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ALEXIS PIERRE PHILIPPE CECCALDI

THE IMPACT OF CORPORATE BANKRUPTCY LAWS ON
ENTREPRENEURSHIP
A FOCUS ON THE FRENCH CORPORATE BANKRUPTCY REFORM OF
2006

SÃO PAULO

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Knowledge Field: Gestão E Competitividade
Em Empresas Globais

Advisor: Prof. Dr. Jaci Corrêa Leite

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ABSTRACT

The purpose of this study is to investigate the potential effect of corporate bankruptcy laws on entrepreneurship. The aim is to understand whether or not the change in corporate bankruptcy laws can stimulate entrepreneurial activity, as well as how entrepreneurs consider corporate insolvency legislation. To answer these questions, the study focuses on the case of France, which implemented a major corporate bankruptcy reform in 2006. France represents a compelling case, as it is the developed economy with the lowest creditor-friendly index score. The potential impact of the reform on French entrepreneurs is assessed on quantitative and qualitative grounds through an explanatory sequential mixed method. The results of our quantitative study suggest that the reform of the corporate insolvency procedures introduced in 2006 by the French government did not have a significant impact on entrepreneurial activity in France. Our qualitative results indicate that this may be due to low awareness of entrepreneurs regarding bankruptcy laws because failure is not the focus of entrepreneurs' attention. However, it is crucial to note that as many variables come into play when dealing with entrepreneurship, the impact of the reform on entrepreneurship may have been affected by other events not taken into account in that model. In the qualitative part, we interviewed French entrepreneurs active at the time of the reform as well as professionals in charge of assisting entrepreneurs whose firms are in difficulties. We tried to investigate what importance entrepreneurs grant to bankruptcy laws and assess the general awareness of entrepreneurs regarding bankruptcy legislation. We also attempted to assess the impact the reform may have had on them, and how they consider the reform. Our qualitative study suggests low awareness regarding the corporate insolvency legislation among entrepreneurs. Interviewees assessed the reform as progress; the main positive feature was the prevention aspect, which allows entrepreneurs who anticipate difficulties to benefit from special procedures. This study may be of interest to policymakers wishing to develop entrepreneurship as well as to entrepreneurs looking for a better understanding of how the institutions impact on them.

Keywords: law and economics, entrepreneurship, corporate bankruptcy, failure.

RESUMO

O objetivo deste estudo é investigar o efeito potencial das leis de falências corporativas sobre empreendedorismo. O objetivo é entender se a evolução das leis de falências corporativas pode ou não estimular a atividade empreendedora, bem como a forma como os empresários consideram a legislação sobre insolvência corporativa. Para responder a essas perguntas, o estudo enfoca o caso da França, que implementou uma grande reforma de falências em 2006. A França representa um caso convincente, já que é a economia desenvolvida com a menor pontuação de índice favorável ao credor. Os impactos potenciais da reforma sobre empreendedores franceses são avaliados em termos quantitativos e qualitativos por meio de um método sequencial explicativo e misto. Os resultados do nosso estudo quantitativo sugerem que a reforma dos procedimentos de insolvência corporativa introduzidos em 2006 pelo governo francês não teve um impacto significativo sobre a atividade empresarial na França. Nossos resultados qualitativos indicam que isso pode ser explicado devido à baixa conscientização dos empreendedores sobre as leis de falência, porque o fracasso não é o foco dos mesmos. No entanto, é crucial notar que, como muitas variáveis entram em jogo quando se trata de empreendedorismo, o impacto da reforma no empreendedorismo pode ter sido afetado por outros eventos não considerados nesse modelo. Na parte qualitativa, entrevistamos empresários franceses ativos na época da reforma, bem como profissionais encarregados de auxiliar empresários cujas empresas estão em dificuldades. Buscamos investigar a importância que os empreendedores concedem às leis de falência e avaliar a consciência geral do empreendedor sobre a legislação de falências. Também procuramos avaliar o impacto que a reforma pode ter sobre eles e como eles consideram a reforma. Nosso estudo qualitativo sugere baixa conscientização sobre a legislação de insolvência corporativa entre os empresários. Os entrevistados avaliaram a reforma como um progresso. A principal característica positiva foi o aspecto da prevenção, que permite aos empresários que antecipem dificuldades para se beneficiar de procedimentos especiais. Este estudo pode ser de interesse para os formuladores de políticas que desejam desenvolver o empreendedorismo, bem como para os empresários que buscam uma melhor compreensão de como as instituições impactam sobre eles.

Palavras-chave: legislação e economia, empreendedorismo, falência corporativa.

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List of Acronyms:

KIEA	The Kauffman Index of Entrepreneurial Activity
USPTO	US Patent Office
CVA	Company Voluntary Arrangement
INSEE	The French National Institute of Statistics And Economics Studies
OECD	The Organization for Economic Co-operation and Development
GDP	Gross Domestic Product
AICC	Akaike Information Corrected Criterion
PACA	Provence-Alpes-Côte d'Azur
AOS	Atout Organisation Science
ANOVA	Analyse of Variance

1. Introduction and objectives

Failure is part of the entrepreneurial challenge. While the media keep relating successful entrepreneurial stories, eluding the less successful ones, 90% of new business startups will fail (90% Of Startups Fail: Here's What You Need to Know About The 10%, n.d). In innovative environments, failure is even considered a necessary evil, an experimentation process that represents a step towards success. "*Fail fast, fail cheap, fail often*" has become the motto of a growing part of the startup community ("*Ratez. Ratez encore. Mais ratez mieux!*" n.d.). Thus, the conditions of the exits of failed business ventures are of considerable significance for entrepreneurs.

Corporate insolvency laws and procedures organize the handling of distressed firms to resolve conflicts between the firm's stakeholders. The bankruptcy system sets the cost of exit, influences the probability that a bankrupt entrepreneur will start anew, and also impacts entry barriers for entrepreneurs (Armour & Cumming, 2006; Ayotte, 2006; Lee et al., 2008). An effective insolvency regime aims at protecting the creditors' rights while avoiding the premature liquidation of viable firms. Historically, bankruptcy laws have been harsh on unsuccessful entrepreneurs. Indeed, bankruptcy comes from the Italian term "*banca rotta*" (bankrupt: Definition of bankrupt in English by Oxford Dictionaries, n.d.), which means broken bench, as it was customary, in medieval Italy, to break the bank bench of insolvent traders (World Wide Words, n.d.). Bankruptcy was for a long time considered as a crime punishable by the death penalty in many countries. (What is the origin of bankruptcy? Where did bankruptcy come from? n.d.). However, recently legislators wishing to preserve and develop economic activity have switched to more entrepreneur-friendly bankruptcy procedures, even though differences remain between the legislation in different countries (Peng, Yamakawa & Lee, 2010). For example, while liquidation (dismantling of the firm assets) used to be the only option for distressed firms, most countries now include the possibility of reorganization in their bankruptcy system. Economic institutions have highlighted that appropriate bankruptcy reform can offer considerable benefits (World Bank, 2006).

Previous research has investigated the link between bankruptcy laws and entrepreneurship. But, to our knowledge, none included a mixed method approach. This research aims to address this gap in the literature by combining macro and micro approaches to examine the links between insolvency regimes and entrepreneurs. Since bankruptcy regimes vary around the world, some

studies have investigated the implications of different bankruptcy legislations for entrepreneurship. However, global across-countries studies are not able to take into account countries' more nuanced specificities and cultural elements that may impact entrepreneurial development (Peng, Yamakawa & Lee, 2010). Studies focusing on the evolution of the bankruptcy process and its ex-post outcomes are rare. A majority of existing studies have focused on the five or six dimensions developed first by La Porta, Lopez-de-Silanes, Shleifer & Vishny (1998), although examining the impact of other dimensions of bankruptcy laws could yield interesting results.

Entrepreneurship is considered as a significant driver for economic growth (Schumpeter, 1942). Adopting an institution-based view, we can argue that entrepreneurs are aware of, and take into account, the limitations and incentives framework that institutions impose upon them. Countries which have institutions that encourage entrepreneurial activity will, other things held constant, present higher levels of entrepreneurship than nations in which institutions do not endorse entrepreneurship (Acs & Szerb, 2007; Busenitz, Gómez & Spencer, 2000; Lee, Peng & Barney, 2007). Therefore, this study may be of interest to policymakers wishing to develop entrepreneurship in their country. The research can also be useful to entrepreneurs looking for a better understanding of how the institutions impact on them.

This research aims to contribute to a better understanding of the impact of corporate bankruptcy laws on entrepreneurship. To gain insight in these matters, we use the case of France, which implemented a reform of its bankruptcy codes on July 26, 2005. This reform offered beneficial features for entrepreneurs in distress, especially incentivizing the prevention aspect. Through a quantitative study, we check whether this reform impacted entrepreneurial activity in the country via the proxy of the number of firms created. Then, in the qualitative study, we seek direct insights from entrepreneurs and the professional experts assisting them in the case of insolvency procedures. The goal is to identify the impact that bankruptcy laws and procedures can have on entrepreneurship at macroeconomic level through the analysis of entrepreneurship data in the country, and also at microeconomic level through qualitative interviews with entrepreneurs.

