World Bank).

While the wide cross-country literature almost uniformly finds a negative impact of regulation on entry or on economic performance, the studies analyzing single countries do not get unambiguous results. In fact, while some papers show that reforms reducing national entry regulation had a positive impact on economic performance (Yakovlev and Zhuravskaya 2013; Aghion et al. 2008; Chari 2011; Sharma 2009), other studies find mixed results. For example, Kaplan et al. (2011) show that a program that significantly sped up firm registration procedures in Mexico increased entry in the formal sector, even though most of the effect of the same program on new business start-ups was only temporary and it was not present for the creation of firms with more than ten employees. Analyzing the same program Bruhn (2013) finds also that the effects on entry were significant for specific characteristics of business owners and only in municipalities with high pre-reform constraints to enter into formal entrepreneurship. Branstetter et al. (2014) find that a reform that reduced the cost of firm entry in Portugal increased firm creation and employment; however, the beneficial effects regarded mostly small firms operating in low-technology sectors (agriculture, construction, and retail trade) and with a low probability of survival in their first two years. Monteiro and Asuncao (2012) find that a simplification in entry regulation in Brazil increased new business creation but with the notable exception of some relevant sectors in manufacturing, construction, and services.

Even if the main focus in these single country studies is on changes in the level of regulation, they also highlight the importance of the ex-ante heterogeneity of regulatory barriers across regions within a country. Yet, as documented in various Subnational Doing Business Reports, regulatory burdens are highly heterogeneous within many countries, and this might entail significant differential effects on local development. Moreover, these studies show relevant differential effects across sectors within local economic systems.

With respect to this literature, this paper embeds spatial and sectoral heterogeneity into a single empirical framework, and it provides an appropriate analysis of regulatory heterogeneity across provinces and sectors in Italy. Indeed, Italy is a particularly relevant case because the country is highly heterogeneous in terms of entrepreneurship and economic performance, with marked dualisms between the more developed regions of the Center and North and those of the South. As stated by recent surveys of Bianco and Bripi (2010) and by a subnational report of the World Bank (World Bank 2012), there is also a relevant within-country heterogeneity in terms of costs and time of regulatory procedures for starting a business. Since the regulatory procedures are determined by national regulation, the subnational variation depends on the efficiency of the local bureaus and of the professional experts involved.

Italy is also interesting because between 2008 and 2009 business registration was simplified with the introduction of the "Single Communication," which collapsed four procedures into one. One benefit of this simplification was a large time saving for entrepreneurs. According to the Doing Business Surveys and Bianco and Bripi (2010), it led to a significant reduction in the time necessary to start up a firm: the time spent on dealing with procedures for starting up a small limited liability firm went from twenty-three days in 2004 to ten in 2009 and to six days in 2011.

In order to evaluate the potential benefits of this reform on the entry rate, one should ideally consider the impact of the time saving on the rate of business creation. However, the reform was introduced only gradually and more than two years passed before it became fully effective. After its full

implementation, the entry rate changed dramatically in all areas of the country due to the financial and economic crisis. Since the crisis might have resulted in structural changes in the economy, any attempt to estimate the effects of the reform during this period would risk producing biased estimates of one of the parameters of interest to us (the effect of time on firm creation). For this reason I analyze the correlation between bureaucratic burdens on new start-ups in Italian provinces in the years immediately preceding the Single Communication reform.

I use data from a survey conducted by the Bank of Italy on firm creation procedures (costs and time) across Italian provinces. The survey, which used a similar methodology to that of Doing Business, showed a high variability of both costs and time in the pre-reform period across Italian provinces. For example, time delays in 2008 varied from about ten days in the northern areas of the country to more than thirty days in the less developed South (see Bianco and Bripi 2010).

Drawing on this heterogeneity of red tape entry delays (and costs), I explore whether the pre–reform heterogeneity of administrative burdens across provinces may have had a differential and significant impact on entry at local level. I find that in provinces with more administrative hurdles to starting a business, the entry rate was lower than in other provinces with fewer hurdles. In particular, a back-of-the-envelope calculation based on the main estimates presented here suggests that a one-day delay in registration procedures reduces significantly the entry rates of small limited liability firms in highly dynamic sectors by 1.42%; costs are also negatively correlated with entry, but the statistical significance of the results depends on the particular specification adopted.

Therefore, these results show that reducing red tape delays was beneficial to entry at local level. In particular, the effects of heterogeneous administrative burdens may go some way to explaining the different levels of entrepreneurship (and ultimately of economic performance) in the more developed areas of the Center and North and those of the South. Overall, this evidence suggests that both the dimensions

analyzed (sectoral heterogeneity of entry and subnational variability of regulation) are important factors to be considered for the evaluation of business deregulation reforms.

The paper is structured as follows. Section 2 outlines the empirical methodology adopted and section 3 introduces the data used. Section 4 presents the main results and the estimates of the baseline model. Section 5 addresses endogeneity and section 6 contains robustness checks. Section 7 concludes.

2. METHODOLOGY

The empirical methodology is closely related to that of Klapper et al. (2006). Using a methodology first developed by Rajan and Zingales (1998), their study shows that excessive entry regulation (measured in terms of the costs and time of bureaucratic procedures) reduced the entry rate in European countries. Applying this methodology to the Italian case means focusing on cross-industry and cross-province interaction effects and on small and medium-sized limited liability firms. In this way, I test whether industrial sectors with an intrinsically higher entry rate have greater business creation in locations with lower levels of bureaucratic obstacles to entry. In other words, I test whether the entry rate is lower in an industry with a higher ‘‘natural’’ propensity for entry when the province has higher costs/time for complying with bureaucratic requirements for incorporation. The advantage of this methodology is that since the traditional cross-section regressions might not be able to account fully for endogeneity (where sector dynamics in a region might affect the level of local entry time delays), the approach taken by Rajan and Zingales addresses these concerns in a consistent and simple way.

The reduced form empirical model is specified in equation (1):

$$(1) \quad Entry_{j,p} = \beta_0 + \mathbf{B}_1 \cdot \Gamma_j + \mathbf{B}_2 \cdot \Gamma_p + \beta_3 \cdot Entry_j \cdot \log(costs/time)_p + \beta_4 \cdot \phi_{j,p} + \beta_5 \cdot X_{j,p} + \varepsilon_{j,p}$$

where the dependent variable is the entry rate of firms in industry *j* and province *p*.

The model includes industry and local dummy variables to control for any unobserved effect at the sector or province level (captured by the vectors of parameters $\mathbf{B_1}$ and $\mathbf{B_2}$). In addition to this and consistent with Rajan and Zingales, I control for any convergence effect by adding a firm share variable ($\phi_{j,p}$). The empirical exercise in this baseline model tests that $\beta_3 < 0$, where the variable of interest is the interaction between the industry characteristic (i.e., the entry rate of an ideal exogenous benchmark) and the regulatory variable (log of entry costs or time). The test reveals whether bureaucratic "burdens to entry" hamper business creation of "naturally" high-entry sectors relatively more in those provinces with stricter regulation (e.g., implying greater costs and/or time due to regulation).

Note that the specification adopted can be considered as a diff–in–diff estimation, where we assume for each sector the invariance of technology parameters (the "naturally" high sectoral entry rate proxied by that of the Italian province with the lowest level of regulatory burdens) between heavily and lightly regulated provinces. As a consequence, this approach estimates the relative magnitude on ''naturally high-entry'' industries (see section 4).

3. DATA

I use data from three main sources.

Regulation data. Entry regulation data are taken from a dataset recently built at the Bank of Italy measuring the costs (in terms of euros of income per capita) and time (days and hours) of regulation and bureaucracy across the Italian regions.[2] These data were collected in a survey, following the Doing Business methodology with some minor changes in order to better mirror the Italian economic system, where the average firm size is smaller than in other developed countries:[3] for more details see Bianco and Bripi (2010). The survey was conducted in all the regional capital cities and in some cases also in capital cities of other provinces. However, in order to reduce the noise bias of the survey data (indeed, in some

cases there were less than two respondents for each location), I only consider the regional capital cities with at least two respondents. In this way, I am left with regulatory data from twenty-one locations: eighteen regional capital cities plus Bozen (which is considered separately from Trento due to their special status of autonomous provinces), Veneto, and Sardinia.[4]

Firms entry data. Firms' demography data is from the Infocamere (Movimprese) dataset, which contains all firms registered in the local Public Enterprises Registrar in Italy. In this way, I rely on actual demographic data and avoid sample selection problems that might affect other databases. Since these data are collected at province level, this is the geographic unit for all the dataset.

Moreover, since the regulatory data survey is based on the procedures necessary to start up a small limited liability firm, whose legal form is "Srl" (*Società a responsabilità limitata*, or limited liability company), I restrict the analysis to firms with this legal form. Srl firms are the most common legal form for new entrepreneurial activities, among all possible types of limited liability firms (hereinafter Ltds): indeed, they represent 87.2% of all Ltds in Italy (92.9% in the sample used here) and usually have a smaller average size than other types of limited liability company.

The analysis is confined to active registered firms: these are the companies that did not start a bankruptcy procedure during the period of analysis. Despite the fact that the regulatory data was surveyed between December 2008 and March 2009, I consider the average entry rate (the dependent variable) in the years 2005, 2006, and 2007. This was a period during which no big changes occurred to the entry regulations of Ltds in Italy, and it precedes the recent financial and economic crisis, which might have resulted in structural changes to the economy and consequently also have altered entry dynamics. Finally, the sample is further restricted to limited liability firms with at least two owners.

Following Klapper et al.'s example (2006), the methodology adopted in this paper requires the use of an entry rate as a benchmark that proxies the natural propensity to enter the market, in the "absence" of regulatory burdens. In this exercise the variable is taken from different sources. When I use the average

entry rate of Milan—the city with the lightest burdens in terms of costs and time due to regulation—the data are from the same source of the other entry rates (Infocamere—Movimprese); all entry rates are average values of the yearly rates computed between 2005 and 2007. I also use the average entry and growth rates of value added of US and UK firms as interacting variables, taken from the OECD's Business Demography database (average of yearly rates from 2004 to 2006).

