

Chapter 2

Policies Fostering New Firm Formation and Self-Employment in Italy: An Empirical Exercise

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2.1 Introduction

Do public policies support or inhibit entrepreneurship? This dilemma has faced policymakers and researchers since the 1820s. Some scholars (Djankov et al. 2002; Pages et al. 2003) argue that administrative obstacles (e.g., red tape) or a lack of public support lead to significantly higher entry rates, whereas others (Baumol 1990; Santarelli and Vivarelli 2002) claim no effect on firm entry. Advocates of entrepreneurship support policies (e.g., training) claim that these are particularly useful when entrepreneurs lack the relevant skills or knowledge. This suggests that regional policies supporting entrepreneurial activity in areas with high unemployment could be effective.

It is difficult to establish a relationship between unemployment and entrepreneurship. Evans and Leighton (1990) find that in the USA, the unemployed are twice as likely to start a company as wage-employed people. Several sectoral and regional analyses determined that this so-called “unemployment push” effect is not as robust as expected. For example, see studies on the USA (Carree 2002), Italy (Santarelli et al. 2009), Germany, and the UK (Reynolds et al. 1994). If the unemployed are less endowed with entrepreneurship capital than the wage-employed, subsidizing their start-ups is not efficient and is potentially harmful. Furthermore, if the opportunities for new firm creation differ across regions and industries (Acs 2006),¹ it is crucial to adopt strict criteria for assigning subsidies.

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¹ With industries dominated by SMEs and characterized by low entry barriers in which a positive impact of the unemployment rate on the rate of new firm formation should be detected (Audretsch and Fritsch 1999).

Regional and sectoral differences are often structural, as is the case for unemployment differences. Still, central and local governments frequently cannot resist the temptation to intervene by alleviating the short-term effects of such differences instead of addressing the root causes. For example, policy incentives (e.g., subsidies, tax benefits) are often introduced to boost employment creation, even where there is a dynamic and blossoming self-employment process. A nonselective policy of providing subsidies to newborn firms may lead to an adverse selection process. Santarelli and Vivarelli (2007) find that public intervention in terms of subsidies is usually received by efficient firms that do not need it (deadweight effect) or inefficient firms that are not viable in the long run (substitution effect).

Keeping in mind the model of noisy selection (Jovanovic 1982), where viable start-ups expand and inefficient ones exit, the inappropriate use of policies supporting new firms may not just obstruct natural market selection (leading to excess entry, early exit of firms, and “entrepreneurial disillusion,” cf. Dosi and Lovaglio 1998), but may also interfere with the learning process by means of which new firms discover their efficiency parameters and decide whether to exit, continue, or grow (cf. Lotti et al. 2003; Santarelli and Vivarelli 2002, 2007).

In this study, we test for the effect of public policies supporting entry in Italian regions on actual rates of new firm formation. To assess the effectiveness of entrepreneurship policy, we investigate the dynamics in six different sectors at the local level: Manufacturing, Construction, Commerce, Hotels and Restaurants, Transportation, and Financial Services. In addition, we investigate whether structural unemployment has an independent effect on new firm formation. In our analysis, we take into account other local factors, including economic growth, per capita value added, presence of an industrial district or a large metropolitan area in the province, and wage level. Note that regional economic characteristics may not only explain firm entry but also firm exit, and therefore net entry. In case of adverse economic conditions, self-employed workers may decide to prolong their entrepreneurial experience and do not close their business, particularly if they have no other way of earning a living. Hence, unemployment may not only exert a positive effect on gross entry but also have a negative effect on the exit rate.

Findings indicate that entrepreneurship policy does not have an important impact on industrial dynamics, and that the positive effect of unemployment on net entry is mainly driven by a negative effect on firm exit. The latter result suggests a lack of dynamics in the Italian regional labor markets, where individuals are not able or willing to adjust their occupational preferences and switch between professions.

The remainder of this study is structured as follows. We start with a review of policies favoring new firm formation in the Italian regions in Sect. 2.2, and a presentation and discussion of differences in unemployment rates across provinces in Sects. 2.3 and 2.4. Subsequently, we present a model to determine the impact of entrepreneurship policies and unemployment, as well as other relevant regional factors, on gross entry, net entry, and net exit for the 103 Italian provinces. Finally, in Sect. 2.6, we discuss the empirical results for the period 1997–2003, and Sect. 2.7 is the conclusion.

2.2 Regional Entrepreneurship Policy in Italy

In this section, we give an overview of the main regional entrepreneurship support measures in Italian provinces to show the development of public support programs for entrepreneurship during the period of study. The review is based on data from the online databases of the “Camera dei Deputati” (camera.ancitel.it/lrec) and the “Normeinrete” (www.normeinrete.it) for the period between 1997 (the year in which the first regional law supporting firm entry was introduced) and 2005.² We focus on financial and fiscal grants for new and young firms. The emphasis on new start-up firms or young established firms is similar to the measure of early-stage entrepreneurial activity of the Global Entrepreneurship Monitor. We also consider the use of regional budgets as far as they were employed to support entrepreneurship.³ Finally, we take into account the tax exemptions granted by local administrations to encourage new venture creation. Using these criteria, we identify 111 relevant laws, presented in Table 2.1 per region and per year.⁴

From the mid-1980s, national laws on new firm formation were introduced, starting with the State Law n. 44 targeting youth entrepreneurship (the so-called “De Vito Law”). However, some localities (e.g., Valle d’Aosta, Campania, Sardegna, the autonomous province of Trento) had already issued measures starting in the mid-1970s to protect particular sectors.⁵ There were a number of interventions in 1993, when local administrations reacted to the economic downturn by implementing a series of laws enhancing employment and supporting specific disadvantaged groups.⁶ The introduction of such measures, in Italy and globally, assumes that they are effective in generating employment rather as opposed to fostering structural change (which sees the new innovative firms as an “agent of change”) or enhancing competition in sectors where a few firms exert a significant amount of market power. In fact, about half of the laws presented in Table 2.1 are aimed at increasing employment or stimulating youth and female entrepreneurship.

