

# **The Role of Creditor Protection in Lending and Tax Avoidance**

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## **Online Appendix**

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## 1. Italian bankruptcy reforms

### 1.1 Preliminary analysis

To provide empirical evidence on the role of creditor protection on lending and tax avoidance, we exploit four bankruptcy reforms in Italy that either weakened or strengthened creditor rights over the period 2003–2011. Figure A1 illustrates the timeline of the bankruptcy reform process over the sample period. Before proceeding, we perform two analyses to examine the institutional setting upon which we base our empirical tests. First, we collect data on the approval process of the reforms from the Italian Parliament’s website (<https://www.normattiva.it>) to ensure that there was strong political support to amend the 1942 Bankruptcy Code and no uncertainty about the completion of the reforms. Table A1 shows that all reforms were approved by a vast majority of the parliament members, or a large majority of government members if the government received a parliamentary mandate to act on its behalf. Specifically, the average approval rate in the House of Representatives (Senate) is about 55% (58%) over the sample period.

Second, to alleviate the concern that other policy changes passed around the reforms could drive our results, we gather information on laws and decrees that were passed around each reform from the Italian Parliament’s website. Specifically, we perform a systematic keyword search to filter relevant laws and decrees using the following keywords: *firms*, *corporate tax*, *corporate income tax*, and *corporate law*.<sup>1</sup> This process yields 91 unique laws and decrees. We then read each law and decree and conclude that there were no significant changes in corporate law and tax law that could have meaningfully affected firms’ lending and tax avoidance practices over the sample period.

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<sup>1</sup> The corresponding Italian keywords are *imprese*, *fiscalità d’impresa*, *reddito d’impresa*, and *diritto societario*.

## *1.2 Analysis of the reforms and construction of the creditor rights index*

We now proceed with the analysis of each reform and its effect on our creditor rights index. In 2005, the Italian Parliament enacted the first major bankruptcy reform that substantially modified the 1942 Bankruptcy Code. In the spirit of U.S. Chapter 11, the reform amended articles 67, 160, 161, 163, 167, 180, and 181 of the 1942 Bankruptcy Code and added article 182-*bis*. These provisions aimed to facilitate the renegotiation of outstanding loans and to protect the debtor. Under the 1942 Bankruptcy Code, debt reorganization procedures were subject to a number of restrictions that significantly inhibited the debtor's power to start a reorganization. First, there was no automatic stay of creditor claims. Second, for the debtor's proposal to be ratified, the law required a qualified majority of two-thirds of votes. Third, there was no cramdown provision and creditors could oppose the debtor's reorganization plan and nullify it at any time. Since the reform, the debtor can initiate the reorganization phase unilaterally, under the protection of the automatic stay rule. The reform has also reduced to one-half the share of votes required to ratify a debtor's reorganization plan, thereby weakening creditor approval rights. Moreover, a cramdown provision has been put into law that allows the bankruptcy judge to impose a debtor's reorganization plan despite objections from creditors. Taken together, the automatic stay, creditor approval, and cramdown provisions introduced by the 2005 reform decrease our creditor rights index by 0.30.

With the 2005 bankruptcy reform, the Parliament also mandated the government to modify another bankruptcy proceeding, namely, liquidation, in line with U.S. Chapter 7.<sup>2</sup> During the first quarter of 2006, the government enacted the second reform, which aimed to strengthen creditor rights in liquidation by modifying articles 19, 32, 38, 102, 104, 105, 107, 116, 119, 125, 144, 155,

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<sup>2</sup> Note that, even if the amending reform was mandated by Parliament and implemented later by the government, it was very difficult to form expectations until the measure was actually implemented. This is due to the typical last-minute political deals within coalition governments, which are usually impossible to predict.

and 156 of the 1942 Bankruptcy Code and adding two articles, 111-*bis* and 111-*quater*. The reform also allowed creditors to organize themselves in a committee and subjected the appointment of the bankruptcy administrator in charge of liquidating assets to the approval of the creditors' committee. Moreover, all the bankruptcy administrator's strategic actions related to the liquidation of assets must now be approved by the creditors' committee. Overall, by allowing creditors to set up a committee and subjecting the bankruptcy administration's appointments and actions to the creditors' approval, the reform strengthened creditor rights in liquidation and increases our creditor rights index by 0.2.

In a further attempt to spur debt restructuring plans in lieu of liquidation, the government approved new amendments to the 1942 Bankruptcy Code on September 12, 2007, that became effective on January 1, 2008. These amendments significantly limited the supervisory actions of the judge and the rights of creditors to appeal a debt restructuring plan. Based on this change to *Court supervision* and judicial power in debt restructuring, our creditor rights index decreases by 0.10.

Finally, on July 30, 2010, the Italian Parliament approved another comprehensive law involving debt restructuring. Article 48 of law No. 122 added the article 182-*quater* and modified the articles 182-*bis* and 217 of the 1942 Bankruptcy Code. The law limited creditors' power to approve debt restructuring plans and introduced super priority financing and moratoria provisions in debt restructuring plans supervised by the court, thereby substantially weakening creditor rights. These changes strengthened the debtor's bargaining power at the restructuring and reorganization stages and decrease our creditor rights index by 0.30.

To conclude, multiple bankruptcy reforms took place over the sample period that either increased or decreased creditor protection for each of the four bankruptcy proceedings. Hence, in

the analyses, we use a very granular creditor rights index to take into account the distinct changes to reorganization and liquidation proceedings. However, at the same time, we also note that overall creditor protection decreased over the sample period, with the Italian Bankruptcy Code progressively leaning from a pro-creditor approach, with liquidation being the preferred method to resolve bankruptcy, toward a pro-debtor approach, with debt restructuring and reorganization being preferred to preserve the continuation of viable businesses. This new paradigm also emerged in the parliamentary debate and in the accompanying illustrative reports to Parliament, which suggest that the reforms aimed to foster the continuation of business activity with a stronger focus on debt restructuring and reorganization than on liquidation.<sup>3</sup>

## **2. Dataset construction: Italian setting**

To answer our research question, we use all available data on Italian firms from Bureau van Dijk's Amadeus database over the period 2003–2011. Amadeus is a subset of Orbis marketed by Bureau van Dijk, which covers European firms. To collect firm-level data, Bureau van Dijk relies on chambers of commerce, securities commissions, tax authorities, as well as on established national and international data providers. In Italy, Bureau van Dijk has an agreement with Cerved, which is the largest data provider of firm-level data in the country and is listed on the Milan stock exchange.

