Curiel1987

O'Neill [6] discusses several division methods in such situations. He proposes the method of recursive completion. Aumann and Maschler [ Aumann1985 ] study three examples of bankruptcy from the Babylonian Talmud and extend the solution given there to all bankruptcy problems. Another way of dividing the estate is the proportional method which divides the estate proportionally to the claims. This method is widely used. However, contrary to the two methods mentioned above it is not a game theoretic method. Especially, it is not invariant under strategic equivalence. suggest a method which arises from the proportional method by making some modifications in order to achieve strategic equivalence and to obtain a game theoretical method. This new method is called the adjusted proportional method

Crampton1985

* A fundamental problem in economics is determining how agreements are reached in situations where the parties have some market power. I explore these questions in the context of bilateral monopoly, in which a buyer and a seller are bargaining over the price of an object. Two features of my analysis, which are important in any bargaining setting, are information and impatience. The bargainers typically have private information about their preferences and will suffer some delay costs if agreement is postponed. Information asymmetries between bargainers will often lead to inefficiencies
* General bargaining mechanisms. Not bankruptcy
* Some authors have examined the bargaining problem in a static context, focusing solely on the role of incomplete information and ignoring the sequential aspects of bargaining. Myerson and Satterthwaite (1983) analyze bargaining as a direct revelation game. In this game, the players agree to a pair of outcome functions: one that maps the players’ statements of their types into an expected payment from buyer to seller, and one that maps the players’ statements into a probability of trade
* Chatterjee and Samuelson (1983) analyze a strategic game in which both players make offers simultaneously, and trade occurs at a price between the two offers if the seller’s offer is less than the buyer’s offer
* In situations where the bargainers are unable to make binding agreements, it is unrealistic to use a bargaining mechanism that forces them to walk away from known positive gains from trade. Such mechanisms violate a broad interpretation of sequential rationality as discussed by Selten (1976) (in terms of subgame perfection), and later by Kreps and Wilson (1982),
* When there is uncertainty about whether or not gains from trade exist, any static game will violate sequential rationality. The players must have time to learn through each other’s actions whether gains are possible
* Bargainers who anticipate large gains from trade (low-cost sellers and high-valuation buyers) will be unwilling to delay agreement, and so will propose attractive terms of trade that the other is likely to accept early in the bargaining process. On the other hand, high-cost sellers and low-valuation buyers will prefer to wait for better terms of trade

Baird & Picker 1991

* THE traditional view of bankruptcy law begins with the idea that diverse general creditors of a firm face a collective action problem when their corporate debtor becomes insolvent. These general creditors now are the firm's residual owners. Under the traditional view, bankruptcy law is designed in the first instance to allow them to act collectively
* bankruptcy serves principally to frame the negotiations between this senior creditor and the firm's manager-shareholder. A bankruptcy proceeding is needed largely because these negotiations cannot be entirely the province of private contracting
* If the firm is worth less than what the most senior creditor is owed, the general creditors should receive nothing, but some mechanism, perhaps a judicial one, is needed to decide whether this condition holds, as the manager-shareholder and the senior creditor cannot be relied on to protect the rights of third parties. Before a court can extinguish the claims of the junior creditors, it must be satisfied that these creditors are in fact entitled to nothing. In the case of a closely held firm, bankruptcy does not solve a collective action problem that the general creditors of a firm face when they are its residual owners. Rather, bankruptcy is best understood as a forum in which two parties negotiate with each other. Bankruptcy's rules have a dual function: to enforce the agreement between these parties and to ensure that this agreement does not compromise the rights of any third parties.

White2007

Bankruptcy is the legal process whereby financially distressed firms, individuals, and occasionally governments resolve their debts. The bankruptcy process for firms plays a central role in economics, because competition drives inefficient firms out of business, thereby raising the average efficiency level of those remaining. The main economic function of corporate bankruptcy is to reduce the cost of default by having a government-sponsored procedure that resolves all debts simultaneously

Corneli1997

This paper suggests a framework to analyze the efficiency properties of bankruptcy procedures, distinguishing between ex-ante and ex-post efficiency. Ex-post efficiency consists in maximizing the ex-post value of the insolvent firm, whereas ex-ante efficiency consists in maximizing the proceeds to creditors from the reorganization of the firm and providing incentives for the creditors to monitor the firm. We show that the definition of creditors' ownership rights over the company and the protection of the creditors' seniority, are crucial to assess the ex-ante efficiency of a bankruptcy procedure.

