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KEYWORDS

SMEs | Legality Rating | Public Procurement

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D44, H57, K40

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Discussion Paper Series

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Discussion paper n. 29/2025

Andrea Fazio (a); Erminia Florio (b); Gustavo Piga (b): (a) Marche Polytechnic University; (b) University of Rome Tor Vergata

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SMEs performance in public procurement and the Italian Legality Rating *

Andrea Fazio† Erminia Florio‡ Gustavo Piga§

June 10, 2025

Abstract

This study investigates the impact of the Italian Legality Rating (LR) on small and medium enterprises (SMEs) in public procurement. The LR, issued by the Italian Competition Authority, evaluates firms based on fiscal transparency, anti-corruption practices, corporate responsibility, and sustainability. While larger firms are more likely to obtain higher LR scores, SMEs benefit significantly from holding the certification. Using firm-level data and a Regression Discontinuity Design, we find that the LR doubles SMEs' tender-winning probabilities, highlighting its role as a strong institutional signal. Our findings emphasize the LR's potential to enhance SME competitiveness in public procurement.

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1 Introduction

A key goal of institutions is to guarantee legality in the business sector. This is especially the case when businesses are contractualized by public entities as in the case of public procurement (Chiappinelli, 2022; Chiappinelli et al., 2024, 2019; Maréchal and Morand, 2022; Montiel et al., 2019). To guarantee legality and the spread of virtuous practices concerning safety regulations, sustainable standards, and fiscal transparency, governments may require the enterprises to hold certifications showing their compliance.

In Italy, one such certification is the Legality Rating (LR). The LR is an institutional tool elaborated by the Italian Competition Authority and its aim is to rate the legality of Italian Enterprises in terms of fiscal transparency, adoption of anti-corruption practices, attention to social corporate responsibility, green practices, and safety regulations. Enterprises holding the LR can benefit from advantages in public tenders, such as improved evaluation scores, and easier access to credit from public financial institutions (Iossa and Mattonai, 2023; Main, 2023; Manaresi et al., 2022).

To get the LR firms apply by filling out an online request, where they need to show their indicators of fiscal transparency, involvement in sustainable practices, anti-corruption etc. Each firm that receives the LR also gets a score. The score of the LR ranges from a minimum of one star (*) to a maximum of three stars (***). To get the minimum score, the enterprise must comply with the basic requirements on fiscal discipline, transparency of the records, and compliance with the health and safety regulations. The score can then be increased by providing evidence of an organizational model to prevent corruption and/or sustainable and green standards.

There is a wide theoretical and empirical literature on firm certifications (Dranove and Jin, 2010; Farhi et al., 2013; Hui et al., 2023a,b). Such certifications can serve as indicators of a firm's quality, helping to address the challenge of unverifiable quality, particularly for firms that have not previously secured contracts (Albano et al., 2017; Lewis and Sappington, 1991). However, these certifications may also add complexity to the procurement process. Even if legal frameworks do not formally disqualify bidders lacking specific certifications, procurement entities may effectively exclude them in practice thus disadvantaging certain bidders and potentially diminishing the overall quality of procurement outcomes (Bosio et al., 2022).

Larger firms may find it more easily to obtain the LR and achieve higher scores compared to smaller firms, as they can typically signal their quality more effectively (Fikru, 2014; Goel and Nelson, 2020; Terlaak and King, 2006). However, the literature suggests that certifications may marginally benefit small firms (Ullah, 2022). Hence, whether the LR is beneficial to small enterprises or whether it further increases small business costs for getting public contracts is a, so far, unexplored topic.

In this paper, we aim to answer this question by investigating the effect of the LR on small and medium enterprises (SMEs). In detail, we try to understand whether SMEs perform worse in the LR with respect to larger firms, and we try to understand whether having or not the LR may increase the probability of SMEs in winning public tenders.

We build a unique dataset merging firm-level information with data on the LR and public procurement awards. We first present descriptive evidence suggesting that SMEs are less likely to get the LR with respect to bigger enterprises. We then investigate the effect of LR on the winning probability of public tenders. Again, we start with a descriptive analysis showing that SMEs are less likely to win public tenders, and that the LR has a positive effect on winning probabilities of both SMEs and non-SMEs.

We dig deeper into the relationship between LR and winning probabilities, trying to establish possible causal effects. Exploiting the fact that only firms with a revenues level of 2 million may apply for the LR, we employ a Regression Discontinuity Design (Calonico et al., 2014) to unravel the causal effect of LR on public tenders winning probabilities. We find a positive and significant effect of the LR among SMEs; this effect is smaller on the overall sample, but is still sizeable and significant. Specifically, SMEs holding the LR experience an increase in winning probabilities by 1,4 p.p., meaning that the probability of winning an auction doubles. We also find that the effect on the overall sample is around 53% of the average.

