

ANALYTICAL ARTICLES

Economic Bulletin

3/2021

BANCO DE **ESPAÑA**  
Eurosistema

THE IMPACT OF THE EFFICACY OF JUSTICE  
ON BUSINESS INVESTMENT IN SPAIN

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## ABSTRACT

One of the main determinants of the level of dynamism of business investment is the efficacy of the legal system, as an essential element of the institutional framework of an economy. This article sets out an empirical approach to the impact of the efficacy of justice on the investment decisions of a sample of Spanish firms. Drawing on the cross-provincial heterogeneity in the court congestion rate, and how it changes over time, this analysis suggests there is a positive and significant correlation between efficacy in the civil justice system and business investment in Spain.

**Keywords:** investment decisions, justice, court congestion.

**JEL classification:** D25, E22, K41, K12.

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### Introduction

The design and functioning of the institutional framework of an economy are essential to explain the level of efficiency with which the economy uses and allocates its productive resources.<sup>2</sup> The legal system is a key element of this institutional framework, and its quality and efficacy may affect, *inter alia*, the level of aggregate investment in the economy and business demographics.<sup>3</sup> In particular, a legal system that fails to offer sufficient guarantees, or that fails to operate with due diligence when there may be aggrieved parties, will curb business investment<sup>4</sup> and, by extension, the growth of productivity and overall economic output.

On a series of metrics, the functioning of the Spanish legal system in general has various shortcomings compared with the legal systems of other comparable countries. Thus, for example, in terms of the duration of cases at first instance, Spain is above the OECD average.<sup>5</sup> In addition, in the last recession Spain had one of the highest litigation rates in the OECD,<sup>6</sup> both as a proportion of GDP and in per capita terms.

Taking this evidence into consideration, the article aims to assess the impact that the efficacy of the Spanish legal system, proxied by the court congestion rate, could be

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1 The analysis presented here represents the opinions of the author, which do not necessarily coincide with those of the Banco de España or the Eurosystem. This analytical article summarises the main conclusions drawn by Dejuán and Mora-Sanguinetti (2019 and 2021).

2 See, *inter alia*, North (1990 and 1994), Hall and Jones (1999) and Helpman (2008).

3 See, for example, Knack and Keefer (1995), Nawaz (2015) and Eslamloueyan and Jafari (2019).

4 Klein, Crawford and Alchian (1978) illustrated some of the problems pertaining to investment decisions, documenting the complications associated with the introduction of a printing press in a plant. Many similar examples could be used, such as the purchase of laboratory equipment or elevators. This type of equipment requires a series of adaptations that detract from their external market value once they have been ordered. For instance, an elevator with specific measurements cannot be readapted to a different building, or at least only at great expense. Therefore, the contract not only generates a state of dependency for the buyer, but potentially also for the seller, and this could be inappropriately used to its advantage by the counterparty. In such cases, the good functioning of the legal system is especially important in order to generate trust.

5 In Spain, cases at first instance last for 272 days, compared with the OECD average of 238 days. This is consistent with the figures published by the European Commission for the Efficiency of Justice (CEPEJ), which suggest that Spanish courts would need 318 days to resolve a dispute, compared with the 237 days on average required by the courts of the CEPEJ member countries. See CEPEJ (2016), Mora-Sanguinetti, Martínez-Matute and García-Posada (2017) and Palumbo et al. (2013).

6 See Palumbo et al. (2013).

having on business investment in Spain.<sup>7</sup> For this purpose, it combines two databases: the Banco de España's Central Balance Sheet Data Office integrated database (CBI, by its Spanish abbreviation), which provides detailed information on the investment decisions of more than 650,000 Spanish firms; and the database of the General Council of the Judiciary (CGPJ, by its Spanish abbreviation), which provides information on the functioning of the legal system at the local level in the period 2002-2016.

The analysis finds that the level of judicial efficacy has a positive and significant impact on business investment and that its scale is economically relevant. In this respect, the findings suggest that reducing court congestion in Spain could have far-reaching favourable implications in aggregate terms, in particular, through the stimulus it would provide to economic growth in the medium and long term.

The remainder of this analytical article is structured as follows. The following section presents the data used to analyse business investment and the efficacy of the legal system in Spain. This is followed by a description of the estimation strategy. The next section presents the main findings of the analysis, and the last section a number of brief conclusions.

## Measuring business investment and judicial efficacy in Spain

### Firm-level investment

This article uses the Banco de España's CBI to obtain detailed annual information on the main balance sheet headings of a broad sample of Spanish firms over the period 2002-2016.<sup>8</sup>

Among other variables, the database provides information on firms' debt volumes (net debt to assets), their interest payments and other financial costs, and their return on assets (ROA), all of which the academic literature has generally considered to be determinants of the level of business investment.<sup>9</sup> For the purposes of this article, the gross investment ratio – defined as each firm's gross fixed capital formation (tangible and intangible) to its total capital stock – is used to measure investment.