Our quantitative results suggest that the reform of the insolvency procedures introduced in 2006 by the French government is not responsible for change in the enterprise births number. The reform did not significantly impact entrepreneurship trends. This result suggests that either the

reform was not considered positively by the entrepreneur community or that entrepreneurs generally do not consider insolvency procedures before starting a business. We investigate those potentials explanations in the qualitative part of our study. Results of the interviews suggest that the reform was assessed positively by the restructuring professionals and entrepreneurs, but awareness regarding the insolvency procedures remains very low among the entrepreneurs.

The study is organized as follows: theoretical foundations are presented through a review of the literature (2). The aim of this literature review is to set a context for the study and validate its relevance. To do so, the literature review is presented through a logical path linking the dependent variable, entrepreneurship, to the independent one, bankruptcy laws. The methodology (3) is then presented, followed by the quantitative and qualitative results, in that order. We conclude the study with discussion of the key implications of the findings, as well as an overview of its limitations and possible future research.

2. Literature review

2.1. Entrepreneurship

2.1.1. Definition

Entrepreneurship is highly regarded by governments, the media and young graduates. While individuals see in entrepreneurship the means to quench their thirst for freedom and sense of fulfillment, policymakers consider it as fuel to feed their ambitions of economic growth for the nation. The topic, although not new, is over-exposed in the media; indeed, entrepreneurship seems to be undergoing a revival after the era of the predominance of large firms, especially in developed economies. Entrepreneurship is hard to define, as it is a multidimensional concept. The entrepreneur has been credited with many functions and roles in the economic literature: innovator, decision maker, industrial leader, organizer and coordinator of economic resources, the owner of an enterprise, an employer of factors of production, contractor, arbitrator, allocator of resources among alternative uses, the person who achieves the startup of a new business (Wennekers & Thurik, 1999).

Two meanings are usually associated with entrepreneurship and refer to different notions: first, the entrepreneur is the one who owns and manages a business. This is “*the occupational notion of entrepreneurship*” (Hébert & Link, 1989). Within this definition, one dynamic perspective considers that entrepreneurs are the creators of new businesses, while another more static view focuses on the number of the business owners. We will see later that those subtle differences imply different potential indicators of entrepreneurship: numbers of business owners *versus* creation of new businesses. The second traditional definition considers the entrepreneur as someone who seizes an economic opportunity. This description refers to the “*behavioral notion of entrepreneurship*” (Wennekers & Thurik, 1999).

Hébert and Link (1989) retained one characteristic “newness”, as “*entrepreneurs are the founders of new businesses, that create and then perhaps organize and operate the new business firm whether or not there is anything innovative in those acts*”, as cited in (Wennekers & Thurik, 1999, p. 34). Whereas Schumpeter emphasized the disruptive and innovative aspects of entrepreneurship: “*entrepreneurs are innovators that create new industries and, for this reason, cause relevant changes in the economy*” (as cited in Galindo & Ribeiro, 2011, p. 25). The taxonomy of entrepreneurship can be summed up by two main schools of thought: the Schumpeterian or German tradition considers the entrepreneur as “*creator of instability and creative destruction*” (Wennekers & Thurik, 1999, p.31), while the neo-classical school stresses “*the role of entrepreneurs in leading market to equilibrium through their entrepreneurial activity*” (Wennekers & Thurik, 1999, p.34).

Assessment of the role of entrepreneurship, drawn from several fields of research					
Field of literature	Specific domain	Competition	Innovation	Firm start-ups	Importance of entrepreneurship for economic growth
Historical views	Schumpeter/Baumol	++	+++	+	++
	Neo-classicals	++	+	0	+
	Austrians	++	+	0	++
Endogenous growth theory		+	+++	0	+
Economic history		++	+++	+	+++
Management literature		+	+++	++	++
Industrial economics	Porter	+++	+++	++	+++
Evolutionary economics	Eliasson	+++	+++	+++	+++
0 Not present in the writings. + Implicitly present in the writings. ++ Explicitly present in the writings. +++ Pivotal element in the writings.					

Table 1: Role of the entrepreneurs in the literature (Wennekers & Thurik, 1999, p.50)

As we can see in Table 1, in the eyes of most scholars, entrepreneurs are believed to be highly valuable to society, as they boost economic growth. Porter (1990) even placed entrepreneurship at “*the heart of national advantage*” (p.125). The logic behind the economic impact of entrepreneurship may appear implacable. Entrepreneurs create a new business then hire employees to help them run the business, thus the business increases employment numbers and, at the same time stimulates competition. Via their business, entrepreneurs may even boost productivity and innovation through “the knowledge spillover effect” (Acs, Braunerhjelm, Audretsch & Carlsson, 2009).

However, it is essential to keep an objective view of entrepreneurship. First, it is necessary to distinguish between “necessity entrepreneurship” and “opportunity entrepreneurship”. “*Necessity entrepreneurship*” refers to becoming an entrepreneur because there is no better option available. That kind of entrepreneur is self-employed because the economy is not creating enough regular jobs that would provide a decent living. In this case, as the entrepreneurial path followed does not result from an identification of an unexploited business opportunity, it can lead to underdevelopment. In contrast, “*opportunity entrepreneurship*” refers to the preferred choice of starting a venture to exploit a business opportunity. “*Opportunity entrepreneurship*” may be a motor of economic prosperity (Acs, 2006).

Acs (2006) suggested that the ratio of opportunity and necessity entrepreneurship may be a relevant indicator of economic development, in contrast to self-employed numbers only. For example, Uganda and Ecuador have a significantly higher level of self-employment than Germany and Sweden. If we only consider the self-employment number, then Uganda and Ecuador count more entrepreneurs than Germany and Sweden, which should contribute to a higher level of innovation and economic growth in those countries. However, the first two are low-income countries whereas the latter are high-income ones. In the case of Ecuador and Uganda, high entrepreneurial activity results from a lack of conventional jobs. In a study made by the Global Entrepreneurship Monitor (GEM) research program, based on data analysis of over sixty countries, “necessity entrepreneurship” has been found not to affect economic development, whereas “opportunity entrepreneurship” was identified as having a positive effect on Gross Domestic Product (GDP) per capita (Acs, 2006).

In an across-countries study, McArthur & Sachs (2001) identified that self-employment number has a positive impact on national growth for high income countries, while it negatively affects economic growth in low income countries. The explanation given by the researchers is that, in developing countries, entrepreneurship or self-employment is “necessity entrepreneurship” that resulted from a lack of alternative employment options. Those entrepreneurs are mainly street merchants or small company owners whose business does not favor innovation.

At a national scale, based on data from the US, Acs & Armington (2006) argued that local areas that present a higher rate of entrepreneurial activity are associated with faster economic growth.

Hafer (2013) investigated whether entrepreneurship is an important explanatory factor for economic growth at the USA state level. The author used “The Kauffman Index of Entrepreneurial Activity” (KIEA) as the independent variable. Economic growth at the state level is assessed through three variables: real per capita gross state product, real per capita personal income, and employment growth. Through standard growth regression, researchers found that with other factors held fixed, entrepreneurship has a notable and positive statistical effect on economic activity at the state level (Hafer, 2013).

Without heeding the siren call for the glorification of entrepreneurship, when examining the literature review, the beneficial impact of entrepreneurship on economic growth in high income countries seems to be highly plausible. The exact mechanisms of influences are hard to assess and still more research remains to be done on that field. Nevertheless, the western legislators seem convinced of the beneficial impact of entrepreneurship and have included entrepreneurs in their strategy to strengthen the country's economy. In Europe in particular, entrepreneurship has been seen as a potential remedy for the persistently high unemployment rates, thus an essential element for growth policy (“Entrepreneurship and Economic Growth - Oxford Scholarship,” 2006).

In this study, we will not examine the merits of this assumption, but rather explore a way to help policymakers in their attempt to encourage entrepreneurship within their countries.

2.1.2. Entrepreneurship and institutions

Adopting an institution-based view or the institutional framework theory, we can argue that entrepreneurs are aware of, and sensitive to, the limitations and incentives that institutions impose on them in the form of policies and laws. *“Countries characterized by institutions that support entrepreneurial activity will, other things being equal, have higher levels of entrepreneurship than nations characterized by institutions that do not support entrepreneurship”* (Lee, Yamakawa, Peng & Barney, 2011, p.2). In other words, institutions are more than background setting. In fact, the institutional framework, at national level, sets incentives and limitations for individuals, particularly entrepreneurs who are looking for ways to exploit opportunities and transform ideas or concepts into actions (Wennekers & Thurik, 1999). This view derives from the assumption that institutions would constitute the predominant factor to explain economic growth, by establishing “the rule of the game” (North, 1990) for economic actors. Institutions have been defined by Scott (1995) as *“regulative, normative, and cognitive structures and activities that provide stability and meaning to social behavior”* (p.33). It means that “institutions” can be informal or formal. Cultural values such as risk-taking propensity, or stigma associated with business failure, have a substantial influence on society as a whole and are essential factors to consider in explaining entrepreneurship level within a country (Scott Shane, 1996; Shepherd, 2003). Such cultural elements are deeply rooted in a society and are relatively stable over time (Hofstede, 2007). Thus, culture is hard to change through public policy (North, 1990). Nevertheless, some elements of the institutional

framework that may yield a significant impact on entrepreneurship can be more easily manipulated. Bankruptcy laws are one of them (Gamboa-Cavazos & Schneider, 2007).