Other data. With regard to the other data, the growth rate of value added, income per capita, population, firm sales, and openness measures, calculated as the ratio of imports and exports over GDP, are from the Italian National Institute of Statistics (ISTAT); bank credit (granted only to firms and not to households or government) is from the Bank of Italy. Openness in the United States is from the World Input Output Database of the European Commission. Measures of social capital are from various sources (table S.1 in the supplemental appendix). Finally, the data on corruption is from Golden (2004).

All variable definitions and sources are described in the supplemental appendix (table S.1).

I consider thirty-nine sectors in twenty-one provinces. By interacting observations across sectors and provinces, the dataset has 819 observations. The sectors included in the analysis are classified according to ATECO 2002 nomenclature with two digits, which is the national classification system adopted by ISTAT, corresponding to the international NACE Rev. 1.1. The sectors belong to the following main categories: manufacturing, utilities, construction, wholesale and retail trade, hotels and restaurants, transport and communications; real estate, and business activities. However, since most provinces do not have any registered firm in some sectors, I dropped the industries whose entry rates are zero in most provinces.[5] This left me with thirty-five sectors in twenty-one cities, for a total of 735 observations. The main statistics of the variables used in the econometric exercise are in tables S.2 to S.5 of the supplemental appendix.

4. RESULTS

Since the major focus here is on the effect of administrative burdens across provinces on the entry rate, a first look at the data shows that time and costs of entry are negatively, but not significantly, correlated with the average entry rate of Srl firms in the sample (-0.254 and -0.111, respectively). However, the picture changes when considering also sector entry dynamics: by comparing the entry rate between high and low-entry industries in provinces with high and low levels of bureaucratic obstacles to business creation, the difference between the average entry rates of lightly and heavily regulated provinces in high-entry sectors is much greater than the same difference in low-entry sectors (2.10% as against 0.06%). More in general, moving from the low-entry sectors and high regulation provinces to the high-entry and low-regulation clusters increases the average entry rate from 0.49% to 4.20% (table S.5 in the appendix).

In order to address the endogeneity embedded in this descriptive analysis, I estimate the model using the baseline specifications described in equation (1). In this way, I examine the hypothesis that entry regulation hampers firm creation using as interacting variable, the entry rate of Milan. Indeed, Milan is the Italian city with the lowest levels of cost and time to start a business in the sample.[6] In the sections that follow, alternative entry rates will be used as interacting variables. The estimates use tobit regression analysis censoring at zero and one hundred.[7]

The estimates of the baseline model as outlined in equation (1), using the bureaucracy measures of entry cost and time (in logs) interacted with the entry rates of the Milan province,[8] the industry firms' share, region, and sector-specific dummies are summarized in table 1. In columns *i* to *iii*, the dependent variable is the entry rate of Srl firms (the *proxy* of small companies), while in the remaining three it is the entry rate of the broader aggregate of all limited liability companies. Accordingly, the benchmark variable in each of the two groups is, respectively, the average entry rate of Srls and of all Ltds in the province of Milan. The estimates show that the entry rate of Srl firms is lower in provinces where procedures are

longer and more costly to the entrepreneur. Indeed, the coefficients of the interaction terms of time and of costs&time (the monetized value of the entrepreneur's time to set up a business) variables are both negative—as expected—and significant at the 1% level. Also, the coefficient of the interaction term of the costs variable is negative and significant at the 5% level.

Moving to the case of entry of all Ltd firms (columns *iv* to *vi* of table 1), the coefficients of the interaction terms of all three variables (costs, time, and costs&time) are negative and significant.[9]

Even though the methodology does not allow a direct interpretation of the magnitude of the coefficients, in order to gauge the economic significance of these results, consider the difference between the entry rates of the median high regulation province (Sardinia, which is at the 75th percentile of the time delays) and the same difference in a low-regulation province (Bozen, that is at the 25th percentile of the same distribution). Then, the coefficient estimated in column *ii* in table 1 implies that because of time differences due to administrative efficiency, moving from Sardinia to Bozen benefits entry into the naturally high-entry sector ("other business activities" NACE code K74) relatively more than in the low-entry sector ("textiles" NACE code 17): the difference in entry rates of Srl firms between these two sectors in Bozen is 1.62% higher than the difference in entry rates between the same industries in Sardinia. As a comparison, the mean difference in entry rates between these two sectors across provinces is 2.49% (see section S.2 in the supplemental appendix for details), suggesting that the effect of time of entry procedures accounts for about 65% of the mean difference.

Extension to the Baseline Model: Financial Development and Bankruptcy Efficiency

I extend the baseline model to take into account the role of two other regulatory and institutional factors that can greatly affect business creation: the level of financial development and the bureaucratic burdens of bankruptcy regulation. To the extent that burdensome entry regulations go together with these other factors (that is lower financial development and less efficient bankruptcy procedures), they could

all capture similar aspects of an unfavorable business environment. Then, the addition of these variables to the empirical model allows an investigation into whether they have an impact on entry, but can also ensure that the effect of entry regulation is not driven by these other institutional factors.

I first check whether entry rates in the sample are also affected by the efficiency of the local financial system. Indeed, a wide literature has shown that financial development is essential to overcoming firms' liquidity constraints, which are more binding on businesses at the start-up stage.[10] In detail, I add the interacted variable *Extdep x findev* to the baseline model, where the industry characteristic (*Extdep*), taken from de Serres et al. (2006), measures the degree of dependence on external finance, a standard measure in this type of exercise, and the proxy for the level of local financial development (*findev*) is the ratio between private credit (granted only to firms and not to households or government) and local output (indeed, the focus is on firms, not the whole economy, so I proxy local output with firm sales). When I add the interacted financial variable (*Extdep x findev*) to the baseline model (see columns *i* and *v* of table 2), the coefficients of the financial variable have the expected positive sign, and they are significant in both the specifications considered. Note also that the effects of regulation (measured by the log of costs and time) on entry persist after the inclusion of the finance interaction variable.

Moreover, since an efficient bankruptcy system eases access to external financing by firms, burdensome bureaucratic procedures of closing a business due to the entrepreneur's default are expected to hamper initial financing at the entry stage. In order to check the role of the efficiency of bankruptcy proceedings on entry, I use the survey data on the recovery rates[11] of the "Resolving Insolvency" indicator at province level.

The estimates, including the recovery rate variable interacted with the exit rate of Milan, a proxy of the "natural exit" (see columns *ii* and *vi* of table 2), show that the efficiency of bankruptcy proceedings does not affect entry of Srl firms: the coefficients of the interacted bankruptcy variable have the expected positive sign but are not significant in either estimate; by contrast, the interacted coefficients of entry costs

and time variables remain negative and significant. In columns *iii* and *vii* I repeat the previous estimates by using the same interacting variable (the entry rate of Milan) for both the bankruptcy and the entry regulation variables. This allows a direct test on whether the results on entry regulation are driven by any possible correlation among the entry and exit regulation variables. This second group of estimates confirms that entry (not bankruptcy) regulation is a significant barrier to entry.

In general, all regulatory burdens to entry reflect a highly regulated business environment.[12] Since all these factors could represent various features of the same business institutional environment, I estimate the baseline model extended with all the interactions included above. In this case (columns *iv*, *viii* and *ix*) most of the results obtained so far are confirmed: the coefficients of entry costs and time and of financial development have the predicted sign and are significant (both at 5%); the time and costs&time coefficients are significant at 1%; as above, as expected the recovery rate—the proxy for the efficiency of bankruptcy procedures—has a positive effect, but it is never significant.

Also in this case, in order to make sense of the economic relevance of these estimates, I compare the difference of the entry rates between the industries at the 75th and at the 25th percentiles of $\text{Entry}_{\text{MI,Srl}}$ (other business activities and manufacture of other nonmetallic mineral products, respectively) with the differential between a province with high and low time delays (Sardinia and Bozen, respectively). The coefficient estimated in table 2 (column *vi*) implies that due to time differences, the difference in entry rates of Srl firms between the two sectors in Bozen is 1.64% higher than the difference in entry rates between the same industries in Sardinia. This means that moving from Sardinia to Bozen benefits the high-entry sector more, and the effect represents about 66% of the observed 25th–75th difference in industry entry rates.

Finally, in order to have a more direct estimate of the effect on entry of an increase in costs or time in high-entry sectors, I interact the log of costs or of time with a high-entry dummy (above the median) of the benchmark variable (the entry rate of Milan): see the supplemental appendix, section S.3. The

results (not shown here) confirm that the effects of both costs and of time in naturally high-entry sectors are significant and negative. A back-of-the-envelope calculation of this exercise suggests that if costs were to increase from the median value by 1% of income per capita, the entry rate of Srl firms would be reduced by 0.78%; similarly, one additional day delay in registration procedures with respect to the median value would decrease the entry rates in highly dynamic sectors by 1.42%.

5. Other Endogeneity Issues

The results obtained so far show that administrative barriers can actually deter entry across Italian provinces. However, one should view these results with some caution, since the problem of endogeneity might still affect the estimates.