Staszkiewicz2019

investigated the efficiency of creditor protection in insolvency. We approached efficiency in three dimensions: ex ante, ex post, and interim. This paper presents the differences between Polish and Spanish ex ante efficiency, the factors influencing the interim recovery rate and efficiency, and the differences between ex ante and ex post efficiency in Polish proceedings

asks how insolvency1 procedures are efficient from the perspective of the creditor. the findings of Djankov et al. (2008) by providing the actual long term average of the duration of proceedings in Poland—853 days

The globalization of the world economy motivates research for exploring legal efficiency across countries (Acemoglu and Johnson 2005; Franks et al. 1996; La Porta et al. 2008; Succurro 2012) and domestic settings (Chemin 2009a, b; Ponticelli and Alencar 2016; Visaria 2009). In the background, there is ongoing discussion on the efficiency of the bankruptcy conditions, bankruptcy procedures, and the consequences of the insolvency proceedings.

* In respect of the bankruptcy law procedures, there is no ultimate approach to the efficiency assessment. The reference point for efficiency can take the form of market value or market oriented procedures (Thorburn 2000), time, cost, and recovery rate of the procedure (Succurro 2012), ability to strike a balance between debtors and creditors protection (Franks et al 1996; La Porta et al. 2008), or the behavioral changes of process actors
* measure efficiency in different moments
* Claessens and Klapper (2005) provide the time horizon insolvency regime efficiency.
* They distinguish between ex ante and ex post efficiency. An efficient ex ante insolvency regime prevents managers and shareholders from taking imprudent loans, and lenders from giving risky loans. An ex post efficiency system assures that the highest total value will be obtained for the distressed firm. Camacho-Miñano et al. (2013) enhance it by considering interim efficiency, that should allow a realization of the assets in the shortest time at the lowest achievable cost. Camacho-Miñano et al. (2013) test for ex ante efficiency.

**Succuro2012**

Examine the relationship between the insolvency systems and the investment share of GDP across countries. The objective is to find out the relationship between bankruptcy procedures and economic performances around the world. Empirical evidence suggests that: (1) the investment share of GDP is higher in those countries characterized by highly efficient bankruptcy system; the more efficient the insolvency procedures in terms of time, cost and recovery rate, the more readily available debt is and the higher the Investment/GDP ratio is; (2) the investment share of gross domestic product is positively associated with the degree of sophistication of the Bankruptcy Law, at least below a certain level of legal production;

the latest published figures highlighted that 90% of the companies in bankruptcy ended up in liquidation; the creditors recovered only 56% of the average debt, and there was a sharp increase in the number of companies in liquidation situation (97% up comparing to last year’s data). All these data show that in spite of the several motivations exposed in the Spanish law about protecting creditors, just the opposite has happened; the creditors have not been secured, and the reorganization of the structure of the companies has not been achieved, thus preventing their survival.

Several European countries, on the basis of Chap. 11 US Bankruptcy Code, changed their bankruptcy law due to a lack of the reorganization power of their systems. The liquidation-based origins of these European laws were considered out of date and were deemed to lead to over-liquidation (Couwenberg and de Jong 2008). Belgium changed its rules in 1998, France in 1994, Finland in 1993, Germany in 1994 (Couwenberg 2001), the UK in 2002, Italy in 2005/2006. Other European and Non-European countries adopted to various degrees bankruptcy reforms (Table 1). A new bankruptcy law drafted in 2004 in Czech Republic may drastically improve the efficiency of financial distress resolution. Brazil introduced a reorganization procedure in 2004 that helps viable enterprises stay alive and gives secured creditors more influence over the process. Serbia also introduced reforms in 2004, setting strict time limits and strengthening accountability standards for bankruptcy administrators. In 2005/2006 fourteen countries5 adopted bankruptcy reforms (forty since 2003); among these, only Peru and Uzbekistan adopted negative reform. Burundi and Micronesia both enacted their first bankruptcy law. France, Italy, Korea and Slovakia adopted reforms that allow preinsolvency proceedings and make reorganization more attractive; Chile, Latvia, Serbia and Slovakia adopted reforms that improve supervision of administrators. Also Puerto Rico and United States shortened time limits for bankruptcy procedures (World Bank, Doing Business Report 2007). Five countries in Eastern Europe and Central Asia (Georgia, Armenia, Hungary, Croatia, Uzbekistan) joined China as top reformers in bankruptcy in 2006/2007 (Table 1). Also Italy, Denmark and Portugal improved their bankruptcy systems in 2007 (World Bank, Doing Business Report 2008).

