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Article

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Suggested Citation: Olabarrieta, Unai; San-Jose, Leire; Araujo, Andrés (2023) : The lemon market of insolvency proceedings in Spain in the new normal: Information, asymmetry, and adverse selection problems, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 10, Iss. 3, pp. 1-16, https://doi.org/10.1080/23311975.2023.2266656

Cogent Business & Management

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/oabm20

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To cite this article: Unai Olabarrieta, Leire San-Jose & Andrés Araujo (2023) The lemon market of insolvency proceedings in Spain in the new normal: Information, asymmetry, and adverse selection problems, Cogent Business & Management, 10:3, 2266656, DOI: 10.1080/23311975.2023.2266656

To link to this article: https://doi.org/10.1080/23311975.2023.2266656

Published online: 27 Oct 2023.

Olabarrieta et al., *Cogent Business & Management* (2023), 10: 2266656
https://doi.org/10.1080/23311975.2023.2266656

cogent business & management

MANAGEMENT | RESEARCH ARTICLE

The lemon market of insolvency proceedings in Spain in the new normal: Information, asymmetry, and adverse selection problems

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Received: 10 July 2023
Accepted: 30 September 2023

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Abstract: Insolvency proceedings are strategic for the competitiveness of a national economy. The new law, but also new financial situation of organizations affect the new normal of insolvency framework. In Europe, standards aimed at creating an efficient framework for corporate insolvency resolution are constantly changing to enhance the efficiency of such mechanisms. This pursuit contrasts with the lack of specific efficiency data available to both legislators and researchers, there are no solid statistics to investigate the phenomenon from the perspective of its efficiency, which makes it impossible in practice to investigate its explanatory variables. Previous studies have led us to reflect on key information asymmetry and adverse selection problems resulting from a gap between the new challenges on insolvencies processes and options, because the lack of information. Based on this reflection, we have identified parallelisms between the lemon market, and current insolvency proceedings in Spain. Although, the legal system is modified, the insolvency process itself is a drag, for the achievement of the long-awaited efficiency of the process. It will be necessary to change, not only the legislation, but also the information provided, and create a new insolvency system because actual has "lemons signals", this circumstance is producing negative effects on the efficiency and competence of a key figure in the process: the insolvency administrator.

ABOUT THE AUTHOR

We are authors that are part and/or collaborate with a research group called ECRI, Ethics in Finance & Social Value (www.ehu.eus/ecri) and GPAC, that purpose is contribute to a better organization and wellbeing based on efficiency and transparency. Our aim is to create value for stakeholders, and the bankruptcy proceedings is a system that support the organizations. We have been working on value creation since 2011, based on generate value for the society, that is for us the value creation for stakeholders. In addition, we contribute to ethical vies of financial area, as in this case in which the data about insolvency proceedings is relevant, but also the elements, such as accurate information and based the decisions on the value created for stakeholders.

PUBLIC INTEREST STATEMENT

Before the accounting failure, companies could start in bankruptcy process with the aim to avoid failures of companies. These companies with financial problems must face an insolvency process. This process, if done efficiently, can save companies, but it must take the process on time, and by qualified professionals. However, the insolvency market can be called "lemons" because it is a great risk that is assumed when selecting the bankruptcy administrator by the judge, or it is not easy to establish the moment to start the insolvency process. To overcome all this, an adequate connection must be generated between the organization, the judge and the bankruptcy administrator, and the processes will be efficient with new technologies, legal rules and information without asymmetries.

Subjects: Economics; Finance; Business, Management and Accounting

Keywords: insolvency proceedings; efficiency; bankruptcy; adverse selection; lemon market; information asymmetries; moral hazard; insolvency administrator

1. Introduction

The existing literature is unanimous in assessing the impact of a debtor's insolvency problem on any economy and its level of competitiveness (Chemin, 2009, 2012). The new world`s changes about economic, new technologies and social aspects has transformed the society in a new normal environment for organizations with many different changes (Ahlstrom et al., 2020). It is relevant to consider that small actions in a part of the world could converge on huge actions in others. One of the view that has not been considered before in the academy is the form in which companies close, or, more specifically, why some organizations avoid closing, but others are destined to close without being able to fight for the business. Then, it is needed to reflect in this new norm about not only the insolvency system and law, but also about the insolvency proceeding system itself and the insolvency court (Casey & Macey, 2023).

Insolvency proceedings allow creditors to reinvest recovered capital in new entrepreneurial ventures and enables failed entrepreneurs to return their entrepreneurial skills and spirit to the market to foster new and successful business initiatives (Eklund et al., 2020). Insolvency institutions not only protect the economy but are an economic policy tool for regulating insolvency, avoiding excessive waste of resources by facilitating their efficient reuse. Moreover, insolvency and bankruptcy management is a means to strengthen competitiveness and growth by stimulating the market through the reorganisation of skills and resources in new activities (Acharya & Subramanian, 2009; McGowan et al., 2017; Ponticelli & Alencar, 2016).

A deeper understanding of insolvency proceedings can help to implement policies that are more efficient by integrating bankruptcy as a natural component of the business and market lifecycle. The literature highlights that insolvency proceedings are particularly useful for increasing global production (McGowan et al., 2017), opening opportunities for innovative rather than conservative firms (Acharya & Subramanian, 2009), and promoting investment (Ponticelli & Alencar, 2016). Insolvency proceedings can provide guarantees and increase economic activity. For example, the debts of failed entrepreneurs can be exonerated through "fresh start" mechanisms (Armour & Cumming, 2012), increasing the creation of companies by enabling them to apply lessons learned from past failures to new projects (Uriarte et al., 2023). Furthermore, banks grant more loans because debt recovery is relatively guaranteed, which also helps to reduce financing costs by lowering the risk premium (Ponticelli & Alencar, 2016; Rodano et al., 2016).