Our study will limit the perspective to regulative structures, more specifically the commercial, legislative structure. The “institutions-based theory” has been extensively investigated by researchers. One of its implications is that countries that support entrepreneurship via their institutions present a higher rate of entrepreneurship than nations that do not (Acs & Szerb, 2007; Busenitz, Gómez & Spencer, 2000).

Once this premise is stated, the question remaining is how do institutions matter, what are the policies that would incentivize more would-be entrepreneurs to make the leap? This study will be limited to one specific component of institutions: the bankruptcy laws.

2.1.3. Entrepreneurship and failure

As told before, failure, even if less widely advertised than success, is part of the entrepreneurial adventure. First of all, 90% of new startups business will fail (“90% Of Startups Fail: Here’s What You Need to Know About The 10%”, n.d.). Nonetheless, failure can be considered as the highway to success, as the lessons learned from this experience can help build future success. Many successful entrepreneurs and innovators failed numerous times, before finally achieving success with companies that would revolutionize the world we are now living in. Few know or even remember Traf-O-Data, a startup founded by Bill Gates (“9 Successful Entrepreneurs Who Failed”, n.d.), but everyone is familiar with Microsoft, another of his creations, which still has a dramatic impact on computers and office tools. Before founding GoPro, which was valued at a total of \$11 billion at its peak (Green, 2016), Nick Woodman launched a startup called Funbug which ended up failing big, causing the loss of \$3.9 millions of investment (“10 Entrepreneurs Who Failed Before They Succeeded | Market-Inspector”, n.d.).

Similar famous examples are legion and are usually shared in the media to emphasize the importance of resilience in success, but few point out that the way institutions handle entrepreneurial failure also played a critical role in those situations. If Nick Woodman had lived under Roman law, after the collapse of Funbug, he might have found himself at the mercy of his creditors, exposed to imprisonment or even execution. Indeed, during the Roman era, insolvency

was considered by the legal system as a crime (“What is the origin of bankruptcy? Where did bankruptcy come from?” n.d.). It goes without saying that, in prison, the chances that Mr. Woodman could have created GoPro or even repaid his debt would have been near non-existent.

For a long time, the laws were self-defeating, since the massive punishments inflicted on the debtor who could not pay hindered his capacity to generate income to reimburse his debt. With time, economic actors and legislators came to realize that such an imbalanced power of creditors over debtors caused inefficiency.

It was also pointed out by many prominent economists that *“in a dynamic and growing economy, there have to be failures because the economy is dynamic and growing”* (Coelho & McClure, 2005, p.13). Schumpeter’s creative destruction theory refers to *“the incessant product and process innovation mechanism by which new production units replace outdated ones”* (as cited in Caballero, 2010, p.24). This concept refers to the never-ending mutation that any economic activity goes through in an almost evolutionary process. According to Schumpeter (1942), *“this process of creative destruction is the essential fact of capitalism. It is what capitalism consists in and what every capitalist concern has got to live in”* (p. 83). Adopting a Schumpeterian view, one can argue that the elimination from the market of companies which cannot adapt and are becoming inefficient, is a rational and sane process. This elimination is needed to free resources for more innovative and profitable firms. Impediment to the process of creative destruction can have severe short and long run macroeconomic consequences (Caballero, 2010). Therefore, as we have seen, failure, besides being one side of the entrepreneurship coin, can constitute a basis for future success, or simply a better reallocation of resources to a more productive project.

2.2. Bankruptcy laws: general considerations

2.2.1. Entrepreneurship in the context of laws

Would-be entrepreneurs that wish to launch their own business face liquidity constraints; indeed, they often lack the optimum capital requirement to set up their business (Black & Strahan, 2002; Evans & Jovanovic, 1989; Evans & Leighton, 1989). To counter this constraint, entrepreneurs seek external credit to launch their business. This investment creates obligations and a binding contract between creditors and entrepreneurs, who become debtors (Paik, 2013).

Sometimes, entrepreneurs encounter some difficulties in running the business and honoring their debt. Bankruptcy laws constitute a set of rules that help to organize the collection of debts between creditors and debtors, when the latter cannot meet their obligations. As a consequence, those laws are of crucial importance to entrepreneurs because they will, in the case of the failure of their business, be confronted with and constrained by those rules. The bankruptcy system sets the cost of exit and influences the probability that a bankrupt entrepreneur will start anew (Armour & Cumming, 2006; Ayotte, 2006). An effective insolvency regime aims at protecting the creditors' rights while avoiding the premature liquidation of viable firms. The complexity of the task also lies in balancing the incentive for a creditor to lend capital and for entrepreneurs to borrow this capital, taking into account the ex-ante and ex-post effect of the regime.

Corporate bankruptcy laws are part of corporate legislation. Corporate laws are relatively unified around the modern capitalistic world. Corporate bankruptcy law concerns businesses that are incorporated, which means that the firm has a legal personality distinct from its owners. Incorporation offers a distinction between, on one side, the owner's assets and debts, and on the other side, the firm's assets and liabilities. As a consequence, if the business fails, the owner's personal assets will not be directly endangered. This kind of insurance, however, comes with a price, which is reflected in higher interest rates on the business debt (Glover & Short, 2010). In this study, we will mainly focus on corporate bankruptcy law even though, at some, point we will mention personal bankruptcy laws.

2.2.2. Essential elements of Corporate law

Businesses are usually structured and organized on the basis of common rules that have been developed with the notion of corporate law. Corporate bankruptcy laws have been designed based on basic legal features of corporate law. Therefore, to better apprehend corporate law, it is necessary to know those basic features and identify those that particularly influence insolvency regimes.

The function of corporate law is to mitigate the numerous potential conflicts that may arise within an organization (Hansmann & Kraakman, 2004). Those tensions are due to conflicting interests of the organization's different stakeholders. Economists refer to this issue as the "agency problem".

There are five basic legal characteristics of a business corporation:

- legal personality
- limited liability
- transferable shares
- delegated management under a board structure
- investor ownership

In a market economy, almost all the firms share those legal features combined; even though they mainly fit medium to large scale companies' needs, a majority of smaller jointly owned firms also adopt this corporate law structure with some variance from one or more of the basic characteristics (Hansmann & Kraakman, 2004).

Legal personality

The initial element of corporate laws is the legal personality. Corporate laws aim at easing the contracting process between suppliers, the firm's investors and all the economic actors, thus allowing a firm to accomplish its ultimate goal, which is to create economic value. This is why the law has created "*a single contracting party, the legal person, distinct from the various individuals that own and manage the firm or are supplier or customer of the firm*" (Hansmann & Kraakman, 2004, p.7). The distinctiveness of the legal personality of the firm encourages the different stakeholders to be involved in a joint project (Armour, Hansmann & Kraakman, 2009). Two distinct legal rules are applied to a business corporation and are characteristic of strong legal personality: the priority rule and liquidation protection.

The priority rule states that creditors of the firm have a prior claim on the firm's assets over the personal creditors of the firm's owners. This practice contributes to increasing the credibility of the company's contractual commitment, thus making it more attractive to potential creditors.

In the case of bankruptcy or restructuring, the rule of absolute priority of claims may prevent ex-ante risky action by stakeholders. Besides, this feature can avoid creditor coordination problems at the time of restructuring (Hansmann & Kraakman, 2004). On the other hand, if shareholders or junior creditors on the basis of the priority rule have little chance of receiving anything in

bankruptcy, they may be tempted to take greater risks when financial distress arises. In other words, knowing the firm may run into bankruptcy and that, in that case, the chances that they will recover their investment are minimal, they may be tempted to delay bankruptcy and push for the firm to engage in riskier projects. Such actions can worsen the firm's financial health and decrease the value of its assets (Davydenko & Franks, 2008).

The liquidation protection states that *“the shareholders of the firm cannot withdraw their shares of the business assets at will, thus forcing partial or complete liquidation of the corporation nor can the personal creditor of an individual owner foreclose on the owner shares of firm assets”* (Armour et al., 2009, p.7). This rule aims at preserving the going concern value of the company against liquidation by individual shareholders or their creditors. They contribute to maintaining the balance between creditors' and shareholders' rights and the protection of the firm's assets from claims of the creditors.

Limited liability

Limited liability imposes that creditors of a firm can only claim assets that belong to the firm itself and not the personal assets of managers of the firm. This limitation of owner liability is the main feature of corporate form compared to other organizations (Hansmann & Kraakman, 2004). Even though it has not always been the case, nowadays limited liability constitutes the universal norm for corporate form. The rise of the limited liability feature suggests its advantages and convenience as a contracting and financing tool.