A first issue arises because the level of red tape entry delays in a given province might be due to the low level of entrepreneurship in that area. For example, public bureaus might be less efficient in dealing with start-up procedures in provinces where there is traditionally lower demand for that service. In order to address this endogeneity concern, I resort to IV estimation of administrative obstacles to entry (costs and time) using social capital as the instrument. Indeed, lower levels of social capital might induce public officials to work less efficiently or professional experts to impose higher fees, thus increasing the burdens of bureaucratic procedures. Since the seminal work of Putnam et al. (1993) on Italian regions, social capital has gained increasing importance in economic studies focused on the persistent gaps in development across Italian regions: see, for example, Guiso et al. (2004a) and Nannicini et al. (2010). Despite its wide use, social capital remains an elusive concept and its definition and measurement is still the object of debate among scholars. Moreover, since entry regulation affects all members of a local community, I limit my attention to measures of social capital that can stay within the definition of “civic capital” provided by Guiso et al. (2010). This is given by a set of common values of norms or beliefs that foster cooperation within a community to the benefit of all (Guiso et al. 2010), and it excludes activities

that benefit the restricted group undertaking action (lobby, gangs, etc. . . .) or even larger groups (such as participation to religious associations, etc. . . .) but not the whole community. Within this narrower set, I use various commonly adopted measures of social capital to study heterogeneity of institutional variables within Italy: blood donation, electoral turnout, newspaper readership, and trust.[13] Given the relevant attention that the latter measure has received in the cross-country literature on regulation of entry and economic performance (for example, see Aghion et al. 2010), I use two variables ($trust_{REG}$ and $trust_{PROV}$), that are the subnational measures (across regions and provinces, respectively) of the corresponding international variable of generalized trust. However, this type of measure has been questioned (Glaeser et al. 2000; Lazzarini et al. 2003), as it may reveal more individual trustworthiness than the belief that others can be trusted. Then, following Tabellini (2010), I resort to a related measure that refers to civic education, as it considers the value of tolerance and respect for other people attached by parents to be transmitted to children (Tolerance).

For the sake of brevity, in table 3 I report the results of the first and second stage IV tobit regressions only on the costs&time variable.[14] In the second stage (panel B), all the instruments have a significant and negative impact on the endogenous regressor. For the validity of our instruments, I also report the first stage results in panel A, where for each instrument, the endogenous regressor has the correct sign and it is significant. The Wald test provides evidence that the instrumented variable is endogenous, except for the blood and the three trust instruments (columns *i*, *iv*, *v*, and *vi*). Nevertheless, when I use the instruments jointly (last three columns), the null exogeneity is rejected and the J test of over-identifying restrictions for the endogenous variables is far from rejecting the null hypothesis. Moreover, the F tests of excluded instruments in the first stage are well above the value of 10, the threshold recommended by Staiger and Stock (1997) for weak instruments. In order to be more confident about the strength and the validity of the instrumental variables, I also use the LM-J joint test of the structural parameter and the over-identification restrictions: the confidence intervals derived from the LM-J tests

are not wider than the Wald confidence intervals, indicating that instruments are not weak and that point estimates are not biased.

A second issue regards the use of the entry rate of Milan province as the main benchmark for addressing the endogeneity concerns. While it is methodologically correct to use Milan as the province for the natural entry rate since it records the lowest costs and time due to regulation, this entry rate might: *a*) either be affected by national regulation and/or by strong economic linkages of the Milan province with other provinces having higher costs or time of starting a business or *b*) include shocks that are idiosyncratic only to that area and not to the rest of the sample.

The first case (*a*) might arise because Milan is part of the same legal system at national level that also affects the average level of regulation (for example, by imposing a higher number of procedures than in other countries). To address this concern I replicate the estimates of the baseline model (1) by using the entry rate of another location as a weighting variable, the United States. This choice has several key advantages. First, the United States has very low barriers to entry and—more generally—places a low overall regulatory burden on firms. Secondly, since the US economy is very independent from any Italian province, its entry rate may plausibly be considered as a much more exogenous choice than that of Milan. Finally, it is a highly developed economy with a highly diversified productive structure across many sectors.

The estimates using the US entry rate as interacting variable confirm all the previous results of the horse-race estimates. Both entry time and costs are a significant barrier to entry (see table 4). Also the interacted financial variable has a significant role on entry (columns *iii* and *vi*), while the efficiency of bankruptcy procedures does not play any significant role.[15]

The second case (*b*) might arise because Milan is the business capital of Italy; in this case, its entry rate might also reflect shocks that are idiosyncratic to that area, such as the establishment of large multinational firms setting up their own local branch in Italy.[16] Then, using the actual entry rate of Milan

could imply a measurement error leading to biased estimates of the effect of administrative burdens on entry in industries that faced expansionary demand and technology shifts.

Consistent estimates of the effect of administrative burdens on entry in industries with potentially high business creation require a measure of sector entry rate that does not reflect idiosyncratic shocks to the area of Milan. I address this problem by following the two-step procedure developed by Ciccone and Papaioannou (2007). The estimates using IV tobit of the two-step procedure described above (table 5) confirm that the coefficients relative to the three administrative burdens (costs, time, and costs&time) are negative, but the effect is significant with regard to time and costs&time (columns *iii* to *vi*).[17]

6. Robustness Checks

Since Italy is a highly heterogeneous country in terms of economic development, the detrimental effect of red tape delays on firms' entry might be concentrated in some less developed areas of the country, typically the provinces in southern Italy. To check this point, I multiply the interacted entry regulatory variables of interest (*Entry$_{MI}$ x costs/time*) with two dummies, one for higher and another for lower per capita income (the first group comprises the regions with a per capita income above the sample median, equal to €23,671): see table 6, columns *i* to *iii*. The estimates show that time and costs&time have a differential negative impact on entry independent of the level of development, while the effect of costs is relevant only in low-income provinces.[18]

Moreover, entry regulations could be lower (and entrepreneurship higher) in the Center-North of the country because regions in these areas have historically had greater trade integration with the rest of Europe.[19] To this aim, I multiply the interacted entry regulatory variables of interest (*Entry$_{MI}$ x costs/time*) with two dummies, one for the Center-North and another for the South (columns *iv* to *vi*). The previous results are confirmed also in this case.[20]

Sensitivity Analysis and Regulated Sectors

The results obtained so far might be driven by particularly high/low values of regulation or of sector benchmarks. In order to test the stability of the estimated coefficients of entry regulation with respect to extreme values in these variables, I run a sensitivity analysis, by excluding in the regressions one sector or one province at a time. The sensitivity analysis shows a remarkable stability of the estimated coefficients (figure 1). In fact, both the entry time and cost coefficients are always significant. Moreover, in the analysis by sectors, the three that have some impact on the estimated coefficients (manufacturing of other transport equipment, NACE code 35; real estate activities, NACE code K70; research and development, NACE code K73), are the sectors with the highest mean entry rate (see table S.4 in the supplemental appendix) and have a similar impact on both time and cost coefficients. Finally, and most surprisingly, the analysis by provinces shows an almost complete invariance of both the coefficients to each province in the sample.

Moreover, I inspect the role of regulation that is specific of some services and that might affect entry (such as water transport, professional services, etc. . . .). In table 7 I run regressions excluding those services that are subject to specific regulation.[21] In columns (*i*) and (*ii*) I exclude wholesale, retail trade, and repairs (NACE sectors G50, G51, G52), and the estimates confirm the negative and significant impact of both costs and time on entry. I obtain similar results in columns (*iii*) and (*iv*), where I exclude land and water transport (NACE sectors I60 and I61) and in columns (*v*) and (*vi*), where I exclude all these regulated sectors and also professional services. Finally, since sector-specific regulation might be present in any service activity, in columns (*vii*) to (*viii*) I exclude all services (from NACE E40 to sector K74) and keep only manufacturing sectors. In this case the coefficients of time and of costs&time are negative and significant, whereas costs do not exert a significant effect on entry.

Other Robustness Checks and Effects of Barriers to Entry

I also check whether the results are robust while controlling for growth opportunities. Indeed, regulatory obstacles to entry might prevent potential entrants from responding to new business opportunities. Empirically I follow the method of Fisman and Love (2007), by adding the interaction between the province-level variable of interest and a direct measure of output shocks to industries, measured by the growth rate of value added in Milan. The estimates confirm that the entry rate interacted coefficients of the baseline model are robust to the inclusion of business opportunity measures (see table 8, columns *i* to *iii*). Among the variables interacted with the output shocks measures, only the time and the costs&time coefficients are significant. When the model is extended to include also additional regressors, that is the interacted variables of financial development and of the efficiency of bankruptcy procedures (see columns *iv* to *vi*), the main results are confirmed.

Finally, I investigate the effects of entry regulatory restrictions on variables of economic performance: the growth rate of the local economic systems and mark-ups. The estimates (not shown here) of the effects of barriers to entry on the growth rate, which are a priori uncertain,[22] indicate that only entry red tape delays have a hampering effect on aggregate growth. The effects of barriers to entry on the mark–up show that only costs have a significant impact, but the effect is very small.

7. CONCLUSIONS

Using data across Italian provinces, this paper estimates the impact of administrative burdens on firm creation. I find that the time delays (and to a lesser extent the costs) of bureaucratic burdens due to inefficient administrative procedures reduce the entry rate in industries that should have "naturally" high-entry relative to low-entry sectors. In particular, the negative effect of time is evident on the entry rate of both smaller (proxied by Srls) and all limited liability firms. The evidence on costs depends on the particular specification adopted; however, in most specifications these also have a significant and negative impact on entry. The results are robust to the addition of other regulatory variables to the baseline model (financial development and bankruptcy procedures) and to controlling for the level of local economic

development and the degree of openness. The effect persists when excluding regulated services and when controlling for growth opportunities.

The simplification of entry procedures is an ongoing process in many parts of the world. In the OECD countries, bureaucratic burdens to business start-ups are on average lower than in less advanced economies, but they still represent significant barriers to entry. In Italy national regulation until 2007 imposed considerable procedural and administrative burdens at the start-up stage. In 2008 business registration was simplified by the introduction of the Single Communication, which collapsed four procedures into one. The reform, which was not fully implemented until 2010, enabled a significant time saving of about 35% on average, as estimated by Bianco and Bripi (2010) and by the Doing Business Surveys. According to a Subnational Report on Italy by the World Bank (World Bank 2012), the time for starting a business in many Italian regions surveyed in 2012 was lower than the OECD average (twelve days), while costs are still about three times greater than the average of these advanced countries.

This paper provides evidence that the administrative burdens in the years just before the reform were a significant obstacle to firm creation in high-entry industries and in heavily regulated provinces. Therefore, the findings of the paper neither confirm nor invalidate the effects of the Single Communication, but its results are consistent with the spirit of the reform, that is, reducing the regulatory barriers may improve the efficient reallocation of resources.