Determining the efficiency of insolvency proceedings is crucial for analysing the explanatory variables that provide us with an efficient judicial system of insolvency resolution. The motivation for carrying out this work arises from the finding of the inefficiency of the current regulatory framework of the judicial resolution of insolvency in Spain revealed by multiple authors (García-Posada, 2013, 2021; Gurrea-Martínez, 2021) and recognized by successive legislative reforms. The literature on this question assesses whether the process has ended in the restructuring or liquidation of the company, as analysed below, considering that restructuring is more efficient than liquidation and discriminating explanatory variables through this dependent variable. This can be found in the most recent investigations (Sanchez-Vidal et al., 2023; Segovia Vargas & Camacho-Miñano, 2018). However, is this approach correct, or even sufficient?

In this article, we aim to highlight problems generated by the lack of data and specific quantifications of the efficiency of insolvency proceedings and locate these problems for their quantification and analysis. For this purpose, we first review the existing research on this efficiency problem and its explanatory variables. In the following section, we analyse the

problem of the lack of data and the attempts of legislative powers at gathering these data. Lastly, we identify the sources of resistance to data generation lies in Spain and analyse the resulting practical problems, which highlight and pose a challenge due to information asymmetry caused by the unavailability of necessary data to all stakeholders.

2. Theoretical framework: the problem of quantifying insolvency proceedings

Not all insolvent companies resort to the judicial process of resolution of the insolvency, the reasons for this are multiple as evidenced by Bandopadhyaya (1994), Blazy and Chopard (2004), Claessens and Klapper (2002) or Prantl (2003): conditions of the entrepreneur, conditions of insolvency regulatory frameworks, legal alternatives. These authors show us as one of the main reasons of the insolvent debtor not to resort to legal mechanism the absence of an effective regulatory framework.

Key studies on insolvency proceedings have aimed at assessing their efficiency, but they have linked efficiency to organisational factors rather than to the insolvency process. In other words, such studies have assumed that insolvency efficiency only depends on the characteristics of the insolvent organisations and not on those of insolvency proceedings. These studies include research conducted by Aguiar-Díaz and Ruiz-Mallorquí (2015) who aimed to determine the causes and resolution of bankruptcy. For this purpose, the authors developed an index defined by the profitability and leverage of companies that file for insolvency and ultimately bankruptcy. They found that Spanish insolvency proceedings help to reorganise viable businesses and liquidate non-viable ones, analysing the previous situation of the company. Other studies, including Sanchez-Vidal et al. (2023), have focused on the process and, using the same methodology, investigated explanatory variables, namely the experience of insolvency administrators, their remuneration or the specialisation of the judicial bodies.

To the best of our knowledge, no study has yet assessed the efficiency of insolvency proceedings by developing an efficiency model, other than the study conducted by Djankov et al. (2008) or established the global efficiency levels of insolvency proceedings based on *ex-post* efficiency data.

Other studies have focused on the causes of the failure of insolvency proceedings. One key issue is the erroneous classification of companies, some of which are classified as solvent and allowed to reorganise when they are economically inefficient, while others are potentially solvent but erroneously classified as inefficient and liquidated unnecessarily (Blazy & Chopard, 2004). To reduce this risk, researchers have developed a model based on four main aspects: economic efficiency, financial neutrality, legal tolerability, and democratic desirability.

A third group of studies have linked corporate governance to the success of insolvency proceedings. Successful insolvency proceedings require assigning control rights among creditors and debtors during insolvency reorganisation despite some control problems, such as dependence on financial markets and strategies in highly competitive sectors (Rubio-Andrés et al., 2023).

In Spain, the efficiency of insolvency proceedings has been assessed by analysing the financial situation of companies *ex ante*. A study with a sample of 1,387 Spanish companies concluded that the solvency criterion adequately classifies bankrupt companies, but that Spanish bankruptcy law could be enforced more effectively (Camacho-Miñano et al., 2013). Consistent with this, another study has also identified the conditions under which companies most often resort to insolvency proceedings. A sample of healthy Spanish companies were analysed to demonstrate that financial viability and working capital ratios are determinants of pre-insolvency effectiveness (Segovia Vargas & Camacho-Miñano, 2018). Another study sampled 4,160 unlisted companies with financial difficulties and found that the autonomous communities of Spain with the most efficient judicial systems also have judicial procedures that are most often used to resolve financial problems (Mruk et al., 2019). Combined, these results underscore the potential of insolvency proceedings and the implications for insolvency judges and administrators in particular.

These studies have major implications for insolvency proceedings, but researchers have not addressed the efficiency of insolvency proceedings *per se* using data on their conclusion. A possible explanation is the lack of homogeneous data on the value of assets disposed of in the bankruptcy, percentages charged to customers, or the level of recovery from creditors. Thus, one of the problems in analysing the efficiency of insolvency proceedings *per se* rather than the financial situation of the company *ex ante*, is the lack of data on insolvency proceedings. In Spain, there is a lack of data on how insolvencies end; no studies extend beyond mere reports of descriptive statistics of insolvency resolution, such as the report annually published by the Spanish Registrars Association (*Colegio de Registradores de España* – CRE) (Van Hemmen, 2022). This report annually highlights that most (between 90 and 95%) insolvency proceedings end in liquidation, the average insolvency process lasts up to five years, and a high number of insolvency proceedings occur in very small companies.