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<sup>3</sup> *“L’attuale disciplina si ispira ad una finalità essenzialmente liquidatoria dell’impresa insolvente e ad una tutela accentuata dei diritti dei creditori, determinando un completo spossessamento del patrimonio del debitore che viene posto in una condizione di assoluta incapacità di disporre, anche con effetti extra concorsuali e di tipo personale del proprio patrimonio. In tale quadro, la finalità recuperatoria del patrimonio imprenditoriale ha finito per trovare collocazione secondaria rispetto allo scopo sanzionatorio del fallimento. Si tratta di una procedura che non risulta più adeguata alle finalità che la evoluzione socio-economica intende realizzare nelle situazioni di insolvenza imprenditoriale.... Muovendo dall’attuale sistema normativo concorsuale, qualsiasi tentativo di riforma della materia deve ispirarsi ad una nuova prospettiva di recupero delle capacità produttive dell’impresa, privilegiando il ricorso alla via del risanamento e del superamento della crisi aziendale”* (available in the original language at [http://www.ilsole24ore.com/art/SoleOnLine4/Speciali/2006/guida\\_professionisti/22giugno2006/Relazione\\_DLGS\\_5\\_2006.pdf?cmd%3Dart](http://www.ilsole24ore.com/art/SoleOnLine4/Speciali/2006/guida_professionisti/22giugno2006/Relazione_DLGS_5_2006.pdf?cmd%3Dart), last accessed October 15, 2021).

In our analyses, we use Amadeus' unconsolidated financial statements of listed and unlisted firms, with exact information on the address of each sample firm. Unlike consolidated balance sheet data, the advantage of using unconsolidated balance sheet data is that we can reliably identify the location of the activities of a single firm within the country. Using the postal code of each firm, we then merge unconsolidated balance sheet data with the bankruptcy proceeding durations of each Italian province in 2003, which is the year when we construct treatment and control groups.

The data on the length of bankruptcy proceedings can be downloaded from the Italian National Institute of Statistics' website (<https://dati.istat.it>). Specifically, the bankruptcy data can be found in the “*Giustizia e Sicurezza*” section and in the “*protesti e fallimenti*” subsection. The file *fallimenti serie interrotte 1990–2007* should be used for the analyses.<sup>4</sup> Note that the data vary at the province–year level.<sup>5</sup> Hence, to successfully merge the province-level data with firm-level data, one must first assign the municipality in which the firm operates to the province to which the municipality belongs. To merge municipalities with their corresponding province, we suggest using the list of Italian municipalities, which can be downloaded from the Italian National Institute of Statistics' website (<https://www.istat.it/storage/codici-unita-amministrative/Elenco-comuni-italiani.xls>).

To ensure that economic and institutional conditions do not spuriously drive the results, Eq. (2) controls for the level of local economic development of the province, such as the GDP per capita. Statistics on local GDP per capita can be downloaded from the Istituto di Ricerche Economico Sociali (IRES) Piedmont's website (<https://www.sisreg.it>) in the section “*PIL*

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<sup>4</sup> Note that, since 2007, the National Institute of Statistics no longer collects data on bankruptcy proceedings. To download the data for recent years, we refer the reader to the Italian Ministry of Justice's website (available at <https://reportistica.dgstat.giustizia.it>, last accessed October 13, 2021).

<sup>5</sup> In Italy, the province is an administrative unit that is comparable to the county in the United States.

*procapite.*” IRES Piedmont is a public research center that is controlled by the Piedmont region and collects data on local economic and institutional conditions in Italy.

To strengthen the causal interpretation of our findings, we also corroborate the firm-level evidence (that creditor protection reduces corporate tax avoidance) with an aggregate analysis using the corporate tax returns of all incorporated firms in Italy aggregated at the region–year level.<sup>6</sup> The idea is that all firms in our Amadeus sample are also mandated to file tax returns and should thus be included in the aggregated tax return data. The data on aggregated tax returns are publicly available and can be downloaded from the Italian Ministry of Economy and Finance’s website (<https://www.finanze.gov.it>) in the section “*Dati e statistiche*” and the subsection “*Dichiarazioni fiscali.*” Specifically, one must look for the data on *IREs*, which is the term for corporate income tax in Italy, and for the aggregated tax returns filed by stand-alone firms (*singole società*). Note that, in addition to controlling for local economic conditions and tax enforcement (see also Section A3 below), in these analyses presented in Table A4, we include a proxy for bank branch penetration (Jappelli and Pagano, 2002). The data on bank branch penetration can be downloaded from the Bank of Italy’s website (<https://infostat.bancaditalia.it>).

### **3. The role of tax enforcement in Italy**

To alleviate the concern that a change in tax enforcement could drive our results—particularly the decrease in tax avoidance—we proceed as follows. We gather information on the average number of tax staff working at the central government tax agency across the 20 Italian regions over the period 2003–2011 from the Italian Ministry of Economy and Finance’s website.<sup>7</sup> We then classify this information into four Italian economic regions (i.e., the northeast, northwest, central, and

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<sup>6</sup> Note that this sample starts in 2004 because of data availability. In total, the sample comprises 160 region–year observations (i.e., eight years from 2004 to 2011 times 20 Italian regions).