The sample overall contains more than 3.5 million observations for a total of 653,289 firms.<sup>10</sup> Table 1 has more data on the characteristics of the database and the variables used.

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7 More in-depth conclusions may be found in Dejuán and Mora-Sanguinetti (2019 and 2021).

8 For further details on this database, see Dejuán and Ghirelli (2018) and Dejuán and Mora-Sanguinetti (2019 and 2021).

9 See Gulen and Ion (2016) and Baker, Bloom and Davis (2016).

10 All the firms selected appear in the database at least in two years in the period 2002-2016. The resulting sample amounts to around 50% of Spanish non-financial corporations in 2015. Consistent with Spanish business demographics, approximately 97% of the firms in the sample are small firms (with fewer than 50 employees and turnover or assets under €10 million), while medium-sized firms (with 50 to 250 employees, turnover of

Table 1

**DESCRIPTIVE STATISTICS OF FIRM SAMPLE USED**

Variable	Number of observations	Average	Standard deviation	Minimum	Maximum
Business investment rate	3,523,890	0.121	0.252	-1.606	2.143
Cash flow	3,523,890	-0.001	0.132	-0.979	0.920
Profitability (EBIT/assets)	3,523,890	0.043	0.171	-1.676	0.720
Debt burden	3,523,890	0.595	0.976	0	2.771
Debt ratio (debt/assets)	3,523,890	0.688	0.474	0	4.830
Sales growth	3,523,890	0.045	0.532	-1	10.231

**SOURCE:** Dejuan and Mora-Sanguinetti (2021). Sample taken from the Banco de España's CBI for the period 2002-2016.

### Judicial efficacy in Spain

In this article the efficacy of the functioning of the legal system is proxied by the court congestion rate.<sup>11</sup> At each point in time (t) and in each province (p), this rate is defined, for a specific judicial body, as the number of unresolved disputes (cases carried over from previous years plus new cases recorded in the current year) over the number of resolved disputes, in all cases drawing on the data provided by the CGPJ.

$$\text{Congestion rate}_{p,t} = \frac{\text{Pending cases}_{p,t-1} + \text{New cases}_{p,t}}{\text{Resolved cases}_{p,t}}$$

According to the literature, the higher the court congestion rate, the longer firms will have to wait for their disputes to be settled in court and the higher the expected cost, and therefore, the lower the efficacy of justice (see, *inter alia*, Palumbo et al. (2013)). For the purposes of this article, the congestion rate is calculated for the civil courts, as this is where disputes arising between private firms or individuals relating to private contracts, for example as the result of a misinterpretation of contract or breach of agreement, are heard. The rate is calculated specifically for the declarative stage of the legal process.<sup>12</sup>

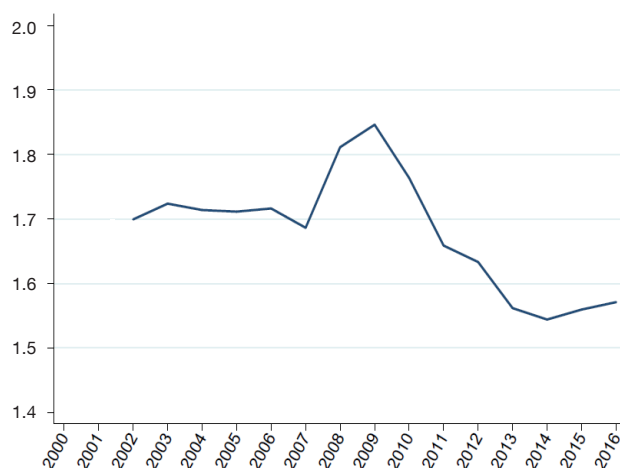
Chart 1 depicts the change over time in the congestion rate in the civil courts for Spain overall. It shows how this variable rose sharply, coinciding with the years of the global financial crisis (2008-2009) and, in the specific case of the Spanish

€10-€50 million or assets of €10-€43 million) and large firms (with over 250 employees and turnover and assets over €50 million and €43 million, respectively), each account for approximately 1.5% of the total.

11 For more details on the court congestion rate, see García-Posada and Mora-Sanguinetti (2015).

12 Calculated for all cases heard at first instance, taking into account courts of first instance (larger cities) and courts of first instance and examining courts (smaller cities), for all litigation procedures in all areas.