The allocation of personal assets to the individual creditor and corporation assets for corporate creditors allow for a more efficient assessment and monitoring of the specific asset by specific creditors, thus increasing the value of both types of asset as security for debts. Consequently, legal personality and limited liability jointly help lowering the global cost of capital to the firms and its owners (Hansmann & Kraakman, 2004). Furthermore, the limited liability feature enables flexibility in the allocation of risk and return between equity holder and debtholder as well as facilitating delegated management. Indeed, limited liability incentivizes the creditor to monitor the firm's managers as an addition to the shareholder monitoring of managers (Hansmann & Kraakman, 2004).

Other basic legal characteristics

Concerning transferable shares, this feature allows for the firm to operate without interruption even when ownership changes hands.

Delegated management enables the centralization of management which is needed to coordinate the firm's activity when there are numerous fractional owners. Most large firms use delegated management.

Investor ownership refers to the right to control the firm and to receive the firm's net earnings. Those rights are proportional to the amount of capital invested in the company.

Now that the basic legal features of bankruptcy laws have been identified, we will focus on the effect of bankruptcy laws on entrepreneurship.

2.2.3. Corporate Bankruptcy laws effect on entrepreneurship

Several studies have endeavored to assess the impact of bankruptcy laws on entrepreneurship activity. Two main effects of bankruptcy laws on entrepreneurship have been theorized by researchers: "*the ex-ante*" and "*ex-post effect*".

A hypothesis developed in past studies (Fan & White, 2003; Georgellis & Wall, 2006) suggests that harsher legal penalties for bankruptcy would tend to diminish the eagerness of marginal would-be entrepreneurs to leave the financial security of a paid job and to materialize their innovative business ideas. Indeed, as all the preliminary elements for starting a business, such as raising capital and pitching the business project, involve transaction costs, if the attempt failed, the would-be entrepreneurs could face debt and risk of bankruptcy. The risk of business failure is in any case high enough. If the consequence of such failure may be dramatic for the entrepreneurs, then he is unlikely to choose the entrepreneurial path. This highlights "*the ex-ante effect*" of bankruptcy laws.

Another effect induced by bankruptcy laws is the "*ex-post effect*", which refers to the time-lapse and potentiality of a rehabilitation of a bankrupted entrepreneur in the economy. If bankruptcy legally prevents failed entrepreneurs from launching a new business, they only have one chance to fail. Whereas "*available fresh start*" means that entrepreneurs can be rapidly

rehabilitated (Armour & Cumming, 2006). Some countries' laws allow for a fresh start while others do not. For those who do, the conditions required vary considerably as well as the time-lapse between the failure and availability of a fresh start.

We can also mention an indirect effect theorized, which is the effect bankruptcy laws have on lenders, thus influencing the borrowing cost of capital for entrepreneurs (Armour & Cumming, 2006).

When examining the links between entrepreneurship and bankruptcy laws, logical assumptions arise and have been assessed by researchers. The main one is that more lenient bankruptcy laws constitute incentives to choose the entrepreneurial path, but at the same time, reduce access to external credit (Armour & Cumming, 2008; Peng et al., 2010; Primo & Green, 2011).

In an across countries study covering 29 countries over 19 years (1990-2008), Lee et al. (2011) evaluated how different degrees of entrepreneur-friendliness in bankruptcy laws among nations are linked to various levels of new firm entry. The researchers' hypothesis was that "entrepreneur-friendly" corporate bankruptcy laws stimulate entrepreneurship development. The authors selected six factors to consider when evaluating the degree of "entrepreneur-friendliness" in bankruptcy laws:

- "The availability of reorganization procedure."
- "The time spent on the bankruptcy procedure."
- "The cost of the bankruptcy procedure."
- "The opportunity to have a fresh start in liquidation bankruptcy."
- "The opportunity to have an automatic stay of assets."
- "The opportunity for managers to remain on the job after filing for bankruptcy."

Since corporate bankruptcy laws varied broadly across the world, Lee et al., (2011) looked at how differences in those factors affected entrepreneurship in the countries observed. The level of new firm entry was used as a proxy for assessing entrepreneurship levels across countries. The

results confirmed the researchers' hypothesis on the positive correlation between low downside risk involved in the bankruptcy filing and more creation of new firms (Lee et al., 2011).

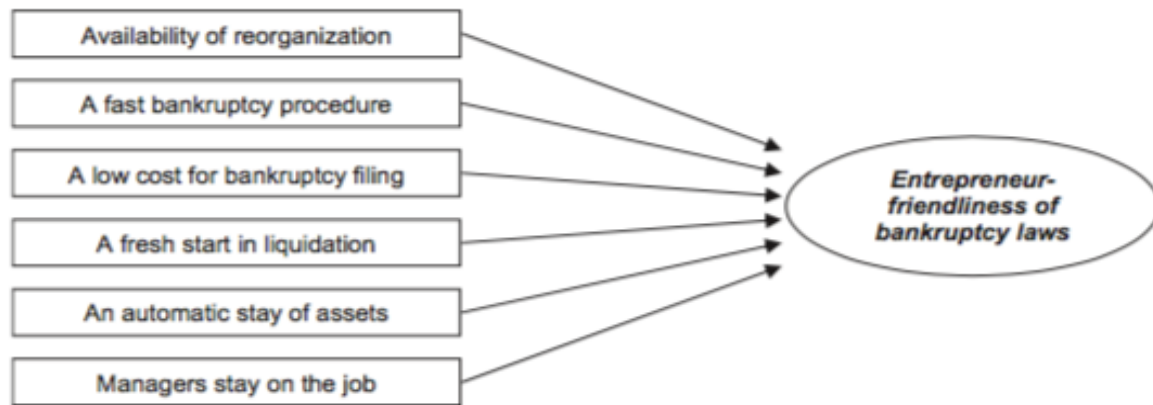


Figure 1: Components of bankruptcy laws and entrepreneur-friendliness (Lee et al., 2011, p.520)

Armour & Cumming (2008) used self-employment data spanning over 13 years (1990 - 2002) and 15 countries in Europe and North America and found a positive correlation between more forgiving bankruptcy laws that allow shorter time lapse between successive discharges and levels of entrepreneurship across countries.

Primo & Green (2011) attempted to assess the link between bankruptcy laws and entrepreneurship in the US. The study introduced one original approach, as it attempted to distinguish between replicative and innovative entrepreneurship. The authors proposed a way to evaluate the quality of the entrepreneurial projects. Indeed, Armour & Cumming (2008), in a self-criticism of their study, noted that the rate of new firm entry does not provide insight on the quality of the entrepreneurial venture created. Consequently, there is no means to distinguish the potential for innovation, or the disruptive power of the projects launched by entrepreneurs in countries with harsh bankruptcy laws versus nations with forgiving bankruptcy laws. To solve this issue, Primo & Green (2011) chose to include real per capita venture capital inflow data as a measure for innovative entrepreneurship. They justified this choice by the historical relationship between venture capital and innovation in the US, and the fact that venture capital helped grow some of the innovative firms such as Facebook. The researchers analyzed data on entrepreneurship from 1980

to 1996 among all the US states. The results showed that liberal bankruptcy exemption regimes tend to increase self-employment but at the same time reduce the supply of venture capital. Results suggested that stricter bankruptcy laws may not reduce entrepreneurship development, as stated in other studies, but on the contrary, may help to shape a better environment for the innovative entrepreneur by securing funds from venture capitalists (Primo & Green, 2011). From the authors' perspective, innovative entrepreneurship is a critical driver of economic performance. Thus, policymakers should act cautiously when trying to design bankruptcy laws, as the inefficient policies could lower the levels of innovative entrepreneurship, and thus hinder the economic welfare of the nation.

Acharya & Subramanian (2009) studied the effect of creditor-friendly codes on innovation; they used patents as a proxy for innovation. This study does not concern entrepreneurship directly; however, it deals with innovation, a concept closely related to entrepreneurship. The authors argued that a creditor-friendly code inhibits *ex-ante* risk-taking and innovation relative to a debtor-friendly code because the firm's investment in innovation has a greater chance of being inefficiently liquidated. The researchers supported their claim empirically by using time series changes within a country and across-country variation in creditor rights. The researchers used patents issued by the US Patent Office (USPTO) to US and foreign firms from 1978 to 2002 as a basis for calculating the intrinsic innovation intensity of the industries. Using across-country data on the industry level, researchers show that innovative sectors exhibit a higher concentration of patent creation, patent citation and faster patent creation growth in countries with weaker creditor rights in bankruptcy. Their findings were confirmed by within-country analysis that used time series changes in creditor rights. The study of Acharya & Subramanian (2009) focuses on the *ex-ante* real investment decisions that firms take in response to bankruptcy code, rather than on the *ex-post* efficiency of continuation outcomes when companies are in distress.

