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Did specialised courts affect the frequency of business bankruptcy petitions in Spain?

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Abstract

Spanish small businesses rarely file for bankruptcy, and Spanish bankruptcy rates are abnormally small. The historical inadequacy of the Spanish insolvency system has led most enterprises to rely on the de facto alternative mortgage system and to overinvest in fixed tangible assets: a distortion that may trigger significant adverse effects, for instance on the enabling environment of novel entrepreneurship. The reform of the bankruptcy law that took place in Spain some 10 years in order to modernise the insolvency system involved, as a main novelty, the establishment of specialised commercial courts (Juzgados de lo Mercantil). Since the net benefits of specialised judicial functions are in principle ambiguous, we study empirically whether these new bodies had any impact, over and above the economic crisis, on the use of the bankruptcy system. Exploiting the staggered timing of the new courts geography, we estimate an endogenous treatment model with a binary policy variable which allows to measure the effect of the reform on bankruptcy rates. The results support the view that the new bankruptcy law took the right path, but the size of the estimated parameters call for further policy efforts in that direction.

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Table 1 Bankruptcies over population of active enterprises (×100,000) *Source*: http://www.tradingeconomics.com/

	2008	2009	2010	2011	2012	2013	Mean
Belgium	162.4	179.1	179.1	187.6	189.0	203.4	183.4
Czech Rep	13.2	16.2	17.4	18.0	38.1	60.9	27.2
Denmark	176.4	271.6	303.9	250.7	250.2	230.9	247.2
Germany	98.5	111.3	108.1	100.8	94.4	87.5	100.1
Estonia	57.5	145.0	146.4	142.6	66.6	57.9	102.6
Ireland	38.1	70.6	79.6	86.6	90.8	73.6	73.2
Spain	7.7	16.0	15.8	19.3	25.9	30.2	19.1
France	216.0	229.1	215.0	203.7	200.6	197.4	210.2
Italy	18.0	23.5	28.6	30.5	31.5	36.1	28.0
Latvia	158.6	269.5	311.4	210.3	94.1	84.5	188.0
Lithuania	66.0	151.9	135.0	96.4	88.8	98.1	106.0
Lux	225.1	261.6	332.5	341.2	361.6	347.1	311.5
Hungary	194.3	261.6	314.2	356.6	426.7	283.3	306.1
Netherl	61.1	83.6	74.9	70.5	82.8	89.7	77.0
Austria	154.7	165.2	149.4	136.4	139.8	126.1	145.2
Poland	2.3	3.5	3.5	3.7	4.7	4.6	3.7
Portugal	34.8	41.3	46.8	56.0	83.2	76.3	56.4
Slovakia	16.8	21.6	23.7	23.5	26.0	33.1	24.1
Finland	103.9	134.3	118.7	118.4	119.1	129.5	120.6
Sweden	99.0	117.2	109.0	97.2	101.5	107.0	105.1
UK	139.0	166.8	144.6	151.7	145.7	119.7	144.5
Norway	133.7	184.8	164.9	158.5	136.7	166.5	157.5
Total	78.7	94.2	92.5	91.5	94.4	91.2	90.3

1 Introduction

Spanish business bankruptcy rates, the ratio between the number of insolvent enterprises filing for reorganization or liquidation and the population of active enterprises at a given time (BBR from now onward), constitute an anomaly. They are among the smallest in the world and stand well below the corresponding values of Spain's fellow countries, namely high-income economies with good quality overall judicial systems and insolvency rules.[1] At the same time, econometric evidence from cross-country studies on the relative use of formal bankruptcy procedures (e.g. Claessens and Klapper 2005) finds that countries with higher levels of real GDP per capita have higher uses of bankruptcy. Combining data from Euler Hermes (2014) and OECD,[2] in 2006 the number of business bankruptcies per 10,000 enterprises was

[1] For a measure of how the rule of law is experienced in practice in different countries see the World Justice Project (WJP) Rule of Law Index 2015. On the global index, Spain ranks 24th out of 102 countries.

[2] Euler Hermes (http://www.eulerhermes.com) is a leading provider of trade-related insurance solutions that publishes regularly an Economic Outlook with worldwide insolvency indicators and country risk assessments. Data on insolvencies come from national statistics and are then homogenised for cross-

179 in France, 115 in the UK, 96 in Germany, 67 in Sweden, 33 in the US, 25 in Italy, 15 in Portugal and only 3 in Spain.

In response to the dramatic backwardness of the insolvency legislation, the Spanish government carried out a radical reform of the bankruptcy system (law 22/2003) involving as a major step the establishment of new specialised commercial courts. A popular argument in favour of specialisation was that the increased efficiency and accuracy of decisions of these courts would attract a higher number of (distressed) firms to submit petitions in the hope of continuing their business activities. Unfortunately, the net effect of judicial specialisation is in principle ambiguous (see Cabrillo and Fitzpatrick 2008) as both the magnitude and timing of associated benefits and risks are difficult to measure and are affected by the specific features of the environment in which it is considered (e.g. legal traditions, availability of skills and so on). Accordingly, in this study we investigate empirically the impact of these new tribunals. Our contribution, the first to our knowledge to exploit the staggered implementation of the new judicial geography of Spain, provides evidence in favour of the reform. This result is relevant not only for the ongoing discussion over the future of the country's insolvency framework but also for the law and economics debate on the optimality of special courts. Indeed, as stressed by Cabrillo and Fitzpatrick (2008), p. 65: "shifts toward specialization would appear to be the obvious consequence of the times we live in, but the path should be taken with caution, and each decision be subject to local and historical conditions".

The abnormally low level of Spain's bankruptcy rates has been termed by Celentani et al. (2010, 2012) as the Spanish Business Bankruptcy Puzzle (SBBP). These authors ascribe the SBBP to the unattractiveness of the bankruptcy procedures and the resulting preference of Spanish firms for alternative (de facto) insolvency institutions, such as the mortgage system. They conjecture that, due to the cost and inefficiencies of the bankruptcy system, firms deliberately reduce their probability of filing for bankruptcy, for instance by choosing a low leverage capital structure and over-investing in tangible fixed assets.[3] Having found evidence in the data of lower financial leverages and higher weight of tangible fixed assets, the authors also explored the effect of the 2003 major reform of the Spanish Bankruptcy Code (the *Ley Concursal*, which entered into force in the last quarter of 2004) investigating

Footnote 2 (continued)
country comparison. In Table 1a and b below we calculated two different indicators: the business bankruptcy ratio (with the population of active enterprises in the denumerator) and the conditional business bankruptcy ratio (with the number of enterprises that exited the market in the denumerator). On both measures the ranking of Spain remains basically the same. Data on enterprises are taken from OECD Structural and Demographic Business Statistics (http://www.oecd.org).