Overall, our results suggest that the LR may be more difficult to acquire for SMEs when compared with larger firms. However, these tools become a strong signal for public institutions that are more likely to reward and select SMEs holding the LR. Our results suggest that SMEs are those who may benefit more from the LR as it becomes a clear signal of legality. Things are less pronounced for bigger firms, where additional certifications may be used to show one's firm compliance and ethics (Drempetic et al., 2020), possibly reducing the risk aversion that characterizes public buyers when dealing with less

experienced and/or smaller suppliers.

Our results contribute to three strands of the literature.

First, we relate to the literature investigating the effects of the LR introduction on procurement outcomes and firm behavior (Becchetti et al., 2024; DeBenedetto et al., 2024; La Rosa and Bernini, 2021). Iossa and Latour (2023) investigate the effects of the Legality Rating, showing that a higher rating is associated with better procurement performance. Specifically, the authors find that higher legality scores are positively associated with lower time delays and extra costs. DeBenedetto et al. (2024) find a positive relationship between legality rating and firms' production efficiency, suggesting that the LR may help promote productivity and legality of the business sector. Close to our spirit, Pizzo (2024) shows that the LR increases both participation and efficiency in public procurement. However, the author finds that most of the results are driven by the firms holding a high score in the LR. We contribute to this literature by specifically investigating how firm size correlates with the LR. Also, we show that although getting both the LR and a higher score of the LR is more difficult for smaller firms, SMEs are the ones who get more benefits from the LR introduction when it comes to participation in public procurement.

We add to the literature investigating the effects of certifications on firms performance (Auriol and Schilizzi, 2015; Goedhuys and Sleuwaegen, 2013; Marinovic et al., 2018). Martí and Quas (2018) find that government certification helps SMEs secure bank financing by signaling credibility and reliability to lenders. The certification reduces information asymmetry, making banks more likely to lend to certified SMEs. Calza and Goedhuys (2021) show that domestic standards certification promotes growth in Vietnamese small firms by enhancing productivity and market access. Certification improves firms' credibility, aiding their competitive standing. Our results contribute to this literature by showing that certifications designed by the institutions may be particularly beneficial to SMEs, although they may be harder to get.

Last we contribute to the literature studying SMEs participation in public procurement (De Silva et al., 2012; Nakabayashi, 2013; Nemec, 2024; Shagbazian et al., 2024). Hoekman and Taş (2020) analyze how procurement policies impact SME participation in public purchasing, finding that tailored policies, such as simplified procedures and set-asides, significantly increase SME engagement in public contracts. Hoekman and Taş (2024) examine the role of discretion in European public procurement processes, finding that

allowing discretionary decision-making can improve procurement outcomes by fostering flexibility and efficiency. However, they also note risks of favoritism and reduced transparency, suggesting that discretion must be carefully managed to balance efficiency with accountability.

Cappelletti and Giuffrida (2024) analyzes set-aside programs in government procurement, finding that while these increase competition by attracting targeted firms, they often lead to cost overruns and delays. The authors highlight inefficiencies due to adverse selection and moral hazard. We add to this literature by showing the effects of institutional certifications on public procurement performance.

The paper develops as follows: Section 2 depicts the data, Section 3 shows the empirical strategy, in Section 4 we present the Results and the robustness tests, Section 5 offers a brief discussion of the results and concludes.

2 Data

2.1 The Legality Rating

The first dataset we use comes from the Italian Competition Authority (AGCM) and includes firm-level data on Legality Rating (LR). The LR is an indicator that reflects a company's adherence to high legal standards and its commitment to responsible business management. It has been introduced with Article 5-ter in the Decree Law 1/2012. Companies that apply for it receive a score ranging from one to three stars. A base score of one star is awarded if the company meets all the requirements outlined in Article 2 of the Regulation on legality ratings, adopted by resolution no. 28361 on July 28, 2020. The base score can increase by one "+" for each additional requirement met under Article 3 of the Regulation. Accumulating three "+" results in an additional star, up to a maximum of three stars. In addition to the basic requirements listed in the Regulation, companies must meet the following requirements to apply for the LR:

- be registered office located in Italy;
- have minimum revenues of 2 million Euros in the year preceding the year of request;
- be registered in the Business Register or in the Economic and Administrative Index (in Italian REA or Repertorio delle notizie Economiche e Amministrative) for at least two years before the application date.