2.2.4. Personal bankruptcy laws effect on entrepreneurship

The impact of personal bankruptcy laws on entrepreneurship has also been investigated. As researchers argue that even though personal bankruptcy regimes are initially intended to concern individual and household borrowers, it will, in fact, impact entrepreneurship mainly via small business owners (Fan & White, 2003; Paik, 2013). Many small businesses are not incorporated

and even if incorporated, a small business owner will usually be asked for a personal guarantee on the debt by lenders, due to the business's limited assets (Paik, 2013). In both cases, the firm and owners' assets are melded. Thus, in the case of the business failure, the owner's assets will be disposed of under personal bankruptcy legislation to settle creditor claims. This statement is supported by the fact that about 20% of all personal bankruptcy filings in the US include some business debt (Lawless & Warren, 2005). Fan and White (2003) also stated that "*the US personal bankruptcy system, although it is primarily intended to be a consumer bankruptcy procedure, is the de facto bankruptcy procedure for small firms*" (p.543), regardless of whether they are incorporated or not.

Fan & White (2003) studied the relationship between homestead exemptions policies which vary across the US and the probability of owning a business. In their studies, they discovered a positive correlation between exemptions levels and percentage of business owners between 1993 and 1998 across the US.

Armour & Cumming (2006) tried to examine which legislative setting may have led to the well-known economic success of Silicon Valley. More specifically, the authors studied which, and in what way, legal and financial institutions contributed to the flourishing of venture capital markets. Venture capital was chosen as a relevant variable because of its historical ever-presence in Silicon Valley, and the fact that it was particularly well suited for the funding needs of young high-tech innovative firms. The study used cross-sectional and time series empirical analysis on the venture capital and private equity industry. The data period spanned from 1990 to 2003. The study sample included 15 countries: Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, the UK and the US. It differentiated between independent variables that affect supply and those that affect the demand for venture capital. The results of the study highlighted some economic factors and legal variables as determinants for the development of venture capital. Among those identified determinants, personal bankruptcy laws represented one of vital importance. Countries with rules that did not provide opportunities for a fresh start for bankrupt individuals, or did so only after a long waiting period, were associated with low demand for venture capital and private equity. A favorable fiscal and legal environment contributed a great deal to increasing the supply of capital, whereas liberal (entrepreneur-friendly) laws helped boost demand for venture capital (Armour & Cumming, 2006).

This study highlights the ex-post effect of bankruptcy laws on entrepreneurship: if entrepreneurs have the opportunity after a failure to start again with another project, this will stimulate the demand for venture capital.

Paik (2013) focused on the US Bankruptcy Reform Act of 2005. According to the author, it represented the most significant revision and modification of the US personal bankruptcy codes since 1978 and constituted a notable shift towards more pro-creditor laws. The author investigated the potential effect of this reform on entrepreneurial activity. The initial hypothesis of the research was that personal bankruptcy laws that favor the creditor would result in lower interest rates, increase in the availability of credit and would thus encourage entrepreneurship. Paik (2013) used the self-employment ratio as a measure of entrepreneurship. The self-employment ratio is an established measure of entrepreneurship previously used in numerous studies (Armour & Cumming, 2008; Blanchflower & Oswald, 1998; Evans & Jovanovic, 1989; Evans & Leighton, 1989; Hamilton, 2000). Thus, the two independent variables in this study were self-employed and non-self-employed numbers. The self-employed group was subdivided into two categories: unincorporated and incorporated business status. The data sample was extracted from the March Current Population Survey (CPS), a monthly survey of households conducted by the Bureau of Census for the Bureau of Labor Statistics in the US, from 2002 to 2008. Results contradicted the researchers' hypothesis. Indeed, the changes in the personal bankruptcy code legislation had no noticeable effect on the independent variable; the general self-employment ratio remains stable according to researchers' observations. However, within the self-employed variable, a progressive decrease in transitioning to the non-incorporated status was noted after the reform. Incorporation protects the business owner's assets in the case of bankruptcy, as the firm's assets and the owner's personal assets are distinct. Paik (2013) explained the study's results by the fact that entrepreneurs used incorporation as an offsetting strategy to deal with the unfriendliness of the 2005 reform towards them.

Thus, the study has two main implications. Firstly, personal bankruptcy laws do have an impact on entrepreneurs, even though it could be a side effect (in this case unfriendly personal laws pushing towards more incorporation). Secondly, incorporation is an important parameter to consider impacts of bankruptcy laws on entrepreneurship; this highlights the need for better examination of corporate bankruptcy laws and their effects on entrepreneurship.

2.3. Bankruptcy regimes around the world

2.3.1. Legal origins

Nowadays, most countries follow one of two major legal traditions: common law or civil law. The common law tradition traces its roots to England during the Middle Ages and was then enforced within British colonies. The civil law tradition developed in continental Europe at the same time and was applied in the territories of the European imperial powers (“The Common Law and Civil Law Traditions”, n.d.). Because of colonization and shared history, currently, the majority of European and South American nations have a civil law system, whereas the members of the Commonwealth nations and the US have common law systems. The main differences between the two systems lie in codified (civil law) *versus* non-codified (common law) legal rules or “*legal precedent based*” law *versus* “*rule-based*” law. Meaning that in the civil law system, when confronted with a legal dispute, judges will refer to a set of rules stated in written codes to resolve the conflict, whereas in the common law system judges will rely on prior cases law. As a result, the judge’s power differs between the two systems. In civil law countries, judge’ actions occur within a codified framework established by a comprehensive set of laws. As a consequence, their influence in shaping laws is less crucial than that of the legislators and legal scholars who draft the codes. In the common law system, judges’ decisions are stated based on prior decisions already made in a similar case. Thus, when confronted with a new situation, the presiding judges’ decisions will constitute the norm and be referred to in future trials. As a consequence, judges, in common laws systems, have a considerable influence in setting the laws (“The Common Law and Civil Law Traditions”, n.d.).

In a research paper entitled “Law, Legal Determinants and Investor Protection”, La Porta et al. (1998) divided the world into four commercial legal families: common law, French civil law, German civil law and Scandinavian civil law. Countries included in the French civil law legal family are Argentina, Belgium, Brazil, Chile, Cuba, Egypt, France, Italy, Netherlands and Spain.

The French commercial Code was written in 1807 under Napoleon. It expanded its legal influence on European nations through Napoleon’s conquests. After the decline of the Spanish and Portuguese Empire in the nineteenth century, new nations such as Brazil and Argentina used the French commercial Code as an inspiration for drafting their laws (La Porta et al., 1998).

Though sharing a common origin and system, each country within a legal family has evolved independently from its peers and developed its own sets of rules and legal features. However common patterns can be observed through their evolution. Most French civil law countries had pro-creditor laws around 1910, but then ended up with pro-debtor laws in 1995 (Musacchio, 2008). France is no exception to this observation. Under the Napoleonic code of commerce, creditors indeed benefited from strong protection, and bankruptcy in some cases could be considered as a crime and punishable by jail sentences (Sgard, 2006). It is nowadays viewed as the least favorable of any major economy for creditors regarding court procedures in case of bankruptcy (Fruhan, 2009).

2.3.2. Creditor's rights in insolvency procedures across the world

La Porta et al. (1998) created indices of creditors' rights that are comparable across time and countries. Among the creditors' rights, those that concern insolvency regime are:

- 1) "Restriction for entering reorganization" indicates whether or not there are restrictions for going into reorganization such as creditors' consent. The indices' value equals one if the reorganization procedure imposes restrictions and equals zero if there is no restriction to filing for bankruptcy.
- 2) "No automatic stay on assets for debtor" means whether the reorganization procedure imposes or not an automatic stay on the assets when the company files for reorganization. Automatic stay on assets prevents secured creditors from disposing of their security. The index score equals zero if there is automatic stay and one if there is not.
- 3) "Secured creditors paid first". The index score equals one if secured creditors are given priority in the disposition of the assets of a bankrupt firm and equals zero if unsecured creditors such as the government and employees are given absolute priority in collecting the assets of a bankrupted company.
- 4) "Management remains in reorganization" equals one if managers of the firm do not stay in office during the restructuring and equals zero otherwise.

The creditor-friendly score is calculated by adding each the score of each index; it ranges from zero to four.

Using the La Porta et al. (1998) measurement of creditor rights in case of bankruptcy, Musacchio (2008) compiled the scores from countries with the Common Law legal system and the French civil law in 1910 and then in 1995. As we can see in table 2 below, France went from scoring 3 out of 4 on the creditor rights index in 1910, to scoring the lowest score 0 on the same creditor rights index in 1995. On average, French civil law countries' score on the index decreased to a greater extent than the score from the common law countries. While both legal systems scored 3 in 1910, French civil law countries average score was 1.2 in 1995, while common law nations scored 2.5 on the same index. The reasons for this discrepancy remain unclear, especially at a general level. According to Musacchio (2008), it seems doubtful that creditor rights are a consequence of the legal traditions countries follow.