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Table 1. Baseline Model: Determinants of Entry Rates; Interacting Variable: Entry Rate of Firms in the Province of Milan.

	(*i*) Srl	(*ii*) Srl	(*iii*) Srl	(*iv*) All	(*v*) All	(*vi*) All
$Entry_{MI,Srl}$ x log(costs)	-1.080**					
	(0.496)					
$Entry_{MI,Srl}$ x log(time)		-2.296***				
		(0.240)				
$Entry_{MI,Srl}$ x log(costs&time)			-0.955***			
			(0.171)			
$Entry_{MI,All}$ x log(costs)				-1.095**		
				(0.467)		
$Entry_{MI,All}$ x time					-2.038***	
					(0.681)	
$Entry_{MI,All}$ x costs&time						-0.852***
						(0.0610)
Firms share	0.00501	-0.210*	-0.173*	-0.00279	-0.241*	-0.198**
	(0.116)	(0.113)	(0.0929)	(0.137)	(0.137)	(0.0971)
Observations	692	692	692	692	692	692

The table reports tobit estimates with censoring at 0 and 100 of equation (1). The dependent variable in columns (*i–iii*) is the average entry rate of Srl firms; in columns (*iv- vi*) it is the entry rate of all Ltd firms. It is regressed on the log of costs or of time due to entry bureaucratic burdens at province level interacted with the average entry rate of new Srls/all Ltds s in Milan ($Entry_{MI,Srl/All}$) and on the industry's share of firms in the total number of firms in the province (Firms share). All regressions include a constant, province dummies, and two-digit industry dummies. White (1980) standard errors are reported in parentheses (clustered at province level). *** p<0.01, ** p<0.05, * p<0.1. Source: author's analysis based on data described in the text.

Table 2. The Role of Entry and Bankruptcy Regulation and of Financial Development on the Entry Rate of Srl Firms; Interacting Variables: Entry Rates of Srl Firms in the Province of Milan.

	(*i*)	(*ii*)	(*iii*)	(*iv*)	(*v*)	(*vi*)	(*vii*)	(*viii*)	(*ix*)
$Entry_{MI,Srl}$ x log(costs)	-1.106**	-1.10**	-1.082**	-1.120**					
	(0.501)	(0.478)	(0.463)	(0.482)					
$Entry_{MI,Srl}$ x log(time)					-2.310***	-2.32***	-2.307***	-2.330***	
					(0.243)	(0.243)	(0.240)	(0.246)	
$Entry_{MI,Srl}$ x log(costs&time)									-0.969***
									(0.180)
$Exit_{MI,Srl}$ x recovery rate		0.00382		0.00280		0.0104		0.00935	0.0124
		(0.0160)		(0.0165)		(0.0118)		(0.0118)	(0.0136)
$Entry_{MI,Srl}$ x recovery rate			-0.0495				-0.590		
			(2.221)				(1.822)		
Extdep x findev	0.156**			0.154**	0.171***			0.165**	0.154**
	(0.0656)			(0.0692)	(0.0647)			(0.0656)	(0.0136)
Firms share	0.0216	0.0120	0.00473	0.0266	-0.192*	-0.191*	-0.213*	-0.175	-0.133
	(0.119)	(0.105)	(0.122)	(0.107)	(0.113)	(0.109)	(0.115)	(0.108)	(0.0874)
Observations	692	692	692	692	692	692	692	692	692

The table reports tobit estimates of equation (1). The dependent variable is the average entry rate of Srl firms. It is regressed on: the log of costs or of time due to entry bureaucratic burdens at province level interacted with the average entry rate of new Srl firms in Milan ($Entry_{MI,Srl}$); on the recovery rate (derived from costs and time of bankruptcy proceedings) at province level interacted with the average exit or entry rate of Srl firms in Milan ($Exit_{MI,Srl}$, $Entry_{MI,Srl}$); on the ratio between average bank credit to private firms and sales (findev) interacted with the degree of dependence on external finance (Extdep); and on the industry's share of firms in the total number of firms in the province (Firms share). All regressions include a constant, province dummies, and two-digit industry dummies. White (1980) standard errors are reported in parentheses (clustered at province level). *** p<0.01, ** p<0.05, * p<0.1. Source: author's analysis based on data described in the text.

Table 3. Instrumental Variables Tobit Regressions; Interacting Variable: Srl Entry Rate of Milan Firms.

Panel A: First stage									
	(*i*)	(*ii*)	(*iii*)	(*iv*)	(*v*)	(*vi*)	(*vii*)	(*viii*)	(*ix*)
$Entry_{MI,Srl}$ x blood	-0.0255***						-0.0108***	-0.0150***	-0.0116***
	(0.00262)						(0.00265)	(0.00293)	(0.00279)
$Entry_{MI,Srl}$ x election		-0.0768***					-0.0299***	-0.0521***	-0.0545***
		(0.00607)					(0.00793)	(0.00816)	(0.00803)
$Entry_{MI,Srl}$ x newspapers			-4.467***				-1.617***	0.228	-1.457**
			(0.440)				(0.534)	(0.705)	(0.565)
$Entry_{MI,Srl}$ x $trust_{PROV}$				-5.904***			-4.598***		
				(0.446)			(0.434)		
$Entry_{MI,Srl}$ x $trust_{REG}$					-2.654***			-1.335***	
					(0.351)			(0.441)	
$Entry_{MI,Srl}$ x tolerance						-2.044***			-3.081***
						(0.619)			(0.549)
Firms share	-0.0638	-0.0122	-0.0744	-0.110	-0.155*	-0.197**	0.0395	0.0183	0.0267
	(0.0874)	(0.0842)	(0.0867)	(0.0825)	(0.0886)	(0.0913)	(0.0770)	(0.0824)	(0.0811)
F test for excluded instruments							84.48	51.58	58.72
Observations	700	700	700	700	700	700	700	700	700

Panel B: Second stage									
	blood donation	election turnout	newspapers readership	$trust_{(2003)}$	$trust_{(2000)}$	tolerance	blood, election, newsp., $trust_{(2003)}$	blood, election, newsp., $trust_{(2000)}$	blood, election, newsp., tolerance
$Entry_{MI,Srl}$ x log(cost&time)	-0.687***	-0.472**	-0.513**	-0.817***	-0.722**	-1.995***	-0.689***	-0.583***	-0.759***
	(0.234)	(0.202)	(0.243)	(0.178)	(0.310)	(0.709)	(0.143)	(0.177)	(0.136)
Firms share	-0.109	-0.0656	-0.0743	-0.135	-0.116	-0.363	-0.108	-0.0865	-0.122
	(0.199)	(0.202)	(0.203)	(0.195)	(0.203)	(0.253)	(0.195)	(0.198)	(0.194)
Exog- Wald test (*p–val.*)	0.1108	0.0016	0.0197	0.1731	0.2943	0.1316	0.0036	0.0037	0.0125
Overid. J test (*p-val.*)							0.4504	0.5793	0.2312
LM-J test confidence set							[-0.966,-0.388]	[-0.925,-0.198]	[-1.024,-0.473]
Wald test confidence set							[-0.969,-0.408]	[-0.928,-0.236]	[-1.027,-0.492]
Observations	700	700	700	700	700	700	700	700	700

The table reports IV tobit estimates of equation (1) using the two-step Newey estimator. The dependent variable is the average entry rate of Srl firms. The endogenous regressor is the log of costs&time due to entry bureaucratic burdens at province level interacted with the average entry rate of new Srl firms in Milan ($Entry_{MI,Srl}$). The instruments employed are measures of social capital: blood donation (column *i*), election turnout at referenda (column *ii*), newspapers readership (column *iii*), general trust in others at province level in 2003 (column *iv*), general trust in others at regional level in 2000 (column *v*), tolerance and respect for other people (column *vi*). The other regressor is the industry's share of firms in the total number of firms in the province (Firms share). All regressions include a constant, province dummies and two-digit industry dummies. Standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Panel A reports first stage estimates of instruments and the F test of joint significance of the excluded instruments. Panel B reports second stage estimates of instrumented variables and of firms share. It also reports: the Wald test of exogeneity of the instrumented variable; the J test for overidentification (rivtest command in Stata) proposed by Finlay and Magnusson (2009); the confidence set of the LM-J weak instruments robust test and that of the Wald test, which is not robust to weak instruments. Source: author's analysis based on data described in the text.

Table 4. The Role of Entry, Bankruptcy Regulation, and Financial Development on the Entry Rate of Srl Firms; Interacting Variable: Entry Rate in the US.

	(*i*)	(*ii*)	(*iii*)	(*iv*)	(*v*)	(*vi*)
$Entry_{US}$ x log(costs)	-0.294***	-0.298***	-0.288***			
	(0.0953)	(0.0990)	(0.0973)			
$Entry_{US}$ x log(time)				-0.304***	-0.304***	-0.301***
				(0.0614)	(0.0617)	(0.0624)
$Exit_{US}$ x recovery rate		0.253	0.278		0.229	0.256
		(0.426)	(0.433)		(0.409)	(0.416)
Extdep x findev			0.124*			0.127*
			(0.0698)			(0.0694)
Firms share	0.0579	0.0588	0.0737	0.0331	0.0337	0.0496
	(0.0867)	(0.0875)	(0.0895)	(0.0811)	(0.0816)	(0.0825)
Observations	727	727	727	727	727	727

The table reports tobit estimates of equation (1). The dependent variable is the average entry rate of Srl firms. It is regressed on: the log of costs or of time due to entry bureaucratic burdens at province level interacted with the average entry rate of US firms ($Entry_{US}$); on the ratio between average bank credit to private firms and sales (findev) interacted with the the degree of dependence on external finance (Extdep); on the recovery rate (derived from costs and time of bankruptcy proceedings) at province level interacted with the average exit rate of US firms ($Exit_{US}$); and on the industry's share of firms in the total number of firms in the province (Firms share). All regressions include a constant, province dummies, and two-digit industry dummies. White (1980) standard errors are reported in parentheses (clustered at province level). *** p<0.01, ** p<0.05, * p<0.1. Source: author's analysis based on data described in the text.