The literature identifies three types of efficiency in insolvency proceedings (López Gutierrez et al., 2011; López Gutierrez et al., 2011, 2012):

- *Ex-ante efficiency* refers to the expectation of efficiency before the insolvency process begins. This prevents debtors from making decisions contrary to the interests of the creditors that could create costs before the process begins, assuming disproportionate financing costs or creating guarantees on assets of insolvent companies (Cornelli & Felli, 1997).
- *Intermediate efficiency* aims at maximising the value of struggling companies before declaring insolvency (López Gutierrez et al., 2011). Insolvent companies can be economically efficient or inefficient, so the insolvency resolution system must aim at liquidating the inefficient companies and allow the reorganisation of efficient ones. In reality, these optimal conditions do not occur due to information asymmetry, transaction costs, and difficulties in differentiating these two types of companies.
- *Ex-post efficiency* aims at maximising the value of a company that files for insolvency (Blazy & Chopard, 2004).

The scenario described above can be schematically summarised in the following figure (see Figure 1), which illustrates the profits of insolvency proceedings and academic research and gaps in the literature on the efficiency of insolvency proceedings.

In short, the concept of efficiency is undisputed and delimited by doctrine, and the *ex-ante* efficiency level of an insolvency proceeding is calculated based on the current value of the

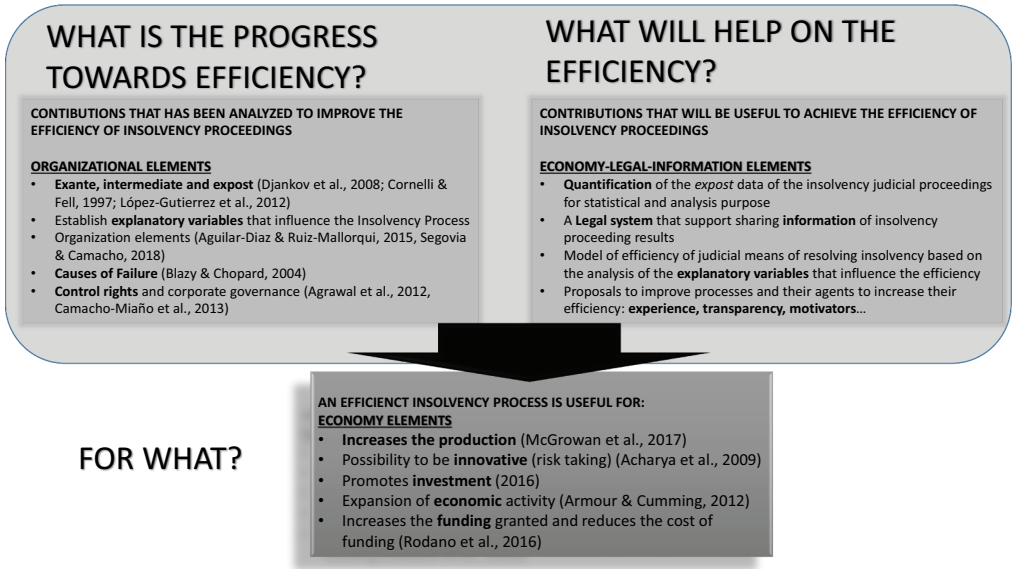

Figure 1. Literature review about insolvency proceedings framework. Source: Author`s own creation.

company whether in agreement with its creditors or in liquidation of the debtor (Djankov et al., 2008). The *ex-post* efficiency value is therefore assessed once the process is completed. This value may be quantified through the level of loan recovery, and that would allow us to identify explanatory variables beyond those currently knowable and recognized by the doctrine such as: the cost of the process, its duration and the recovery rate (Bergthaler et al., 2019). But how the process ends, and its actual level of efficiency is unclear. Is it possible to quantify *ex-post* efficiency levels and adequately investigate their relevant explanatory variables to improve the judicial system? If not, why?

We previously highlighted that the liquidation value of an insolvent company can be estimated at 25.08% of the average book value of its assets, thereby showing 74.92% liquidation losses (Olabarrieta et al., 2021, 2022; Olabarrieta 2022). The estimated levels of efficiency of insolvency resolution process in Spain averages 26.89%, that is, for every €100.00 of payable liability, only €26.89 is recovered in the Spanish insolvency resolution system.

3. Primary data on insolvency proceedings: legislation, available statistics and market problems analysis

Consistent data on insolvency proceedings are not publicly available, which hinders statistical analysis of their inefficiency. Thus, calculating *ex-post* efficiency, measured in terms of loan recovery once the insolvency process is completed, enables us to analyse and explore its determinants, and to explain its level beyond the variables usually examined by subject matter experts, such as the duration of the process or its costs.

The authorities of Spanish Autonomous Communities are aware of this gap, as expressed in their directives that highlight the importance of gathering reliable and comparable data on the outcome of restructuring and insolvency proceedings.[1] In addition to supervising the implementation of insolvency proceedings, these data may also be used to examine explanatory variables of their *ex-post* efficiency.

More specifically, the European Union requires Member States to collect data including the costs of insolvency proceedings, their duration, and the average percentages of loan recovery.[2] As discussed above, these parameters are essential to the study of efficiency and its explanatory variables.

To address the need for reliable data on the efficiency of pre-insolvency and insolvency instruments, the sixteenth final provision of Law 16/2022 on the reform of the consolidated text of the Bankruptcy Act has been enacted. This requires the Spanish government to approve a regulation on bankruptcy statistics within six months of the law's entry into force to determine the statistics required to adequately analyse the efficiency of pre-insolvency and insolvency instruments. In September 2023 the Ministry of Economic Affairs and Digital Transformation of the Spanish Government has initiated a public consultation for the elaboration of the Regulation of Insolvency Statistics[3] in which it recognizes that this information is essential to address future reforms of the insolvency regime.

Thus, the lack of specific data on the efficiency of insolvency proceedings is identified at an aggregate level and across all economies, especially European ones. But is it true that these data do not exist?