	Common Law Countries						French Civil Law Countries					Means	
	United Kingdom	United States	Canada	Australia	Hong Kong	Singapore	France	Belgium	Spain	Argentina	Brazil	Common Law	French Civil Law
Creditor rights in 1910													
No automatic stay on assets	1	0	1	1	0	0	1	1	1	1	1	0.5	1
Secured creditors have first priority	1	1	1	1	1	1	1	1	1	1	0	1	0.8
Creditors approve reorganization	1	1	1	1	1	1	1	1	1	1	1	1	1
Management does not stay during reorganization	1	0	1	1	0	0	0	0	0	0	1	0.5	0.2
Creditor Rights Index 1910	4	2	4	4	2	2	3	3	3	3	3	3	3
Creditor Rights in 1995													
No automatic stay on assets	1	1	0	0	1	1	0	1	1	0	0	0.7	0.4
Secured creditors have first priority	1	0	1	1	1	1	0	1	1	1	0	0.8	0.6
Creditors approve reorganization	1	0	0	0	1	1	0	0	0	0	1	0.5	0.2
Management does not stay during reorganization	1	0	0	0	1	1	0	0	0	0	0	0.5	0
Creditor Rights Index 1995	4	1	1	1	4	4	0	2	2	1	1	2.5	1.2

Sources: All creditor rights for 1995 are from La Porta et al., "Law," table 4. Creditor rights for 1910 are from United Kingdom, *Companies (Consolidation) Act 1908*; United States from Huberich, *Commercial Laws*; Hong Kong, *Bankruptcy Ordinance No. 7 1891*; Strait Settlements, *An Ordinance to Amend the Law of Bankruptcy no 2 1888* (3 December 1888); France from G. France Horn, *Commercial Law*; Belgium from Hennebicq, *Commercial* (based on the Commercial Code of 1872 as amended to 1910); Spain from Benito, *Commercial*; Argentina from Quesada, *Commercial*; Brazil, *Lei 2024, December 17, 1908*, in Brazil, *Coleção das Leis*. Australia and Canada coded as following British bankruptcy law according to the accounts of Brown, "Comparative."

Table 2: Creditor rights in selected countries in 1910 and 1995 (Musacchio, 2008, p. 99)

When comparing the creditor-friendliness of bankruptcy regimes around the world, it appears that when taking into account countries from the Roman/German legal tradition and the

Roman/Scandinavian legal heritage, and using the same indexes, France remains at the lowest position for the creditor rights score. Only a few other countries scored 0 on the creditor-friendly index: Colombia, Mexico, Peru and Philippines (La Porta et al., 1998).

France stood out among the small group of creditor-unfriendly countries as being the only developed economy.

Other factors that directly affect the outcomes of legislation such as efficiency of the judicial system, the rule of law and corruption, were also considered and reported by La Porta et al. (1998), as it does not matter what the law says if it is not properly enforced. The authors also measured scores for those indices that reflect the enforcement of the laws. Results show that France scored relatively higher in those indexes than the other creditor-unfriendly countries.

Therefore, it would be interesting to compare France's creditor-friendly score to those of countries presenting a relatively similar score of law enforcement variables and economic situation, such as UK, Germany or the US. France and the UK represent the two extremes of the spectrum of the creditor-friendly index, with respectively the lowest and highest score of 0 and 4. In between lie the US and Germany with 1 and 3, each tending to one extreme. Nevertheless, insolvency regimes are complex as they try to achieve different objectives; they include many features which are difficult to represent in a single index of creditor rights (Claessens & Klapper, 2002). Furthermore, the dichotomy between creditor and debtor presents some limits in reflecting business reality. Entrepreneurs that operate a business are debtors because they borrowed funds to set up and run their business, but while operating, they are also consenting credit to their business partners such as supplier credit. The bankruptcy laws thus impact entrepreneurs as debtor but also creditor when a client or supplier goes through insolvency procedures. We will, therefore, present briefly the insolvency regimes and procedures proposed in the different countries to highlight the specificities of the different systems.

2.3.3. The main insolvency procedure: the example of the UK, the US and France

Developed economies have reformed their corporate insolvency system to allow for reorganization procedures that favor continuation of the firm activity. We have selected a sample

of countries that have been among the most active reformer concerning corporate insolvency legislation. Even though the reforms emphasized reorganization, the different legislation across countries still widely differs.

The United Kingdom (UK)¹

When a company cannot pay its bills or has more liabilities than assets on its balance sheet, it is considered as insolvent. Different options are proposed to debtors and creditors in this case. Negotiations can be either informal or formal.

Among the formal procedures, administrative receivership used to be the main one in the UK. In the UK, two types of securities are available to the creditor: fixed and floating charge. A fixed charge relates to collateral over fixed assets, whereas a floating charge corresponds to the remaining company assets. In case of insolvency, the holders of floating charges can initiate the procedure; it consists in appointing an administrative receiver who will take control of the company. The receiver's mission is to extract enough funds from the firm to pay back the debt of the floating charge holders. He must protect the interest of the floating charge holder by whom he was appointed. He does not have a responsibility towards other lenders, especially the unsecured ones. The receiver decides whether to sell the firm as an ongoing concern or liquidate it piece by piece. His choices cannot be challenged in the courts (Davydenko & Franks, 2008).

In the majority of the cases, this procedure ends with the liquidation of the firm and the end of the activity (Kaiser, 1996). The administrative receivership may lead to premature termination of viable companies that encounter difficulties but only in temporary circumstances.

This procedure has therefore been criticized. Furthermore, not all the creditors' interests are rightfully taken into account through the administrative receivership. The secured creditors remained in total control of the company during the process, whereas unsecured creditors have little power and do not take part in the sale of the assets. Since unsecured creditors obtain payment of their claim only after the claims of secured creditors are satisfied, this creates a misalignment

¹ Information concerning the procedure has been retrieved from ("Options when a company is insolvent - GOV.UK", n.d.)

of secured and unsecured creditors' interests in case of insolvency. Indeed, what would be the incentives for a secured creditor, when determining a price of the sale of the firm assets, to make sure that this price will cover unsecured creditors' claims?

Also, one may wonder about secured creditors' decision when gauging between a reorganization plan that has potentially higher prospects but would yield benefit only in the mid-run, and immediate liquidation of the assets that would be just sufficient to cover their secured claim only.

Therefore, recovery rates for unsecured creditors are negligible (Franks & Sussman, 2005).

The Enterprise Act of 2002 amended the Insolvency Act of 1986. The aim of the reform was to create a shift in insolvency culture with a focus on rescue and rehabilitation of companies while ensuring fairness to all creditors. The administrative receivership procedure remained, but its condition of accessibility was significantly reduced. Two rescue procedures available to creditors were emphasized; Company Voluntary Arrangement (CVA) and Administration. These processes are designed to provide the company with temporary protection from creditors' action. CVA is a binding agreement; it can be proposed by the management of the firm to the creditors, to repay all or part of the debt due while the company continues to operate. In the case of administration, the company control is handed over to an insolvency practitioner. The administrator will try to avoid the liquidation of the company. He will design a plan to restore the company's viability and pay the creditors' claims. His range of action is extensive; he can negotiate a CVA with the firm's creditors or sell the company as an ongoing concern or sell the asset as part of a liquidation plan. While the procedure is ongoing, the creditor cannot recover the debt or start a liquidation procedure. However, secured creditors who hold floating charges can veto both procedures and stop the company from operating. Thus, the two procedures in practice do not strike a balance between creditors' and debtors' rights (Davydenko & Franks, 2008).

The United States (US) ²

In the US, bankruptcy has almost lost its stigma connotation to become a sustainable management act, due to Chapter 11.

Chapter 11 of the US insolvency code is a “reorganization” bankruptcy procedure during which the firm is placed under the protection of the bankruptcy court. Chapter 11 aims at helping a business to restructure their debt while satisfying creditors’ claims and if possible keeping the firm alive. This procedure grants the debtor the exclusive privilege to propose a restructuring plan during the first 120 days. The creditor after this delay can reject the plan and make counterpropositions. Creditors are split between classes depending on their rank of priority with regard to the liabilities of the firm. The judge can impose a reorganization plan on creditors only if at least one class of creditors has accepted it.

The debtor in possession stays in management but is under monitoring by a bankruptcy administrator who oversees the progress of the procedure.

After the 2008 financial crisis, more firms with larger assets filed for bankruptcy. Observers estimate that the Chapter 11 allowed efficient reorganization and saved numerous holdings from a massive liquidation that might have had macroeconomic consequences (Gilson, 2012). For example, General Motors and K-mart are among the vast pool of firms that have filed Chapter 11 and are still operating today.

Description of the bankruptcy regime in France

There is no legal definition of failure for business in France. A distressed company faces two alternatives: the out-of-court settlement “*procédure à l’amiable*” and the in-court collective procedures “*procédures collectives*”. In France, as is often the case for civil law legal systems, the in-court procedure is more widely used than in common law countries (Fruhan, 2009).