[3] It goes without saying that the liquidation of secured credits may occur under both regimes. If firms and creditors prefer the mortgage system to filing for bankruptcy, it must be the case that net benefits are bigger under the former than under the latter. Indeed, on some important dimensions, the mortgage system looks very efficient, guaranteeing creditors higher discounted recovery rates and firms (indirectly) better access to credit. According to a survey by the European Mortgage Federation (2007) the time lapse between mortgage foreclosures and the actual distribution of the proceeds of the sale was 7–9 months in Spain, 12 months in Germany, 15–25 months in France and 5–7 years in Italy. At the same time, the median length of a bankruptcy process was between 20 and 23 months. Presumably even higher - if anything - after the 2008 crisis (see also Celentani et al., 2012, p. 27).

whether the capital and asset structures of Spanish firms in 2006 differed substantially from the ones of 2002. Since no significant changes were detected, both in the usage rates of formal bankruptcy and in the balance sheets of Spanish firms, they took this finding as an additional positive confirmation of their conjecture. In a parallel study by Garcia-Posada and Mora-Sanguinetti (2014), more centred on the distress of small businesses, the same hypothesis was tested by comparing the choice of capital structure and filing behaviour in Spain and in countries with more efficient bankruptcy systems. Again, the evidence shows that micro-firms, which represent the majority of businesses in Spain, overinvest in fixed assets that can be pledged as mortgage collateral in order to avoid the more costly and inefficient bankruptcy procedures in the event of default.

But why worry about this behaviour? A compelling argument is provided by Garcia-Posada (2013) within an incomplete contracts model adapted from Bolton and Scharfstein (1996) that implies three sources of potential efficiency losses associated with low business bankruptcy rates (i.e. prevalence of the mortgage system): overinvestment in capital assets by those firms that require high level of other inputs; some inefficient liquidations[4] due to the creditor-friendliness of the insolvency regime and the inherent liquidation bias of creditors; no access to unsecured lending such as venture capital for the smallest firms as long as some of the bankruptcy costs are fixed. These losses "will be greater for firms with low liquidation values but high going-concern ones, such as those from technologically innovative industries, which are normally characterised by high levels of human capital and firm-specific assets. Therefore, the rare use of the bankruptcy system may be associated to low levels of welfare" (p. 10). This kind of inefficiency is also detected for a panel of countries by Succurro (2012), who finds that the bankruptcy law, in terms of its degree of sophistication and enforcement, affects positively the investment to GDP ratio of a country.

In our view, the above argument becomes even more meaningful in light of the ongoing debate on the relationship between the institutional context and entrepreneurship (Acs, Åstebro, Audretsch and Robinson 2016), which carefully differentiates between routine entrepreneurship ("a type of management", p. 37) and novel entrepreneurship ("activities necessary to create or carry on an enterprise where not all the markets are well established or clearly defined, and in which the relevant parts of the production function are not known", p. 37). In this latter case the public policy issue is about the enabling environment and whether it allows the entrepreneur to complete the production function and fill in the missing input markets: "a question of knowledge and knowledge spillovers, finance and human capital" (p. 38). Indeed, taking one of the most popular models of novel entrepreneurship such as Audretsch and Keilbach (2007), it is immediate to see the inefficiency of an insolvency system dominated by secured loans. Unlike the traditional approach, that assumes entrepreneurial opportunities as given (and pervasive) and concentrates on the individual specific attributes that make an entrepreneur, here entrepreneurship is an endogenous response to opportunities that originate from *incomplete commercialization* in

[4] Here inefficient liquidation refers to the liquidation of the firm's assets by the creditor even if the project's continuation value is higher than its liquidation value.

incumbent organizations, i.e. ideas and knowledge left uncommercialized as a result of uncertainty inherent in knowledge and appropriable by third parties due to the unique properties (non-excludability and non-exhaustibility) of this factor of production. Thus, "in contrast to investment in traditional resources, such as physical capital, investments in knowledge have a high propensity to spillover for commercialization by third-party firms" (p. 1246) and "contexts rich in knowledge should generate more entrepreneurship, reflecting more extensive entrepreneurial opportunities" (p. 1249). Both these facts are well documented in the empirical literature.

Against this backdrop, and the more recent evidence that Spanish bankruptcy rates soared during the crisis closing marginally the gap relative to the rest of the EU countries (see Table 1), little attention has been paid to whether or not a major innovation of the recent bankruptcy reform, namely the creation of specialised commercial courts (SCCs), i.e. tribunals of narrowly focused jurisdiction equipped with judges who are considered experts, have played a significant role. This paper contributes to the literature on the relative use of the formal insolvency system (Claessens and Klapper 2005) by documenting the influence of this new key feature of Spain's judicial system on the country's puzzingly low bankruptcy rates. By exploiting the staggered implementation of the SCC across time and regions, we are able to estimate the impact of these tribunals on the usage of the bankruptcy system through an endogenous treatment-regression model. After controlling for other relevant factors, the analysis provides support for specialised courts. This suggests that Spain, in the (likely) event of further revisions of the insolvency act, should build on the positive evidence regarding these new institutions. The rest of the paper is organized as follows. The next session relates the paper to the small but increasing number of studies concerning the impact of specialised courts on economic/legal outcomes. The following three sections are dedicated to describing the Spanish case study, discussing the methodology adopted for the empirical application and presenting the results, respectively. The final section draws some conclusions.

2 Overview of related studies

Within the extensive literature documenting the role played by the quality of laws, regulations and enforcement in the development of financial markets and firm corporate governance around the world, two types of studies are closely related to our work. The first investigates which factors affect the use of formal insolvency systems, the second scrutinises advantages and disadvantages of specialised courts. Among the studies of the first type, the analysis by Claessens and Klapper (2005) on the relative use of bankruptcy around the world is the central contribution. Using data from 35 countries, these authors set up a series of panel regressions in which the dependent variable is the number of total commercial bankruptcy filings (normalised by the total number of firms) and the main explanatory variables are measures of a country's macroeconomic performance (GDP per capita and growth rate of GDP, both expected to have a negative effect), orientation of the financial structure (banks vs equity markets, under the hypothesis that bank-based systems are less likely to use bankruptcy), concentration of SMEs (i.e. firms that may find

out-of-court negotiations more efficient than costly formal proceedings), index of creditor's rights (borrowed from La Porta et al. 1998) and characteristics of the judicial system. The latter is captured by dummies for the legal origins (with common law countries regarded as more creditor-friendly and civil law as more debtor-friendly) and an index of the rule of law (the idea being that the efficiency and integrity of the legal environment favours the use of courts to resolve distress). They find that bankruptcies are higher (1) in common-law countries and in market-oriented financial systems (2) in countries with greater judicial efficiency. "Whether courts are asked to help resolve financial distress may also similarly depend on the efficiency of the judicial systems. Creditors may be more likely to undertake the costs of filing for bankruptcy if they are able to effectively use the courts in the case of default. A country with strong and efficient legal enforcement might thus see more frequent use of the statutory provisions provided in the legal code"(p. 9). As for the role of creditors rights, although overall they are not associated with more use of bankruptcy (due probably to offsetting effects), some individual component like "no automatic stay on assets" and "restrictions on reorganizations" are associated respectively with fewer and more bankruptcies and, what's more, both the general index and its components show significant interactions with the efficiency of the judicial system. In particular, in light of the negative sign of the interaction terms (with the exception of no automatic stay on assets), this suggests that more creditor-rights and better enforcement are substitutes in affecting usage. Indeed in a companion work on a sample of publicly traded firms in 5 East-Asian countries, Claessens et al. (2003) find that stronger creditor rights and a better judicial environment increase the likelihood of bankruptcy filing. Later works in this vein have explored differences in bankruptcy rates across the US (Lefgren and McIntyre 2009) and cantons of Switzerland (Buehler et al. 2012) using micro data rather than aggregate spatial rates. Interestingly in both studies spatial differences in bankruptcy rates reflect differences in garnishment restrictions, non legislated legal institutions, local culture and demographic factors. Morrison (2008) examines the low usage of the bankruptcy code by small businesses in the US and concludes that professional fees and other bankruptcy costs make state-law alternatives like foreclosure, workout agreements with creditors or assignments for the benefit of creditors more attractive.