²The “Camera dei Deputati” is the Italian parliament. The “Normeinrete” web site is managed jointly by the Ministry of Justice and the CNIPA (the National Center for the Informatization of the Public Administration).

³In some instances, regional governments use the annual Budget Act for the regulation of a broad range of issues (Arabia and Desideri 2005). Generally, using the Budget Act for promoting entrepreneurship results in a less-frequent use of specific laws for new firm creation.

⁴See Appendix for a complete list. We refer to Piergiorgio et al. (2007) for a detailed description of the laws in Italian.

⁵L.R. n.41 of 6/6/1977 (region Valle d’Aosta) for Handicraft; L.R. n.34 of May 4, 1981 (Campania region) for Commerce; L.R. n.4 of April 3, 1981 (autonomous province of Trento) for Manufacturing; L.R. n.16 of August 11, 1983 (Sardegna region) for Social Cooperatives; L.R. n.26 of March 9, 1984 (Calabria region) for the development of tourism.

⁶Cf., for example, L.R. n.28 of August 31, 1993 (Campania region) or L.R. n.3 of January 22, 1993 (Liguria region).

Table 2.1 Number of laws fostering new firm formation by region, year, and field (1977–2005)^a

Region	Number of laws	Year	Number of laws	Field	Number of laws
Piemonte	7	1977	1	Development and job creation	24
Valle d'Aosta	3	1981	2	Youth entrepreneurship	22
Lombardia	9	1983	1	Female entrepreneurship	14
Bolzano	2	1984	3	Innovation	12
Trento	4	1986	2	Handicraft	11
Veneto	8	1987	3	Social cooperatives	10
Friuli Venezia Giulia	4	1988	3	Industry, services, and handicraft	8
Liguria	5	1990	2	Tourism	8
Emilia Romagna	12	1991	3	Support to weak and disadvantaged components of the population	7
Toscana	7	1992	4	Small firms	5
Umbria	2	1993	10	Commerce	4
Marche	11	1994	4	Valuation of the territory	3
Lazio	6	1995	8	Ecocompatible activities	2
Abruzzo	8	1996	9	Industry	2
Molise	3	1997	8	Informatization	2
Campania	6	1998	10	Services to the family	2
Basilicata	2	1999	8	Agriculture	1
Calabria	6	2000	5	Agritourism	1
Sardegna	6	2001	5	Professional education	1
Total	111	2002	5	New economy	1
		2003	6	Fishing	1
		2004	6	Professional requalification	1
		2005	3	Cultural and entertainment services	1
		Total	111	Social, health-related, and education services	1
				Socially useful sectors	1
				Total ^a	145

^aThe total number of fields exceeds that of the laws since each intervention may include more than one field.

Regarding the sectoral coverage of laws, there are some important considerations. First, policies aimed at stimulating economic growth and productive activity, in particular targeting manufacturing and tourism, are part of 1992's Law n. 488 and EU Structural Funds (Arabia and Desideri 2005). These policies are not included in this chapter because they represent general interventions. Moreover, the jurisdiction of regional administrations is extended to include specific activities previously under national control (e.g., agriculture, handicraft,

industry, tourism, and technological innovation) as part of the administrative federalism reforms introduced by Law n. 59 of 1997 and the revision of Title V in the Italian Constitution in 2001. In terms of new administrative rule implementation, we identify two subperiods (1977–1996 and 1997–2005) and two categories of laws (the first comprising issues which are under regional jurisdiction – agriculture, handicraft, trade, industry, and tourism – and the second national laws). Whereas the regional laws increased in number between the two periods, the number of national laws remains constant.

The first column of Table 2.1 shows that, with the exception of Puglia and Sicilia, all Italian regions introduced some measures to support new firm formation between 1997 and 2005. Localities probably increased the number of policies due to the joint effect of well-established guidelines at the national level (cf., Santarelli and Vivarelli 1994) and the 1997 and 2001 reforms. Regions such as Veneto and Friuli Venezia Giulia that did not previously subsidize new firms implemented measures (8 and 4, respectively) to support and stimulate new firm formation.

2.3 Unemployment and New Firm Formation

The relationship between adverse labor market conditions and new firm formation is complex. It is generally difficult to identify, negative or positive, the effects of unemployment on self-employment and vice versa (Audretsch et al. 2005). First, the unemployed might be more likely to become self-employed than wage-employed people because the opportunity costs of self-employment are relatively low (unemployment push; cf., Evans and Leighton 1990). Second, high unemployment signals a depressed economy where aggregate demand is stagnating and there is a lack of profit opportunities for new and young firms. Third, a higher self-employment rate may lead to a decrease in unemployment as self-employed people not only employ themselves but also create employment for others, some new employees previously unemployed (Storey 1991). Finally, an increase in entrepreneurship may lead to an increase in unemployment when Schumpeter's creative destruction process that accompanies radical innovation destroys jobs as older exit (Aghion and Bolton 1997; Fritsch and Mueller 2004).

Generally, there are two approaches to investigating new firm formation. There is the ecological approach (birth rate calculated in relation to the stock of active firms) and the labor market approach (birth rate calculated in relation to labor force) (Armington and Acs 2002). Furthermore, entrepreneurial demographics can be measured in terms of gross and net entry (Carree and Thurik 1996). The empirical evidence regarding the relationship between unemployment and self-employment may be sensitive to the choice of measurement unit. In addition, Acs (2006) argues that high unemployment hinders new firm formation in some industries while favoring it in others, which makes the relationship between entrepreneurship and unemployment at the aggregate level even less straightforward.

Carree (2006) proposes two possible explanations for the lack of robust empirical evidence supporting the unemployment push hypothesis. According to the first explanation, it is difficult to capture the possible (negative) effect of a depressed economy by simply adding a variable representing the economic cycle to the model. The second explanation states that the unemployed can have lower endowments of human capital than the employed, which makes them less suited to start a new and viable business. Acs and Armington (2006) suggest that rates of new firm formation tend to be higher in regions with more adult workers who have attained higher education.