<sup>7</sup> The data can be downloaded from the Italian Ministry of Economy and Finance’s website (<https://www.contoannuale.mef.gov.it/en/struttura-personale/occupazione>, last accessed October 13, 2021).

southern areas) and plot the trends in tax enforcement in Figure A2. A casual observation of Figure A2 immediately shows that the distribution of tax staff is uneven across economic regions and over the sample period, with the northwestern regions having the highest number of tax staff. However, this distribution mirrors the regional variation in economic development within Italy, with the regions in southern Italy being less developed than the regions in the north, thus needing proportionally (relative to the number of firms) fewer tax employees (e.g., Guiso et al., 2004; Pinotti, 2015).

We further notice that the trends in tax enforcement are stable across economic regions and over the sample period, the only exception being the northwest area, in which we observe an increase in tax enforcement starting from 2008 onward. To shed light on the trends as well as on the increase in tax enforcement from 2008 onward, we then collect data on the number of job posts advertised on the Italian tax agency's website over the sample period. The underlying idea is that a significant change in tax enforcement from 2008 onward would require the government to provide substantial additional resources, including increasing the tax agency's workforce (OECD, 2015).<sup>8</sup> Note that, in Italy, the process of hiring tax staff is centralized and managed by the general department of the tax authority in Rome, which is responsible for selecting and allocating new employees to regional units, depending on the budget as well as on audit needs. Hence, by gathering data on job openings on the tax agency's website, we capture most changes in the composition of tax enforcement staff across regions and over time.

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<sup>8</sup> Anecdotal evidence suggests that, when governments want to curb tax avoidance, they tend to increase the tax agency's budget and staff. See, for example, the Biden administration's plan to raise \$700 billion in tax revenue by providing the Internal Revenue Service with additional funds and enforcement staff (available at <https://www.nytimes.com/2021/05/20/business/IRS-tax-gap.html>, last accessed October 13, 2021). Similarly, in Italy, the government is currently planning to curb tax avoidance by providing the tax agency with additional resources and enforcement staff (available at [https://www.corriere.it/economia/lavoro/21\\_settembre\\_22/fisco-svolta-digitale-dell-agenzia-entrate-due-bandi-nuovi-controllori-a1eb32e2-1b8b-11ec-8752-2a4387430cab.shtml](https://www.corriere.it/economia/lavoro/21_settembre_22/fisco-svolta-digitale-dell-agenzia-entrate-due-bandi-nuovi-controllori-a1eb32e2-1b8b-11ec-8752-2a4387430cab.shtml), last accessed October 13, 2021).



We find that the central government tax agency advertised the following job positions across all job functions and levels:<sup>9</sup>

- 2004 → 827 middle-level management positions,<sup>10</sup>
- 2005 → 1,644 middle-level management positions,
- 2006 → no job posts,
- 2007 → 507 middle-level management positions,
- 2008 → 2,010 middle-level management positions,
- 2009 → nine middle-level management positions,
- 2010 → nine middle-level management positions,
- 2011 → 243 middle-level management positions.

Consistent with the increasing trend in tax enforcement observed in Figure A2, we find that the number of additional units hired in 2008 is substantially higher than in the previous two years, with more than 50% of the vacancies located in the northwestern regions (i.e., 1,075 out of 2,010 in total, of which 1,005 were allocated to the two wealthiest Italian regions, namely, Lombardy and Piedmont). Hence, one potential concern is that these regions could drive tax avoidance changes. Although we include either region–year or economic region–year fixed effects throughout all the analyses to control for regional differences in economic development and tax enforcement, in Figure A3 we perform an additional test and show that the results are robust to

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<sup>9</sup> The data can be downloaded from the Italian central government tax agency’s website (available at <https://www.agenziaentrate.gov.it/portale/web/guest/agenzia/amministrazione-trasparente/bandi-di-concorso/concorsi-conclusi>, last accessed October 13, 2021).

<sup>10</sup> The calls to apply for middle management positions typically require candidates to have at least a bachelor’s degree in economics, statistics, business, or law. Successful candidates will be hired as *funzionari* (i.e., officials), who mainly assist taxpayers in applying the law (i.e., before filing tax returns) and in auditing tax returns (i.e., after tax returns are filed). The salary of middle management positions is usually fixed and cannot be negotiated with the tax authority. Moreover, there is no incentive-based compensation, which could affect audit outcomes.

excluding firm–year observations from those regions that experience an increase in tax staff and resources.

#### **4. Major bankruptcy reforms around the world**

To test the robustness of our cross-country results, we exploit six major bankruptcy reforms across 33 countries over 2001–2013. As a general rule, creditor rights are considered strong (weak) when creditors (do not) have control over a debtor’s reorganization phase, as well as when the bankruptcy code provides creditors with priority claim rules over the liquidation process. Following this approach, we identify three increases in creditor rights—Spain in 2004, United States in 2005, and Germany in 2012—and three decreases in creditor rights—Brazil in 2005, France in 2005, and Italy in 2005.

Starting with increases in creditor rights, in 2004, Spain amended its bankruptcy code (*Ley Concursal*) and introduced a priority rule such that secured creditors are paid first from the proceeds of liquidation. According to Djankov et al. (2007) and John et al. (2021), this reform resulted in stronger creditor rights. In 2005, the United States enacted the Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA). Although the aim of the law was to reform consumer bankruptcy, it also improved Chapter 11 creditor rights (Sautner and Vladimirov, 2017). More specifically, the reform brought about two mandatory caps: one of 18 months for borrowers to file a reorganization plan and one of 20 months for the plan’s acceptance by creditors. These caps widely limit a debtor’s ability to protract the duration of bankruptcy proceedings and give leeway to creditors over the renegotiability of debt. Relatedly, the BAPCPA reform introduced an

additional cap of seven months for debtors in which to assume or reject a lease. Overall, the introduction of these caps significantly redistributed the bargaining power from debtors to creditors.

In 2012, Germany also reformed its bankruptcy code (Law on Corporate Reorganization). In this case, the law increased creditors' rights by giving them more control over the bankruptcy proceedings and the appointment of the insolvency administrator. Furthermore, the reform limited a debtor's ability to appeal a restructuring plan approved by the majority of creditors (Sautner and Vladimirov, 2017).