For each firm that applies for a Legality Rating (LR), the AGCM provides a dataset linking the rating outcome and the decision date with the firm's name and fiscal identifier. We use this dataset for the period 2013–2022. The LR remains valid for two years from issuance, and firms may request a renewal upon expiration. Moreover, there is no monetary cost for companies to obtain the LR. According to the AGCM, the main advantage of obtaining an LR is reputational (Autorità Garante della Concorrenza e del Mercato, 2022). However, it is important to note that the LR does not attest to technical or organizational prerequisites; therefore, contracting authorities cannot use it to exclude firms from tendering processes.[1]

[1]In Resolution 101 of February 7, 2018, the Italian Anti-Corruption Authority declared that a tender requiring the LR among the technical and organizational prerequisites for bidders was non-compliant

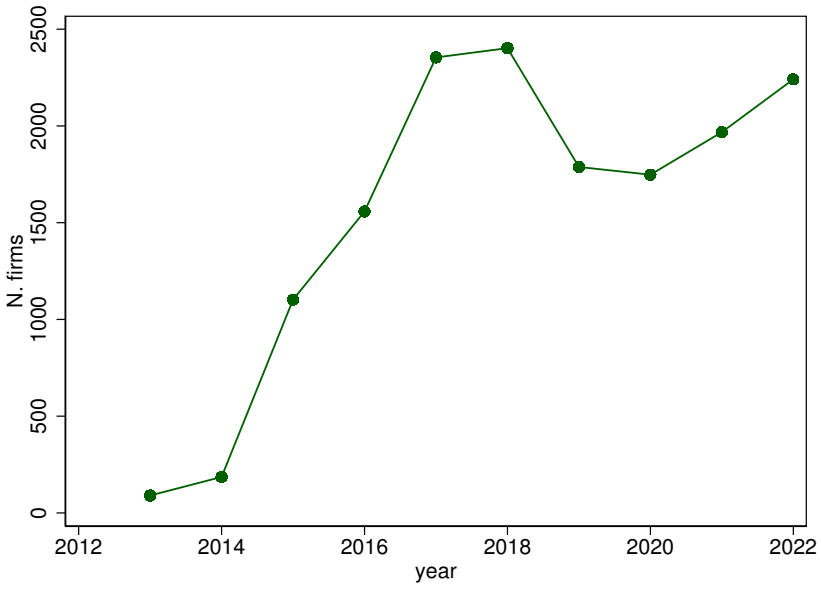


Figure 1: New firms with Legality Rating in Italy

Figure 1 shows the number of firms obtaining the LR for the first time. In total, almost 16,000 Italian companies have obtained the LR over the years 2013-2022.

2.2 Firm characteristics

The second dataset used is AIDA (Analisi Informatizzata delle Aziende Italiane or the Italian company information and business intelligence) from the Bureau van Dijk, which provides detailed firm-level balance sheets and firm characteristics on the universe of Italian corporations and limited liability companies for the years 2013-2022 (covering around 2 million firms per year). First, we define Small and Medium Enterprises (SMEs) as enterprises with less than 50 employees and revenues below 5 million Euros.[2]

We match firms by their Fiscal Code with the LR dataset to identify firms with LR by year. Figure 2 illustrates the distribution of the LR by firm size (SMEs vs. non-SMEs – only for firms with LR) and reveals that, while non-SMEs tend to have high or very high scores, SMEs usually have lower scores.

with the law.

[2]We employ two alternative definitions of SMEs: enterprises with less than 25 employees and enterprises with revenues below 5 million Euros.