The specific judicial data of each insolvency resolution process are known, at least, by the insolvency practitioner (IP). An IP is a licensed expert appointed to function as an administrator to manage the insolvency process and control its resulting data. However, there is no data aggregation and reporting system to share these data with the market for analysis. While the Royal Decree 188/2023 of March 21 approves the statistical bulletin of accountability for insolvency proceedings, it lacks relevant data for quantifying the efficiency of insolvency proceedings, primarily on the levels of loan recovery.[4]

Our analysis cannot disregard that a company is an organisation associated with various economic agents who may have differing interests (Jensen & Meckling, 1976). A principal-agent relationship occurs when a primary economic agent requires the participation of another to achieve its objectives. These relationships generate costs when the interests of the principal agent differ from those of the other—agency costs—or when inefficiencies reduce the value of the company.

Multiple examples of these agency costs exist in the context of insolvency resolution. The shareholders or managers of a company can delay the recognition of insolvency to try to maintain the value of the shares—or their job, in the case of directors. This delay may lead to inefficient solutions in the insolvency process, either because companies that should be liquidated are restructured, or companies that could have been restructured are liquidated.

Agency costs are borne by creditors, who have a vested interest in maximising loan recovery. Prolonging an unviable business activity decreases the value of the company, and this loss of value is borne exclusively by creditors. However, in these situations, information asymmetry problems prevail. The debtor management or shareholders may have information that the creditor does not, and the owners and managers have an incentive to convey information overestimating the future recovery of the company to benefit themselves.

In Spain, insolvency proceedings result in substantial changes in the management of a company. The insolvency administrator may interfere with or even replace corporate managers. For this reason, the principal-agent relationship and the costs and inefficiencies of insolvency proceedings must be analysed from multiple points of view.

Insolvency administrators should work independently towards the best outcome of the process, which is rescuing viable companies and maximising the liquidation of resources of inviable ones. However, the current system involves judges appointing insolvency administrators from a list of Ips, based on very few quality indicators. One such indicator is the ability to quickly complete insolvency processes, which can increase the probability of future appointments. It is unclear whether the current system, which operates with an information deficit, is the most efficient, or if the underlying agency costs generate significant inefficiencies in the system remains unanswered.

Research conducted thus far demonstrates the relevance of insolvency proceedings in the outcome of the process (Sanchez-Vidal et al., 2023). In our studies on the explanatory variables of the efficiency of insolvency proceedings in Spain, we conducted up to three surveys among insolvency administrators to inquire about the level of loan recovery in processes they managed. However, not a single administrator completed the survey, despite two of the surveys being sent to more than 1,000 insolvency administrators.

These results clearly show that not all agents have access to these data, which led us to raise the following questions: Is this relevant? Are we facing an information asymmetry problem? And if so, what are the consequences?

According to the Asymmetric Information Theory, in the presence of imperfect information or competition, the market is not Pareto efficient (Greenwald & Stiglitz, 1990).

One of the first economists to highlight problems generated by information asymmetry in markets was Akerlof (1970). Exemplifying his concept with the used car market, where units of poor quality coexist with those of good quality, this Nobel Laureate demonstrated that good vehicle transactions are made outside the market because buyers lack information about the specific quality of the units and consequently cannot differentiate a “cherry” (good quality) from a “lemon” (bad quality).[5] Therefore, buyers are not willing to pay the price of a cherry even if it is

a cherry, while sellers who are aware of the quality of their vehicles will not sell a cherry for the price of a lemon. As a result, consistent with Gresham's Law, bad cars displace good cars, and market prices gradually decrease due to the decline in car quality and market size. Under extreme conditions, no transaction may occur at all. This paradigm shows that information asymmetry produces inefficiencies because prices do not accurately reflect the value of the goods. As a result, market size decreases, thus reducing consumer surplus and yielding adverse selection.

As exemplified above with the market of second-hand cars or insurance, information asymmetry in insolvency proceedings in Spain reduces the overall efficiency of the corresponding judicial system. To analyse this problem in depth, we must highlight the selection system of insolvency proceedings.

4. The explanation of insolvency proceedings from Akerlof's Lemon Market view

Below, we present the main characteristics of an insolvency proceeding using Akerlof's lemon market analogy. Subsequently, we explain significant parallels found in our analysis of the Spanish context. Lastly, we present the main characteristics of the mathematical formula derived from the previous theoretical analysis that explains the efficiency of insolvency proceedings in Spain.

4.1. Comparison between IP appointment systems

Internationally, there are three systems of IP appointment for insolvency proceedings:

- **The IP is appointed by the judicial authority from a list**.

In most legal systems—including those of Germany, Italy, France and Portugal—the insolvency practitioner is appointed by a judge or court. This system is adequate if the judge has information about the professionalism and expertise of the potential appointee. However, unlike the Spanish system, these countries have much more rigorous prerequisites than merely five years of professional experience as an insolvency practitioner. For example, in France, one must take an entrance exam and be board-certified, ensuring professionalism and expertise.

- **The IP is appointed by the creditors.**

In the 19th century, the appointment of insolvency practitioners by creditors was the dominant system but has since been replaced by other systems. In Spain, this system preceded the current one. Previous bankruptcy law provided that a judge appoint a commissioner and depositary, and the depositary was subsequently replaced by trustees, who were elected by the board of creditors. The system was replaced in the public interest, acknowledging that insolvency not only affects creditors, but also general interests that require protection by an independent judicial or administrative authority.

In the United Kingdom, this system of appointment still prevails when a creditor's winding-up petition is filed. This system makes sense in this context because it is an extrajudicial liquidation process.

- **The IP is appointed by an administrative or independent organism.**

This appointment system is common United States, where the trustee is responsible for appointing the insolvency practitioner. This makes it possible to independently select unbiased people with the appropriate knowledge and preparation for the specific insolvency case. This system most objectively ensures the appointment from a list or computer process. However, to function properly, it requires a significant budget to pay for a staff of duly qualified professionals and to provide transparent information on their preparation.