Table 5. The Role of Entry, Bankruptcy Regulation, and Financial Development on the Entry Rate of Srl Firms; Interacting Variable: Average National Entry Rate of Srl Firms. Instrumental Variable Estimates.

	(*i*)	(*ii*)	(*iii*)	(*iv*)	(*v*)	(*vi*)
Nat-Entry$_{Srl}$ x log(costs)	-0.293	-0.288				
	(0.210)	(0.215)				
Nat-Entry$_{Srl}$ x log(time)			-0.386***	-0.386***		
			(0.144)	(0.142)		
Nat-Entry$_{Srl}$ x log(cost&time)					-0.193***	-0.193***
					(0.0271)	(0.0266)
Exit$_{MI,Srl}$ x rec. rate		-0.00275		0.000406		-0.000142
		(0.0215)		(0.0179)		(0.0187)
Extdep x findev		0.132*		0.127*		0.124
		(0.0799)		(0.0741)		(0.0759)
Firms share	0.0607	0.0701	0.0539	0.0693	0.0568	0.0706
	(0.125)	(0.107)	(0.126)	(0.109)	(0.126)	(0.108)
Observations	692	692	692	692	692	692

The table reports second-stage IV tobit estimates of equation (4). The dependent variable is the average entry rate of Srl firms. It is regressed on: the log of costs or of time due to entry bureaucratic burdens at province level interacted with Nat-Entry$_{Srl}$, the average entry rate of Srl firms estimated as in equation (S2.2); the recovery rate (derived from costs and time of bankruptcy proceedings) at province level interacted with the average exit rate of Srl firms in Milan (Exit$_{MI,Srl}$); the ratio between average bank credit to private firms and sales (findev) interacted with the degree of dependence on external finance (Extdep); the industry's share of firms in the total number of firms in the province (Firms share). All regressions include a constant, province dummies, and two-digit industry dummies. White (1980) standard errors are reported in parentheses (clustered at province level). *** p<0.01, ** p<0.05, * p<0.1. Source: author's analysis based on data described in the text.

Table 6. The Role of Entry Regulation According to Income and Geography; Interacting Variable: Entry Rates of Srl Firms in the Province of Milan.

	(*i*)	(*ii*)	(*iii*)	(*iv*)	(*v*)	(*vi*)
Entry$_{MI,Srl}$ x log(costs) x high income per capita	-0.702					
	(0.517)					
Entry$_{MI,Srl}$ x log(costs) x low income per capita	-0.879*					
	(0.475)					
Entry$_{MI,Srl}$ x log(time) x high income per capita		-2.570***				
		(0.349)				
Entry$_{MI,Srl}$ x log(time) x low income per capita		-2.374***				
		(0.261)				
Entry$_{MI,Srl}$ x log(costs&time) x high income per capita			-1.051***			
			(0.212)			
Entry$_{MI,Srl}$ x log(costs&time) x low income per capita			-0.950***			
			(0.191)			
Entry$_{MI,Srl}$ x log(costs) x Center-North				-1.029**		
				(0.477)		
Entry$_{MI,Srl}$ x log(costs) x South				-1.079**		
				(0.476)		
Entry$_{MI,Srl}$ x log(time) x Center-North					-2.602***	
					(0.310)	
Entry$_{MI,Srl}$ x log(time) x South					-2.329***	
					(0.229)	
Entry$_{MI,Srl}$ x log(cost&time) x Center-North						-1.037***
						(0.205)
Entry$_{MI,Srl}$ x log(cost&time) x South						-0.924***
						(0.189)
Exit$_{MI,Srl}$ x recovery rate	0.00508	0.00712	0.00961	0.00397	0.00418	0.00750
	(0.0151)	(0.0106)	(0.0122)	(0.0153)	(0.0105)	(0.0117)
Extdep x findev	0.161**	0.156**	0.142**	0.157**	0.150**	0.139**
	(0.0716)	(0.0678)	(0.0635)	(0.0709)	(0.0686)	(0.0640)
Firms share	-0.0393	-0.114	-0.0587	0.00601	-0.0778	-0.0400
	(0.0901)	(0.101)	(0.0812)	(0.0915)	(0.0961)	(0.0777)
Observations	692	692	692	692	692	692

The table reports tobit estimates of equation (1). The dependent variable is the average entry rate of Srl firms. It is regressed on: the log of costs or of time due to entry bureaucratic burdens at province level interacted with the average entry rate of new Srl firms in Milan (Entry$_{MI,Srl}$) and with a dummy=1 if the province has a level of per capita income higher/lower than the sample median (high/low income); a similar approach is taken for Center-North vs. South; the recovery rate (derived from costs and time of bankruptcy proceedings) at province level interacted with the average exit rate of Srl firms in Milan (Exit$_{MI,Srl}$); the ratio between average bank credit to private firms and sales (findev) interacted with the degree of dependence on external finance (Extdep); and on the industry's share of firms in the total number of firms in the province (Firms share). All regressions include a constant, province dummies, and two-digit industry dummies. White (1980) standard errors are reported in parentheses (clustered at province level). *** p<0.01, ** p<0.05, * p<0.1. Source: author's analysis based on data described in the text.

Table 7. The role of Entry Regulation in Regulated Sectors and in Manufacturing; Interacting Variable: Entry Rate of Srl Firms in the Province of Milan.

	Excluding wholesale, retail trade and repairs		Excluding land and water transport	
	(*i*)	(*ii*)	(*iii*)	(*iv*)
$Entry_{MI,Srl}$ x log(costs)	-1.040**		-1.074**	
	(0.498)		(0.492)	
$Entry_{MI,Srl}$ x log(time)		-2.279***		-2.324***
		(0.730)		(0.248)
$Exit_{MI,Srl}$ x rec. rate	0.0022	0.00702	0.00245	0.00872
	(0.0172)	(0.0106)	(0.0165)	(0.0117)
Extdep x findev	0.147**	0.172**	0.159**	0.166**
	(0.0742)	(0.0862)	(0.0708)	(0.0661)
Firms share	Yes	Yes	Yes	Yes
Observations	632	632	658	658

	Excluding utilities, retail, wholesale, land and water transport and professional services		Excluding all services	
	(*v*)	(*vi*)	(*vii*)	(*viii*)
$Entry_{MI,Srl}$ x log(costs)	-0.869*		-1.911	
	(0.504)		(1.270)	
$Entry_{MI,Srl}$ x log(time)		-2.369***		-3.703***
		(0.802)		(0.618)
$Exit_{MI,Srl}$ x rec. rate	0.000402	0.00553	-0.000317	0.00323
	(0.0181)	(0.0106)	(0.0179)	(0.0113)
Extdep x findev	0.152**	0.177*	0.261	0.226
	(0.0764)	(0.0960)	(0.254)	(0.226)
Firms share	-0.320	-0.669*	-1.105	-0.718
	(0.224)	(0.397)	(0.925)	(0.558)
Observations	558	558	398	398

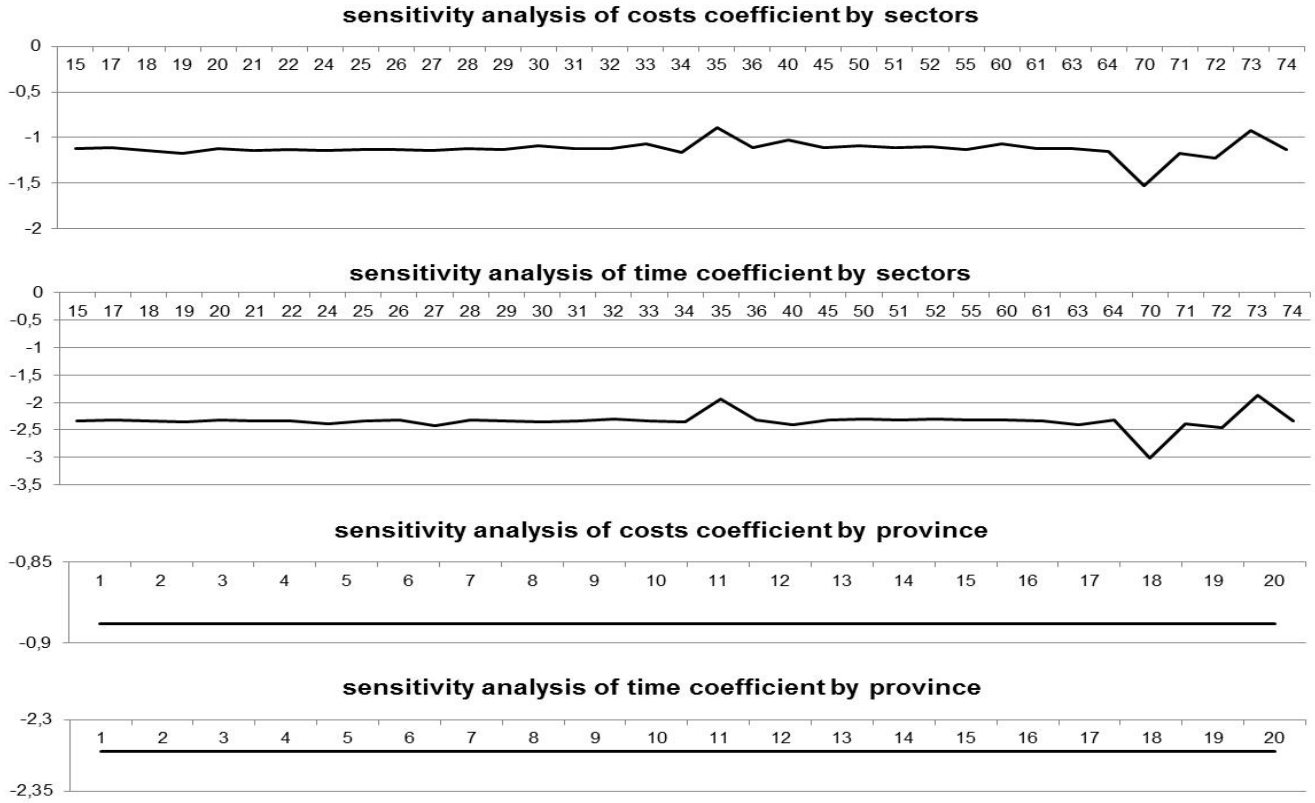
The table reports tobit estimates of equation (1). The dependent variable is the average entry rate of Srl firms. It is regressed on: the log of costs or of time due to entry bureaucratic burdens at province level interacted with the average entry rate of new Srl firms in Milan ($Entry_{MI,Srl}$); on the recovery rate (derived from costs and time of bankruptcy proceedings) at province level interacted with the average exit rate of Srl firms in Milan ($Exit_{MI,Srl}$); on the ratio between average bank credit to private firms and sales (findev) interacted with the degree of dependence on external finance (Extdep); and on the industry's share of firms in the total number of firms in the province (Firms share). Estimates from (*i*) to (*iii*) exclude sectors with NACE Rev. 1.1 codes G50, G51 and G52; estimates from (*iv*) to (*vi*) exclude sectors with NACE Rev. 1 codes I60 and I61; estimates from (*vii*) to (*ix*) exclude sectors with NACE Rev. 1 codes E40, G50, G51, G52, I60, I61 and K74; estimates from (*x*) to (*xii*) exclude all sectors with NACE Rev. 1 codes from E40 to K74. All regressions include a constant, province dummies, and two-digit industry dummies. White (1980) standard errors are reported in parentheses (clustered at province level). *** p<0.01, ** p<0.05, * p<0.1. Source: author's analysis based on data described in the text.