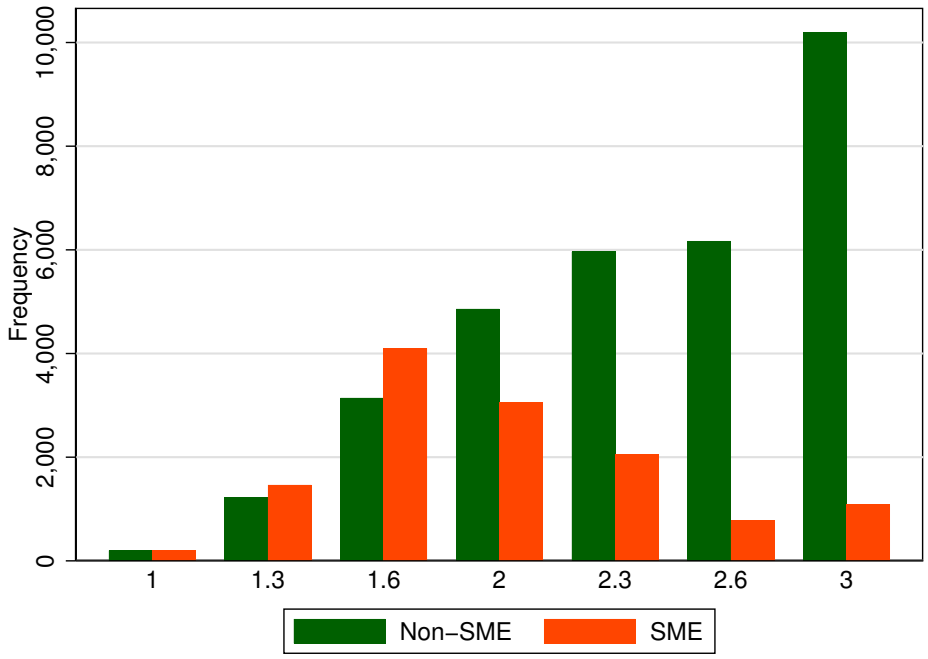


Figure 2: Rating Score distribution

2.3 Italian procurement data

The third dataset is publicly provided by the Italian Anti-Corruption Authority and covers contract-level data on participating and winning firms in Italian public procurement tenders above 40,000 Euros. We use procurement data for the years 2013-2022. The dataset covers 34,290 unique tenders and it includes the winner for 26,627 tenders. To match procurement data with firm data, we use the companies' Fiscal Code and the date of adjudication of the contract.

2.4 Descriptive statistics

Table 1 displays the summary statistics for SMEs and non-SMEs. The share of SMEs with LR is less than half the share of non-SMEs with LR (0.07 vs. 0.17) and, consistent with Figure 2, their average value of LR is lower (1.886 vs. 2.375). Moreover, SMEs display higher participation in restricted auctions (0.38 vs. 0.25) and lower participation in direct tenders (0.30 vs. 0.46) than non-SMEs. Finally, while both types of firms display a similar average age of the board, SMEs have a lower average share of women in the board.

Table 1: Descriptive statistics for SMEs and non-SMEs

Variable	Mean	Std. Dev.	N
SMEs			
Dummy for rating	0.07	0.255	645968
Value of rating	1.886	0.481	45064
Winning firm	0.015	0.121	645968
Open auction	0.187	0.39	645968
Restricted auction	0.383	0.486	645968
Direct	0.299	0.458	645968
Age of the board	54.865	9.138	589486
Share of Women in the Board	0.189	0.29	589684
Employees	16.181	175.142	601267
Revenues	3298.995	22356.42	601271
Profits	123.487	2923.623	601271
Wages	597.505	7746.83	601471
Turnover per employee	7.918	10.596	601113
Value added	62550.472	53617.766	601101
Non-SMEs			
Dummy for rating	0.172	0.378	852729
Value of rating	2.375	0.556	147088
Winning firm	0.016	0.124	852729
Open auction	0.167	0.373	852729
Restricted auction	0.256	0.436	852729
Direct	0.459	0.498	852729
Age of the board	54.058	4.582	810402
Share of Women in the Board	0.263	0.172	810409
Employees	1393.146	7607.531	803755
Revenues	597051.89	2148950.436	803757
Profits	15568.918	417362.573	803757
Wages	59843.904	268018.597	803956
Turnover per employee	9.863	13.777	803584
Value added	116435.995	85258.353	803642

Note: Revenues, profits, wages, turnover per employee, and value added are expressed in thousands of Euros.

3 Empirical framework

Our investigation aims to understand the effect of the Legality Rating (LR) on Small and Medium Enterprises (SMEs). Specifically, we try to understand whether SMEs have a lower probability of getting the LR and we also study whether the LR may be an advantage for SMEs in public tenders. As explained above we define SMEs as those enterprises with less than 50 employees and revenues below 5 million Euros. In the robustness, we also test our results with alternative definitions.

We first investigate the relationship between firm size and the probability of getting the LR employing a linear probability model as in equation 1.

$$RatingDummy_{imts} = \beta_0 + \beta_1 SMEs_{imts} + \delta_m + \gamma_t + \theta_s + \epsilon_{imts} \quad (1)$$

Where $RatingDummy_{imts}$ is a dummy variable taking a value equal to one if the firm has the LR and zero otherwise, $SMEs_{imts}$ is our variable of interest, tanking a value equal to one if the firm is a SMEs and zero otherwise, $\beta_2 X_i$ controls for firm-specific characteristics such as the share of females in the board and the average age of the board, δ_m, γ_t, θ_s control for municipality, time and sector fixed effect, and ϵ_{imts} is the error term.