to evaluate the efficiency of a bankruptcy system both the liquidation and the reorganization efficiency should be taken into account. Good bankruptcy laws close unviable business and reorganize viable ones thus regulating more efficiently the insolvency proceedings (World Bank, Doing Business Report 2007). the analysis actually considers ‘‘closing a business’’ enforcement as proxy for bankruptcy system efficiency since reorganization rates (ratio of the number of firms in a reorganization procedure to the total number of bankrupt firms), as well as success rates (ratio of the number of firms that reorganize successfully to the total number of bankrupt firms), are low around the world. Couwenberg (2001), the overwhelming majority of the insolvency proceedings around the world concerns liquidation The efficiency of a bankruptcy system can be evaluated for the three stages of the bankruptcy process (Couwenberg and de Jong 2008; Franks et al. 1996). The ex ante efficiency (first stage) aims to provide incentives for entrepreneurs to limit the usage of the legal procedures for bankruptcy. The interim efficiency (second stage) takes place during the financial distress, when the bankruptcy procedure is tainted by conflicts of interest of participants. The ex post efficiency (third stage) is achieved if all creditors and other parties receive the highest payouts in accordance with contractual rights. Therefore, efficiency arise when bankruptcy process costs are low, recovery rates are high and distribution are driven by priority rules. Since several difficulties arise in the study of the first and the second stages of the bankruptcy process, this study focuses attention on the third phase of the bankruptcy process that can be analysed by considering specific efficiency proxies.

Korol2019

Though the first law on bankruptcy was already written in 1542 in England during the reign of King Henry VIII, the first studies on forecasting bankruptcies took place in the 1960s, started by [Beaver](https://www.mdpi.com/1911-8074/12/4/185#B13-jrfm-12-00185) ([1966](https://www.mdpi.com/1911-8074/12/4/185#B13-jrfm-12-00185)) and [Altman](https://www.mdpi.com/1911-8074/12/4/185#B5-jrfm-12-00185) ([1968](https://www.mdpi.com/1911-8074/12/4/185#B5-jrfm-12-00185)). There are two main distinct strands of models that have been used to predict bankruptcy—statistical and artificial intelligence models.

Since the estimation of the pioneering model of multivariate discriminant analysis by Altman, numerous research studies have been carried out with the use of a wide variety of statistical methods (e.g., [Alaka et al. 2018](https://www.mdpi.com/1911-8074/12/4/185" \l "B4-jrfm-12-00185" \o "); [Bandyopadhyay 2006](https://www.mdpi.com/1911-8074/12/4/185#B11-jrfm-12-00185); [Barboza et al. 2017](https://www.mdpi.com/1911-8074/12/4/185#B12-jrfm-12-00185); [Delen et al. 2013](https://www.mdpi.com/1911-8074/12/4/185" \l "B23-jrfm-12-00185); [Giannopoulos and Sigbjornsen 2019](https://www.mdpi.com/1911-8074/12/4/185#B30-jrfm-12-00185); [Ho et al. 2013](https://www.mdpi.com/1911-8074/12/4/185" \l "B32-jrfm-12-00185" \o "); [Hosmer et al. 2013](https://www.mdpi.com/1911-8074/12/4/185#B34-jrfm-12-00185); [Jackson and Wood 2013](https://www.mdpi.com/1911-8074/12/4/185#B35-jrfm-12-00185); [Kieschnick et al. 2013](https://www.mdpi.com/1911-8074/12/4/185" \l "B43-jrfm-12-00185" \o "); [Kumar and Ravi 2007](https://www.mdpi.com/1911-8074/12/4/185#B45-jrfm-12-00185); [Laitinen 2007](https://www.mdpi.com/1911-8074/12/4/185" \l "B46-jrfm-12-00185" \o "); [Lukason and Hoffman 2014](https://www.mdpi.com/1911-8074/12/4/185" \l "B51-jrfm-12-00185" \o "); [Lyandres and Zhdanov 2013](https://www.mdpi.com/1911-8074/12/4/185" \l "B52-jrfm-12-00185" \o "); [Mihalovic 2016](https://www.mdpi.com/1911-8074/12/4/185" \l "B55-jrfm-12-00185" \o "); [Orsenigo and Vercellis 2013](https://www.mdpi.com/1911-8074/12/4/185" \l "B58-jrfm-12-00185" \o "); [Psillaki et al. 2010](https://www.mdpi.com/1911-8074/12/4/185" \l "B60-jrfm-12-00185" \o ")). The most popular statistical techniques as noted by [Balcaen and Ooghe](https://www.mdpi.com/1911-8074/12/4/185" \l "B10-jrfm-12-00185) ([2006](https://www.mdpi.com/1911-8074/12/4/185#B10-jrfm-12-00185)) are multivariate discriminant analysis and logistic regression models.