Chart 1

**COURT CONGESTION**

SOURCE: Dejuán and Mora-Sanguinetti (2021).

economy, with the abrupt correction in the imbalances built up over years in the external and real estate sectors. Ginsburg and Hoetker (2006), Palumbo et al. (2013) and Mora-Sanguinetti, Martínez-Matute and García-Posada (2017) have also documented, at the international level, a certain degree of countercyclical behaviour in court congestion, which would be consistent with the greater difficulties firms face to perform their contracts in downturns.

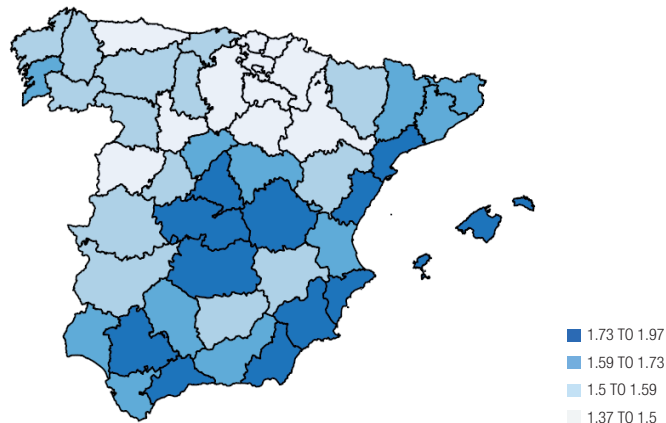
As can be seen in Chart 2, which depicts the average congestion rate in the civil courts in each province in the period 2002-2016, there is a marked degree of cross-provincial heterogeneity in judicial efficacy in Spain, with the provinces that concentrate the bulk of the population tending to be those that post a worse relative performance. The rest of this article draws precisely on this cross-provincial heterogeneity (and how it evolves over time) to analyse the impact of judicial efficacy on Spanish firms' investment decisions.

## Estimating the impact of the efficacy of justice on investment

By way of illustration, Chart 3 shows a negative relationship between the average business investment rate at the provincial level (calculated on CBI data) in Spain during the period 2002-2016 and the congestion rate in the civil courts. To confirm the robustness of this very tentative aggregate evidence, below we estimate a business investment model following Gulen and Ion (2016) and Baker, Bloom and Davis (2016). In particular, we examine the relationship between the gross investment ratio at the firm level (the dependent variable) and the court congestion rate (the

Chart 2

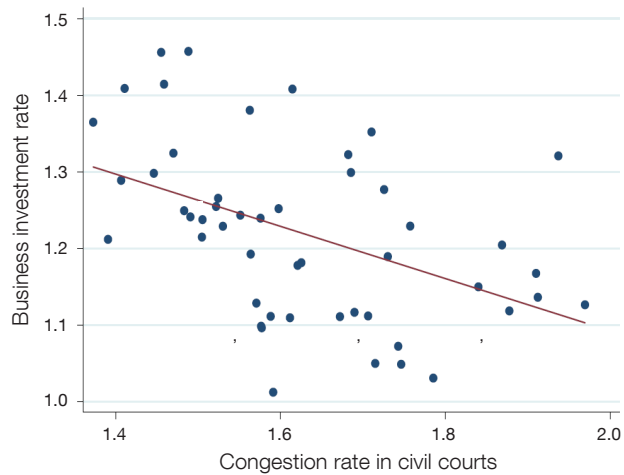
**AVERAGE CONGESTION RATE IN CIVIL COURTS BY PROVINCE (2002-2016)**



SOURCE: Dejuán and Mora-Sanguinetti (2021).

Chart 3

**RELATIONSHIP BETWEEN BUSINESS INVESTMENT AND COURT CONGESTION IN SPAIN (PROVINCIAL AVERAGES FOR THE PERIOD 2002-2016)**



SOURCE: Dejuán and Mora-Sanguinetti (2021).

main explanatory variable), both of which were defined in the previous section, controlling for other variables that the academic literature has generally identified as important determinants of business investment decisions (such as firms' profitability and financial position, and population growth).

Importantly, the inclusion of firm- and provincial-level fixed effects in this model also allows us to control for different time-invariant aspects that may also affect investment