With this exercise, we try to understand whether the differences displayed in Table 1 and Figure 2 are driven by specific sectors or municipalities.

We then investigate the differences between SMEs and non-SMEs in the probability of winning a public tender, and how and if the LR may increase winning probabilities. For this purpose, we first run an equation similar to equation 1, where the dependent variable is winning probabilities.

Running a simple linear probability model does not properly address endogeneity concerns though. We may find that the effect (if any) of the LR on winning probabilities of public tenders is driven by a spurious correlation between firm size and winning probabilities. In fact, larger companies may obtain the LR more easily and may also have a higher likelihood of being awarded procurement contracts even in the absence of the LR. To mitigate these concerns, we employ a Regression Discontinuity (RDD) approach. Specifically, we exploit the 2 million Euros revenue requirement to apply for the LR. The intuition behind our empirical strategy is to compare firms just above the threshold the

year before obtaining the LR for the first time, with firms that had revenues just below the threshold and could not apply for the LR. Therefore, treated firms at time t are those with no LR in the preceding year (but who are eligible to get the LR since they have revenues above or equal 2M) and, once they obtain LR, they are considered as treated in all subsequent years. Untreated firms, instead, are those with no LR at time t. To select the window, we estimate the optimal bandwidth following Calonico et al. (2014). We estimate the following equation in the RDD-refined sample:

$$y_{pit} = \beta_0 + \beta_1 Rating\ Dummy_{it} + \delta_r + \gamma_t + \theta_s + \nu_c + \beta_2 X_i + \beta_3 Z_p + \epsilon_{pit} \tag{2}$$

where y_{pit} is the dummy for firm i winning procurement tender p in year t. We control for region, time, sector, and contracting authority fixed effects. Further, we include turnover per employee and value-added as firm-level controls ($\beta_2 X_i$) and we control whether auctions are restricted or open ($\beta_3 Z_p$).

4 Results

Table 2 shows the relationship between firm size and the probability of getting the Legality Rating (LR) over the years 2014-2022[3]. Results suggest that Small and Medium Enterprises (SMEs) are less likely to get the LR (column 1).

In Table 3 we investigate the relationships between firm size and being awarded a tender. Column 1 of Table 3 reveals that SMEs are 8 p.p. less likely to be awarded a public procurement tender (60 % of the mean value). We further analyze the association between LR and winning a procurement tender in columns 2–4 of Table 3. Companies with the LR are 0.6 p.p. more likely to be awarded procurement contracts, with non-SMEs having LR being less likely to win than SMEs having the LR (see columns 3 and 4).

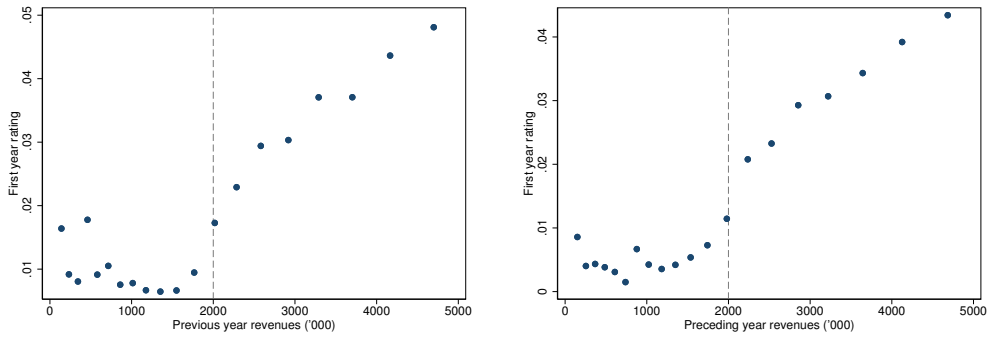
Results in Tables 2 and 3 are, however, mainly descriptive. Hence, as explained in the previous section, to better understand the effect of the LR on the probability of winning public procurement contracts we employ a Regression Discontinuity Approach leveraging on the 2 million threshold needed to apply for getting the LR.