There are in total three collective cases of in-court procedure: “*redressement judiciaire*” (which can be translated by 'judicial settlement'), “*liquidation judiciaire*” (liquidation settlement)

²The legal information concerning Chapter 11 has been retrieved from (“Chapter 11 - Bankruptcy Basics”, n.d.)

and “*sauvegarde*” (backup, which was introduced later on as part of a reform in 2005). When a firm is unable to meet its outstanding liabilities with its current assets, it is classified as in “*cessation de paiement*” (cessation of payment); this is a specific financial status that has legal consequences. This classification constitutes the trigger for entering the collective insolvency procedures called the “*redressement judiciaire*” or “*liquidation judiciaire*”.

The “*redressement judiciaire*” procedure is designed for companies that cannot honor their debt but may have the potential to continue their activities. To allow the firm’s activity to continue, the court either approves a repayment plan or the sale of the company. The court appoints an administrator who will take control of the company. Even though the management of the firm remain, all major business decisions will have to be supervised and approved by the administrator. The objectives of the administrator as specified by statute are “*to maintain the firm as a going concern, preserve employment and satisfy creditor claims, in that order.*” (Davydenko & Franks, 2008, p. 653). The administrator has six months to assess the economic situation of the firm and its viability in the medium term. During this six-month period, creditors cannot claim the debt issued before the procedure started. The administrator, together with the management of the firm, can propose a repayment plan, often supported by a restructuring of the business. Various options can be submitted to the creditors – for example, a full repayment plan implemented over several years, or a partial payment but within a shorter time lapse.

The restructuring plan is proposed to the creditors, but through consultation only. The commercial court holds absolute power regarding the approval of the plan. In consultation with the creditors and the administrator, the court decides whether the firm should be liquidated or preserved as a going concern. The judge either approves the restructuring of the debt payment or may impose the sale of the company. There are two modes of handover of the firm, depending on the circumstances and the ongoing procedure. A buyout with the continuation of the firm’s activities is the one privileged in the case of the “*plan de redressement*”. The commercial court decides to which buyers the corporation shall be sold. The criteria for the decision are not only based on the price, but also on the quality of the economic business project and prospect for the firm’s activity and employment. In the case of a buyout, the court can choose a low-value bid if it provides a better promise of jobs. Creditors cannot veto the court’s decision and can only express their concerns through nonbinding recommendations of a court-appointed creditor representative

(Davydenko & Franks, 2008). According to the law L641-1 of the French Commercial Code, the sale of the firm aims at ensuring the continuation of the activity, with employment linked to the business, and the reduction of the liabilities. It is stated in the order of importance, economic activity and employment are prevalent over creditors' interests. The priority stated in the French corporate bankruptcy legal code contrasts with countries where creditor interest and claims are put first, such as the UK.

In France, in case of bankruptcy, the role of creditors is limited to an advisory function, as their permission is required for neither the sale of their collateral nor confirmation of the reorganization.

The liquidation settlement procedure (*"liquidation judiciaire"*) occurs when the restructuring is not possible. It organizes the ending of the firm activities and the sale of its assets to distribute the proceeds among the creditors.

The second mode for the handover of the firm is privileged in the liquidation procedure, in the form of asset disposal. In this case, the primary goal is the payment of creditors, since the activities of the firm are ended. Thus, the price and buyer's solvability are the main criteria when selling the asset. This constitutes the main difference with a buyout with activity, mentioned in the case of *"redressement judiciaire"*. The liquidation can be called for directly either by the entrepreneur himself if he is unable to honor his debt (*"cessation de paiement"*), or by the creditors. Or the sale can be organized directly after the failure of the procedure of *"redressement judiciaire"* or *"procédure de sauvegarde"*. The commercial court appoints a liquidator of the firm. He represents the creditors' interest. His role is to assist the management of the company in the liquidation process, which consists in terminating the firm's activities under the best possible conditions. The management of the firm loses executive power, it is the liquidator who takes control of the business. This is done in order to protect the assets of the firm, so that it can create value for the creditors. While the liquidation is occurring, the debtor/entrepreneur cannot start new business ventures. Assets of the firm can be sold by auction or directly to a buyer who expressed interest.

The third judicial procedure is called *"procédure de sauvegarde"*. It was introduced by a reform of the bankruptcy laws in 2005. In contrast to the two other procedures, it is not necessary

to be in “*cessation de paiement*” to access this operation, and it can only be triggered at the entrepreneurs’ initiative.

The 2005 reform

On July 27, 2005, France introduced a reform of its bankruptcy regime, to modernize its procedures and ultimately boost employment. The logic behind the reform was to privilege anticipation and prevention over liquidation. The law introduced a new judicial process called “*procédure de sauvegarde*” which enables the management of the firm that anticipates default of payment in the near future to benefit from the bankruptcy regime before the default occurs. The intention is to facilitate the reorganization of the firm, so it does not happen when it is too late to save the firm.

The reform introduced a new mutual agreement proceeding called “*procédure de conciliation*”. This conciliation procedure (which is not part of the collective procedures) enables a legal framework to start the negotiation between a firm that anticipates difficulties and its creditors. A firm can access this procedure only if it is not in cessation of payment (or has been in cessation of payment for less than forty-five days) but is encountering difficulties (of any nature: judicial, financial) that may lead to suspension of payment. This procedure follows the principle of anticipation put forward by the reform. Another advantage of this procedure lies in its confidentiality: the difficulties of the firm are not made public.

The “*procédure de sauvegarde*” is highly beneficial to the management of the firm, as managers will remain in power, the appointed administrator will only have a support and oversight mission. During this operation, the head of the company cannot be forced by the court to sell the business. This is not the case for the “*procédure de redressement*”, in which the administrator’s power is total. Furthermore, the “*sauvegarde*” triggers the automatic stay of the assets.

The reform also introduced a simplified version of the liquidation settlement procedure which enables the process to be terminated within less than a year.

In many aspects, this reform can be considered as pro-business and by extension pro-entrepreneur. The management of the firm is encouraged to declare the distress of the firm early on, and supposedly this will increase the chances for the company to maintain its activity and will

allow for a better reorganization. If the firm has to be liquidated, it can be done quickly, so the entrepreneurs are not trapped in their business failure and can move on to other projects. Thus, it can be of interest to observe the entrepreneurship level after the reform and try to identify a pattern. The law was voted on July 27, 2005 but was applied from January 1, 2006.

Even though the reform marks a degree of progress, some criticism persists as the reform did not affect the low creditor-friendliness index score of France regarding the bankruptcy procedures. In a note for the economic advisor for the French prime minister, Plantin, Thesmar & Tirole (2013) criticized some of the features of the French insolvency system and advocated amendments. The report highlights the critical economic impact of the insolvency legal rules, as debt is the primary external source of financing for enterprises. The modality of the handling of distressed companies is thus a crucial stake for the companies. On the one hand, the law should enable an efficient and rapid reorganization of the company. On the other hand, the laws will impact initial terms between lenders and borrowers and influence the supply of capital and the conditions in which it occurs.

According to Plantin, Thesmar & Tirole. (2013), by providing particularly low protection of creditors, the French insolvency code harms the firms' capacity for obtaining financing in France, especially for small and medium-size companies. Firstly, the authors argued that the priority given by the French system to employment via the continuation of the firm activity is counterproductive. They argue that this may lead to a systematic bias for the continuation of the activity instead of quick liquidation that could offer optimal value. Assets can be sold to more productive firms that will use such assets to expand their economic activity, which in turn can boost employment. Secondly, the authors argue for more control by creditors over the reorganization procedure, such as the ability to reject debtor plans and control the duration of the plans. The authors recommend the rebalancing of creditors' and debtors' rights inspired by Chapter 11 of the US system.

	Proceedings Mutual Agreements (<i>Procédure amiable</i>)	Proceedings Mutual Agreements (<i>Procédure amiable</i>)	Proceedings Collective Insolvency (<i>Procédure collective</i>)	Proceedings Collective Insolvency (<i>Procédure collective</i>)	Proceedings Collective Insolvency (<i>Procédure collective</i>)
	<i>Mandat Ad Hoc</i>	<i>Conciliation</i>	<i>Sauvegarde</i>	<i>Redressement judiciaire</i>	<i>Liquidation judiciaire</i>
Situation of the company with regard to the suspension of payments procedure	No cessation of payments procedure	No cessation of payments procedure	Absence of cessation of payments but difficulties will lead to it	Suspension of payments	Suspension of payments and impossibility of judicial settlement
Initiating the procedure	Executive	Executive	Executive	Executive Creditor Automatic jurisdiction	Executive Creditor Automatic jurisdiction
Confidentiality	Yes	Yes (except if homologation by court by public judgment)	No : notes on the procedure in the National Registry of the Enterprises and publication of the judgment	No : notes on the procedure in the National Registry of the Enterprises and publication of the judgment	No : notes on the procedure in the National Registry of the Enterprises and publication of the judgment
Effect on debts	None unless agreed amicable third parties	None unless agreed amicable third parties	Frozen liabilities	Frozen liabilities	Frozen liabilities
Power of the judicial representative	Not applicable but make sure of the durability	Not applicable but make sure of the durability	Supervision or assistance by justice representative	Supervision or assistance or direction by justice representative	Exclusive management by justice representative
Layoff	Free	Free	Free	Authorization bankruptcy judge (simplified procedure)	Realized by liquidator (simplified procedure)
Sale of the company	Autonomy of decision	Autonomy of decision	If debtor's agreement	Yes, according to court decision	Yes, according to court decision

Table 3: Procedures available to distressed firms in France

2.3.4. Implications of the different bankruptcy systems

As we have presented the main corporate insolvency procedures of developed economies, this section runs through the major divergences between bankruptcy regimes around the world and their implications from the perspective of various actors.