Our application concentrates on the administrative regions of Spain, i.e. on observational units within a unified national legal system and uniform institutional features. This background homogeneity provides an ideal setting for studying the impact on aggregate bankruptcy rates of a legal reform that introduced relatively new corporate rehabilitation rules (valid throughout the country) along with new specialised courts immediately operational only in some regions. But what are the main advantages and disadvantages of this type of courts?

According to Dreyfuss (1990) the positive components (e.g. reduced workload of generalist courts, more efficiency in handling cases, more rapid, consistent and uniform judicial decisions) are easily matched by the negative ones (e.g. no cross-pollination among legal theories, higher risk of capture by specialised interests, new sources of contention, even additional workload). Extending the analysis to include past experiences (from the US) and factors that contribute to the success of a specialised tribunal (peculiarities of the field of specialisation; characteristics of

involved parties, bar and judges; implementation strategy), she concludes that "it seems clear that there are some fields of law that would benefit from consolidation and expert adjudications. Decisions to establish new specialised tribunals should be animated by a desire to capture these benefits, rather then primarily by the wish to resolve the federal dockets crisis" (p. 441). Much the same conclusions are reached by Zimmer (2009) in an overview of specialised courts in which it is argued that specialised judges "function most effectively if they have a relatively constant supply of new cases that are generated by disputes in the developing area of the law that their jurisdiction covers" (p. 5), and on that account a possible area of successful specialization is certainly bankruptcy. Looking at comparative advantages in expanding the specialisation of judicial functions, one could argue with Cabrillo and Fitzpatrick (2008, p. 62) that civil law countries are better suited than common law countries. In the former countries judges are already specialised in certain fields, they follow a career path that can benefit from accepting specialisation, there is more room for specialisation in light of the greater codification of law. Moreover the ratio of judges to lawyers is higher. Finally, Ayotte and Yun (2007) examine the ways in which optimal bankruptcy laws depend on judicial expertise and quality of contract enforcement. In line with the finding of Claessens and Klapper (2005) they show not only that high-quality courts are important in addition to the design of the legal code but also that the necessary amount of creditor protection is increasing in judicial errors.

Turning to the empirical evidence, Garoupa et al. (2010) investigate one of the major expected advantages of specialised courts—faster decisions—in relation to family law in Spain. Like many other civil law countries, under the pressure of increasing divorce rates and associated litigations, Spain has developed a network of family courts, mainly located in the capital city of a province. In districts where these courts have no jurisdiction, the civil court of first instance takes care of the family law. Controlling for the court and the location where the process began and for a host of variables concerning the complexity and the administrative procedures associated with the cases, they estimate an ordered probit on the probability of a case subject to litigation being concluded within given time intervals. Specialised courts seem to handle litigation with a lower average duration than regular courts, but the overall econometric evidence is not strong. The work by Visaria (2009), on the effects of the judicial reform that established Debt Recovery Tribunals (DRTs) in India, tells a different story. DRTs are special in that they follow a summary procedure that demands faster processing and greater accountability by the litigants, otherwise they are similar to standard civil courts. The initial opposition to the judicial reform led to a staggered pattern of establishment of DRTs that allows the author to implement a difference-in-difference econometric analysis about the impact of DRTs on both repayment behaviour and lending behaviour. It is found that the specialised tribunals reduced delinquency for the average loan by 28 percent and lowered the interest rates charged on larger loans. Similarly Chemin (2012), in relation to the 2002 Amendment Act implemented in India to facilitate the speedy disposal of cases, after showing that the Act had the intended effect, analyse the impact of the reform on firm performances. Again, the spatial variation induced by the fact that some states had already enacted some of the amendments of the Act allow the author to isolate—through a difference-in-difference strategy—the impact

of the courts on economic activity. More precisely, focusing on a sample of non-agricultural firms, it is found that speedier courts decrease the probability to experience a breach of contract, increases investment, and decreases the probability to experience a shortage of capital. Finally, Ponticelli (2015) in the attempt to test the implications of a model of technology adoption by firms, in which the maximum amount they can borrow depends on the strength of creditor protection (national) rules and on the efficiency of local courts, implement a difference-in-difference strategy that exploits a major bankruptcy reform that took place in Brazil in 2005 (external source of variation) and the heterogeneity of congestion across Brazilian court districts (source of cross-sectional variation). After the reform, firms operating under less congested courts experienced larger increase in investment and productivity. Overall, the studies reviewed above suggest that specialisation is likely to bring greater judicial efficiency in certain areas of law (including bankruptcy procedures) and that it can work more easily in civil law countries. This judicial efficiency is likely to translates into speedier, more accurate and less costly proceedings. Even more so in the case of Spain whose pre-reform regime was universally regarded (and officially described, see footnote 6) as muddled and obsolete. Hence, correcting for a host of regional variables and time and individual effects, our hypothesis is that the establishment of specialised courts in Spain is going to be associated with more use of the formal insolvency framework.

3 Background information and data

On bankruptcy matters, Spain makes an interesting case study not only because it represents an outlier relative to the richest countries of the world but also because it provides an example of a major insolvency reform that was enacted with great expectations and is now under profound review. During the period under study (2005–2013), Spain was hit by a tremendous economic crisis, that pushed the number of bankruptcies from 919 cases in 2005 to 9022 in 2013, a dramatic 881.7% increase (source: Instituto Nacional de Estadistica 2015). The bankruptcy rate, however, might have soared also in response to the greater attractiveness of the insolvency system relative to the past. With the entry into force on September 2004 of the Organic Law 8/2003[5] and the Insolvency Act 22/2003, the old insolvency framework (and its pitfalls[6]) was phased out and replaced by a brand new system

[5] Under the Spanish Constitution, unlike an ordinary law, an organic law is required on specific areas of law (e.g. fundamental rights) and must be passed by an absolute majority of the Congress of Deputies. In the present case modifications to both the fundamental rights of the debtors and the judicial organisation prompted this rank of the law.

[6] It is interesting to see how these pitfalls are described in the official motivations (expósition de motivos) of the Ley 22/2003: "Archaism, lack of adaptation to the social and economic reality of our time, dispersion, lack of a harmonic system, prevalence of certain private interests over other more general ones disregarding the principle of equality in treatment of creditors, thus leading to unfair solutions, frequently caused in practice by manoeuvres in bad faith or with abuse or simulation, which the rules that regulate the insolvency institutions do not manage to effectively suppress" (Ministerio de Justicia, 2010, pp. 2).

centered on the *Juzgados de lo Mercantil*, special commercial courts competent to hear and decide on insolvency. The Mercantile Judge's jurisdiction is exclusive and excludes others in relevant matters (e.g. civil actions against the insolvent debtor assets; labour actions in which the employer is the insolvent debtor; all enforcement on properties, goods and rights pertaining to the insolvent debtor's aggregate assets).