Column 2 in Table 2 already shows that the threshold is a predictor of the LR. In detail,

[3]We remove the year 2013 from the analysis as companies with LR were too few.

firms with Revenues above the 2 million threshold are 0.8 p.p. more likely to have LR. SMEs with revenues above the threshold have less winning probabilities compared to non-SMEs, but are more likely to win compared to SMEs with revenues below the threshold. In line with this evidence, Figure 3 shows the scatterplots of previous year revenues and the dummy for having first obtained the LR for all firms (panel a) and SMEs (panel b). Both figures display a clear discontinuity at the threshold. We further check the distribution of the previous year's revenues by showing the McCrary density test and the histogram around the discontinuity. Figure 4 shows that the distribution is continuous around the 2 million Euros threshold, suggesting that there is no manipulation around the threshold. We also display the histograms of the revenues' distribution for both SMEs and non-SMEs in Figure 5. Both distributions show no discontinuity around the threshold. Last, we show in Figure 6 the scatterplots of different firm-level measures around the threshold: none of them displays a discontinuity at the 2 million Euros threshold.

Table 4 shows the results of our Regression Discontinuity estimation. We find that the LR has a causal effect on winning probabilities in general (see column 1). However, when we focus on SMEs, the probability of being awarded a procurement contract double. Therefore, our results suggest that the LR does causally influence the probability of winning overall, but most of the effect depends on smaller firms, which may use this certification to signal their quality.



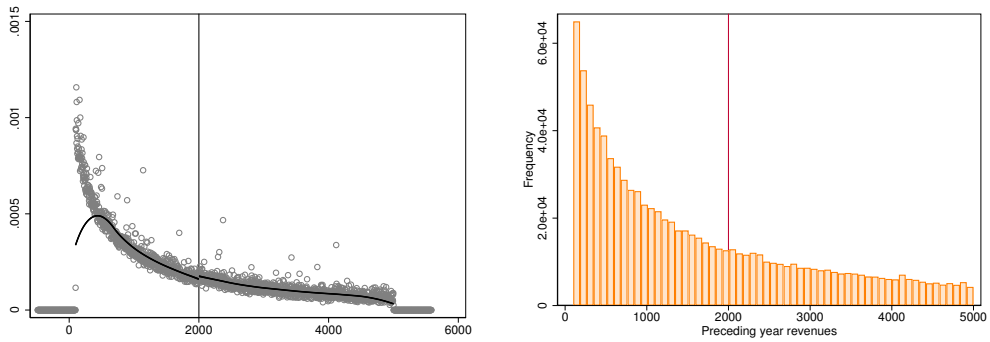
(a) All firms (b) SMEs

Figure 3: New firms with LR and preceding year revenues

Table 2: Legality Rating predictors

	(1)	(2)
	Rating Dummy	Rating Dummy
Revenues ≥2M		0.008***
		(0.000)
SME	-0.008***	-0.003***
	(0.000)	(0.000)
Revenues ≥2M × SME		-0.005***
		(0.000)
Observations	12,884,863	12,884,863
Firm-level Controls	Yes	Yes
Year F.E.	Yes	Yes
Municipality F.E.	Yes	Yes
Sector F.E.	Yes	Yes
R-squared	0.006	0.007
Mean Dep. Var.	.0008	.0013

Note:Firm-level controls include value added, wages, profits, the share of women in the board, the share under 40 in the board, and the age of the board. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1



(a) McCrary Density test

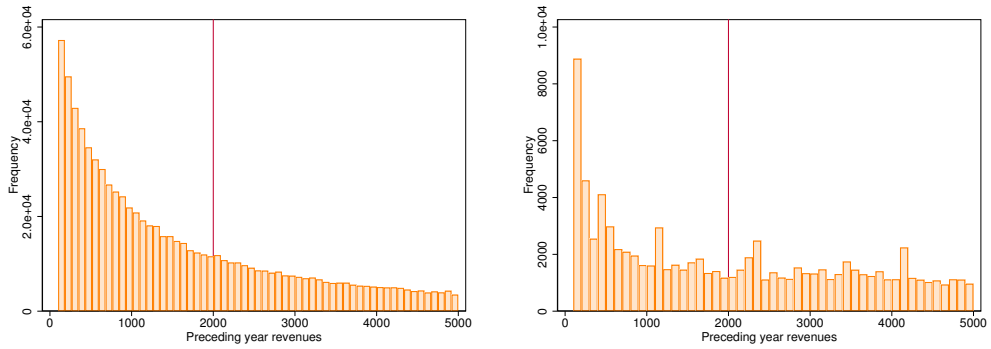
(b) Histogram

Figure 4: Distribution of preceding year revenues around the 2 million Euros threshold