Cressy2006

A model is developed to explain why most firms die in the first few years of trading. A risk averse entrepreneur with initial capital endowment faces a Brownian motion in net worth over time. To balance return (profits growth) and risk (variance of profits) she adopts a portfolio strategy, choosing market positioning to achieve an optimal combination of risk and return at each instant, given her financial and human capital endowments and attitude towards risk. Failure occurs when the firm’s value falls below the opportunity cost of staying in business. The resulting distribution of failure is Inverse Gaussian, implying, for specific parameter values, a positively skewed failure curve of the type observed in practice. In addition the model presents a novel-measure of management human capital (MHC) which implies that high MHC entrepreneurs will have higher absolute and marginal profits growth than low MHC entrepreneurs at given levels of risk.

IBC Code 2016

Preamble: An Act to consolidate and amend the laws relating to reorganisation and insolvency

resolution of corporate persons, partnership firms and individuals in a time

bound manner for maximisation of value of assets of such persons

4. (1) This Part shall apply to matters relating to the insolvency and liquidation of

corporate debtors where the minimum amount of the default is one lakh rupees:

<<On the increased provisioning, Bhattacharya said, “… In all of these accounts we have pretty large provisions. So yes, we have to make a little more but it should not very badly impact the numbers.” She added that in case a new buyer bids to buy one of the loans, the declared provisions would reduce the value of the asset. “Only problem is that when you already make so much of provision and if there is somebody coming in order to take over that account, they will immediately take that as the lowest level of write off or hair-cut. So to that extent, we may have realised better value if we have not exactly pin pointed the amount of provisioning that we were making,” the SBI chief said.>>

* <https://www.moneycontrol.com/news/business/economy/sbi-takes-3-of-the-12-accounts-to-bankruptcy-court-for-resolution-2313215.html>

Mokal2005

a rational scheme of fair co-operation would not tolerate waste. Such arguments also cohere with the rather simplistic pre-theoretical intuition that secured creditors are ‘obviously’ treated better than unsecured ones, which is unfair to the latter. The chapter uses economic theory and empirical data to find that these arguments are at best unproved, and more likely, false. It concludes by demonstrating that, taking into account the actual conditions under which security is demanded and offered, its priority over unsecured claims in the debtor's insolvency would in fact be part of a rational scheme of fair co-operation amongst equals.

IMF1999

The first overall objective is the allocation of risk among participants in a market economy in a predictable, equitable, and transparent manner. The achievement of this objective plays a critical role in providing confidence in the credit system and fostering economic growth for the benefit of all participants. For example, in terms of the creditor-debtor relationship, the ability of a creditor to commence insolvency proceedings against a debtor as a means of enforcing its claim reduces the risk of lending and, thereby, increases the availability of credit and the making of investment more generally. An insolvency law also serves to allocate risk among different creditors, also for the benefit of borrowers. For example, if the insolvency law affords secured creditors special treatment vis-a-vis unsecured creditors, such treatment protects the value of security, which may be particularly important for those debtors that, because of their credit risk, cannot obtain (or cannot afford) unsecured credit.