The judges sitting in these new courts are expected to have an in-depth knowledge of the matters brought before them, so that they may make fully informed decisions on matters of unquestionable technical difficulty, and do it more efficiently. The expected broader unity and understanding in the interpretation of law will also result in greater legal certainty.[7]

As a general rule, the Ley Organica 8/2003 (article 2) envisaged the creation of at least one Commercial Court in the capital of each province (more than one, in different districts of the provincial capital, when warranted by the size of the population, the concentration of industry or businesses and the scale of economic activity), with jurisdiction over the province territory. In order to understand the geography of the reform, it is worth reminding that Spain has three levels of territorial organization: municipalities (NUTS 1), provinces (NUTS 3) and autonomous communities/cities (NUTS 2). There are 50 provinces, distributed in 17 autonomous communities, and the autonomous cities of Ceuta and Melilla.

The new specialised courts have been established mostly in large cities and the original plan is yet to be completed. The initial distribution by province of these courts was as follows: 5 in Madrid, 4 in Barcelona, 2 in Valencia and 1 in each of 13 additional provinces (Cadiz, Malaga, Seville, Oviedo, Palma de Majorca, Las Palmas de Gran Canaria, Santa Cruz de Tenerife, Alicante, La Coruña, Pontevedra, Murcia, San Sebastian and Bilbao). Thus, since 2005 about 24 new commercial courts were created. Figure 1 shows the actual spatial distribution of these Commercial Courts in 26 provinces.[8] In the areas not yet covered by the new tribunals, the bankruptcy law will be exercised by the ordinary civil courts (Juzgados de Primera Instancia). Figure 2 provides the timing of the 26 provinces covered by the reform Ley Organica 8/2003.

Both the debate that preceded the reform and the explicit motivations for special courts given in the Organic Law 8/2003 underline the increased attractiveness of the new bankruptcy regime, with its promise of consistent, uniform and swift decisions. So, all other things being equal, provinces in which Commercial Courts are present should experience an expansion in the demand for bankruptcy procedures, that is an increase in the bankruptcy rate.

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[7] As told by judge Blas Alberto González Navarro (2008, p. 8), recruiting talented judges turned out to be difficult: "The first edition of the examination was sat by the most well-known Judges, those who had been hearing mercantile cases for years, especially in Madrid and Barcelona, and a second group of Magistrates who were simply interested in the subject… [N]early 150 candidates applied for 50 positions, but only 37 passed the exam. Famous names who at the time were considered the elite of mercantile justice failed." Needless to say, even talented specialized judges might make imperfect decisions, depending on professional experience, isolation, and the lack of percolation of ideas typical of courts with exclusive jurisdiction.

[8] This Figure has been downloaded from http://www.poderjudicial.es/ (01/09/2016).

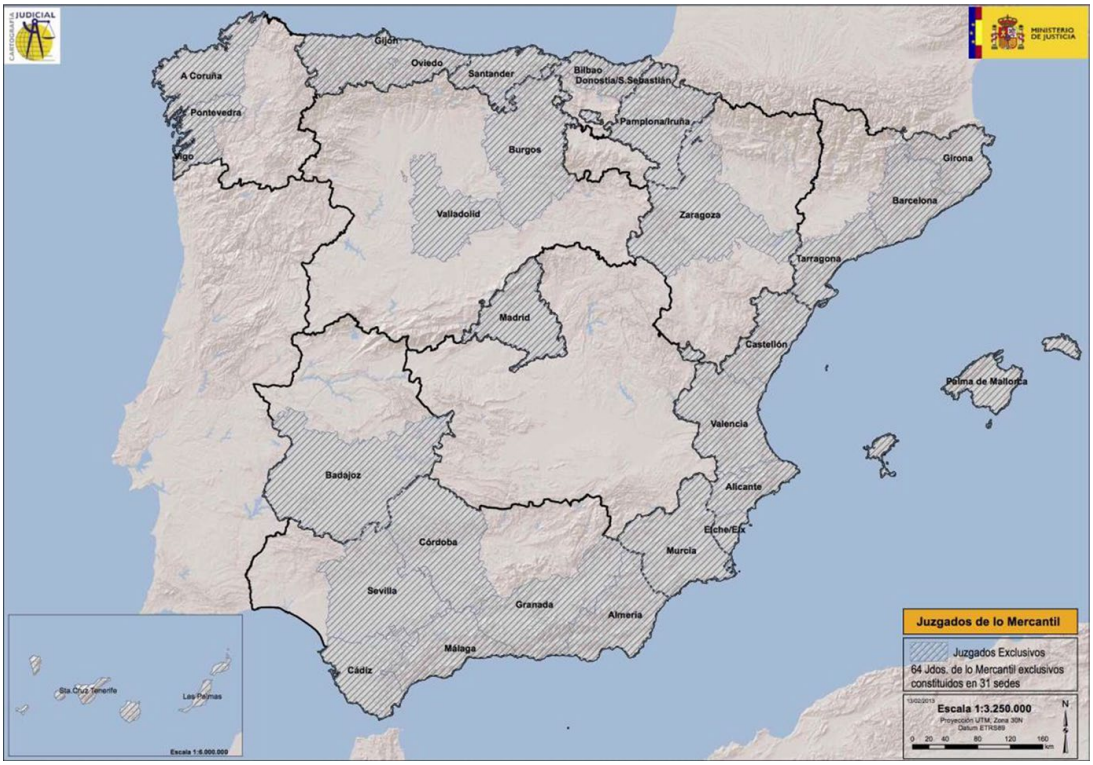

Fig. 1 Spatial distribution of Commercial Courts in Spain. This Figure has been downloaded from http://www.poderjudicial.es/ (01/09/2016)

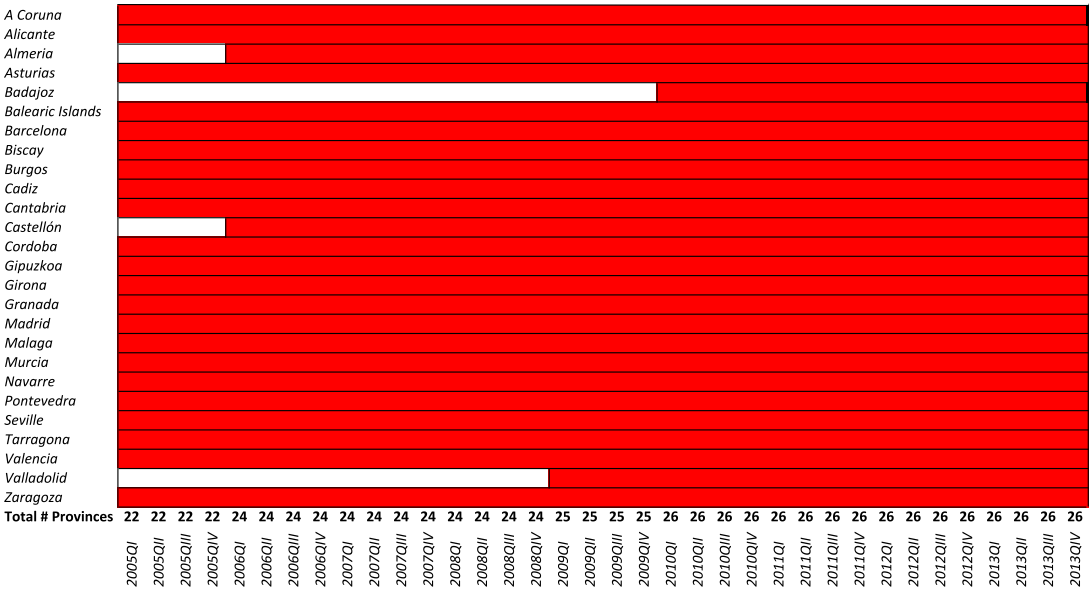

Fig. 2 Timing of Commercial Courts in Spain. Authors' elaboration from Spanish General Council of Judiciary data (http://www.poderjudicial.es/, 01/09/2016)