Keeping in mind the findings of previous studies, this study sheds light upon the complex relationship between unemployment and entrepreneurship by investigating not only the impact of unemployment on gross entry but also its impact on net entry and exit. We hypothesize that unemployment has a positive effect on entry and a negative effect on exit. The positive push effect on (net) entry is expected to be stronger in low-capital intensive industries, where it is usually easier to start a new firm given the relatively low entry barriers.

2.4 Entry, Exit, and Unemployment Rates in Italian Provinces

The data on unemployment, entry, and exit rates are taken from Unioncamere (the Italian Union of the Chambers of Commerce) and covers 103 provinces (administrative units in-between regions and municipalities). Table 2.2 presents unemployment rates (average values over the 1996–2002 period) as well as firm entry and exit rates (average values for the 1997–2002 period) for the ten provinces with the lowest and highest unemployment rates. Note that the provinces with the lowest levels of unemployment are in the north, while provinces with the highest unemployment levels tend to be in the south.

Although Italy appears clearly divided in terms of unemployment rates, there is more heterogeneity regarding entry and exit rates and it is difficult to identify a common pattern. Some provinces that are characterized by high entry rates are associated with a low value-added per capita (*vapc*) (e.g., Vibo Valentia and Lecce), whereas others combine low *vapc* with low firm entry rates (e.g., Enna and Messina). Moreover, provinces characterized by the presence of a large metropolitan area, like Roma and Milano, exhibit relatively low entry rates. With respect to exit rates, we observe low values in those provinces where per capita income is also relatively low. Again with the exception of Roma and Milano, most provinces with low exit rates are located in the areas of the country with the lowest population density (in particular, in the south). In many provinces – including Reggio Emilia, Prato, Rimini and Livorno – substantial entry and exit rates are found. Finally, the provinces of Roma, Milano and Bolzano exhibit simultaneously low entry and low exit rates.

Table 2.2 Provinces: unemployment, entry, and exit rates (average yearly rates)^a

Province	Province	Province	Exit rate (average)
Lecco	Messina	Messina	4.10
Bolzano-Bozen	Biella	Palermo	4.37
Vicenza	Bolzano-Bozen	Reggio Calabria	4.39
Bergamo	Roma	Roma	4.46
Reggio Emilia	Lodi	Catania	4.74
Mantova	Sondrio	Nuoro	4.75
Treviso	Milano	Napoli	4.80
Modena	Enna	Bolzano-Bozen	5.01
Cremona	Belluno	Potenza	5.08
Belluno	Ascoli Piceno	Ragusa	5.12
Cagliari	Lecce	Bologna	6.94
Cosenza	Pescara	Reggio Emilia	6.95
Catania	Campobasso	La Spezia	6.96
Caserta	Rovigo	Torino	7.00
Messina	Prato	Ferrara	7.04
Catanzaro	Vibo Valentia	Livorno	7.07
Palermo	Caserta	Udine	7.08
Napoli	Rimini	Rimini	7.09
Reggio Calabria	Livorno	Savona	7.46
Enna	Reggio Emilia	Prato	7.96

^aThe upper frame of the table presents the ten provinces with the lowest unemployment rates, with the corresponding entry and exit rates. The lower frame presents the ten provinces with the highest unemployment rates. The average values are referred to the 1996–2002 period for unemployment and to the 1997–2003 period for entry and exit.

2.5 The Model

In this section, we introduce the model and discuss the descriptive statistics for the endogenous and exogenous variables. Index i denotes the province ($i = 1, \dots, 103$), whereas index t represents the year ($t = 1997, \dots, 2003$). The impact of entrepreneurship policies, P_{it} , on entry and exit is investigated by considering the impact of the sum of policies in the previous three years and the current year. Total labor force, that is the sum of employed and unemployed individuals, is represented by L_{it} , and the provincial number of unemployed people is denoted U_{it} . The unemployment rate u_{it} equals the ratio U_{it}/L_{it} . We use symbols E_{it} and X_{it} for number of entrants and exits, respectively. As discussed earlier, firm entry and exit rates can be measured in terms of labor, assuming that one firm represents one self-employed individual (labor market approach), or in terms of number of firms (ecological approach) (Armington and Acs 2002). In this chapter, entry and exit rates are taken relative to the total labor force. Entry and exit rates are presented as follows: $e_{it} = E_{it}/L_{i,t-1}$ and $x_{it} = X_{it}/L_{i,t-1}$.

We assume in our model that new firms are started, either with or without public subsidies, by employed or unemployed individuals from within the own province. The goal of our analysis is to determine whether the extensive use of subsidies in provinces with high unemployment rates facilitates a greater (net) entry combined with fewer exits than in other provinces. Formally, the baseline model can be represented as follows (with Z_{it} representing the other explanatory variables):

$$E_{it} = aP_{it} + b_i L_{i,t-1} + cU_{i,t-1} + dZ_{it} + \varepsilon_{it}^E \quad (2.1)$$

$$X_{it} = eP_{it} + f_i L_{i,t-1} + gU_{i,t-1} + hZ_{it} + \varepsilon_{it}^X \quad (2.2)$$

$$E_{it} - X_{it} = jP_{it} + k_i L_{i,t-1} + lU_{i,t-1} + mZ_{it} + \varepsilon_{it}^N \quad (2.3)$$

The first determinant in Eq. (2.1), P_{it} , represents the number of policies supporting entrepreneurship issued in the previous three years and in the year for which the analysis is carried out. The second determinant, $L_{i,t-1}$, represents the labor force in the previous year. For each individual in the labor force, employed or unemployed, there is a probability b_i that (s)he starts an enterprise. This probability is time-dependent because Italy relaxed entry regulations during this period. Schivardi and Viviano (2007) discuss the 1998 Bersani Law that reformed the Italian retail trade sector.⁷ The third determinant, $U_{i,t-1}$, represents the number of unemployed individuals. There is an additional probability c for the unemployed to start a firm. Unemployment has a positive (push) effect on entry when $c > 0$, which means that the unemployed are more likely to start new firms than employed individuals. Similar interpretations are valid for the exit Eq. (2.2) and net entry Eq. (2.3). The parameter g will be positive when unemployment serves as a proxy for lack of entrepreneurial opportunities for incumbent firms. It will be negative when unemployment results in a lack of job alternatives discouraging self-employed individuals to close down their business. The parameter l is the difference between c and g .