4.2. The Spanish lemon market

The current law in Spain provides that a judge must be appointed in a bankruptcy case. However, in 2014 a system of sequential selection was added, although it is currently suspended. In this system, at least two sequential operations, whose analysis is relevant, are put into practice by the courts. These include the list of insolvency practitioners managed by professional associations in Malaga, and the "Insolvency Practitioner Directory" used in the Basque Country.[6]

- The **portal of Insolvency Practitioners of Malaga**: This platform gathers professionals qualified to administer insolvency proceedings in the province of Malaga from five representative professional associations.

(1) the Board of Economists of Malaga (*Colegio Profesional de Economistas de Málaga* – CEM)
(2) the Board of Lawyers of Malaga (*Colegio Profesional de Abogados de Málaga* – CAM)
(3) the Board of Lawyers of Antequera (*Colegio Profesional de Abogados de Antequera* – CAA)
(4) the 11th Provincial Association (*Agrupación Territorial 11*) of the Institute of Chartered Accountants of Spain (*Instituto de Censores Jurados de Cuentas* – ICJCE),
(5) and the Board of Business Owners of Malaga (*Colegio de Titulares Mercantiles de Málaga* – CTMM), who jointly own the portal.

The purpose of this portal is to help the commercial courts of Malaga appoint insolvency administrators as **efficiently and transparently** as possible. Thus, in accordance with the agreement between the five professional associations described above and the High Court of Malaga (*Juzgado Decano de Málaga* – JDM), insolvency practitioners must be appointed as administrators from a single list of all candidates in insolvency proceedings, with an **automated appointment system** through this platform. The list currently consists of 487 professionals.

- The **Insolvency Practitioner Directory of the Basque Country**: This is an instrument of the Board of Economists of the Basque Country (*Ekonomisten Euskal Elkargoa* – Ekonomistak) and ICJCE to respond to requests from courts or third parties for professionals to conduct work in the judicial, insolvency, and auditing fields. Each of the three provinces, Alava, Guipuzcoa, and Vizcaya, has its own list of registered professionals, with 114, 113, and 182, respectively.

In short, any study aimed at assessing the efficiency of insolvency proceedings must analyse the incidence of this central pillar of the Spanish judicial system, not only from a conceptual but also from a practical point of view.

In addition to conceptual reflections regarding the subjective conditions and designation of insolvency proceedings, Spanish insolvency practice exhibits major dysfunctions. The lack of statistical data and reluctance of insolvency practitioners to share such data hinder the enhancement of the system, both in terms of analysis, the reflection, generation, and implementation of measures that could streamline its tasks and improve outcomes.

At this stage, it is crucial to analyse the possible reasons for the lack of statistics on the efficiency of insolvency proceedings in Spain and how this knowledge gap impacts the process.

4.3. The efficiency of the judicial process of insolvency resolution and insolvency proceedings in Spain

The insolvency administrator controls, manages, and dominates the process, albeit under the direct supervision of the insolvency judge and the indirect supervision of the creditors and the insolvent debtor. The insolvent administrator has accurate and specific data on the depreciation of assets, payments to creditors, and ultimately on the outcome of the process. For this reason, we have sent both quantitative and qualitative surveys to insolvency practitioners, none of whom responded to the former. Nevertheless, the latter enabled us to estimate loan recovery rates in

insolvency proceedings (Olabarrieta etal. 2021). It is unclear why insolvency practitioners fail to provide answers regarding the specific level of efficiency of the insolvency proceedings that they manage.

To address this question, it is necessary to refer to insolvency legislation to understand the role of insolvency practitioners. Understanding their role is crucial to unravelling the complexity of this process.

Article 62 regulates insolvency proceedings and follows the current consolidated text of the Insolvency Law. However, while the text came into effect on 1 September 2020, these provisions are not yet in force. The sole transitional provision of the text states that the articles related to insolvency proceedings will only come into force upon approval of the Regulation of Insolvency Proceedings, as stated in the second transitional provision of Law 17/2014, dated September 30. Therefore, until this regulation comes into effect, Articles 27, 34, and 198 of the previous Insolvency Law prior to Law 17/2014 will continue to apply.

The current system of insolvency proceedings enforces articles that require a judge to appoint an insolvency practitioner as an administrator who meets the following subjective requirements: a lawyer, board-certified financial auditor, economist, or business graduate with at least five years professional experience with effective practice. The subjective requirements for appointing an insolvency administrator are unclear and do not provide sufficient information for an informed decision-making process. Therefore, it is necessary to analyse the decision mechanisms used by judges when appointing insolvency administrators.

The insolvency market consists of administrators on the supply side and insolvent companies on the demand side. The market is cleared not because an equilibrium price is reached based on an auction system, but because the price is determined by law and a judge assigns an insolvency administrator to each of the companies in insolvency proceedings. The judge presumably assigns each case to the ideal administrator to maximise global efficiency; however, to achieve this objective, the judge must have access to information that is not available to the market and that is difficult and expensive to acquire.

In Spain, judges appoint an insolvency administrator from a long list of insolvency practitioners.[7]

The compensation provided to the insolvency administrator is quasi-fixed; it is set by specific rates, namely the volume of assets and liabilities of the insolvent company, which depend only on the size of the company, not on the efficiency of execution, that is, on the loan recovery or on the possibility of restructuring the company.

Insolvency practitioners are included in the list for one year. During this period, they cannot reject cases assigned to them by a judge as unjustified resignation will result in their exclusion from the list of potential appointees. After this probationary period, insolvency practitioners can decide whether to remain on the list or remove themselves.

Before assigning an insolvency administrator to a company, the judge must obtain valuable information about the company's size, assets and liabilities, and income statement on the demand side. This information enables the judge to assess the complexity of the case.

On the supply side (insolvency administrators), we assume that the "quality" and knowledge of administrators are determinants of their efficiency, as reported in the literature by Sanchez-Vidal et al. (2023).