Table 8. Baseline and Extended Model: Determinants of Entry Rates; Interacting Variable: Entry Rate of Srl Firms and Growth Rate of Value Added in the Province of Milan.

	(*i*)	(*ii*)	(*iii*)	(*iv*)	(*v*)	(*vi*)
$Entry_{MI,Srl}$ x log(costs)	-1.039**			-1.079**		
	(0.484)			(0.470)		
$Entry_{MI,Srl}$ x log(time)		-2.224***			-2.259***	
		(0.235)			(0.243)	
$Entry_{MI,Srl}$ x log(cost&time)			-0.921***			-0.935***
			(0.168)			(0.177)
$Growth_{MI}$ x log(costs)	-0.138			-0.135		
	(0.110)			(0.117)		
$Growth_{MI}$ x log(time)		-0.241**			-0.235**	
		(0.113)			(0.115)	
$Growth_{MI}$ x log(cost&time)			-0.122***			-0.121***
			(0.0113)			(0.0119)
$Exit_{MI,Srl}$ x recovery rate				0.00261	0.00932	0.0122
				(0.0167)	(0.0118)	(0.0136)
Extdep x findev				0.154**	0.160**	0.150**
				(0.0692)	(0.0631)	(0.0593)
Firms share	-0.00939	-0.230**	-0.206**	0.0121	-0.196*	-0.167*
	(0.113)	(0.116)	(0.0905)	(0.105)	(0.111)	(0.0861)
Observations	692	692	692	692	692	692

The table reports tobit estimates of equation (1). The dependent variable is the average entry rate of Srl firms. It is regressed on: the log of costs or of time due to entry bureaucratic burdens at province level interacted with the average entry rate of new Srl firms in Milan ($Entry_{MI,Srl}$) and with the average growth rate in Milan ($Growth_{MI}$); on the ratio between average bank credit to private firms and sales (findev) interacted with the degree of dependence on external finance (Extdep); on the recovery rate (derived from costs and time of bankruptcy proceedings) at province level interacted with the average exit rate of Srl firms in Milan ($Exit_{MI,Srl}$); and on the industry's share of firms in the total number of firms in the province (Firms share). All regressions include a constant, province dummies, and two-digit industry dummies. White (1980) standard errors are reported in parentheses (clustered at province level). *** p<0.01, ** p<0.05, * p<0.1. Source: author's analysis based on data described in the text.

Figure 1. Sensitivity Analysis by Sectors and Provinces.



Source: author's analysis based on data described in the text.

Supplemental Appendix

S1 The indicators and the methodology of the Subnational Doing Business type of survey

The survey was conducted only on 5 of the 10 Doing Business indicators built by the World Bank: starting a business, getting building permits, registering a real estate property transfer, enforcing a contract, closing a business. These are the indicators that might vary within a country because they depend (in addition to national discipline) on the local regulations and their actual enforcement by local authorities or professionals. The questionnaires were very similar to the Doing Business ones, with slight adaptations. Upon suggestion of the experts in each of the fields considered, these minor changes were necessary to take into account the peculiarities of the Italian context (e.g., the size of the hypothetical firm has been reduced, etc…)."

The professional experts that were asked to answer the questionnaires are: accountants and notaries (Starting a Business); lawyers (Enforcing Contracts and Closing a Business); notaries (Registering Property); engineers and architects (Construction Permits).

The experts were not paid for the tasks. About more than a half of them are part of the Regency Councils of the local branches of the Bank of Italy (these branches are present in each region capital). In other cases, the experts were contacted at the suggestion of the local professional bodies, which were invited to collaborate to the survey. About 100 were questionnaires sent to as many experts on the Starting a Business indicator; 65 were returned from region capitals and other 23 from other provinces capitals (in Italy each region contains one or more provinces, which are similar to counties in the US). 63 of them were used to represent each region capital; with the exception of Venice (capital of region Veneto) and Cagliari (capital of region Sardinia), where there was no feedback from the experts, so that I had to use responses from other provinces capitals (15 overall).

The Starting a Business questionnaires were prepared in two versions, one with the traditional procedures, and another to take into account of the "Single Communication" reform that was taking place in that period. During the period the survey was conducted (between December 2008 and January 2009), the implementation of the reform was only partial, as it initially regarded only a subset of provinces and the new procedure was not mandatory. Therefore, the data collected with the "Single Communication" questionnaires were not used for regressions because they are less reliable to allow a full comparability of the regulation data.

The major difference with respect to the Starting a Business indicator of the Doing Business methodology is the standard firm size: in the survey conducted in Italy the standard firm has three owners and 20 employees, as opposed to 5 owners and an average of 35 employees in the Doing Business Survey (see Bianco and Bripi, 2010).

S2 Description of the two-step procedure developed by Ciccone and Papaioannou (2007)

Ciccone and Papaioannou (2007) estimate a cross-country model of entry regulation on the employment growth rate and address the measurement error by using the free-entry industry employment growth in a (hypothetical) country facing world-average demand and technology shifts. By adapting their method to this cross-province dataset, I use the free-entry industry entry rate in a (hypothetical) location facing national-average demand and technology shifts. The model is estimated in two steps, where in the first step I estimate the following:

$$Entry_{j,p} = \beta_0 + \mathbf{B}_1 \cdot \Gamma_j + \mathbf{B}_2 \cdot \Gamma_p + \beta_3 \cdot \phi_{j,p} + \beta_j \cdot costs\&time_p + \varepsilon_{j,p} \quad \text{(S2.1)}$$

where $\mathbf{B_1}$ is the industry effect, $\mathbf{B_2}$ is the province effect, β_3 is the coefficient of the firm's share and β_j is the marginal effect of the costs&time to register new businesses on entry in industry *j*. Since $\mathbf{B_1}$ captures sectoral entry in the absence of entry restrictions, I use tobit estimates (excluding the province of Milan) of the industry effects ($\hat{\boldsymbol{B}}_1$) as a proxy for frictionless sectoral entry in response to national shocks, which I denote by *Nat-Entry*$_j$. In the second step I use *Nat-Entry*$_j$ as a proxy of sectoral frictionless entry in the country; that is, I estimate (again, excluding Milan) the following:

$$Entry_{j,p} = \gamma_0 + \Delta_1 \cdot \Gamma_j + \Delta_2 \cdot \Gamma_p + \gamma_3 \cdot \phi_{j,p} + \gamma_4 \cdot Nat\text{-}Entry_j \cdot costs\&time_p + \Gamma_5 \cdot X_{j,p} + \omega_{j,p} \quad \text{(S2.2)}$$

where *Nat-Entry*$_j$ is the benchmark.

The differential effect between the high and low regulation provinces (Sardinia and Bozen), and between the naturally high entry sector ("other business activities" NACE code K74) and the low-entry sector ("textiles" NACE code 17), cited in Section 4 in the text, is computed according to the following formula:
$\hat{\beta}_3 \Phi\left(\frac{x'\hat{\beta}_3}{\sigma(\varepsilon)}\right)\left(entry_{MI,Srl(75°)} - entry_{MI,Srl(25°)}\right)\left(entry_{BZ} - entry_{SAR}\right)$, where $\hat{\beta}_3 \Phi\left(\frac{x'\hat{\beta}_3}{\sigma(\varepsilon)}\right)$ is the marginal effect computed on $\hat{\beta}_3$.

S3 Direct estimate of the effect of an increase in costs or time in high entry sectors

Replacing in equation (1) a high entry dummy (=1 in high entry sectors), gives the following:

$$Entry_{j,p} = \beta_0 + \mathbf{B}_1 \cdot \Gamma_j + \mathbf{B}_2 \cdot \Gamma_p + \beta_3 \cdot log(costs/time)_p + \beta_4 \cdot \phi_{j,p} + \beta_5 \cdot X_{j,p} + \varepsilon_{j,p} \quad \text{(S3.1)}$$

Partiallying out the effect of entry regulation (for example of costs) in equation (S.1) gives the following:

$$\frac{\partial Entry_{j,p}}{\partial cost} = \hat{\beta}_3 \frac{1}{cost} \Phi\left(\frac{x'\hat{\beta}_3}{\sigma(\varepsilon)}\right)$$

where the last term in brackets is the marginal effect computed on $\hat{\beta}_3$.