Equations (2.1)–(2.3) are expressed in absolute numbers. A disadvantage of using absolute numbers is that provinces with large populations (e.g., Roma and Milano) tend to dominate the analysis. This is why we estimate the equations in relative terms. In relative terms, all variables are divided by the labor force in the previous year ($L_{i,t-1}$). This leads to the following set of equations to be estimated:

$$e_{it} = a_i + bp_{it} + cu_{i,t-1} + \frac{dZ_{it}}{L_{i,t-1}} + \varepsilon_{it}^E \quad (2.1a)$$

$$x_{it} = e_i + fp_{it} + gu_{i,t-1} + \frac{hZ_{it}}{L_{i,t-1}} + \varepsilon_{it}^X \quad (2.2a)$$

⁷Prior to the Bersani Law, retail establishments were required to have a permit from the town council. The Bersani Law abolished this permit for smaller firms, which now must only give notice of their activity. See Carree and Nijkamp (2001) for the estimated effects of a similar deregulation on entry and exit rates in Dutch retailing.

$$e_{it} - x_{it} = j_t + kp_{it} + hu_{i,t-1} + \frac{lZ_{it}}{L_{i,t-1}} + \varepsilon_{it}^N \quad (2.3a)$$

The following control variables are included in the Z_{it} variable:

1. The variable *growth* is measured by the relative change in the provincial value added (valore aggiunto a prezzi base – al netto dei SIFIM, source: ISTAT) in the previous period. Most studies at the industry level find a positive effect of profitability and market growth on both gross and net entry (cf., Carree and Thurik 1996). We test whether the same effect arises at the provincial level. This variable should correct (together with *vapc*) for “pull” effects in the unemployment–entry relationship.
2. The variable *city* is a dummy variable with value 1 for the four largest cities in terms of population (Torino, Milano, Napoli, and Roma), and 0 otherwise. We control for the possibility that provinces with large Italian cities display relatively high entry rates.⁸ This is in line with Reilly’s Law (Reilly 1931) positing that the larger the city, the larger the trade area around it. Large metropolitan areas are likely to attract new firms to the surrounding area (Fotopoulos and Louri 2000). Other studies allude to the attractiveness of urban areas for new firm formation, including the “inner-city incubator” hypothesis by Vernon (1960) and the “filtering down” hypothesis by Thompson (1968). Reynolds et al. (1994) find that regional population density has a positive effect on the birth rate of firms (per population) in several countries, including Italy.
3. *vapc* is based on provincial value-added data. This variable controls for the fact that the north, south, and central parts of Italy differ in terms of level of development. Level of development may again be a proxy for a range of related factors and may, as such, be linked to new firm formation.
4. The presence of industrial districts is captured by the dummy *inddist* with value 1 for provinces with at least one industrial district (Source: Unioncamere) and 0 otherwise. There are 22 provinces with an *inddist*.⁹ It is likely that in regions with industrial districts, entry rates are higher. An industrial district can be seen as a local production system stimulating new firm formation by an accelerated process of labor division and specialization (Becattini 1990; Brusco 1982). Industrial

⁸Studies by Garofoli (1994) and Santarelli and Piergiovanni (1995) found contrasting evidence.

⁹Provinces with at least one important “traditional” (according to the definition used by Unioncamere) industrial district are Ascoli Piceno (shoes), Arezzo (golden jewelry), Avellino (leather), Bari (footwear), Biella (textiles – wool), Brescia (metal household artifacts and machinery for textile industry), Como (silk), Ferrara (mechanical engineering), Macerata (leather products), Mantova (stockings), Modena (knitwear and biomedical industry and ceramics), Pisa (leather), Pordenone (cutlery), Prato (textiles), Parma (ham), Pesaro-Urbino (furniture), Pavia (machinery for the footwear industry), Siena (furniture), Treviso (sporting footwear), Vicenza (leather), Verona (furniture), and Viterbo (ceramics). Note that the definition of industrial district used here excludes local systems dominated by “focal” or leading firms occupying strategic and central positions due to their extensive network of customers and suppliers (for a further specification, cf. Lazerson and Lorenzoni 1999).

districts tend to be characterized by many small firms that in turn subcontract production to other small firms (European Commission 2002: 24; Santarelli 2006).

5. The variable *wage* represents the regional (manufacturing) wage level (source: ISTAT). This is the only variable not available at the provincial level; it is available at the level of the 20 Italian regions. High wage levels are expected to have a negative effect on firm entry and a positive effect on firm exit. High wages imply high opportunity costs for the self-employed and also high wage costs when employing workers. Indeed, Ashcroft et al. (1991) show that average annual wages per employee has a negative influence on new firm formation at the county level in Great Britain.

Table 2.3 presents summary statistics (i.e., mean and standard deviation) for all variables included in the empirical analysis for the sectors Manufacturing, Construction, Commerce, Hotels and Restaurants, Transportation, and Financial Services.¹⁰ The Commerce sector includes retailing, wholesale, and repair. The Transportation sector includes transport, storage, and communication services. In Table 2.3, all variables are presented in terms of relative values: e , x , and $e - x$ denote entry, exit, and net entry, respectively [as defined in Eqs. (2.1a), (2.2a), and (2.3a)], at the aggregate level (total) and for each of the sectors taken into account. The statistics reported in the lower frame of Table 2.3 (policy, unemployment (U), growth, city, *vapc*, *inddist*, and *wage*) are the same for all sectors.

The values reported in Table 2.3 show that (net) entry and exit rates display some cross-industry variability. Entry is higher in Commerce, where entry barriers are low, but it is relatively high for Construction and Manufacturing. These sectors are also characterized by the highest exit rates, which indicate structural turbulence. Net entry is positive only for Construction and the Financial Services, while Commerce shows the highest exit rate.

2.6 Empirical Results

The empirical results from estimation of the models are reported in Tables 2.4–2.6, which refer to equations (2.1a), (2.2a), and (2.3a). We start with discussing the impact of policies on gross entry (e), exit (x), and net entry ($e - x$). We continue with the effect of unemployment and the other explanatory factors included in the analysis.