In 2005, three countries in our sample decreased creditor rights: Brazil, France, and Italy. The Brazilian bankruptcy reform (Law on Insolvency) became law, in the spirit of U.S. Chapters 7 and Chapter 11 (Alencar and Ponticelli, 2016). More specifically, it introduced an automatic stay rule on all litigations against the debtor and facilitated the debtor's ability to renegotiate with creditors (Favara et al., 2017). Although the aim of the reform was broader, it arguably weakened creditor rights. Similarly, France amended the provisions of automatic stay inspired by U.S. Chapter 11 (*Loi de sauvegarde des entreprises*). The aim of the reform was twofold. First, it allowed management to retain control over the bankruptcy proceedings. Second, it increased a debtor's ability to renegotiate its distress debt. Overall, the French reform led to a decrease in creditor rights (Weber, 2005). Finally, in an act similar

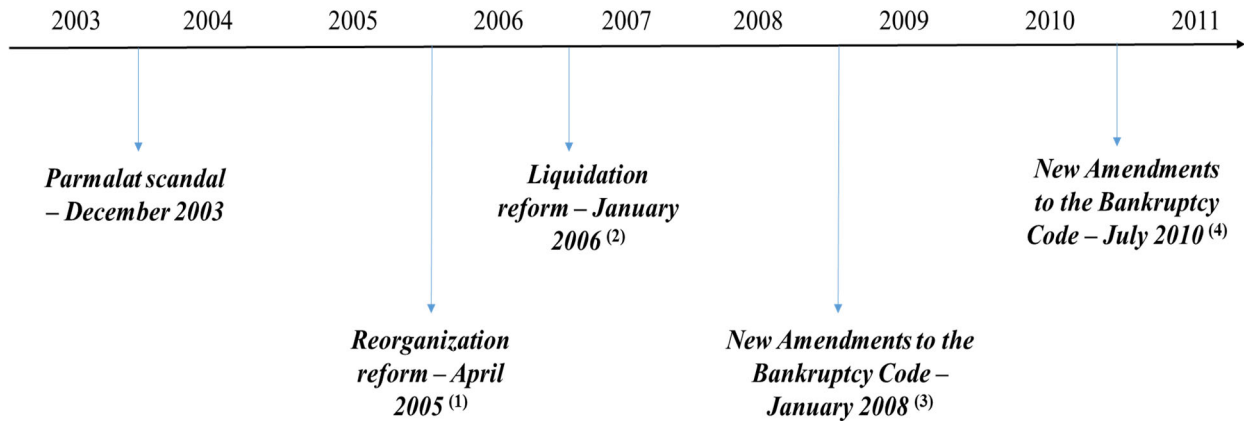
to that of France, in 2005, Italy amended its 1942 Bankruptcy Code, prompted by Parmalat' s collapse in 2003. The reform (Decree No. 35) introduced an array of provisions aimed at facilitating the renegotiability of outstanding debt and at protecting debtors. Since the reform, debtors have been allowed to start the reorganization phase without creditor consent. Thus, the reform decreased creditor rights (Rodano et al., 2016).

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### Figure A1. Timeline of the bankruptcy reform process in Italy, 2003–2011

This figure shows the timeline of the bankruptcy reform process in Italy over the period 2003–2011.



#### Notes:

<sup>(1)</sup> The Italian government presented the first draft of the reform to Parliament in December 2004, which was approved by Parliament in April 2005.

<sup>(2)</sup> Under the mandate of Parliament, the government modified several articles of the 1942 Bankruptcy Code related to the liquidation process. The final draft of the reform was approved by the government on December 22, 2005, and became law on January 9, 2006.

<sup>(3)</sup> The government approved new amendments to the 1942 Bankruptcy Code involving court supervision in debt restructuring plans. The final draft of the reform was approved on September 12, 2007, and became effective on January 1, 2008.

<sup>(4)</sup> On July 30, 2010, Parliament approved another comprehensive law addressing debt restructuring plans. The first draft was presented by the government on May 31, 2010.

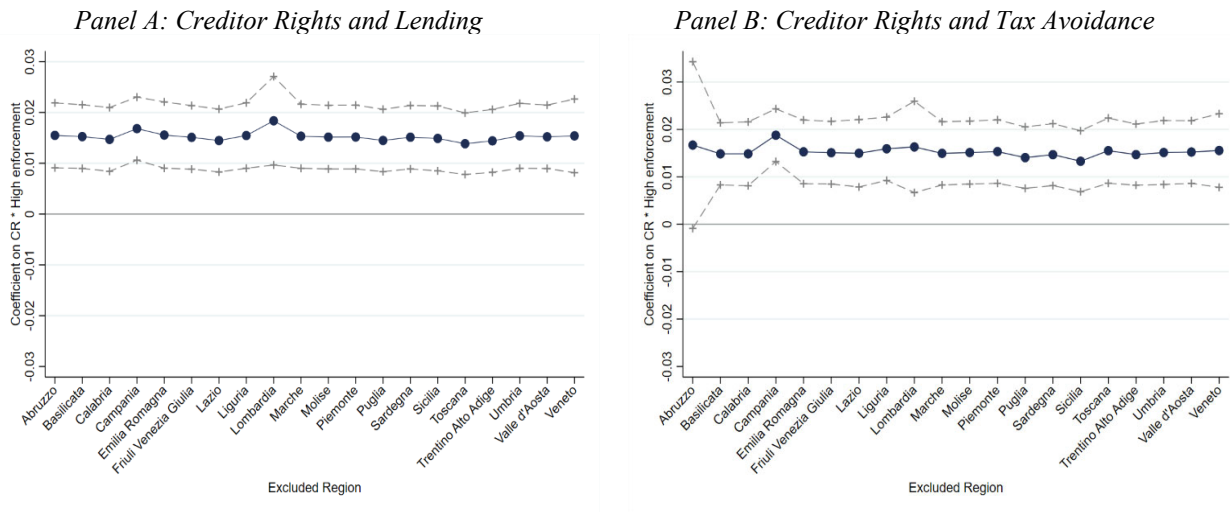
**Figure A2. Trends in tax enforcement in Italy, 2003–2011**

This figure shows the trends in tax enforcement in Italy over the period 2003–2011. We proxy for tax enforcement with the average number of tax staff working at the central government tax agency for each of the four Italian economic regions (i.e., the northeast, northwest, central, and southern areas).