Table 2 Conditional bankruptcy rates (× 10,000)

	2008	2009	2010	2011	2012	2013	Mean
Belgium	48	49	53	85	79	100	69
Czech Rep.	2	2	2	2	3	6	3
Denmark	15	22	27	24	22	18	21
Germany	12	13	13	12	11	11	12
Estonia	4	10	15	17	8	6	10
Ireland	4	6	10	9	16	8	9
Spain	1	2	2	2	3	3	2
France	28	30	31	31	36	37	32
Italy	3	4	4	4	4	4	4
Latvia	11	18	29	17	7	18	17
Lithuania	2	7	8	7	5	12	7
Luxembourg	29	36	45	45	49	46	42
Hungary	18	27	28	26	26	14	23
Netherlands	8	10	10	9	9	11	10
Austria	27	27	22	19	19	17	22
Poland	0.26	0.33	0.33	0.33	0.39	0.44	0
Portugal	2	3	3	3	5	4	3
Slovakia	1	2	3	2	2	3	2
Finland	13	16	14	16	20	20	17
Sweden	17	19	18	19	14	16	17
UK	12	12	13	15	13	12	13
Norway	20	29	27	37	28	38	30
TOTAL	9	10	11	10	10	10	10

To test this hypothesis, a quarterly provincial dataset of Spanish bankruptcy petitions has been collected from INE (Instituto Nacional de Estadistica 2015).[9] The time span is 2005Q1–2013Q4. By means of a panel data approach, we have explored the relationship between Commercial Courts' implementation and bankruptcy rate in Spain. We speculate on the fact that so far not all Spanish provinces (NUTS 3) have at least one commercial court. In other words two groups can be identified: the treated and untreated (or control ones). Comparing the average level of the two groups and controlling for other relevant explanatory variables, we are able to measure the effect of judicial reform on bankruptcy rates (Table 2).

In mathematical notation the regression equation specification is as follows:

$$BANK_{it} = \beta_0 + \beta_1 FIRMS_{it-1} + \beta_2 GDP_{it-1} + \beta_3 \Delta GDP_{it-1} + \beta_4 LTV_{it-1} + \beta_5 SE_{it-1} + \beta_6 COURTS_{it-1} + \varepsilon_{it}$$

[9] Las Palmas de Gran Canaria, Santa Cruz de Tenerife, Ceuta and Melilla have been excluded, since the data for these territories are incomplete.

with $i = 1, \ldots, 48$ and $t = 1, \ldots, 36$.

The vector ε stands for the error component. Regional, year and seasonal dummies are also included in order to control for time and individual effects.[10] All the variables are lagged by one period to reduce the likelihood of endogeneity. Table 3 provides a short description of the variables under study.

The dependent variable ($BANK_{it}$) is the number of formal bankruptcies per 1000 firms in the i-th province at time t. *FIRMS* indicates the number of enterprises over the province population. It should represent firms' density and the expected sign is positive.

GDP and ΔGDP indicate real GDP per capita and real GDP growth, respectively. The latter is included to control for the business cycle.

LTV represents the loan-to-value, that is the ratio between the average mortgage and the average house price in the i-th province at time t. This ratio captures the amount of debt as a percentage of the value of the collateral. A high value of this variable, for example 90%, means that the loan is a risky one as a decrease in value of the collateral by only 10% reduces the value of the collateral below the amount owed to lenders. The expected sign is not unequivocal here. On the one hand, higher values of *LTV* can increase the probability of bankruptcy; on the other hand, according to Garcia-Posada and Mora-Sanguinetti (2012), we might expect a trade-off between the use of the bankruptcy system and the mortgage system. In the latter case, a negative correlation between bankruptcy rate and *LTV* is expected.

SE indicates the share of small enterprises (i.e. with less than 50 employees) over the total number of firms. This covariate controls for the production structure of each province. Since small businesses traditionally tend to skip the bankruptcy procedures, a negative sign is expected.

COURTS is our variable of interest. It is a dummy variable that denotes the presence of commercial courts: it takes a value of one if a commercial court is operating in the i-*th* province at time t. The idea is to compare the treated and control groups in order to measure the effect of judicial reform. Unfortunately, as highlighted in the previous section and showed in Fig. 1, the spatial distribution of these commercial courts is not random. In other words, their presence is related to the local demand of commercial court services. For example, the higher the number of bankruptcy in a given province, the higher the probability to enact a commercial courts there. This means that our treatment variable, *COURTS*, is endogenous and that standard difference-in-difference strategies (e.g. as in Visaria 2009) cannot be adopted.

Nevertheless, we can implement the endogenous treatment-regression model pioneered by Heckman (1976, 1978) and developed by Maddala (1983) with two different estimators based respectively on the maximum likelihood and the standard two-step approach. More recently, Cameron and Trivedi (2005) and Wooldridge (2010) apply this family of models to the case of an endogenous binary-variable. These techniques allow to estimate an average treatment effect (ATE) and the parameters of a linear regression model augmented with an endogenous binary-treatment variable.

[10] Regional dummies are expected to capture differences in judicial efficiency accross Spain provinces (Mora-Sanguinetti et al, 2017).

Table 3 Variables description (period: 2005Q1–2013Q4)

Variables	Type	Description	Source (year)
BANK	Dependent variable	Number of formal bankruptcies per 1000 firms	Instituto Nacional de Estadistica (2015)
FIRMS	Covariate	Number of enterprises over the province population	Instituto Nacional de Estadistica (2015)
GDP	Covariate	Real GDP per capita	Instituto Nacional de Estadistica (2015)
ΔGDP	Covariate	Real GDP growth	Instituto Nacional de Estadistica (2015)
LTV	Covariate	Ratio between the average mortgage and the average house price	Instituto Nacional de Estadistica (2015)
SE	Covariate	The share of small enterprises (< 50 employees) over the total number of firms.	Instituto Nacional de Estadistica (2015)
COURT	Covariate	= 1 if a commercial court is operating; = 0 otherwise	Consejo General del Poder Judicial (2015)
UNDERGRAD	Instrument	Ratio between undergraduate students in university law programs over total undergraduate students	Instituto Nacional de Estadistica (2015)
MASTER	Instrument	Ratio between Master students in university law programs over total Master students	Instituto Nacional de Estadistica (2015)

Table 4 Descriptive statistics and unit root tests (#Obs. = 1728)