Table S.1. Variables definitions and sources

Variable	Definitions and sources
$Entry_{MI,Srl/All}$	Ratio between the number of new Srls/all Ltds and the total number of firms in the province of Milan. New firms are: firms newly registered in the same year. Average for the years 2005–2007. I compute this variable for two-digit ATECO 2002 industries. Source: Infocamere.
$Exit_{MI,Srl/All}$	Ratio between the number of closing Srls/all Ltds and the total number of firms in Milan. Closing firms are those firms that are to be cancelled during the same year. Average for the years 2005–2007. I compute this variable for two-digit ATECO 2002 industries. Source: Infocamere.
$Entry_{US(UK)}$	Ratio between the number of new firms and the total number of firms in the U.S. (U.K.). New firms are firms newly registered in the same year. Average for the years 2004–2006. I compute this industry level variable for two-digit ISIC rev. 3.1 industries, and then convert into NACE Rev. 1.1. Source: OECD STAN Database.
$Exit_{US}$	Ratio between the number of firm deaths and the total number of firms in the U.S. in the same year. Average for the years 2004–2006. I compute this industry level variable for two-digit ISIC rev. 3.1 industries, and then convert into NACE Rev. 1.1. Source: OECD STAN Database.
Extdep	Industry j's dependence on external finance defined as capital expenditure minus internal funds (cash flow from operations) divided by capital expenditure. Source: de Serres *et al.* (2006).
Value $Added_{MI}$	Since value added in real terms at sectoral 2 digit level is available only at regional (and not provincial) level, the data for the region of Lombardy – for the years 2005, 2006 and 2007 – have been rescaled at province level using as weights the ratio between the value added of the Milan province at 1 digit level over the region total.
$Growth_{MI}$	Annual compounded growth rate of value added in real terms in industry j in the province of Milan over the 2005-2007 period (Value $Added_{MI}$). I compute this variable for two-digit ATECO 2002 industries. Source: Istat.
$Growth_{US(UK)}$	Annual compound growth rate of value added in real terms in industry j in the US. (U.K.). Average for the years 2004–2006. I compute this industry level variable for two-digit ISIC rev. 3.1 industries, and then convert into NACE Rev. 1.1. Source: OECD STAN Database.
Mark – up	Simple average over the years 2005–2007 of the ratio between operating revenue and total assets of ltd. firms. The data are available at firm level and for two-digit NACE Rev. 2 industries. They have been converted into NACE Rev. 1.1 and collapsed at the median value by province and industry (2 digit code). Source: bureau Van Djick.
Province level variables	
(entry) costs	Direct start-up costs of obtaining legal status to operate a firm as a share of local income per capita. Source: Bianco and Bripi (2010).
(entry) time	Direct start-up time of obtaining legal status to operate a firm, days. Source: Bianco and Bripi (2010).
(entry) costs&time	Monetized value of costs and time to operate a firm: costs x time. Source: Bianco and Bripi (2010).
recovery rate	Share of credit that can be recovered by the creditor bank through bankruptcy proceeding. It is built following the Doing Business methodology (http://www.doingbusiness.org), based on direct costs (as a share of local income per capita) and time (days) of a bankruptcy proceeding. Source: Bianco and Bripi (2010).
credit	Bank credit to private firms, average for the years 2005–2007. Source: Bank of Italy.
sales	Sales at province level, thousands of euros, average for the years 2005–2007. Data represent the sum of firm of sales at province level across the 35 sectors included in the sample. Source: ISTAT.
population	Adult population (from 15 to 64 years old) at province level in 2005, thousands of units. Source: ISTAT.
income	Income per capita, computed as the ratio between value added in real terms and adult population in each province. Average for the years 2005–2007, units of Euros. Source: ISTAT.
openness	Ratio of imports and exports of goods over GDP by province *p*. Period: 1996-1998. Source: ISTAT.
corruption	Corruption is proxied by using a measure of the incidence of the requests by the judiciary (over the total number of members) to the relevant chamber of the Parliament to investigate a national legislator for suspected malfeasance (a

	majority vote by the floor was required by the Italian constitution until 1994). The data cover most of the post war period (from 1948 to 1992). Source: Golden (2004).
blood	Blood donation: number of blood bags donated over 1 million inhabitants in 1995. **Source: Guiso *et al.* (2004a) on data from AVIS.**
election	Average turnout at referenda between 1946 and 1989. For each province turnout data are averaged across time. **Source: Guiso *et al.* (2004a) on data from the Ministry of Interior.**
newspapers	Percentage of people who read a newspaper at least once a week. Period: 2005-2007. Source: ISTAT
$trust_{PROV}$	Percentage of respondents in each province answering "Most people can be trusted" to the following question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" Year: 2003. Source: ISTAT.
$trust_{REG}$	Percentage of respondents in each region that has mentioned "Most people can be trusted" to the following question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" Year: 2000. Source: Tabellini (2010).
tolerance	Percentage of respondents in each region that has mentioned the quality "tolerance and respect for other people" as being important (the other qualities in the list being: "good manners; independence; obedience; hard work; feeling of responsibility; imagination; thrift, saving money and things; determination and perseverance; religious faith; unselfishness") to the question: "Here is a list of qualities that children can be encouraged to learn at home." Which, if any, do you consider to be especially important? Please choose up to five". Source: Tabellini (2010).
Industry - Province level variables	
Entry $_{Srl/All}$	Ratio between the number of new Srls/all Ltds and the total number of firms in each province. New firms are firms newly registered in the same year. Average for the years 2005–2007. I compute this variable for two-digit ATECO 2002 industries. Source: Infocamere.
firms share	Share of registered firms in the year 2005 in industry j in total firms of province *p*. Source: Movimprese.
output share	Share of industry j in total value added in real terms of province *p*. Average for the years 2005–2007. Note that since value added in real terms at sectoral 2 digit level is available only at regional (and not provincial) level, the data of each region– for the years 2005, 2006 and 2007 – have been rescaled at province level using as weights the ratio between the value added of the province at 1 digit level over the region total. Source: ISTAT.
$openness_{US}$	Ratio of imports and exports of goods over GDP in the US. I compute this variable for two-digit ATECO 2002 industries. Period: 2005-2007. Source: World Input Output Database (European Commission).
productivity	Ratio between value added in real terms and employment in industry *j* in province *p*.

Table S.2. Summary statistics of main variables*

Variable	Units	Mean	Std. Dev.	Min	Max
Entry costs	euros	22.87	8.672	11.25	44.95
Entry time	days	18.48	7.218	10.50	34.00
Bankruptcy costs	euros	14.10	7.185	3.50	25.50
Bankruptcy time	days	848.85	468.280	105.00	1800.00
Bankruptcy recovery rate	rate	0.52	0.103	0.32	0.72
Credit to firms	thous. of euros	12,900.0	23500.000	888.9	119,000.0
Firm sales	thous. of euros	1,315.9	3473.818	0.1	49,500.0
Adult population	thousands	0.71	0.673	0.08	2.57
Population	thousands	0.00	0.000	0.00	0.00
Income per capita	euros	21.64	5.477	14.07	29.84
Corruption index	index	1.00	0.425	0.36	1.78
Entry rate Srls	rate	2.76	8.067	0.00	145.00
Entry rate all Ltds	rate	3.32	9.178	0.00	163.75
Firms share	ratio	1.99	3.687	0.00	25.25
Output share	ratio	1.87	1.701	0.00	10.29
$Entry_{MI,Srl}$	rate	2.18	2.047	0.05	7.78
$Entry_{MI,All}$	rate	2.96	2.946	0.06	13.51
$Entry_{US}$	rate	10.26	4.876	2.33	25.83
$Growth_{MI}$	rate	0.41	3.112	-7.62	6.29
$Growth_{US}$	rate	7.28	24.497	-5.76	146.34
Openness	rate	0.28	0.159	0.03	0.59
$Opennness_{US}$	ratio	1.00	0.464	0.11	2.04
Mark–up	ratio	1.14	0.491	0.08	8.70
Blood donation	ratio	22.87	18.877	0.00	75.73
Election Turnout	ratio	79.13	7.860	63.18	90.55
Newspapers readership	ratio	0.63	0.112	0.44	0.81
$Trust_{PROV}$	index	0.33	0.105	0.06	0.51
$Trust_{REG}$	index	0.30	0.143	0.00	0.64
Tolerance	index	0.76	0.084	0.60	1.00

* The total number of observations for each variable is 700 (Milan is excluded).

Table S.3. Correlation among regulation and social capital variables §

	Regulation variables				Social capital variables					
	costs	time	findev (= credit /sales)	recovery rate	blood donation	election turnout	newspapers readership	$trust_{PROV}$	$trust_{REG}$	tolerance
costs	1									
time	0.2486*	1								
findev (= credit /sales)	0.0713	0.1403*	1							
recovery rate	0.0001	0.0008	0.0535	1						
blood donation	-0.3170*	-0.3236*	-0.0448	0.004	1					
election turnout	-0.3698*	-0.5792*	-0.1768*	-0.0058	0.4714*	1				
newspapers readership	-0.7602*	-0.3820*	-0.1092*	-0.0062	0.4609*	0.6727*	1			
$trust_{PROV}$	-0.2145*	-0.2905*	-0.03	-0.007	0.1940*	0.3260*	0.1559*	1		
$trust_{REG}$	-0.6055*	-0.0548	-0.1430*	-0.0007	0.1293*	0.4267*	0.6581*	0.2753*	1	
tolerance	0.2291*	0.1030*	0.0366	0.0113	-0.0215	-0.1262*	-0.1739*	-0.0574	-0.1141*	1

*, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.
§: the total number of observations for each variable is 700 (Milan is excluded).