Entrepreneurship policies have a positive impact only in Construction and Transportation. We find no overall effect of entrepreneurship policies on total gross entry. The positive relationship between entrepreneurship policies and entry in the Construction sector is unsurprising because in the period under consideration this

¹⁰These are coded as sectors D, F, G, H, I, and J in the database Movimprese provided by Unioncamere.

Table 2.3 Descriptive statistics^a

	Total	Manufacturing	Construction	Commerce	Hotels and restaurants	Transportation	Financial services
E	13.97 (3.91)	1.59 (0.80)	2.41 (0.90)	3.75 (1.23)	0.75 (0.43)	0.43 (0.21)	0.45 (0.19)
X	11.09 (3.28)	1.77 (0.94)	1.74 (0.58)	4.07 (1.19)	0.79 (0.46)	0.54 (0.21)	0.32 (0.14)
e-x	2.88 (2.67)	-0.18 (0.45)	0.67 (0.56)	-0.32 (0.88)	-0.04 (0.27)	-0.11 (0.16)	0.13 (0.16)
Policy	1.616 (1.496)						
U	0.10 (0.08)						
Growth	0.05 (0.02)						
City	0.04 (0.19)						
Vapc	16.86 (4.29)						
Inddist	0.21 (0.41)						
Wage	3586.54 (4445.71)						

^a Average values are presented with the corresponding standard deviations in brackets. Average values are referred to 7-year periods.

Table 2.4 Results of the estimates for the entry model (1a)

	Total	Manufacturing	Construction	Commerce	Hotels and restaurants	Transportation	Financial services
D1997	18.16 (1.91)*	3.04 (0.40)*	2.30 (0.42)*	6.39 (0.62)*	0.95 (0.22)*	0.31 (3.30)*	0.48 (0.10)*
D1998	18.15 (1.94)*	3.17 (0.41)*	2.34 (0.42)*	6.29 (0.63)*	0.93 (0.26)*	0.27 (0.10)*	0.47 (0.10)*
D1999	21.32 (2.00)*	3.02 (0.42)*	2.38 (0.43)*	6.53 (0.65)*	0.80 (0.23)*	0.23 (0.10)*	0.52 (0.10)*
D2000	22.43 (2.04)*	2.93 (0.42)*	2.37 (0.44)*	7.13 (0.66)*	0.68 (0.24)*	0.23 (0.10)*	0.57 (0.10)*
D2001	22.76 (2.09)*	3.01 (0.44)*	2.42 (0.45)*	7.10 (0.68)*	0.67 (0.24)*	0.20 (0.10)*	0.53 (0.10)*
D2002	22.78 (2.13)*	2.96 (0.44)*	2.59 (0.46)*	7.16 (0.69)*	0.72 (0.25)*	0.16 (0.11)	0.40 (0.10)*
D2003	21.96 (2.17)*	2.85 (0.45)*	2.85 (0.45)*	7.04 (0.71)*	0.67 (0.25)*	0.12 (0.11)	0.30 (0.10)*
Policy	0.04 (0.36)	0.02 (0.02)	0.05 (0.02)*	-0.01 (0.03)	-0.01 (0.01)	0.01 (0.01)*	-0.01 (0.01)
U	-6.95 (3.53)*	-0.85 (0.74)	-3.29 (0.77)*	0.89 (1.15)	-0.90 (0.41)*	-0.15 (0.18)	-0.75 (0.16)*
Growth	3.90 (6.01)	0.92 (1.25)	-0.90 (1.31)	2.66 (1.95)	0.07 (0.70)	0.16 (0.30)	0.22 (0.28)
City	1.02 (0.74)	-0.19 (0.16)	-0.66 (0.16)*	0.62 (0.24)*	-0.29 (0.09)*	-0.01 (0.03)	-0.01 (0.03)
Inddist	0.45 (0.33)	0.52 (0.07)*	0.05 (0.07)	0.02 (0.11)	-0.14 (0.04)*	-0.03 (0.01)	0.02 (0.01)
Vapc	0.10 (0.07)	0.04 (0.01)*	0.05 (0.01)*	-0.07 (0.02)*	0.01 (0.01)	0.03 (0.01)*	0.01 (0.01)
Wage	-0.55 (0.11)*	-0.14 (0.02)*	-0.04 (0.02)*	-0.13 (0.04)*	-0.01 (0.01)	-0.01 (0.01)*	-0.01 (0.01)
R ² adj.	0.216	0.195	0.310	0.179	0.132	0.331	0.293
Mean	13.97	1.59	2.41	3.75	0.75	0.43	0.45

Note: Standard error in brackets. Number of observations = 721

*Significant at 5% confidence level

Table 2.5 Results of the estimates for the exit model (2a)