The second objective of an insolvency law is to protect and maximize value for the benefit of all interested parties and the economy in general. This objective is most obviously pursued during rehabilitation, where value is maximized by continuing a viable enterprise. But it is also a primary objective of procedures that liquidate enterprises that cannot be rehabilitated. The achievement of the value maximization objective is often furthered by the fulfillment of the objective of equitable risk allocation.

This objective is most obviously pursued during rehabilitation, where value is maximized by continuing a viable enterprise. But it is also a primary objective of procedures that liquidate enterprises that cannot be rehabilitated. The achievement of the value maximization objective is often furthered by the fulfillment of the objective of equitable risk allocation

Similarly, during the insolvency proceedings, many countries give the liquidator or the administrator (depending on the nature of the proceedings) the authority to interfere with the terms of a contract previously entered into between the debtor and a counterparty. While the exercise of this authority provides an important means of maximizing the value of the assets of the debtor, it also undermines the predictability of contractual relations, which is critical to making investment decisions.

Some of the key policy choices to be made when designing an insolvency law relate to how the above objectives are balanced against each other. In addition, choices need to be made on who will be the beneficiaries of the value that is maximized: while some countries view rehabilitation procedures as providing a way to enhance the value of creditors’ claims through the going-concern value of the enterprise, other countries also view it as a means of providing a “second chance” to the shareholders and the management of the debtor. Still others view the continuation of the enterprise as primarily benefiting the employees. The protection of employees raises the larger issue of when reliance on the insolvency law should be avoided altogether so that certain public policy objectives can be achieved. For instance, to limit unemployment or rescue enterprises that are engaged in important national activities, the authorities may prefer to address the problems of a troubled company through various measures that will involve an extensive use of public funds and give the beneficiaries a substantial advantage over their less-favored competitors.

Porta1998

In traditional finance of Modigliani and Miller (1958), securities are recognized by their cash flows. For example, debt has a fixed promised stream of interest payments, whereas equity entitles its owner to receiving dividends. Recent financial research has shown that this is far from the whole story, and that the defining feature of various securities is the rights that they bring to their owners (see, e.g., Hart 1995).

Law and the quality of its enforcement are potentially important determinants of what rights security holders have and how well these rights are protected. Since the protection investors receive determines their readiness to finance firms, corporate finance may critically turn on these legal rules and their enforcement.

Claessens2002

A good insolvency regime should also prevent managers and shareholders from taking imprudent loans and lenders from giving loans with a high probability of default. At the same time, the insolvency regime should provide for a degree of entrepreneurship in the economy more generally. An insolvency regime should also deliver an ex-post efficient outcome, in the sense that the highest total value is obtained for the distressed firm with the least direct costs and loss in going concern value

Donald M. DePamphilis 2010

Reforms in creditor rights tend to increase the availability and reduce the cost of credit in countries, where court enforcement is quick and fair. Haselmann, Pistor, and Vig (2006) show that, in their sample of bank loans in 12 emerging countries, the availability of credit increased, and the cost of credit declined in response to [bankruptcy](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/bankruptcy) laws enforcing creditor rights to the collateral underlying loans. Hence, the quick and fair enforcement of creditor rights to the collateral underlying loans tends to lower borrowing costs and increase access to credit. The effective enforcement of bankruptcy laws is integral to the success of this process. This chapter focuses on bankruptcy and liquidation as alternative restructuring or exit strategies for failing firms. [Bankruptcy](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/bankruptcy) enables a failing firm to reorganize, while protected from its creditors, or to cease operation by selling its assets to satisfy all or a portion of the firm's outstanding debt. The chapter addresses how reorganization and liquidation take place both inside and outside the protection of the bankruptcy court. The chapter also discusses common strategic options for failing firms, the current state of bankruptcy prediction models, and empirical studies of the performance of firms experiencing financial distress.

Smith2004

argue that the main role of corporate bankruptcy is to mitigate bargaining frictions in financial distress. We identify five roles for bankruptcy law in improving ex post bargaining efficiency: (1) verify assets and liabilities, (2) improve coordination among claimholders, (3) protect third-party claimants, (4) maintain asset value during bargaining, and (5) alleviate the impact of liquidity constraints among claimants and potential acquirers. In improving ex post efficiency, however, bankruptcy law will also affect the bargaining power of the claimants, which may have unintended consequences on ex ante efficiency.