	All sample			Before 2009		After 2009		|t-test|
	Mean	SD	UR test	Mean	SD	Mean	Mean	
BANK	−2.48	3.10	−6.38***	−3.65	3.56	−1.02	1.41	19.28***
FIRMS	−2.70	0.12	−4.86***	−2.68	0.11	−2.72	0.12	6.76***
GDP	3.03	0.18	−5.19***	3.03	0.18	3.02	0.19	1.00
ΔGDP	0.0018	0.019	−50.28***	0.0048	0.024	−0.0017	0.062	7.32***
LTV	1.95	0.15	−2.94***	2.02	0.11	1.86	0.14	25.58***
SE	−0.0066	0.0024	−2.68***	−0.0071	0.0024	−0.0061	0.0022	9.03***
COURTS	0.51	0.49	–	0.49	0.50	0.54	0.50	1.89*
UNDERGRAD	−2.79	0.34	−4.17***	−2.88	0.01	−2.72	0.01	9.84***
MASTER	−3.03	0.58	−3.08***	−3.08	0.01	−3.00	0.01	2.87***

All variables are expressed in log terms (except for the dummy COURTS and ΔGDP). The UR test is the Levin–Lin–Chu unit-root test, in which lags average is chosen by the Akaike information criterion

The |t-test| represents the test on the difference between the two sample means

***1%; **5%; *10% level of significance

More formally, the endogenous treatment-regression model is composed of an equation for the outcome *BANK* and an equation for the endogenous treatment *COURTS*:

$$BANK_{it} = X_{it}\beta + \delta COURTS_{it} + e_{it}$$
$$COURTS_{it} = \begin{cases} 1, & if\ w_{it}\gamma + u_{it} > 0 \\ 0, & otherwise \end{cases}$$

The covariates x_i and w_i are uncorrelated with the error terms (both e and u); in other words, they are exogenous. In our case, the matrix X in Eq. (2) includes all covariates listed in (1), except for *COURTS* (our endogenous treatment variable).

We have to find one (or more) instrumental-variable(s) for dealing with the endogeneity issue. Notably, these variables have to be correlated with the endogenous treatment *COURTS*, but not with the dependent variable *BANK*. Two variables are proposed here: *UNDERGRAD* and *MASTER*. The first one (*UNDERGRAD*) is the ratio of the number of undergraduate students attending university law programs to the total number of undergraduate students in a given province; the second (*MASTER*) is the ratio of the number of students attending academic Master programs in law to the total number of Master students in the *i*-th province. The rationale is that together they account for the local specialization in legal services. The higher the ratio of undergraduate and graduate students over the total student population, the higher the supply of law school graduates and the specialisation in this knowledge domain. Consequently, the probability to open a commercial court increases with these two variables. We express the two variables in relative terms rather than absolute terms to make sure they do not

Table 5 Descriptive statistics by group (#Obs. = 1728)

	All sample		COURT = 0		COURT = 1		
	Mean	SD	Mean	SD	Mean	SD	|t-test|
BANK	−2.48	3.10	−3.24	3.87	−1.83	2.04	9.64***
FIRMS	−2.70	0.12	−2.73	0.11	−2.67	0.12	10.12***
GDP	3.03	0.18	3.01	0.16	3.05	0.19	4.33***
ΔGDP	0.0018	0.019	0.0021	0.018	0.0015	0.018	0.72
LTV	1.95	0.15	1.95	0.14	1.95	0.16	1.11
SE	−0.0066	0.0024	−0.0052	0.0019	−0.0078	0.0021	25.88***
UNDERGRAD	−2.79	0.34	−2.83	0.009	−2.75	0.01	4.66***
MASTER	−3.03	0.58	−2.94	0.02	−3.11	0.01	5.85***

All variables are expressed in log terms (except for the dummy COURTS and ΔGDP)

***1%; **5%; *10% level of significance

incorporate also province size effects. In order to increase the validity of these instruments, both variables are lagged by six periods.

Table 4 displays descriptive statistics of all the variables under study. All variables are expressed in logs (except for the dummy COURTS and ΔGDP). In the third column, the results of the Levin-Lin-Chu unit-root test confirm that all the variables under study are stationary. Furthermore, in order to measure to what extent the 2008/09 crisis affected the variables under study, we have split the sample in two groups: before and after 2009. The *t* test on the difference of the means indicates a statistically significant difference between the two sub-sample periods.

Finally, Table 5 shows descriptive statistics of all the variables under study by group: treated and no-treated provinces. As confirmed by the t-test on the difference between the means, the two groups are statistically different in many dimensions. This corroborates the hypothesis of endogeneity of our main binary variable (COURTS) and the need of an IV approach in order to control for sample selection. Furthermore, Table 5 allows us to easily compare the bankruptcy rate ($BANK_{it}$, as defined in Sect. 4) across provinces according to the presence of a commercial court in the time span 2005–2013. Provinces in which a commercial court is operating experience higher levels of bankruptcy rates than provinces covered by ordinary courts only: on average, in the former we observe a value of −3.24 while in the latter the corresponding number is only −1.83 (the value of the t statistic is 9.64, which indicates that the difference of means is statistically significant at the 0.001 level). Although these findings are far too preliminary to demonstrate the impact of commercial court, they lend promising evidence to the econometric analysis presented and discussed in next section.

Table 6 The endogenous treatment-regression model (dependent variable: $BANK_t$)

	(I)	(II)	(III)	(IV)	(V)	(VI)
$FIRMS_{t-1}$	3.52***	3.51***	3.52***	2.94***	1.08	3.19***
	(0.83)	(0.80)	(0.83)	(0.83)	(0.74)	(0.82)
GDP_{t-1}	−0.51		−0.67	9.23***	0.13	−1.01
	(2.99)		(3.16)	(1.86)	(0.65)	(2.93)
ΔGDP_{t-1}	4.68	4.52	6.54	−11.38***	−18.21***	5.05
	(3.85)	(3.74)	(4.14)	(3.32)	(3.50)	(3.86)
LTV_{t-1}	−5.00**	−5.09***	−4.67***	−15. 95***	−6.30***	−9.23***
	(1.99)	(1.95)	(1.77)	(0.74)	(0.41)	(1.97)
LTV_{t-1} x SE_{t-1}						*−727.02****
						(213.27)
SE_{t-1}	−287.11***	−284.82***	−286.82***	−168.19***	−48.42	1177.19***
	(54.70)	(55.07)	(55.04)	(51.44)	(45.08)	(403.87)
$COURTS_{t-1}$	0.58**	0.98***	0.57**	1.02***	2.53***	0.67***
	(0.24)	(0.27)	(0.25)	(0.22)	(0.26)	0.13
Constant	16.00*	9.61	15.63	11.83*	10.91**	24.88***
	(9.19)	(9.31)	(9.38)	(6.53)	(3.93)	(9.25)
Dummy: R, Y, S	yes;yes;yes	yes;yes;yes	yes;yes;no	yes;no;yes	no;no;no	yes;yes;yes
Dep: COURTS						
$UNDERGRAD_{t-2}$	1.43***	1.43***	1.43***	1.47***	1.50***	1.43***
	(0.13)	(0.13)	(0.13)	(0.13)	(0.12)	(0.13)
$MASTER_{t-2}$	−0.78***	−0.78***	−0.78***	−0.80***	−0.80***	−0.78***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Constant	1.65***	1.65***	1.64***	1.71***	1.77***	1.65***
	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)
Rho	−0.12***	−0.12***	−0.12**	−0.26***	−0.30***	−0.13***
Wald test	780.02***	779.71***	762.78***	651.77***	332.53***	924.30***
AIC	9537.43	9535.46	9557.45	9651.71	9971.71	9533.89
Weak Instr.	103.1***	85.47***	103.6***	113.4***	230.39***	88.08***
Wu-Hausman	5.56**	3.42*	5.21**	30.36***	26.96***	7.16***
Sargan Test	0.40	0.35	0.47	0.22	1.36	0.003

Robust standard errors reported in parentheses. ***1%; **5%; *10% level of significance. R, Y and S stand for regional, annual and seasonal dummies, respectively

4 Results

Looking at Table 5, *prima facie* commercial courts have a positive effect on Spanish bankruptcy rates. But what about a more rigorous econometric formulation that controls for the number of firms, GDP per capita, GDP growth, loan-to-value ratio, share of small firms in the economy and endogeneity issues between bankruptcy rate and commercial courts?