Table 3: SMEs and Public Procurement

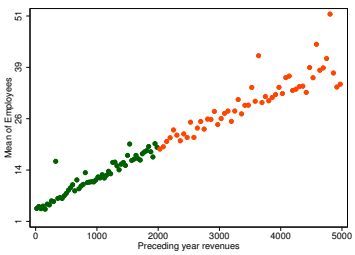
	(1) Winning firm	(2) Winning firm	(3) Winning firm - SMEs	(4) Winning firm - Non-SMEs
SME	-0.005***			
	(0.001)			
Dummy for rating		0.006***	0.009***	0.003*
		(0.001)	(0.001)	(0.002)
Observations	1,302,954	1,302,954	554,589	745,307
R-squared	0.092	0.092	0.079	0.119
Firm-Level Controls	Yes	Yes		
Auction Controls	Yes	Yes		
Region F.E.	Yes	Yes	Yes	Yes
Publication year F.E.	Yes	Yes	Yes	Yes
Sector F.E.	Yes	Yes	Yes	Yes
Mean Dep. Var.	0.0173	0.0173	0.0169	0.0177

Note: Firm-level controls include turnover per employee and value-added. Auction controls include whether the auction is restricted or open. Robust standard errors clustered at sector level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

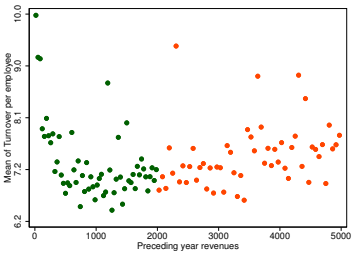


(a) SMEs (b) Non-SMEs

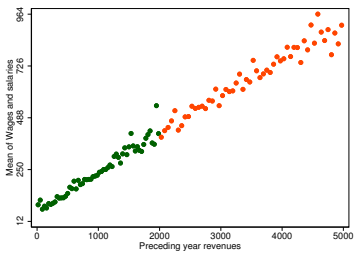
Figure 5: Distribution of preceding year revenues around the threshold: SMEs vs. non-SMEs



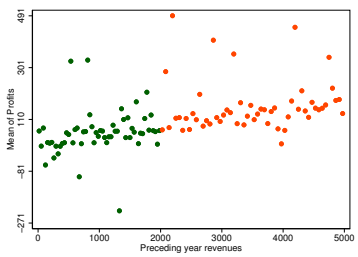
(a) Employees



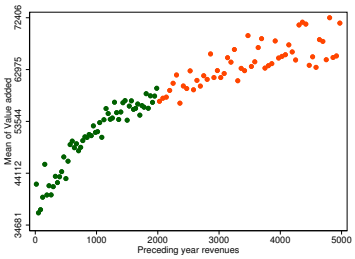
(b) Turnover per employee



(c) Wages and salaries



(d) Profits



(e) Value added

Figure 6: Scatterplots of firm-level measures

Table 4: Legality Rating and Public Procurement – RDD

	(1)	(2)
	All Firms	SMEs
Dummy for rating	0.008**	0.014***
	(0.004)	(0.004)
Observations	320,180	137,455
R-squared	0.200	0.133
Firm-Level Controls	Yes	Yes
Auction Controls	Yes	Yes
Region F.E.	Yes	Yes
Publication year F.E.	Yes	Yes
Sector F.E.	Yes	Yes
Mean Dep. Var.	0.0245	0.0191
Bandwidth	1656	663.7

Note: Firm-level controls include turnover per employee and value-added. Auction controls include whether the auction is restricted or open. Robust standard errors clustered at sector level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

4.1 Robustness checks

In this subsection, we run some robustness checks of our main results.

Alternative definitions of SMEs As a first check of the validity of our main result, we perform additional regressions of equation 1 using two alternative definitions of SMEs. Table 5 shows the results when defining SMEs as those with employees below 25 (column 1) and SMEs as those with revenues below 5 million Euros (column 2). We find that the results are robust to both definitions, with coefficients very close to Table 4.

Table 5: Legality Rating and Public Procurement – RDD

	(1)	(2)
	SMEs below 25 employees	SMEs below 5M revenues
	Winning firm	Winning firm
Dummy for rating	0.019***	0.013**
	(0.006)	(0.006)
Observations	184,030	145,478
R-squared	0.124	0.131
Firm-level Controls	Yes	Yes
Auction Controls	Yes	Yes
Region F.E.	Yes	Yes
Publication year F.E.	Yes	Yes
Sector F.E.	Yes	Yes
Mean Dep. Var.	0.0175	0.0172
Bandwidth	980.8	713.3

Note: Firm-level controls include turnover per employee and value-added. Auction controls include whether the auction is restricted or open. Robust standard errors clustered at sector level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Winsorizing revenues We check the robustness of our results by winsorizing previous year revenues at 5 and 95% and at 10 and 90%. Tables 6 and 7 show the results of

our robustness checks. While the coefficient in Table 6 loses statistical significance, it still remains consistent with our main results. Furthermore, Table 7 shows that when winsorizing at 10 and 90 %. Results are similar to our main findings.