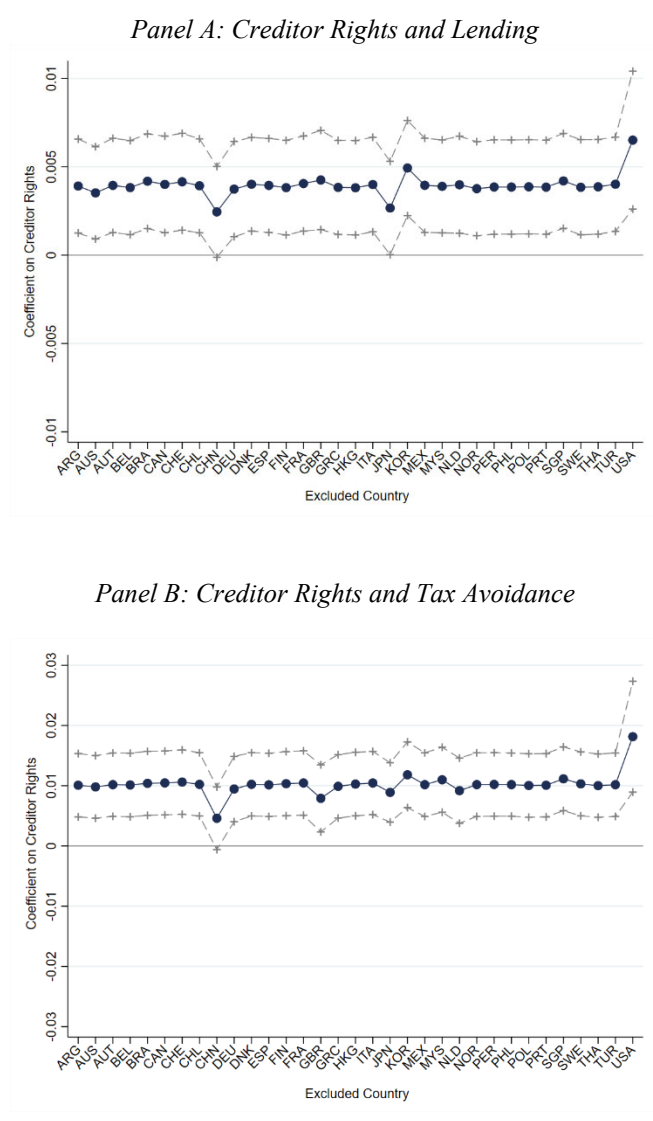
**Figure A3. Creditor rights, lending, and tax avoidance: Excluding one region at a time, Italian setting**

This figure shows the coefficients on  $CR \times High\ enforcement$  from the regression in Eq. (2), excluding one region at a time. The dependent variables are *Book Leverage* (Panel A) and *GAAP ETR* (Panel B). The model specifications include firm and region–year fixed effects. The heteroskedasticity-robust standard errors are clustered at the appellate bankruptcy court level. The gray line represents the 95% confidence interval.



**Figure A4. Creditor rights, lending, and tax avoidance: Excluding one country at a time, cross-country setting**

This figure shows the coefficients on *CR* from the regression in Eq. (3), excluding one country at a time. The dependent variables are *Book Leverage* (Panel A) and *GAAP ETR* (Panel B). The model specifications include firm and industry-year fixed effects. The heteroskedasticity-robust standard errors are clustered at the country–industry level. The gray line represents the 95% confidence interval.





**Table A1. Approval process of the bankruptcy reforms in Italy, 2003–2011**

This table shows the approval process of the bankruptcy reforms in Italy over the period 2003–2011.

Year	Reform	Approved by the government under Parliament mandate	Approved by Parliament	Parliamentary debate											
				House of Representatives (630 members)						Senate (315 members)					
				No. of sessions	Valid votes	In favor	Against	Abstention	<i>Approval rate</i>	No. of sessions	Valid votes	In favor	Against	Abstention	<i>Approval rate</i>
2005	Decree No. 35 (transposed into Law No. 80/2005)	No	Yes	3	467	257	208	2	<b>55%</b>	6	278	165	112	1	<b>59%</b>
2006	Law No. 5	Yes	No	-	-	-	-	-	-	-	-	-	-	-	-
2007	Decree 169	Yes	No	-	-	-	-	-	-	-	-	-	-	-	-
2010	Law No. 122	No	Yes	4	595	321	270	4	<b>54%</b>	10	306	170	136	0	<b>56%</b>

**Table A2. Bankruptcy rate, length of bankruptcy proceedings, and socioeconomic conditions in Italy, 2003–2007**

This table examines the association between socioeconomic conditions and the bankruptcy rate and the length of bankruptcy proceedings in Italy from 2003 to 2007. Panel A reports summary statistics for the main variables in the regression models. Panels B1 and B2 report the regression results from the following equation:

$$y_{k,t} = \alpha_0 + \beta_1 X_{k,t} + \varphi_l * \omega_t + \varepsilon_{k,t} \quad (A1)$$

where  $y_{k,t}$  is, alternatively, *Bankruptcy rate per 10,000 firms* (Panel B1) or *Length of bankruptcy proceedings* (Panel B2) in province  $k$  and year  $t$ . The variable *Bankruptcy rate per 10,000 firms* is the number of firms filing for bankruptcy per 10,000 firms, from ISTAT. The variable *Length of bankruptcy proceedings* is the natural logarithm of  $D_t$  from the Italian Ministry of Justice and ISTAT. The vector  $X_{k,t}$  includes local economic conditions (i.e., the GDP per capita), the characteristics of bankrupt firms (i.e., average bankruptcy fees and the natural logarithm of the average age of bankrupt firms), and social capital variables (i.e., human capital quality, female political participation, and recycling rate). The data are from ISTAT and the Sistema degli indicatori sociali regionali e provinciali. The model specifications include region–year or economic region–year fixed effects where indicated ( $\varphi_l * \omega_t$ ). Economic regions are geographic dummies proxying for the northeast, northwest, central, and southern areas. Panels B1 and B2 report (in parentheses) heteroskedasticity-robust standard errors clustered at the province level. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two tailed), respectively.