Thus:

Being $\mathbf{A_i}$ the insolvency administrator i with quality $\mathbf{C_i = f(x_i, d_i, k_i)}$

Where:

$\mathbf{x_i}$: is the number of insolvencies that $\mathbf{A_i}$ has previously administered, which is an indicator of experience.
ni: is the number of active cases managed by A_i.
$\mathbf{d_i}$: is the administrator's dedication to insolvency resolution.
$\mathbf{k_i}$: is the administrator's responsibility.

Both x_i and d_i and k_i are positively correlated with C_i, that is:

$$\frac{dC_i}{dx_i} > 0; \frac{dC_i}{dd_i} > 0; \frac{dC_i}{dk_i} > 0; \frac{dd_i}{dn_i} < 0$$

Among these, the only observable variables are experience (xi) and the number of active cases; neither dedication to insolvency resolution nor responsibility are observable.

In principle, the judge assigns the most appropriate insolvency administrator to the insolvent company Ej, that is, the practitioner that will maximise the efficiency of the insolvency proceedings. To do so, the judge must rank the insolvent companies from most to least complex and the insolvency practitioners from the most to the least competitive, considering that an A_i can manage more than one company. Sorting insolvent companies based on their difficulty is challenging but feasible, as the judge is privy to the necessary information contained in the insolvency application and may easily set an objective criterion to classify the difficulty of the case.

The problem lies in the second ranking, that of insolvency practitioners, because certain incentives may lead judges to select the worst practitioners to manage the most complex companies, leaving the least interesting cases to the most capable practitioners. Insolvency practitioners may leave the list during the probationary period as they cannot refuse an assigned case and wait for another case more suitable to their capacity and interest. As a result, they exit the market of insolvency practitioners. In this scenario, the supply of "good practitioners" decreases, and they are replaced by "bad practitioners," thereby decreasing the average quality of the list of available insolvency practitioners. This may decrease the efficiency of insolvency proceedings and the court system. In short, the current system creates an adverse selection problem in the context of a lemon market (Akerlof, 1970).

Adverse selection and moral hazard are produced by information asymmetries in the insolvency market, resulting in the loss of social efficiency (Akerlof, 1970).

This asymmetry arises when the insolvency administrator has access to relevant information for the correct assignment of the company that the judge does not, and that is difficult to observe, such as its quality Ci. There are two easily observable proxies: explicit training and experience, measured by the number of cases that an insolvency administrator has filed throughout their career. Managing insolvency cases is subject to a strong experience effect because, while each case has its specificities, some are quite similar. This effect is known by the judge, who reasons that, *ceteris paribus*, the more cases an Ai has managed, the greater their ability to manage the next case. Thus, the more complex cases should be assigned to the more experienced practitioners.

The complexity of a case is determined by the characteristics of the company, which require thorough examination; however, judges are under time pressure and are not subject matter experts. Therefore, they use a single variable—the size of the insolvent company—as a proxy for

complexity, considering that the cases of larger companies are more complex than smaller ones. The former likely have more suppliers, a wider diversity of creditors, more workers affected by possible liquidation, a higher number of work centres, and they may be present in more foreign markets. Combined, these factors yield additional complexity.

For an efficient insolvency system with a discretionary appointment system, the judge must assign the most complex cases to the most competent practitioners. This requires the judge's ability to assess *a priori* the competence of each practitioner and access information that is not available in the market. As practitioners know that this is difficult for the judge, they must send a quality signal. For this reason, some practitioners organise congresses, conferences, or technical seminars in which judges also participate. By promoting their visibility and quality in the system, they increase their chances of being assigned to a particular case. When these practices are conducted to a greater extent by less capable practitioners, an adverse selection process ensues, which leads to a loss of average efficiency.

Information asymmetry poses another risk in the form of opportunistic behaviour from an insolvency administrator. This is because, once the insolvent company is assigned to an administrator, neither the judge nor the stakeholders can assess whether they are conducting the procedure towards maximising efficiency or if they are pursuing their own interests.

The lack of information in this appointment system can have undesirable effects on the competition of insolvency practitioners for the following reasons:

- An insolvency practitioner must accept an appointment during their probationary period or run the risk of being excluded from the market. Consequently, the practitioner is forced to accept more cases than they can reasonably manage. This system may significantly decrease the quality of the work, even in the case of a good insolvency practitioner, and may even cause their departure from the market.
- An inefficient insolvency administrator who has been appointed to a significant number of cases may be rewarded with complex and highly paid insolvency proceedings, regardless of their ability to efficiently conduct the process.

The adverse selection problem could be avoided through a random assignment system, as provided for by legislation, which is not yet in force. However, the problem of moral hazard would remain. For this reason, the efficiency of insolvency proceedings must also be assessed as a tool to avoid the risk of adverse selection and considerably mitigate moral hazards. Moreover, a framework for accessing the profession must also be created to ensure that insolvency administrators have the adequate expertise.

In a previous quantitative study, we demonstrated that the insolvency administrator's experience is an explanatory variable for the efficiency of the insolvency proceedings (Olabarrieta et al., 2021). Therefore, the insolvency administrator is a central pillar of the efficiency of insolvency proceedings.

The low response rate of insolvency administrators (Ai) to our survey about their results indicates that many of them fear being singled out. Therefore, we refocused the problem by asking the main experts their views on the average efficiency of the system, disregarding the analysis of the specific efficiency of the process, which should have been performed, but was impossible.

The results from these analyses are particularly important because they may be used as a benchmark for future studies. Indeed, good Ai may want to build their reputation by disclosing the quality of their work, which is much higher than that currently highlighted through the activities that we have discussed above. Conversely, those who do not report their efficiency data may be signalling to the market that the quality of their work is lower than that of their

colleagues. Accordingly, the problem of lemons may be eliminated, and adverse selection may be reduced by improving the ability to differentiate the quality of insolvency practitioners, thereby increasing the overall efficiency of insolvency proceedings.