Table 2

**EFFECTS OF THE EFFICACY OF THE CIVIL COURTS ON BUSINESS INVESTMENT (2002-2016)**

Dependent variable	(1) Business investment rate	(2) Business investment rate	(3) Business investment rate	(4) Business investment rate	(5) Business investment rate
Civil court congestion rate	-0.0143*** (0.0029)	-0.0145*** (0.0030)	-0.0117*** (0.0027)	-0.0104*** (0.0027)	-0.0073** (0.0029)
Cash flow	0.0669*** (0.0033)	0.0669*** (0.0033)	0.0669*** (0.0033)	0.0669*** (0.0033)	0.0669*** (0.0033)
Profitability (EBIT/assets)	0.0234*** (0.0047)	0.0234*** (0.0047)	0.0235*** (0.0047)	0.0234*** (0.0047)	0.0235*** (0.0047)
Debt burden	-0.0086*** (0.0003)	-0.0086*** (0.0003)	-0.0086*** (0.0003)	-0.0086*** (0.0003)	-0.0086*** (0.0003)
Debt ratio (debt/assets)	-0.0317*** (0.0028)	-0.0317*** (0.0028)	-0.0318*** (0.0028)	-0.0317*** (0.0028)	-0.0317*** (0.0028)
Sales growth	0.0094*** (0.0008)	0.0094*** (0.0008)	0.0094*** (0.0008)	0.0094*** (0.0008)	0.0094*** (0.0008)
Number of lawyers		-6.4405 (8.7060)	-5.9436 (8.9947)	-5.4008 (9.7568)	3.2392 (12.2518)
Regional: number of courts/ (population + firms)		2.0527*** (0.2287)	2.0463*** (0.2356)	1.9790*** (0.2302)	1.5603*** (0.2940)
Regional: population growth		-0.2155** (0.0764)	-0.1864** (0.0754)	-0.1949** (0.0770)	-0.2504*** (0.0707)
Regional: credit/GDP			0.0130*** (0.0032)	0.0126*** (0.0032)	0.0127*** (0.0032)
Regional: GDP growth				0.0637** (0.0258)	
Regional: unemployment					-0.0009*** (0.0003)
Observations	3,511,238	3,511,239	3,511,240	3,511,241	3,511,242
R <sup>2</sup>	0.3155	0.3155	0.3156	0.3156	0.3156
Fixed effects (per year)	Yes	Yes	Yes	Yes	Yes

**SOURCE:** Dejuán and Mora-Sanguinetti (2021).

NOTE: Robust standard errors (clustered by firm and year) in brackets. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

levels (for example, differences in firms' business practices or in their productive or institutional structure). Likewise, by including time fixed effects in the estimations, it is possible to control for all those aggregate variables that change over time but not across firms, and which may affect business investment decisions (for example, aggregate macroeconomic or financial conditions in the economy).

Table 2 shows the results of estimating different specifications of this business investment model at the firm level. In particular, Column 1 regresses the business investment ratio on the court congestion rate and other traditional determinants of



investment. The latter are significant and affect the business investment rate in the expected direction. For the purposes of this article, however, the most important finding is that the court congestion rate has an adverse and significant impact, even after controlling for firm-specific characteristics and time fixed effects.<sup>13</sup> These results are robust to the inclusion of various variables that seek to control for the local economic cycle (Columns 2 to 5).

Quantitatively, the ratios estimated in Table 2 suggest that an increase of one unit in the congestion rate results in a 1 pp drop in investment. An example may be useful to obtain a better idea of these magnitudes. In 2010, Alicante was one of the provinces with the highest level of court congestion (2.2, or 220 unresolved cases for every 100 resolved), while Álava had one of the lowest levels (1.4, or 140 unresolved cases for every 100 resolved). According to the ratios estimated here, had Alicante had the same judicial efficacy as Álava, its business investment ratio, as defined above, would have been 0.8 pp higher.

## Conclusions

The economic literature suggests that the quality of the institutional framework, and of the legal system as a part thereof, can significantly affect the incentive to invest and investment dynamics. In particular, an ineffective legal system could create insecurity and undermine trust among economic agents, and therefore penalise the business investment rate.

In keeping with these arguments, this analytical article finds that the lack of efficacy in the civil courts, proxied by their congestion rate, has an adverse and significant impact on business investment in Spain. Therefore, to raise the level of private investment, which is an essential driver of economic growth in the medium and long term, an economic policy recommendation would be to increase the efficacy of the Spanish legal system by reducing its high congestion rates, thus enhancing legal certainty in contracts between private firms.

1.7.2021.

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13 These results are consistent with the analyses carried out at the international level mentioned in footnote 3. The results presented are for the impact of judicial efficacy in the civil courts at the “declarative stage”. Dejuán and Mora-Sanguinetti (2021) also estimate the effect of judicial efficacy on investment at the “enforcement stage”, which may be necessary if the parties to a contract fail to comply with a court decision issued at the declarative stage. The results suggest that the adverse effect of court congestion on business investment at the declarative stage is ten times greater than at the enforcement stage. This could be related to the fact that fewer firms actually reach this second stage and, therefore, the overall sensitivity to judicial efficacy is lower. This finding could also indicate that firms have a certain degree of trust in the effectiveness of the legal system once a first court ruling on a dispute has been issued.

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