	Total	Manufacturing	Construction	Commerce	Hotels and restaurants	Transportation	Financial services
D1997	16.38 (1.67)*	3.23 (0.46)*	1.94 (0.30)*	7.39 (0.65)*	0.80 (0.23)*	0.66 (0.11)*	0.330 (0.06)*
D1998	15.00 (1.70)*	3.03 (0.47)*	1.64 (0.30)*	7.05 (0.66)*	0.70 (0.23)*	0.59 (0.11)*	0.31 (0.06)*
D1999	14.88 (1.75)*	2.93 (0.48)*	1.58 (0.31)*	7.20 (0.67)*	0.68 (0.24)*	0.55 (0.11)*	0.32 (0.07)*
D2000	14.96 (1.78)*	2.88 (0.49)*	1.61 (0.32)*	7.28 (0.69)*	0.65 (0.24)*	0.60 (0.12)*	0.33 (0.07)*
D2001	14.91 (1.83)*	2.86 (0.50)*	1.73 (0.33)*	7.18 (0.71)*	0.58 (0.25)*	0.54 (0.12)*	0.35 (0.07)*
D2002	15.71 (1.87)*	3.02 (0.51)*	1.80 (0.33)*	7.40 (0.72)*	0.59 (0.26)*	0.52 (0.12)*	0.40 (0.07)*
D2003	14.89 (1.90)*	2.94 (0.52)*	1.71 (0.34)*	7.17 (0.73)*	0.52 (0.26)*	0.48 (0.12)*	0.36 (0.07)*
Policy	0.01 (0.09)	0.02 (0.02)	0.01 (0.02)	-0.03 (0.03)	-0.01 (0.01)	0.01 (0.01)*	-0.01 (0.01)
U	-8.51 (3.10)*	-1.07 (0.85)	-1.70 (0.55)*	-2.56 (1.19)*	-1.27 (0.42)*	-0.04 (0.20)	-0.57 (0.12)*
Growth	-2.79 (5.26)	0.47 (1.44)	-1.19 (0.94)	-0.19 (2.03)	-0.41 (0.72)	0.27 (0.34)	-0.22 (0.20)
City	-0.07 (0.65)	-0.15 (0.18)	-0.37 (0.12)*	0.26 (0.25)	-0.39 (0.10)*	-0.02 (0.04)	-0.01 (0.02)
Vapc	0.19 (0.09)*	0.06 (0.02)*	0.02 (0.01)	-0.02 (0.02)	0.03 (0.01)*	0.02 (0.01)*	0.01 (0.01)*
Inddist	0.11 (0.29)	0.58 (0.08)*	-0.04 (0.05)	-0.16 (0.11)	-0.21 (0.04)*	-0.03 (0.01)	0.01 (0.01)
Wage	-0.41 (0.10)*	-0.15 (0.03)*	0.01 (0.01)	-0.16 (0.04)*	-0.01 (0.01)	-0.03 (0.01)*	-0.01 (0.01)
R ² adj.	0.164	0.232	0.152	0.060	0.181	0.224	0.330
Mean	11.09	1.77	1.74	4.07	0.79	0.54	0.32

Note: Standard error in brackets. Number of observations = 721

*Significant at 5% confidence level

Table 2.6 Results of the estimates for model of net entry (3a)

	Total	Manufacturing	Construction	Commerce	Hotels and restaurants	Transportation	Financial services
D1997	1.79 (0.95)	-0.19 (0.23)	0.36 (0.25)	-1.00 (0.40)*	0.13 (0.14)	-0.35 (0.09)*	0.14 (0.07)*
D1998	3.15 (0.97)*	0.14 (0.23)	0.70 (0.26)*	-0.75 (0.41)	0.23 (0.14)	-0.33 (0.09)*	0.16 (0.07)*
D1999	6.44 (1.00)*	0.09 (0.24)	0.80 (0.27)*	-0.67 (0.42)	0.12 (0.14)	-0.32 (0.09)*	0.20 (0.07)*
D2000	7.47 (1.02)*	0.04 (0.24)	0.76 (0.27)*	-0.15 (0.43)	0.02 (0.15)	-0.37 (0.09)*	0.24 (0.07)*
D2001	7.86 (1.04)*	0.14 (0.25)	0.70 (0.28)*	-0.08 (0.44)	0.09 (0.15)	-0.33 (0.09)*	0.18 (0.07)*
D2002	7.07 (1.07)*	-0.06 (0.26)	0.79 (0.28)*	-0.24 (0.45)	0.12 (0.15)	-0.36 (0.10)*	-0.01 (0.07)
D2003	7.07 (1.08)*	-0.06 (0.26)	0.76 (0.29)*	-0.16 (0.46)	0.15 (0.16)	-0.36 (0.10)*	-0.07 (0.07)
Policy	0.02 (0.05)	0.01 (0.01)	0.04 (0.01)*	0.03 (0.02)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
U	1.56 (1.77)	0.23 (0.42)	-1.59 (0.47)*	3.45 (0.75)*	0.37 (0.26)	-0.12 (0.16)	-0.18 (0.12)
Growth	6.69 (3.00)*	0.45 (0.72)	0.29 (0.80)	2.85 (1.27)*	0.47 (0.43)	-0.16 (0.27)	0.43 (0.21)*
City	1.08 (0.37)*	-0.04 (0.09)	-0.30 (0.10)*	0.37 (0.16)*	0.10 (0.05)	0.02 (0.03)	-0.01 (0.02)
Inddist	0.34 (0.17)*	-0.06 (0.04)	0.09 (0.04)*	0.18 (0.07)*	0.02 (0.02)*	0.01 (0.01)	0.01 (0.01)
Vapc	-0.07 (0.03)*	-0.03 (0.01)*	0.04 (0.01)*	-0.05 (0.01)*	-0.02 (0.01)*	0.01 (0.01)	-0.01 (0.01)*
Wag	-0.14 (0.06)*	0.01 (0.01)	-0.04 (0.01)*	-0.05 (0.01)*	0.01 (0.01)	0.01 (0.01)*	0.01 (0.01)
R ² adj.	0.588	0.150	0.343	0.314	0.16	0.06	0.450
Mean	2.88	-0.17	0.67	-0.32	-0.04	-0.11	0.13

Note: Standard error in brackets. Number of observations = 721

*Significant at 5% confidence level

sector was characterized by a high rate of new firm formation due to the introduction of tax benefits for renovations and, in particular, to the emergence of businesses previously active in the hidden economy. With respect to exit, the effect of entrepreneurship policies is not statistically significant, except for the Transportation sector where the effect is positive. Turning to net entry, the policy effect is significantly positive only for the Construction sector, confirming the importance of the “push” effect exerted by entrepreneurship policies on entry in this sector.

The effect of unemployment is negative and statistically significant for total gross entry and entry in Construction, Hotels and Restaurants, and Financial Services. We find no evidence for an unemployment push effect. The differences in unemployment across provinces as displayed in Table 2.2 are not accompanied by similar differences in entry rates. From Table 2.5, it appears that unemployment exerts a negative effect on exit in the majority of sectors, with the exception of Manufacturing and Transportation. Hence, the majority of the self-employed appear to be unwilling to exit in provinces where, given the high unemployment levels, there are lower chances of finding wage-employment. From Table 2.6, we see that unemployment has a significantly negative effect on net entry in Construction and a positive effect on net entry in the Commerce sector. The latter effect may be due to the large number of self-employed who, in the provinces with the highest unemployment rates, prefer *not* to close down their firms despite a depressed (local) economy. Hence, if there are no job alternatives available, marginal independent economic activity is preferred over receiving unemployment benefits.