Longhofer2004

it is common for creditors (and debtors) to seek legal recourse in civil courts. Bankruptcy law is redundant in this respect, because creditors have alternative venues for resolving defaults and other contractual disputes. The unique aspect of bankruptcy law that supersedes the minutia ultimately determining a resolution is the mandate that requires a coordinated resolution involving all creditors. This prevents individual debt collection remedies that tend to destroy asset value. The message in this article is that no matter what type of resolution one envisions — market-based solutions such as auctions, strict adherence to contract terms, or central planning allocations — there must exist a mandate that all creditors participate, because they will generally prefer private debt collection remedies. We propose that bankruptcy exists to resolve the conflict that arises among creditors when a debtor becomes insolvent. In the absence of a bankruptcy system, creditors generally find individual debt collection remedies privately optimal, even though a coordinated liquidation would maximize the value of the assets to be distributed to the creditors as a group.1 We further this idea by showing that creditors lack the incentive to write contracts ex ante that would bind them to coordinate their ex post liquidation activities. This incentive problem arises even though coordination is Pareto efficient 1. We do not distinguish between liquidation and reorganization. This lack of distinction simply reflects the interpretation of reorganization as a special case of liquidation in which the debtor’s assets are ‘‘sold’’ intact.

bankruptcy law is not intended to protect a debtor from its creditors, nor to protect creditors from their debtor. Rather, itis intended to protect creditors from one another. Although legal scholars have suggested this rationale for bankruptcy law, we are not aware of any economic analysis of the ex post creditor conflict in the absence of bankruptcy law. To be sure, economists have studied creditor (and creditor-debtor) conflicts and the resulting externalities, but these conflicts have been played out in the context of an existing bankruptcy process. In contrast,we argue that bankruptcy law itself is a solution to creditor conflict. Led by Jackson (1986), legal scholars (Baird, 1987; Picker, 1992; Posner,1986; White, 1990) have argued that bankruptcy law is a response to thecommon pool problem that arises when a firm with multiple creditorsbecomes insolvent: ‘‘The basic problem that bankruptcy law is designedto handle, both as a normative matter and as a positive matter, is that thesystem of individual creditor remedies may be bad for the creditors as a groupwhen there are not enough assets to go around’’ (p. 10). In other words, itwould generally be socially desirable for creditors to coordinate their debtcollection activities. This allows the debtor’s assets to be deployed at theirhighest value use, thereby increasing ‘‘the size of the pie’’ to be distributed.Nevertheless, in the absence of a bankruptcy law, once a debtor has reachedinsolvency a creditor’s most profitable course of action is to stake a claim onthe debtor’s assets that is sufficiently large to make it whole. The resulting irst-come, first-served ordering of creditors’ claims triggers an inefficient liquidation because the debtor’s assets are sold off in an ad hoc manner. A bankruptcy law that mandates a collective process avoids this inefficient liquidation. We argue that on its own this justification for bankruptcy is incomplete. In particular, this argument does not explain why creditors do not write contracts ex ante that bind them to coordinate with one another once the firmbecomes insolvent. Posner (1986) suggests that creditors would like to writesuch coordinating contracts ex ante but fail to do so because the transactioncosts are prohibitive when the firm has many creditors. He concludes thatbankruptcy law is a viable alternative.

Eraslan2002

* Reorganisation Chapter 11 vs liqidation Chapter 7; absolute priority rule I model liquidation
* Sieg[33] who uses generalized method of moments in the context of a finite horizon asymmetric information bargaining model.4 In this paper, I estimate an infinite horizon, complete information model using a likelihood based approach.
* Absolute priority rule. The order of payment according to the absolute priority rule is as follows: first, secured creditors (with respect to the proceeds of their own collateral); second, priority claims which include taxes, bankruptcy costs, such as legal fees, and costs incurred during the bankruptcy to run the business, such as wages; third, unsecured claims, fourth, pendency interest, that is, interest since the filing of the case, in the order above; and fifth, shareholders
* Event as an exogenous possibility of breakdown of negotiations. estimate a bargaining model of Chapter 11 bankruptcies. I use the estimated structural model to conduct policy experiments aimed at evaluating the impact of institutional rules on the creditor recoveries, distribution to shareholders and deviations from absolute priority rule