*Panel A: Summary Statistics*

Variables	Mean	Std. dev.	25 <sup>th</sup> percentile	Median	75 <sup>th</sup> percentile
<u>Dependent variables</u>					
<i>Bankruptcy rate per 10,000 firms</i>	0.0101	0.0044	0.0073	0.0098	0.0125
<i>Length of bankruptcy proceedings</i>	8.0858	0.6372	7.7072	8.0690	8.4282
<u>Province-level variables</u>					
<i>GDP per capita</i>	9.9964	0.2645	9.7351	10.0711	10.2091
<i>Bankruptcy fees</i>	0.2254	0.0828	0.1765	0.2255	0.2670
<i>Age of bankrupt firms</i>	4.7652	0.2237	4.6347	4.7707	4.8941
<i>Human capital quality</i>	0.0593	0.0138	0.0495	0.0590	0.0680
<i>Female political participation</i>	0.1632	0.0538	0.1240	0.1740	0.2030
<i>Recycling rate</i>	0.2363	0.1504	0.0970	0.2365	0.3495

*Panel B1: Regression Analyses*

	<b>Bankruptcy rate per 10,000 firms</b>					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>GDP per capita</i>	-0.0050*** (0.0009)	-0.0030* (0.0017)	0.0022 (0.0025)	0.0024 (0.0030)	-0.0008 (0.0022)	-0.0006 (0.0025)
<i>Bankruptcy fees</i>		-0.0007 (0.0026)		-0.0003 (0.0029)		-0.0008 (0.0027)
<i>Age of bankrupt firms</i>		-0.0004 (0.0010)		0.0000 (0.0010)		0.0005 (0.0009)
<i>Human capital quality</i>		0.0043 (0.0163)		-0.0142 (0.0190)		0.0144 (0.0168)
<i>Female political participation</i>		0.0004 (0.0078)		0.0055 (0.0103)		-0.0063 (0.0077)
<i>Recycling rate</i>		-0.0052** (0.0022)		0.0015 (0.0028)		-0.0028 (0.0024)
Region–year fixed effects	No	No	Yes	Yes	No	No
Economic region–year fixed effects	No	No	No	No	Yes	Yes
Obs.	515	515	515	515	515	515
Adj. $R^2$	0.088	0.099	0.339	0.331	0.249	0.250

Panel B2: Regression Analyses

	Length of bankruptcy proceedings					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>GDP per capita</i>	-0.9784*** (0.1785)	-0.5803* (0.3426)	0.1054 (0.4316)	0.2765 (0.4490)	-0.4540 (0.4194)	-0.2935 (0.4907)
<i>Bankruptcy fees</i>		0.5933 (0.5627)		0.5164 (0.5170)		0.5022 (0.5613)
<i>Age of bankrupt firms</i>		0.0678 (0.1195)		0.0146 (0.1396)		0.0632 (0.1209)
<i>Human capital quality</i>		1.0527 (2.9932)		-0.9898 (3.3198)		-0.7170 (3.0952)
<i>Female political participation</i>		-0.6698 (1.1992)		0.5992 (1.4190)		-0.5680 (1.2406)
<i>Recycling rate</i>		-0.7236 (0.4865)		0.5637 (0.5973)		-0.5131 (0.5015)
Region–year fixed effects	No	No	Yes	Yes	No	No
Economic region–year fixed effects	No	No	No	No	Yes	Yes
Obs.	515	515	515	515	515	515
Adj. $R^2$	0.164	0.181	0.234	0.236	0.182	0.184

**Table A3. Creditor rights, lending, and tax avoidance: Two-stage least squares regressions**

This table examines the effect of creditor rights on lending and tax avoidance in Italy using two-stage least squares regressions. The dependent variables are *Book Leverage* and *GAAP ETR*. The creditor rights indicator is *CR*. The variable *High enforcement* denotes provinces whose number of bankruptcy proceedings days is below the median of the distribution of bankruptcy proceedings days across the 103 Italian provinces in 2003, and zero otherwise. The model specifications include firm and region–year or economic region–year fixed effects. Economic regions are geographic dummies proxying for the northeast, northwest, central, and southern areas. The table reports (in parentheses) heteroskedasticity-robust standard errors clustered at the appellate bankruptcy court level. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two tailed), respectively. Appendix A provides the variable definitions.

	Book	GAAP ETR <sub>t+1</sub>	Book	GAAP ETR <sub>t+1</sub>
	Leverage <sub>t+1</sub>		Leverage <sub>t+1</sub>	
	(1)	(2)	(3)	(4)
<i>CR</i> × <i>High enforcement</i>	<b>0.0079*</b> <b>(0.0048)</b>	<b>0.0117**</b> <b>(0.0054)</b>	<b>0.0081*</b> <b>(0.0044)</b>	<b>0.0112**</b> <b>(0.0050)</b>
<i>GAAP ETR</i>	0.0953*** (0.0107)		0.0984*** (0.0107)	
<i>Book leverage</i>		0.5691*** (0.0099)		0.5686*** (0.0099)
Controls	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Region–year fixed effects	Yes	Yes	No	No
Economic region–year fixed effects	No	No	Yes	Yes
Obs.	940,361	940,361	940,361	940,361
Adj. $R^2$	0.124	0.003	0.123	0.001