The results for the parameters $a1997$ to $g2003$ clearly confirm the positive effect on entry of a relaxation of entry regulation in Commerce (i.e., the Bersani Law), with the estimated coefficients and their significance increasing between 1998 and 2002 in the (gross) entry equation (in Table 2.4). Since Commerce is the largest sector in terms of number of firms, the impact of deregulation on gross entry is also confirmed for total entry.

With respect to other explanatory variables, in Table 2.6, we see a positive effect of *Growth* on total net entry and entry in Commerce and Financial Services. In the four largest cities, net entry is higher in Commerce and lower in Construction. The result for the commercial sector confirms Reilly’s Law of large cities being attractive for retail and wholesale firms. *vapc* has a positive effect on gross entry in Manufacturing, Construction, and Transportation, whereas in the equation for Commerce, the coefficient is negative, confirming the defensive nature of the process of new firm formation in this sector. For net entry, *vapc* has a positive effect only in Construction, with negative effects in Manufacturing, Commerce, Hotels and Restaurants, and Financial Services. Evidently, in most sectors, the resident population in the affluent provinces prefers wage-employment over self-employment. As expected, industrial districts is an important determinant of gross entry in Manufacturing. With respect to net entry, the presence of industrial districts has a positive impact for total entry and for the Construction, Commerce, and Hotels and Restaurants sector. Finally, as hypothesized, higher wages clearly deter (gross) entry in the majority of sectors.

2.7 Conclusion

This chapter presents an empirical test of the effect of regional policies supporting entrepreneurship in Italy on entry, exit, and net entry at the provincial level for six selected sectors. The results show that entrepreneurship policies do not have the desired effect on firm entry. We have also analyzed the relationship between unemployment and business demographics. The influence of unemployment on entry, exit, and net entry seems to depend upon specific characteristics of the sectors analyzed, even though a prevalent negative impact of unemployment on both entry and exit has been found. This suggests a lack of dynamics in the Italian labor market where individuals (in particular, the self-employed) are unable or unwilling to switch between occupations.

The study has some limitations. The level of aggregation (sectoral level) is still relatively high. In addition, possible effects of adjacent provinces are not taken into account. Nevertheless, Santarelli et al. (2009) suggest that effects of these adjacent provinces are limited. In sum, the results are quite clear-cut across sectors: regional policies targeting entrepreneurship do not exert an impact on firm and sector dynamics and unemployment does not disappear by the unemployed disproportionately starting up new firms.

Appendix: List of the Regional Laws Supporting New Firm Formation

N.	N. of the law	Region	Field
1.	N. 16 of 02/03/1984	Piemonte	Cultural and entertainment services
2.	N. 56 of 01/12/1986	Piemonte	Innovation
3.	N. 28 of 14/06/1993	Piemonte	Job creation – support to disadvantaged population groups
4.	N. 21 of 09/05/1997	Piemonte	Handicraft
5.	N. 18 of 08/07/1999	Piemonte	Tourism
6.	N. 28 of 12/11/1999	Piemonte	Commerce
7.	N. 23 of 13/10/2004	Piemonte	Social cooperatives
8.	N. 41 of 06/06/1977	Valle d'Aosta	Handicraft
9.	N. 15 of 04/05/1994	Valle d'Aosta	Social cooperatives
10.	N. 22 of 05/04/1998	Valle d'Aosta	Small firms
11.	N. 68 of 10/12/1986	Lombardia	Youth entrepreneurship
12.	N. 36 of 27/06/1988	Lombardia	Tourism
13.	N. 9 of 27/04/1991	Lombardia	Job creation
14.	N. 215 of 25/02/1992	Lombardia	Female entrepreneurship
15.	N. 34 of 16/12/1996	Lombardia	Handicraft
16.	N. 35 of 16/12/1996	Lombardia	Small firms
17.	N. 18 of 10/09/1998	Lombardia	Youth entrepreneurship
18.	N. 1 of 15/01/1999	Lombardia	Youth entrepreneurship – support to disadvantaged population groups

(continued)

Appendix (continued)

N.	N. of the law	Region	Field
19.	N. 21 of 18/11/2003	Lombardia	Social cooperatives
20.	N. 1 of 13/05/1993	Bolzano	Social cooperatives
21.	N. 4 of 13/02/1997	Bolzano	Female entrepreneurship
22.	N. 4 of 03/04/1981	Trento	Job creation – industry
23.	N. 13 of 03/08/1987	Trento	Handicraft
24.	N. 6 of 13/12/1999	Trento	Job creation
25.	N. 3 of 22/03/2001	Trento	Industry, services, and handicraft
26.	N. 1 of 18/10/1999	Veneto	Commerce – tourism – small firms
27.	N. 57 of 24/12/1999	Veneto	Youth entrepreneurship
28.	N. 1 of 20/01/2000	Veneto	Innovation – female entrepreneurship
29.	N. 5 of 09/02/2001	Veneto	Youth and female entrepreneurship – social cooperatives.
30.	N. 34 of 22/11/2002	Veneto	Youth and female entrepreneurship – social cooperatives
31.	N. 38 of 24/11/2003	Veneto	Youth and female entrepreneurship – social cooperatives
32.	N. 29 of 26/11/2004	Veneto	Youth and female entrepreneurship – social cooperatives
33.	N. 19 of 26/11/2005	Veneto	Youth and female entrepreneurship – social cooperatives
34.	N. 1 of 14/01/1998	Friuli Venezia Giulia	Professional education
35.	N. 12 of 22/04/2002	Friuli Venezia Giulia	Handicraft
36.	N. 20 of 11/12/2003	Friuli Venezia Giulia	Job creation
37.	N. 1 of 26/01/2004	Friuli Venezia Giulia	Handicraft
38.	N. 3 of 22/01/1993	Liguria	Job creation – support to disadvantaged population
39.	N. 28 of 14/06/1993	Liguria	Handicraft
40.	N. 29 of 20/04/1995	Liguria	Small firms
41.	N. 19 of 17/03/2000	Liguria	Tourism
42.	N. 3 of 02/01/2003	Liguria	Handicraft
43.	N. 29 of 10/09/1987	Emilia Romagna	Job creation – youth entrepreneurship
44.	N. 14 of 21/02/1990	Emilia Romagna	Support to disadvantaged population groups
45.	N. 6 of 05/02/1992	Emilia Romagna	Industry, services, and handicraft
46.	N. 9 of 15/02/1994	Emilia Romagna	Innovation
47.	N. 38 of 05/09/1994	Emilia Romagna	Innovation
48.	N. 7 of 03/02/1995	Emilia Romagna	Innovation
49.	N. 25 of 10/04/1995	Emilia Romagna	Innovation
50.	N. 9 of 22/04/1996	Emilia Romagna	Innovation
51.	N. 7 of 24/04/1997	Emilia Romagna	Innovation
52.	N. 22 of 19/07/1997	Emilia Romagna	Innovation
53.	N. 13 of 23/04/1998	Emilia Romagna	Innovation
54.	N. 2 of 20/01/2004	Emilia Romagna	Enhance regional value creation
55.	N. 83 of 14/11/1988	Toscana	Job creation
56.	N. 27 of 26/04/1993	Toscana	Youth entrepreneurship
57.	N. 89 of 03/12/1997	Toscana	Youth entrepreneurship