To this end we estimate different specifications using the two-step robust endogenous treatment-regression model, known also as endogenous binary-variable model

or endogenous dummy-variable model, using STATA13 software (*etregress* command). Results are shown in Table 6.

As shown in the bottom rows of Table 6, all diagnostic tests are statistically significant for all the specifications which give support to the model. Rho, i.e. the estimated correlation coefficient between the treatment-assignment errors and the outcome errors, indicates that the unexplained part that raise observed bankruptcy rates tends to occur with the unexplained component that lowers commercial courts' presence. The Wald statistic is a test of the overall significance of the regression model (except for the constant). The last three rows report the diagnostic tests concerning the two instrumental variables used, namely UNDEGRAD and MASTER. The first test on weak instruments is based on the null hypothesis that the instruments have a low correlation with the endogenous explanatory variable. For all the models considered here, the null is rejected, so we are confident that the instruments are sufficiently strong. Second, Wu-Hausman tests the hypothesis that IV is just as consistent as OLS. In all the specifications we can easily reject the consistence of OLS estimates. Third, Sargan tests the overidentification restrictions and we accept the null hypothesis that the instruments are jointly valid. We interpret this result as further favourable evidence for the choice of the instrumental variables.

All columns include regional dummies, the first three and the last column year dummies, while the first two, the forth and the sixth column seasonal controls. The results support the idea that provinces in which a commercial court is operating tend to be those with higher bankruptcy rates. Using (I), the presence of a commercial courts lead, on average, to an increase in bankruptcy rate by $(\exp(0.58) - 1) \times 100 = 78.60\%$. These findings are rather robust: year, region and seasonal controls included can be dropped without affecting the main results (which range between 0.57 and 2.53).

The coefficients of the remaining variables are in line with expectations. Looking at (I), FIRM is significantly and positively correlated with bankruptcy rates: an increase by 1% in firms' density raises the bankruptcy rate by 3.52%. GDP per capita and GDP growth are significant only when we do not include year dummies where, as expected, GDP has a positive impact while GDP growth is negatively correlated to bankruptcy.

The same sign applies to the covariates loan-to-value and small firms share. These findings seem to confirm the trade-off between the use of the bankruptcy system and the mortgage system. Furthermore, the higher the share of small enterprises in the economy of a given province, the lower its bankruptcy rate. Again, small businesses depress the demand of bankruptcy procedures. In the last column we interact these two variables. As one can see both these variables separately and the interaction term are highly significant. It seems that the trade-off between the use of the bankruptcy system and the mortgage system is even higher in regions highly populated by small enterprises, confirming the hypothesis that small businesses prefer the mortgage system.

Finally, Table 7 shows some robustness checks. The parameter of interest is strong and significant when there are no covariate controls (column I). After including the explanatory variables in the model (columns II-IV, Table 5), the impact of

Table 7 Robustness check of model specification and method (dependent variable: $BANK_t$)

	(I)	(II)	(III)	(IV)
$FIRMS_{t-1}$		2.17***	2.13***	2.05***
		(0.77)	(0.77)	(0.79)
GDP_{t-1}			4.78	1.52
			(3.79)	(2.97)
ΔGDP_{t-1}				4.27
				(3.91)
LTV_{t-1}				
SE_{t-1}				
$COURTS_{t-1}$	1.32***	1.22***	1.24***	1.24***
	(0.28)	(0.27)	(0.27)	(0.27)
Constant	−5.16***	1.02	0.98	−3.42
	(0.44)	(2.20)	(2.22)	(8.98)
Dummy R-Y-S	yes;yes;yes	yes;yes;yes	yes;yes;yes	yes;yes;yes
Instrumental variable: $UNDERGRAD_{t-2}$; $MASTER_{t-2}$				
AIC	9588.51	9583.89	9584.06	9585.73

Robust standard errors reported in parentheses. ***1%; **5%; *10% level of significance. R, Y and S stand for regional, annual and seasonal dummies, respectively

Table 8 Robustness check of model specification and method (dependent variable: $\Delta BANK_t$)

	(I)	(II)	(III)	(IV)
$\Delta FIRMS_{t-1}$		3.46	0.07	1.38
		(6.95)	(8.26)	(8.32)
ΔGDP_{t-1}			3.37	−1.61
			(5.58)	(6.61)
ΔLTV_{t-1}				−2.28
				(2.07)
ΔSE_{t-1}				−920.13**
				(391.17)
$COURTS_{t-1}$	3.80***	3.66***	3.79***	3.78***
	(0.28)	(0.29)	(0.28)	(0.29)
Constant	−2.23***	−1.91***	−2.22***	−2.22
	(0.73)	(0.20)	(0.73)	(0.73)
Dummy Y-S	yes;yes	yes;yes	yes;yes	yes;yes
Instrumental variable: $\Delta UNDERGRAD_{t-2}$; $\Delta MASTER_{t-2}$				
AIC	10,074.60	9687.52	10,077.97	10,077.23

Robust standard errors reported in parentheses. ***1%; **5%; *10% level of significance. Y and S stand for annual and seasonal dummies, respectively

Table 9 Robustness check of model specification and method (dependent variable: # bankruptcies)

	(I)	(II)	(III)	(IV)
$COURTS_{t-1}$	1.92***	1.88*	4.64***	3.83***
	(0.13)	(0.99)	(0.36)	(0.45)
Regional dummies	Yes	Yes	Yes	No
Year dummies	Yes	Yes	No	No
Seasonal dummies	Yes	No	Yes	No
Other independent variables	$FIRMS_{t-1}$, GDP_{t-1}, ΔGDP_{t-1}, LTV_{t-1}, SE_{t-1}			
Instrumental variable: $UNDERGRAD_{t-2}$; $MASTER_{t-2}$				
AIC	10,550.53	10,566.15	10,937.59	11,025.57

Robust standard errors reported in parentheses. ***1%; **5%; *10% level of significance. R, Y and S stand for regional, annual and seasonal dummies, respectively

commercial courts is virtually unchanged (ranging between 1.24 and 1.32), indicating that the effect is rather robust.

Although all the variables are stationary (see column 3 of Table 4), we repeat the analysis using the first difference of the variables, except of course the dummy variable COURTS. Again, the main results are confirmed (see Table 8).