**Table A4. Creditor rights and tax avoidance: Aggregate Italian tax returns**

This table examines the effect of creditor rights on tax avoidance, using aggregate tax returns data from the Italian Ministry of Economy and Finance’s website over the period 2004–2011. We estimate the following model at the region–year level:

$$y_{l,t+1} = \alpha_0 + \beta_1 CR_t \times High\ Enforcement\ (region)_{l,2003} + \beta_2 X_{l,t} + \varphi_l + \omega_t + \varepsilon_{l,t} \quad (A2)$$

where  $y_{l,t+1}$  is the variable *Aggregate ETR* for region  $l$  and year  $t + 1$ . We compute *Aggregate ETR* as aggregate taxes paid divided by aggregate taxable income. The creditor rights indicator is *CR*. The variable *High enforcement (region)* denotes regions whose number of bankruptcy proceedings days is below the median of the distribution of bankruptcy proceedings days across the 20 Italian regions in 2003, and zero otherwise. In the analyses, we include a set of macroeconomic variables ( $X_{l,t}$ ) from ISTAT, the Bank of Italy, and the Italian Ministry of Economy and Finance (i.e., the GDP per capita, regional tax rate, tax enforcement, and bank penetration) that are correlated with the development of financial markets. The model specifications include region ( $\varphi_l$ ) and year ( $\omega_t$ ) fixed effects. The table reports (in parentheses) heteroskedasticity-robust standard errors clustered at the region level. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two tailed), respectively.

	Aggregate ETR <sub>t+1</sub>	
	(1)	(2)
<i>CR</i> × <i>High enforcement (region)</i>	<b>0.0135**</b> <b>(0.0053)</b>	<b>0.0125**</b> <b>(0.0047)</b>
<i>Regional GDP per capita</i>		-0.0176 (0.0294)
<i>Regional tax rate</i>		0.6333** (0.2341)
<i>Regional tax enforcement</i>		0.0230* (0.0116)
<i>Regional bank penetration</i>		-0.0430 (0.6458)
Region fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Obs.	160	160
Adj. $R^2$	0.981	0.983

**Table A5. Determinants of creditor rights: Cross-country setting**

This table examines the determinants of changes in creditor rights. The dependent variable is *CR*. The model specifications presented include country and year fixed effects. The table reports (in parentheses) heteroskedasticity-robust standard errors clustered at the country level. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two tailed), respectively. Appendix B provides the variable definitions.

	Creditor rights index <sub><i>t</i></sub>		
	(1)	(2)	(3)
<i>Deductibility</i> <sub><i>t-1</i></sub>	0.0708 (0.1767)	-0.0285 (0.1953)	-0.0195 (0.1924)
<i>Corporate tax rate</i> <sub><i>t-1</i></sub>	2.5670 (1.7945)	2.2567 (1.5452)	2.0389 (1.5069)
<i>Dividend tax rate</i> <sub><i>t-1</i></sub>	0.1935 (0.5656)	1.4823 (0.9419)	1.5752 (0.9390)
<i>Shareholder rights</i> <sub><i>t-1</i></sub>	-0.0877 (0.0786)	-0.0999 (0.0952)	-0.0972 (0.0889)
<i>Rule of law</i> <sub><i>t-1</i></sub>	0.0203 (0.4149)	-0.0260 (0.4345)	-0.0803 (0.4198)
<i>Length of bankruptcy proceedings</i> <sub><i>t-1</i></sub>	0.0710 (0.0830)	0.1127 (0.0962)	0.1284 (0.0981)
<i>GDP per capita</i> <sub><i>t-1</i></sub>	0.4616 (0.5529)	0.8668 (1.4162)	0.5246 (1.2407)
<i>Deductibility</i> <sub><i>t-2</i></sub>		0.1247 (0.1254)	0.1624 (0.2235)
<i>Corporate tax</i> <sub><i>t-2</i></sub>		0.7802 (1.2428)	0.1716 (0.9319)
<i>Dividend tax</i> <sub><i>t-2</i></sub>		-1.6844 (1.0294)	-0.3855 (0.4007)
<i>Shareholder rights</i> <sub><i>t-2</i></sub>		0.0430 (0.0825)	0.0569 (0.1018)
<i>Rule of law</i> <sub><i>t-2</i></sub>		0.0844 (0.1537)	0.0949 (0.4714)
<i>Length of bankruptcy proceedings</i> <sub><i>t-2</i></sub>		-0.0424 (0.0251)	-0.0167 (0.0307)
<i>GDP per capita</i> <sub><i>t-2</i></sub>		-0.4220 (1.1999)	1.3957 (1.0490)
<i>Deductibility</i> <sub><i>t-3</i></sub>			-0.0260 (0.1981)
<i>Corporate tax</i> <sub><i>t-3</i></sub>			0.8324 (1.3577)
<i>Dividend tax</i> <sub><i>t-3</i></sub>			-0.5786 (0.8909)
<i>Shareholder rights</i> <sub><i>t-3</i></sub>			-0.0231 (0.0659)
<i>Rule of law</i> <sub><i>t-3</i></sub>			-0.1411 (0.3063)
<i>Length of bankruptcy proceedings</i> <sub><i>t-3</i></sub>			-0.0552* (0.0297)
<i>GDP per capita</i> <sub><i>t-3</i></sub>			-1.5656 (1.0348)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Obs.	330	330	330
Adj. R <sup>2</sup>	0.846	0.847	0.845