(continued)

Appendix (continued)

N.	N. of the law	Region	Field
58.	N. 23 of 22/04/1998	Toscana	Youth entrepreneurship – agriculture
59.	N. 35 of 20/03/2000	Toscana	Job creation
60.	N. 2 of 26/01/2001	Toscana	Industry, services, and handicraft
61.	N. 58 of 19/12/2003	Toscana	Youth entrepreneurship
62.	N. 24 of 19/07/1988	Umbria	Youth entrepreneurship
63.	N. 12 of 23/03/1995	Umbria	Youth entrepreneurship
64.	N. 35 of 07/10/1987	Marche	Youth and female entrepreneurship
65.	N. 33 of 28/10/1991	Marche	Tourism
66.	N. 22 of 02/06/1992	Marche	Female entrepreneurship – family support services
67.	N. 22 of 09/09/1993	Marche	Youth and female entrepreneurship
68.	N. 34 of 12/04/1995	Marche	Youth entrepreneurship
69.	N. 31 of 20/05/1997	Marche	Job creation
70.	N. 33 of 20/05/1997	Marche	Handicraft
71.	N. 21 of 06/07/1998	Marche	Commerce – enhance regional value creation
72.	N. 32 of 30/11/1999	Marche	Job creation
73.	N. 35 of 19/12/2001	Marche	Industry, services, and handicraft
74.	N. 20 of 28/10/2003	Marche	Job creation
75.	N. 33 of 02/08/1991	Lazio	Innovation – ecocompatible activities
76.	N. 36 of 03/06/1992	Lazio	Job creation
77.	N. 29 of 25/07/1996	Lazio	Job creation
78.	N. 51 of 13/12/1996	Lazio	Female entrepreneurship
79.	N. 7 of 19/02/1998	Lazio	Handicraft
80.	N. 19 of 01/09/1999	Lazio	Industry, services, and handicraft
81.	N. 85 of 11/08/1994	Abruzzo	Job creation – social, health, and education services – support to disadvantaged population groups
82.	N. 95 of 02/05/1995	Abruzzo	Job creation – family support services
83.	N. 143 of 2/12/1995	Abruzzo	Innovation – female entrepreneurship
84.	N. 136 of 17/12/1996	Abruzzo	Youth entrepreneurship – ecocompatible activities
85.	N. 34 of 09/04/1997	Abruzzo	Training for reentry in the labor market
86.	N. 55 of 10/07/1998	Abruzzo	Job creation
87.	N. 77 of 28/04/2000	Abruzzo	Tourism
88.	N. 16 of 20/07/2002	Abruzzo	Job creation
89.	N. 24 of 08/05/1995	Molise	Job creation – small firms
90.	N. 45 of 24/12/2002	Molise	Industry, services, and handicraft
91.	N. 1 of 09/01/2004	Molise	Industry, services, and handicraft
92.	N. 34 of 4/5/1981	Campania	Commerce
93.	N. 40 of 28/08/1984	Campania	Tourism
94.	N. 28 of 31/08/1993	Campania	Job creation
95.	N. 9 of 29/04/1996	Campania	Job creation
96.	N. 15 of 26/07/2002	Campania	Job creation

(continued)

Appendix (continued)

N.	N. of the law	Region	Field
97.	N. 23 of 28/12/2005	Campania	Youth entrepreneurship – support to disadvantaged population groups
98.	N. 53 of 04/11/1996	Basilicata	Computerization
99.	N. 1 of 07/01/1998	Basilicata	Job creation – youth entrepreneurship
100.	N. 26 of 09/03/1984	Calabria	Tourism (hot springs)
101.	N. 17 of 09/04/1990	Calabria	Support to disadvantaged population groups
102.	N. 18 of 30/07/1996	Calabria	Job creation – socially useful jobs
103.	N. 8 of 03/03/2000	Calabria	Computerization
104.	N. 17 of 03/05/2001	Calabria	New economy
105.	N. 27 of 12/11/2004	Calabria	Fishing and enhance regional value creation
106.	N. 16 of 11/08/1983	Sardegna	Social cooperatives
107.	N. 17 of 20/04/1993	Sardegna	Industry, services, and handicraft
108.	N. 21 of 28/04/1993	Sardegna	Industry
109.	N. 51 of 19/10/1993	Sardegna	Handicraft
110.	N. 18 of 23/06/1998	Sardegna	Agritourism
111.	N. 7 of 21/4/2005	Sardegna	Female entrepreneurship

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Leitão, J.; Baptista, R. (Eds.)

2009, XVIII, 282 p. 22 illus., Hardcover

ISBN: 978-1-4419-0248-1