Table 6: Legality Rating and Public Procurement – RDD Winsorizing revenues at 5 and 95%

	(1)	(2)
	All Firms	SMEs
	Winning firm	Winning firm
Dummy for rating	0.007*	0.010***
	(0.004)	(0.004)
Observations	224,757	180,754
R-squared	0.231	0.120
Firm-level Controls	Yes	Yes
Auction Controls	Yes	Yes
Region F.E.	Yes	Yes
Publication year F.E.	Yes	Yes
Sector F.E.	Yes	Yes
Mean Dep. Var.	0.0272	0.0175
Bandwidth	901.2	912.4

Note: Firm-level controls include turnover per employee and value-added. Auction controls include whether the auction is restricted or open. Robust standard errors clustered at sector level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 7: Legality Rating and Public Procurement – RDD Winsorizing revenues at 10 and 90%

	(1)	(2)
	All Firms	SMEs
	Winning firm	Winning firm
Dummy for rating	0.009*	0.018***
	(0.005)	(0.005)
Observations	120,702	103,508
R-squared	0.293	0.148
Firm-level Controls	Yes	Yes
Auction Controls	Yes	Yes
Region F.E.	Yes	Yes
Publication year F.E.	Yes	Yes
Sector F.E.	Yes	Yes
Mean Dep. Var.	0.0345	0.0199
Bandwidth	352.5	443.2

Note: Firm-level controls include turnover per employee and value-added. Auction controls include whether the auction is restricted or open. Robust standard errors clustered at sector level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

5 Discussion and conclusion

Certifications are increasingly used by governments and institutions to guarantee firms' compliance. In the last decade, the Italian Competition Authority (AGCM) introduced the Legality Rating (LR), a certification that evaluates firms' compliance with safety regulations, fiscal transparency, anti-corruption practices, and sustainable and green standards. Firms holding the Legality Rating 'have the right to access benefits when they request public or bank funding and when they participate in public procurement tenders' (Autorità Garante della Concorrenza e del Mercato, 2022).

Ethical and legal certifications are usually less costly for bigger firms (Drempetic et al., 2020), hence in this paper we investigate the effect of the LR on SMEs. First, we find a negative correlation between firm size and the LR, meaning that SMEs are less likely to get the LR and that they are less likely to get a higher score if compared with bigger firms. Descriptively, we also find that SMEs are less likely to win public tenders and that holding the LR may increase winning probabilities.

We exploit the fact that only firms with a level of 2 million revenues can request the LR to delve deeper into possible causal relationships between the LR and public tender winning probabilities. Employing a Regression Discontinuity Design (RDD), we show that SMEs holding the LR are 1.4 percentage points more likely to win public tenders. The same holds for the whole sample, but with a much smaller magnitude. Our results are robust to alternative definitions of SMEs and different levels of winsorization.

We interpret our results in light of the literature showing that certifications are signals that reduce information asymmetries (Asseyer and Weksler, 2024; Etilé and Teyssier, 2016; Terlaak and King, 2006). The LR may be viewed by the authorities as a clear signal of compliance and legality, as a result, SMEs holding the legality rating may be particularly advantaged by holding this certification. The same applies to a lesser extent to bigger firms, as information asymmetries are particularly higher for small enterprises (Martí and Quas, 2018).

Our findings add a tile to the current debate about SMEs participation in public procurement and institutional certifications (Hoekman and Taş, 2020, 2024; Pizzo, 2024) by showing that certifications such as the LR are more difficult to achieve for SMEs. However, SMEs are also those who benefit more from this kind of certification, at least when

looking at public procurement winning probabilities. Further research is needed to understand whether the effects of the LR may then improve overall efficiency. As a policy implication of our study, the government might perhaps create an alternative certification for very small firms (e.g., those with revenues below 2 million Euros), not to be further penalized in the public procurement process by the introduction of tools as the LR. Cappelletti et al. (2024) show that winning public procurement may help firms survival. Is the LR a way in which only the most productive and virtuous firms are helped to survive?

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