**Table A6. Creditor rights, lending, and tax avoidance: Robustness tests, cross-country setting**

This table examines the effect of creditor rights on lending and tax avoidance across countries. In Panel A, the dependent variables are *Net Book Leverage*, *Market Leverage*, *Debt Issuance*, *CASH ETR*, *Tax Avoid1*, and *Tax Avoid3*. The variable *Net Book Leverage* is total debt minus cash and short-term investments ( $DLC + DLTT - CHE$ ) relative to total assets ( $AT$ ); *Market Leverage* is total debt ( $DLC + DLTT$ ) relative to total debt plus market capitalization ( $DLC + DLTT + MKT CAP$ ); and *Debt Issuance* is long-term debt issuance less long-term debt reduction ( $DLTIS - DLTR$ ) relative to lagged total assets ( $AT$ ). We replace the numerator with the sum of changes in long-term debt and in short-term debt ( $\Delta DLTT + \Delta DLC$ ) if either long-term debt issuance or long-term debt reduction is missing. The variable *CASH ETR* is income taxes paid ( $TXPD$ ) divided by pretax income minus special items ( $PI - SPI$ ), and *Tax Avoid1* is pretax income ( $PI$ ) times the corporate tax rate (*Corporate tax*) minus income taxes ( $TXT$ ), relative to total assets ( $AT$ ). The variable is multiplied by  $-1$ . The variable *Tax Avoid3* is the three-year sum of pretax income minus special items ( $PI - SPI$ ) times the corporate tax rate (*Corporate tax*) minus current taxes paid ( $TXC - \Delta TXP$ ), relative to the three-year sum of pretax income minus special items ( $PI - SPI$ ). The three years cover from year  $t - 2$  to year  $t$ , and the variable is multiplied by  $-1$ . In Panel B, the dependent variables are *Book Leverage* and *GAAP ETR*. The creditor rights indicator is  $CR$ . The model specifications include firm and industry-year fixed effects and country trends where indicated. The table reports (in parentheses) heteroskedasticity-robust standard errors clustered at the country-industry level. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two tailed), respectively. Appendix B provides the variable definitions.

*Panel A: Alternative Dependent Variables*

	Net Book Leverage <sub>t+1</sub>	Market Leverage <sub>t+1</sub>	Debt Issuance <sub>t+1</sub>	CASH ETR <sub>t+1</sub>	Tax Avoid1 <sub>t+1</sub>	Tax Avoid3 <sub>t+1</sub>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>CR</i>	0.0038** (0.0017)	0.0185*** (0.0029)	0.0042*** (0.0016)	0.0089*** (0.0027)	0.0010** (0.0005)	0.0116*** (0.0035)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	65,187	65,026	65,187	38,957	65,187	51,498
Adj. R <sup>2</sup>	0.849	0.814	0.140	0.495	0.286	0.600

*Panel B: Additional Analyses*

	Book Leverage <sub>t+1</sub>	GAAP ETR <sub>t+1</sub>	Book Leverage <sub>t+1</sub>	GAAP ETR <sub>t+1</sub>	Book Leverage <sub>t+1</sub>	GAAP ETR <sub>t+1</sub>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>CR</i>	0.0029** (0.0013)	0.0103*** (0.0028)	0.0035** (0.0017)	0.0108* (0.0061)	0.0130* (0.0078)	0.0276* (0.0159)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country trends	Yes	Yes	No	No	No	No
Clustering by country-year and firm	No	No	Yes	Yes	No	No
Exclude financial crisis	No	No	No	No	Yes	Yes
Obs.	65,187	65,187	65,187	65,187	31,148	31,148
Adj. R <sup>2</sup>	0.813	0.286	0.813	0.285	0.873	0.474

**Table A7. Rules of the deductibility index: Cross-country setting**

This table summarizes the data for our deductibility index across the 33 countries from 2004 to 2013. Each country–year observation is from the KPMG and E&Y Corporate Tax Guides, as well as from Bethmann et al. (2018) and Alexander et al. (2020).

Country	Allowances for corporate equity	Thin capitalization rules	Tax loss carryback	Tax loss carryforward
Argentina		From 2004 on		5 years from 2004 on
Australia		From 2004 on	From 2012 on	Unlimited years from 2004 on
Austria	2004	From 2004 on		Unlimited years from 2004 on
Belgium	From 2006 on	From 2004 on		Unlimited years from 2004 on
Brazil		From 2010 on		Unlimited years from 2004 on
Canada		From 2004 on	From 2004 on	7 years from 2004 to 2005, 10 years in 2006, 20 years from 2007 on
Chile		From 2004 on	From 2004 on	Unlimited years from 2004 on
China		From 2004 on		5 years from 2004 on
Denmark		From 2004 on		Unlimited years from 2004 on
Finland				10 years from 2004 on
France		From 2004 on	From 2004 on	Unlimited years from 2004 on
Germany		From 2004 on	From 2004 on	Unlimited years from 2004 on
Greece		From 2009 on		5 years from 2004 on
Hong Kong				Unlimited years from 2004 on
Italy	From 2011 on	From 2005 on		5 years from 2004 to 2011, unlimited years from 2012 on
Japan		From 2004 on	From 2009 on	5 years in 2004, 7 years from 2005 to 2011, 9 years from 2012 on
Korea			2004, from 2006 on	5 years from 2004 to 2009, 10 years from 2010 on
Malaysia			From 2009 to 2010	Unlimited years from 2004 on
Mexico		From 2005 on		10 years from 2004 on
Netherlands		From 2004 on	From 2004 on	Unlimited years from 2004 to 2006, 9 years from 2007 on
Norway			From 2008 to 2009	10 years from 2004 to 2005, unlimited years from 2006 on
Peru		From 2004 on		4 years in 2004, unlimited years from 2005 on
Philippines				3 years from 2004 on

Poland	From 2004 on		5 years from 2004 on
Portugal	From 2004 on		6 years from 2004 to 2010, 4 years from 2011 to 2012, 5 years from 2013 on
Singapore		From 2006 on	Unlimited years from 2004 on
Spain	From 2004 on		15 years from 2004 to 2011, 18 years from 2012 on
Sweden			Unlimited years from 2004 on
Switzerland	From 2004 on		7 years from 2004 on
Thailand			5 years from 2004 on
Turkey	From 2004 on		5 years from 2004 on
United Kingdom	From 2004 on	From 2004 on	Unlimited years from 2004 on
United States	From 2004 on	From 2004 on	20 years from 2004 on