4.4. Pending changes and regulatory developments in Spain

This section analyses the changes provided for in pending legislation since 2014.

Law 17/2014, of 30 September 2014, modified articles on insolvency proceedings by adopting urgent measures on the refinancing and restructuring of corporate debt. Article 27.5 of the insolvency act provides that the insolvency administrator shall be appointed from among the natural or legal persons on the list of the fourth section of the Public Insolvency Registry, in sequential order, who meet the conditions required in the previous paragraphs and have expressed, when applying for registration in said registry or subsequently, their willingness to act within the territorial jurisdiction of the appointing court. The first appointment from the list shall be made by lottery.

Considering the above, the system will shift from the appointment of the insolvency administrator by a judge to a system of automatic and sequential appointment, as proposed in this study. However, a sequential, alternating system requires tightening the subjective criteria that must be met to administer insolvency proceedings and that replace the discretion of the judge to ensure that all insolvency administrators adequately fulfil their tasks.

Aware of this gap in the law, legislators introduced a second additional provision whereby this and all other related articles would not come into force until its regulatory development does, which must be approved by the Ministries of Justice and Economy and Competition within six months.

This regulation, prepared on 7 July 2015, provided that insolvency practitioners were required to pass an examination to be appointed as insolvency administrators; however, it never came into force. This circumstance has significantly burdened insolvency proceedings, hindering their operation and efficiency, as shown below.

Law 16/2022 of 5 September, which reforms the consolidated text of the Insolvency Act, maintains the current sequential appointment system for insolvency practitioners, but is delayed until the regulation of insolvency proceedings comes into force. According to the thirteenth final provision, it must be drawn up and approved within six months of the law's entry into force. The bill legalises the requirement for a prior examination to access the position of insolvency administrator and establishes that the content and development of this examination will be provided for in the insolvency proceedings regulation. The delay in enacting and approving the Insolvency Proceedings Statute, has exceeded eight years and hinders the efficiency of insolvency proceedings in Spain. Therefore, the Insolvency Proceedings Statute should be approved urgently.

5. Explanatory model of new norm from insolvency proceedings

The insolvency proceeding system come to avoid the bankruptcy of organizations. Governments are awarded about the high cost of closing organizations not only economical, but also personal. Then, we have shown in this paper a reflection of the insolvency proceedings efficiency and the view of this system based on Akerlof´s lemon market. It will help to understand the new norm on this issue, and the relevant differences with other markets. Then, although there is a law close to the insolvency process, there is a gap about sharing the last results of the insolvency process and about the selection of insolvency administrators, which are one of the agents, with the judges, that resolve the insolvencies.

Then, there are some external aspects that affected and are affected by the results of insolvency process, the economic elements, such as the crisis. Other aspects, legal ones, are monitoring the

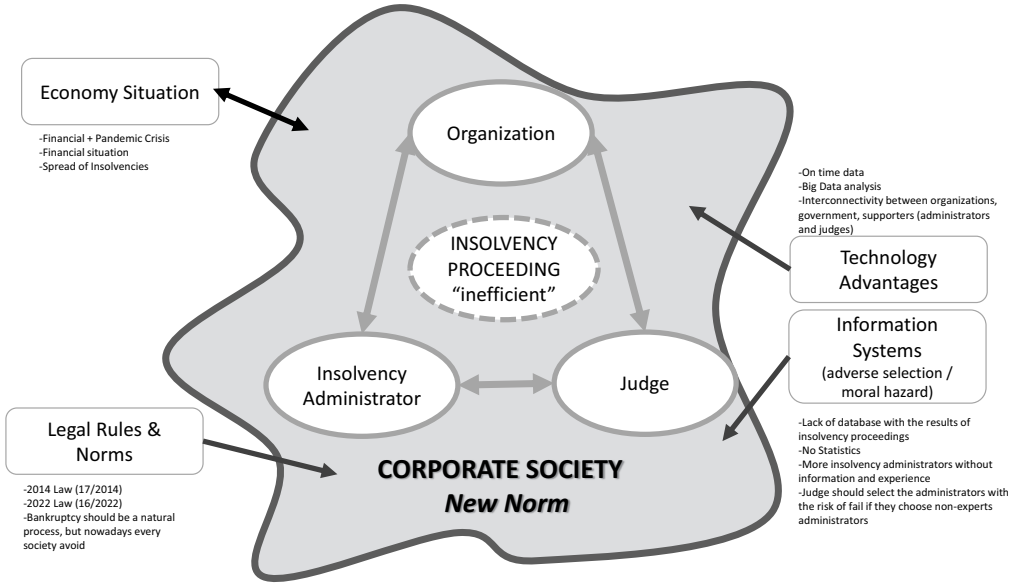

Figure 2. Insolvency proceeding toward efficiency: external elements that make the new norm.

Source: Author`s own creation.

situation without efficient results probably because it is not established the Exante situation of insolvency. The expertise of insolvency administrator is a vital point to get positive insolvency process results, however, it is not taken into account and sharing the information is not the main issue of the law; a barrier to understand and improve the results with the experience of other processes. Then, main aspects that affect the insolvency proceedings, such as the economic situation, legal aspects and information systems are not taken seriously on the insolvency proceeding system, but they are essential element of the new norm. The new technologies are relevant as well, but we have not focus on those aspects, but as they are relevant, we have included them in the figure to show their relevancy. Then, in the next figure (see Figure 2), it is shown the relevancy of the triangulation between organizations with judges and insolvency administrators or practitioners, as they are the agents of the insolvency proceedings. However, they are not in an exclusive and independent ecosystem. External elements, part of the new norm are influencing this system. First, the economy elements, such as the financial and pandemic crisis affect the number and volume, and the form of get results of these insolvency processes will affect the wellbeing of people, for example because of avoiding unemployment. Second, the law and regulation, such as the new law of 2022 around bankruptcy, which affects the form of finish the insolvency process including the small companies in the system. Third, the progress of open information systems, databases and new technologies, that support the new knowledge about the insolvency processes results and get the variables to improve the efficiency of the insolvency process. All of them are pioneering changes that insolvency proceeding systems and the agent implicated (organizations, administrators and judges) should make at the operational (information, technology and process), and structural (economy and legal) levels.