Table S.4. Summary statistics of entry rate of Srls by sector*

Sector code (NACE Rev. 1.1)	Description	Mean	Std. Dev.	Min	Max
DA15	Manuf. of food products and beverages	0.33	0.487	0.00	2.12
DB17	Manuf. of textiles	1.22	1.831	0.00	6.92
DB18	Manuf. of wearing apparel, dressing and dyeing of fur	2.60	4.683	0.00	16.70
DC19	Tanning and dressing of leather, luggage, handbags, saddlery, harness and footwear	3.74	7.289	0.00	25.00
DD20	Manuf. of wood and of products of wood and cork, except furniture, straw and plaiting	0.59	0.821	0.00	3.12
DE21	Manuf. of paper and paper products	1.61	2.888	0.00	12.07
DE22	Publishing, printing and reProd. of recorded media	1.65	3.582	0.00	16.42
DG24	Manuf. of chemicals and chemical products	2.22	4.163	0.00	16.24
DH25	Manuf. of rubber and plastics products	4.44	5.102	0.00	20.22
DI26	Manuf. of other non-metallic mineral products	1.18	1.855	0.00	7.81
DJ27	Manuf. of basic metals	5.23	13.865	0.00	61.69
DJ28	Manuf. of fabricated metal products, except machinery and equipment	1.93	2.629	0.24	12.05
DK29	Manuf. of machinery and equipment n.e.c.	2.66	4.063	0.00	18.45
DL30	Manuf. of office, accounting and computing machinery	2.45	5.002	0.00	19.17
DL31	Manuf. of electrical machinery and apparatus n.e.c.	2.97	4.286	0.00	14.76
DL32	Manuf. of radio, television and communication equipment and apparatus	4.07	4.953	0.00	13.63
DL33	Manuf. of medical, precision and optical instruments, watches and clocks	1.12	1.686	0.00	7.44
DM34	Manuf. of motor vehicles, trailers and semi-trailers	2.18	2.383	0.00	7.50
DM35	Manuf. of other transport equipment	8.81	17.652	0.00	75.68
DN36	Manuf. of furniture, manufacturing n.e.c.	1.11	1.606	0.00	5.93
E40	Electricity, gas, steam and hot water supply	5.20	10.148	0.00	37.95
F45	Construction	1.78	1.565	0.59	7.76
G50	Sale, maint. and repair of motor vehicles/cycles, retail sale of fuel	0.85	0.874	0.00	4.15
G51	Wholesale trade and commission trade, except of motor vehicles and motorcycles	1.49	2.039	0.04	9.67
G52	Retail trade, except of motor vehicles and motorcycles, repair of personal and household goods	0.32	0.248	0.09	1.20
H55	Hotels and restaurants	0.49	0.506	0.00	1.79
I60	Land transport, transport via pipelines	0.20	0.314	0.00	1.31
I61	Water transport	1.69	5.888	0.00	26.08
I63	Supporting and auxiliary transport activities, travel agencies	2.32	6.110	0.00	28.03
I64	Post and telecommunications	1.47	2.416	0.00	10.46
K70	Real estate activities	6.24	8.779	1.40	41.78
K71	Renting of machinery without operator and of household goods	2.07	2.322	0.00	10.62
K72	Computer and related activities	3.62	4.154	0.42	20.54
K73	Research and development	13.04	32.817	0.00	145.00
K74	Other business activities	3.71	6.148	0.39	29.09

* Each sector has 20 observations (Milan is excluded).

Table S.5. Low and high entry rates by sector in the lowest and highest quartile of start up bureaucratic burdens*

	NACE Rev. 1.1 code	NACE Rev. 1.1 description	low regulation provinces (1st quartile)	high regulation provinces (4th quartile)
Low entry sectors (1st quartile)	I60	Land transport, transport via pipelines	0.07	0.16
	G52	Retail trade, except of motor vehicles and motorcycles, repair of personal and household goods	0.26	0.18
	DA15	Manuf. of food products and beverages	0.29	0.21
	H	Retail trade, except of motor vehicles and motorcycles, repair of personal and household goods	0.36	0.25
	DD20	Manuf. of wood and of products of wood and cork, except furniture, straw and plaiting	0.42	0.28
	G50	Sale, maintenance and repair of motor vehicles/cycles, retail sale of fuel	0.67	0.65
	I63	Supporting and auxiliary transport activities, travel agencies	0.71	0.68
	DL33	Manuf. of medical, precision and optical instruments, watches and clocks	1.01	0.71
	I64	Post and telecommunications	1.16	1.29
High entry sectors (4th quartile)	K74	Other business activities	2.33	1.78
	K71	Renting of machinery without operator and of household goods	2.37	2.03
	K72	Computer and related activities	2.73	3.00
	K73	Research and development	3.12	3.22
	DM34	Manuf. of motor vehicles, trailers and semi-trailers	3.22	2.09
	K70	Real estate activities	3.84	4.23
	DL30	Manuf. of office, accounting and computing machinery	3.88	0.00
	E40	Electricity, gas, steam and hot water supply	4.19	0.00
	DM35	Manuf. of other transport equipment	12.09	2.50

* Each sector has 20 observations (Milan is excluded).

1. See, for example, Hause and du Rietz (1984), Black and Strahan (2002).

2. Italy is divided into twenty regions and each region into provinces. The region is a larger portion of territory, corresponding to the NUTS2 European territorial classification system. Each region is divided into provinces, which correspond to NUTS3 level and roughly to US counties.

3. For more details on the differences with respect to the Starting a Business indicator of the Doing Business methodology see section S.1 "The indicators and the methodology of the Subnational Doing Business type of survey" in the supplemental appendix.

4. In the regions of Veneto and Sardinia there were insufficient observations in the regional capital cities (Venice and Cagliari, respectively). Then, I took the average values of the regulatory and entry variables surveyed in the other provincial capital cities of the respective regions with at least two respondents; they are: Belluno, Rovigo, Treviso, and Vicenza in Veneto; Nuoro, Oristano, and Sassari in Sardinia.

5. Specifically, I dropped those sectors with three or less nonempty observations, corresponding to the following NACE codes: DA16 (tobacco products), DF23 (manuf. of coke etc. . . .), E41 (water . . .), and I62 (air transport).

6. Milan is also Italy's "business capital": the national stock exchange is located there and the city boasts a highly dynamic economic system (with the highest level of income per capita in the sample, equal to is €33,605) and the highest average number of registered and newly registered firms. The average number of registered active firms in Milan from 2005 to 2007 period is 8,049.1, while the average number of newly registered limited liability firms is 237.7.

7. All estimates were replicated by censoring the entry rate only at zero level and by in/ex-cluding the entry rates above one hundred. In all these cases most of the results in this paper are confirmed (not shown here).

8. In order to exclude any endogeneity effect, in all regressions using Milan as a benchmark, the observations from this province are excluded from the sample.

9. In the rest of the paper all results shown and commented refer to Srl firms. Repeating all the estimates using all Ltd. firms (not shown here) does not change the results. These are available from the author upon request.

10. For evidence on the United States see Evans and Jovanovic (1989). Some studies focus on Italy: Guiso et al. (2004b) show that financial development enhances entrepreneurship and entry rates, while Di Patti and Dell'Ariccia (2004) find significant but not monotonic relations between bank competition and entry.

11. The recovery rate measures the percentage of a credit that can be recovered through the bankruptcy procedure by creditors of a business that defaults on its loan. A higher recovery rate for creditors implies greater ex-ante credit availability (White and Berkowitz 2004; Djankov et al. 2008), and therefore it is expected to affect entry positively. The recovery rate used here is built according to the Doing Business methodology: see Bianco and Bripi (2010).

12. The correlations in table S.3 show that higher entry costs and time are associated (unexpectedly) with higher levels of local financial development and more costly (and time-consuming) bankruptcy procedures.

13. These data have been used extensively by various authors. For example, Guiso et al. (2004a), Nannicini et al. (2010), Heliwell and Putnam (1995), Tabellini (2010), and De Blasio and Nuzzo (2010).

14. The costs and time variables are negatively correlated with the selected variables of social capital: see table S.3 in the supplemental appendix.

15. This exercise has been repeated using he entry rate of the UK, one of the most business-friendly countries in Europe. The estimates (not shown here) find significant effects for time of procedures, while the coefficient of the costs variable is negative but not significant.

16. Indeed, Milan is the city where most multinational firms establish their branch office—often by creating a newly registered firm to fully comply with Italian law—and operate throughout the country. Bureaucratic burdens of starting a business are less relevant for these firms, as they are usually quite large or might benefit from financial transfers from the parent foreign company. Indeed, comparing the average number of employees and average total assets of foreign and domestic firms (those with ultimate foreign or domestic ownership) registered in Milan in the years 2005, 2006, and 2007, gives 159 as against 60 employees for domestic companies and €57,629.7 as against €10,848.6 for domestic companies.

17. Note that if the benchmark variable (EntryMI,Srl) were a good proxy for national frictionless entry, then it should be highly correlated with the *Nat-Entryj* proxy, but the data show that this is not the case (the correlation is 0.328). The methodology is described in section S.2 in the supplemental appendix.

18. Repeating the same exercise considering the level of corruption provides similar results. In this case the concern is that the pervasive presence of corruption might deter official entry in the most corrupt provinces (typically in the South: for example, see Pinotti 2015) inducing a greater number of firms to operate in the market without being officially registered. Corruption is proxied using an index developed by Golden (2004): see table S.1 for more details.

19. For example, the difference in costs and in time between the (simple average during the years 2005–07) Western European bordering countries (France, Austria, and Switzerland) and the provinces in the Center-North is 15.0 and -0.7; 24.5 and 5.32 are the analogous distances between the same set of countries and the provinces in the South.

20. In unreported estimates I also test the effect of trade openness on entry by adding a measure of openness at province level to the main empirical equation; this is the average across the three years before the entry of Italy in the Eurozone (1996–98) in order to better capture “historical” trade links with foreign countries and before a major regime shift that might have enhanced trade integration. Even in this specification the coefficient of time interacted with the entry rate of Milan is still negative and significant. Replacing the openness variable with that of the United States provides similar results.

21. The sectors to be excluded have been selected using the services categories for which the OECD computes indexes of “Non Manufacturing Regulation”; see http://www.oecd.org.

22. Indeed, on the one hand, incumbent firms should benefit from higher rents due to higher barriers to entry; on the other hand, they could also become less efficient because of lower competitive pressure from new businesses.