In Table 9, instead of using the ratio of number of formal bankruptcies over 1000 firms as dependent variable, we employ directly the absolute number of formal bankruptcy. As one can see in all specifications in Table 9, results confirm the positive and significant effect of the establishment of commercial courts on the number of bankruptcies, whose coefficient ranges between 1.92 and 4.64.

5 Concluding comments

In this paper, we use a panel dataset concerning bankruptcy rates across Spanish provinces to examine the effect of a major reform aimed at raising the quality of judicial administration in insolvency matters. We focused on the role played by the special commercial courts, or *Judgados de lo Mercantil*, established by the Organic Law 8/2003 with the aim not only of speeding up the bankruptcy process but also to achieve greater accuracy, uniformity and consistency of courts decisions in commercial disputes. Exploiting the staggered timing of the courts establishment, we implemented an empirical strategy based on the endogenous treatment regression model aimed at gauging the impact of these new courts on bankruptcy rates. In light of our estimation results, the new commercial courts have had a positive and significant impact on the frequency of bankruptcy petitions. The robustness checks confirm this finding. Although this evidence supports the view that the Spanish bankruptcy reform is having a positive impact, as shown by the relatively large size of the relevant parameters of this study, the fact that Spanish bankruptcy rates haven't left the bottom of the table is signalling that specialised courts governed by competent judges, though necessary, are not

sufficient to hit the ambitious targets of the reform. Spain still represents a puzzle for its very low rate of bankruptcy. However, as the partial implementation of the commercial courts seems to have produced results in the right direction, policy makers should go ahead with the reform, maintaining the high quality level of judges and completing the geography of the specialised courts.

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References

Acs, Z., Åstebro, T., Audretsch, D., & Robinson, D. T. (2016). Public policy to promote entrepreneurship: A call to arms. *Small Business Economics, 47*(1), 35–51.

Audretsch, D. B., & Keilbach, M. (2007). The theory of knowledge spillover entrepreneurship. *Journal of Management Studies, 44*(7), 1242–1254.

Ayotte, K., & Yun, H. (2007). Matching bankruptcy laws to legal environments. *The Journal of Law, Economics, & Organization, 25*(1), 2–30.

Bolton, P., & Scharfstein, D. (1996). Optimal debt structure and the number of creditors. *Journal of Political Economy, 104*(1), 1–25.

Buehler, S., Kaiser, C., & Jaeger, F. (2012). The geographic determinants of bankruptcy: Evidence from Switzerland. *Small Business Economics*, *39*(1), 231–251.

Cabrillo, F., & Fitzpatrick, S. (2008). *The economics of courts and litigation*. Cheltenham: Edward Elgar.

Cameron, A. C., & Trivedi, P. K. (2005). *Microeconometrics: Methods and applications*. New York: Cambridge University Press.

Celentani, M., Garcia-Posada, M. & Gomez, F. (2012). *The Spanish business bankruptcy puzzle*. Mimeo. https://mafiadoc.com/the-spanish-business-bankruptcy-puzzle_59cec65f1723dd81fff0dd63.html. Accessed 14 October 2017.

Celentani, M., García-Posada, M. & Gómez, F. (2010). *The Spanish business bankruptcy puzzle and the crisis*. FEDEA Working Paper 2010-11, http://documentos.fedea.net/pubs/dt/2010/dt-2010-11.pdf. Accessed 13 October 2017.

Chemin, M. (2012). Does court speed shape economic activity? Evidence from a court reform in India. *Journal of Law Economics and Organization, 28*(3), 460–485.

Claessens, S., Diankov, S., & Klapper, L. F. (2003). *Journal of Empirical Finance, 10*(2), 199–216.

Claessens, S., & Klapper, L. F. (2005). Bankruptcy around the World: Explanations of its relative use. *American Law and Economics Review, 7*(1), 253–283.

Consejo General del Poder Judicial (2015). Memoria Sobre el Estado, Funcionamiento y Actividades del Consejo General del Poder Judicial y de los Juzgados y Tribunales en el Año 2014. Getafe, Secretaria General del Consejo General del Poder Judicial.

Dreyfuss, R. (1990). Specialized adjudication. *Brigham Young University Law Review, 1990*(1), 377–441.

Euler Hermes (2014). Eiciency of Mortgage Collateral in the European Union. Economic Outlook no. 1207. Brussels: European Mortgage Federation.

Garcia-Posada, M. (2013). Insolvency institutions and efficiency: The Spanish Case. *SSRN*. https://doi.org/10.2139/ssrn.2213809.

Garcia-Posada, M., & Mora-Sanguinetti, J. S. (2012). *Why do Spanish firms rarely use the bankruptcy system?*. The role of the mortgage institution: SSRN. https://doi.org/10.2139/ssrn.2151810.

Garcia-Posada, M., & Mora-Sanguinetti, J. S. (2014). Are there alternatives to bankruptcy? A study of small business distress in Spain. *SERIEs Journal of the Spanish Economic Association, 5*(2–3), 287–332.

Garoupa, N., Jorgensen, N., & Vazquez, P. (2010). Assessing the argument for specialized courts: Evidence from Family Courts in Spain. *International Journal of Law Policy & Family, 24*(1), 54–66.

González Navarro, B. A. (2008). Commercial courts. Would they make it easier for the right holders?: The Spanish case. Stockholm, Global Anti-Counterfeiting Network.

Heckman, J. (1976). The common structure of statistical models of truncation, sample selection and limited dependent variables and a simple estimator for such models. *Annals of Economic and Social Measurement, 5*(4), 475–492.

Heckman, J. (1978). Dummy endogenous variables in a simultaneous equation system. *Econometrica, 46*(4), 931–959.

Instituto Nacional de Estadistica. (2015). *España en cifras 2015*. Retrieved September 4, 2018 from https://www.ine.es/prodyser/espa_cifras/2015/index.html.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *The Journal of Political Economy, 106*(6), 1113–1155.

Lefgren, L., & McIntyre, F. (2009). Explaining the puzzle of cross-state differences in bankruptcy rates. *Journal of Law & Economics*, *52*(2), 367–393.

Maddala, G. S. (1983). *Limited-dependent and qualitative variables in econometrics*. Cambridge: Cambridge University Press.

Ministerio de Justicia. (2010). *Act on insolvency*. Secretaria General Técnica: Bilbao.

Mora-Sanguinetti, J. S., Martinez-Matute, M., & Garcia-Posada, M. (2017). Credit, crisis and contract enforcement: Evidence from the Spanish loan market. *European Journal of Law and Economics, 44*(2), 361–383.

Morrison, E. R. (2008) Who Needs Bankruptcy Law? Sesquicentennial Essays of the Faculty of Columbia Law School, pp. 173–178.

Ponticelli, J. (2015). Court enforcement and firm productivity: Evidence from a bankruptcy reform in Brasil. *SSRN*. https://doi.org/10.2139/ssrn.2405092.

Succurro, M. (2012). Bankruptcy systems and economic performance across countries: Some empirical evidence. *European Journal of Law and Economics, 33*(1), 101–126.

Visaria, S. (2009). Legal reform and loan repayment: The microeconomic impact of debt recovery tribunals in India. *American Economic Journal: Applied Economics, 1*(3), 59–81.

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data* (2nd ed.). Cambridge. MA: MIT Press.

Zimmer, M. (2009). Overview of specialized courts. *International Journal of Court Administration, 2*(1), 46–60.