6. Conclusions, limitations and future research

Improving the efficiency of insolvency proceedings requires comprehensive knowledge of the process to investigate its explanatory variables, thereby improving it and proposing efficient measures for reform. For this purpose, we must adequately conceptualise and quantify the efficiency of insolvency proceedings, which the agents that control and know the *ex-post* efficiency data in Spain are reluctant to disclose. This reluctance may be linked to the low rate of efficiency of insolvency proceedings (26.89%, according to our estimates) or of their own efficiency.

In this scenario of information asymmetry (Milgrom & Roberts, 1992), the current system of appointment by the judicial authority only aggravates the problem by reducing competition in the market of insolvency practitioners. Since 2014, the ongoing regulatory development aimed at correcting the system by transitioning to a sequential selection mechanism only aggravates the problem of competition highlighted above and reduces the efficiency of the system.

Insolvency proceedings have serious efficiency problems, but their causes lie in the configuration of the system, the mode of selection of insolvency proceedings in the Spanish system, and in information asymmetry. However, scholars have emphasised the importance of this institution for improving system efficiency. Properly regulating insolvency proceedings, instead of eliminating them from the process, as suggested by some recent legislative trends, should be a priority to improve the system and to establish a more efficient framework for insolvency resolution.

Insolvency proceedings are crucial for the efficiency of the process and its professionalisation and for adequately ensuring expertise.

The Insolvency Proceedings Statute regulates the access, appointment, and adequate remuneration and allows the entry into force of the new appointment system, cannot be postponed; otherwise, the efficiency of Spanish insolvency proceedings will not be improved.

The current system for appointing insolvency proceedings considering the existing information asymmetry problems in the Spanish market is inefficient and may be one of the most immediate causes of the inefficiency of insolvency proceedings as a means of resolving business insolvency. The system should seek to generate information on both the efficiency of the processes and the expertise of the insolvency administrators. Similarly, efforts should be made to change to the legally established system of sequential appointment with the due guarantees of quality of insolvency proceedings. The law 16/2022 provides that a new procedure for micro-enterprises be implemented, which does not require appointing an insolvency administrator. The legislators considered that the costs involved are excessive, but were they comparing the costs with the value of the process? Certainly not, because this information is not available in the market.

In the immediate future, Spanish legislation faces two far-reaching and strategic challenges for the development and implementation of an efficient system for insolvency proceedings:

- The statute for insolvency proceedings that implements a sequential appointment system, providing access to the responsibility of insolvency administrator that guarantees the quality of the professional, has been pending since 2014, as shown above. Highly prepared and professional insolvency administrators, chosen through a system that guarantees adequate appointments, should be prioritised because the insolvency administrator plays a key role in this process and is crucial for its level of efficiency.
- Relevant statistics must be compiled to enable not only public authorities, but also researchers to analyse the explanatory variables that account for the inefficiency of insolvency proceedings. This second challenge may be simplified by introducing a standard accountability model for adding relevant data—degree of loan recovery, costs of the process, forms of liquidation and major milestones of the bankruptcy process. The recently approved Royal Decree on accountability should request and collect data on the type of creditors and on the extent of loan recovery to determine the system's efficiency levels. The Regulation on Bankruptcy Statistics is currently being drawn up, which should define a sound statistical system enabling researchers to compile relevant statistics to help identify new explanatory variables, thus improving the insolvency resolution system.

Funding
The authors declare that they have received financial support to conduct research, write and/or publish this article: this research was funded by the Emilio Soldevilla Foundation for Research and Development in Business Economics (Fundación Emilio Soldevilla para la Investigación y el Desarrollo en Economía de la Empresa – FESIDE; FESIDE023/005TI) and University of the Basque Country (PES20, GIU22/03).

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Disclosure statement
No potential conflict of interest was reported by the author(s).

Citation information
Cite this article as: The lemon market of insolvency proceedings in Spain in the new normal: Information, asymmetry, and adverse selection problems, Unai Olabarrieta, Leire San-Jose & Andrés Araujo, *Cogent Business & Management* (2023), 10: 2266656.

Notes
1. Directive (EU) 2019/1023 of the European Parliament and of the Council of 20 June 2019 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency and discharge of debt, and amending Directive (EU) 2017/1132 (Directive on restructuring and insolvency), considering 92 and its transposition into the Spanish legal system (Law 16/2022, reforming the Consolidated Text of the Bankruptcy Act).
2. Article 29 of Directive (EU) 2019/1023.
3. https://portal.mineco.gob.es/RecursosArticulo/mineco/ministerio/participacion_publica/consulta/ficheros/Consulta_publica_Reglamento_estadistica_concursal.pdf
4. https://www.boe.es/diario_boe/txt.php?id=BOE-A-2023-7412
5. In the United States, in the used car market, a vehicle of good quality is referred to as a "cherry", while a vehicle of poor quality is called a "lemon". This terminology can be extended to markets such as insurance, healthcare, and housing, among others.
6. https://administradoresconcursalesmalaga.es/index.php
7. Since 2014, more than 4,000 natural persons are estimated to have been appointed insolvency administrators (see http://www.giocondaonline.com) for a total number of approximately 5,000 annual insolvency proceedings, according to the statistics discussed above.

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