From the creditor perspective

To grasp the differences in the bankruptcy codes, we can adopt first the standpoint of the creditor, secured and unsecured, concerning the reorganization procedure of references in each country.

In the UK as we have seen the law tends to considerably favor secured creditor over the other firm 'stakeholders. Continuation of the firm 'activity is not considered a goal in itself and depends on the creditors 'approval.

In France, secured creditors have less power: the court can decide on the confirmation of a reorganization plan or the sale of the firm's assets without their approval. Besides, the state places its claims and those of employees first in priority when collateral is sold in bankruptcy. Furthermore, the court-appointed administrator can, without creditors approval, raise new financing. This fresh funding holds "absolute priority" ranking among claims ranking, which reduces the priority of secured creditors' claims, and thus their chances of recovering their investment.

In the US, when looking at the creditor friendly score with regard to Chapter 11, it is close to the score of France. Nevertheless, Chapter 11 and the "*procédure de redressement*" present differences (Davydenko & Franks, 2008).

Compared to France, the US procedure allows better protection for creditors because they can veto the plan proposed by the debtors and they have voting power proportional to their investments and their claims (Davydenko & Franks, 2008).

Role played by the court

Concerning the role of the court, in the case of administrative receivership in the UK, the court is limited to the supervision of the procedure, whereas in contrast, in France the court holds considerable power regarding the firm's fate. The US and Germany present intermediate models where the court, without decisively influencing the procedure, will play an arbitration and controlling role in the different parties' interests. In the US, the courts that handle insolvency cases are specialized ones. In France, the court called "*tribunal de commerce*" is presided over by local businessmen elected by their peers. They are not professional judges and are specialized in commercial matters, meaning that they also rule on other commercial conflicts. In the US, bankruptcy courts are dedicated to insolvency cases and are presided over by federal judges specialized in the subject.

In the UK and Japan, civil courts rule on insolvency cases, but judges are specialized in commercial matters. In Germany, one court in each region is specialized in bankruptcy, and it is composed of a mix of professional and non-professional judges (Davydenko & Franks, 2008).

Goals of the court

In the creditor-unfriendly code of France, insolvency procedures are court-administered with the stated aim of maintaining the firm as a going concern and conserving employment. To attain these objectives, French bankruptcy courts are given control of the bankruptcy process and are under no obligation to sell the firm assets to the highest bidder. The role of creditors is reduced to an advisory function, and the court does not require their approval in determining a reorganization plan (Davydenko & Franks, 2008). In Japan, France, Germany and the US, reorganization tends to protect the temporary debtor against creditors' actions in order to avoid premature liquidation and find a viable solution for the company. In France, the power to decide whether to sell or reorganize the firm does not lie in creditors' hands. In most countries, creditors have a voting power regarding the reorganization plan.

Country	USA	UK	France	Germany	Japan
Court of competent jurisdiction	Bankruptcy Court Network of federal tribunals specializing in bankruptcy	Companies List (formerly the Companies Court) Court of the Chancery Division specializing in corporate matters	Commercial Court (227 special courts specializing in business matters)	Amtsgericht (local courts) One competent bankruptcy court per region	Chihosaibansho (district court) High courts organized into specialized courts
Judges	Specialized federal judges appointed for a 14-year term	Professional judges chosen for their knowledge of business affairs	Lay judges (business persons elected by their peers)	Mixed tribunals of professional magistrates and lay judges appointed for three years	Professional judges chosen for their knowledge of business affairs

Table 4: Composition of corporate bankruptcy court across different countries translated from (Pochet, 2001, p.24)

2.3.5. Studied consequences

Claessens & Klapper (2002) used data from a panel of 35 countries to investigate how the occurrence of bankruptcy filings was related to countries' creditor rights and judicial efficiency. The results suggested that bankruptcy filings are more frequent in common-law countries, and stronger creditor rights are associated with more bankruptcies, aside from when there is no stay on assets. Greater judicial efficiency was correlated with more frequent use of bankruptcies and emerged as a substitute for stronger creditor rights. The presence of a “no automatic stay on assets” provision, that is, the ability of individual creditors to seize assets even when a firm has filed for bankruptcy in court, was associated with fewer bankruptcies, independently of the efficiency of the judicial system. These findings suggest that the design of the insolvency system creates significant *ex-ante* effects and incentive effects, such as encouraging less risky behavior and more out-of-court settlements. The findings also indicate that adequate legal mechanisms themselves may help achieve rapid settlements of in the case of financial distress. To conclude, results highlighted the importance of the bankruptcy system and procedure with regard to the economy and general development.

2.4. Summary of literature review

Global competition, systemic financial crises and acceleration of the pace of business have created tensions for firms, whatever their size or business field. Legislators around the world, conscious of the economic impact, have reformed their bankruptcy laws and procedures with an emphasis on the rescue of the distressed firms whenever possible. However, procedures and laws still differ widely across countries.

As we have seen, bankruptcy laws can impact entrepreneurship in many ways.

First, the ex-ante effect can discourage potential entrepreneurs from taking the risk of setting out on the entrepreneurial path if sanctions for bankruptcy are too constraining. In the same manner, if laws are too creditor-unfriendly, this can deter creditors from lending, thus hindering the availability of capital to entrepreneurs.

In addition, at any time a business can suffer from temporary difficulties due to the hazards of business. Those complications can lead a perfectly viable business to a financial insolvency situation. In that case, if the insolvency procedures are not well designed, panicking creditors can dismantle the firm's assets, which results in economic loss. On the other hand, the firm could eventually, with an adequate restructuring of its debt plan, continue to operate and perhaps expand its activity in the future.

To conclude, the ex-post effect could prevent entrepreneurs who have failed from starting again with another entrepreneurial project. This may be the case if the procedures are too long or restrictions are applied to entrepreneurs who failed in the past.

The potential effects are wide-ranging, but the exact mechanism and impact are hard to assess.

2.5. Limitations of past studies

The vast majority of the studies from the review of the literature published in peer-reviewed scientific journals indicated that bankruptcy laws do have an impact on entrepreneurship, but the results concerning the effect differed. Those studies advocate a better understanding of the mechanism linking bankruptcy legislative systems and entrepreneurship, as it is of relevance to policymakers looking for ways to boost economic activity and innovation.

We have noted several limitations and potential issues from the past reviews on the link between bankruptcy laws and entrepreneurship.

First, there is no single universally accepted measure of entrepreneurship. Self-employment number or firm creations rate do not give insight on the quality of the entrepreneurial project.

In addition, previous studies seem to have focused on personal bankruptcy laws when assessing the impact on small-business entrepreneurship, eluding corporate bankruptcy laws (Paik, 2013).

One major limitation is that many studies failed to account for the changes in corporate bankruptcy laws, as many countries had dramatically reformed their bankruptcy code during the timeline of the investigation. Lee et al. (2011) did not take into account the reform of corporate bankruptcy regime undertaken by many of the observed countries during the timeline of their study.

It is worth mentioning that, contrary to what is initially assumed in most studies, entrepreneurs may not investigate or be aware of the insolvency code before starting their entrepreneurial project. In that case, the ex-ante effects of the bankruptcy laws on entrepreneurship may not be as strong as suggested in theory by the authors.

Another point is that, to our knowledge, no studies have tried to take into account entrepreneurs' perception of bankruptcy laws. However, it would be interesting to do so, especially in the case of a reform, as the stated objectives of such a reform may not be attempted if the beneficiaries (entrepreneurs) do not take the new laws into account or misjudge it. The best reform or insolvency code, if it is not well understood by its potential users, would yield poor results, no matter how well designed it may be.

2.6. France: a compelling case

Among the different bankruptcy systems, the French regime presents a compelling case. France is the main representative of a legal family that exhibits the least creditor-friendly bankruptcy regime on the index introduced by La Porta et al. (1998). The French system emphasizes reorganization of the distressed firm with limited emphasis on punishing the debtor. France has been one of the precursors in introducing prevention features for firms in difficulties.

The reform of July 2005 constitutes a pivotal event in this shift of focus from saving firms in difficulties to preventing those difficulties. Also, the French system presents a unique feature, as the business insolvency procedures are administered by local businesspeople. Indeed, in France, commercial conflict is ruled by a specific jurisdiction, a commercial court (“*tribunal de commerce*”). The judges of the commercial court are not professional magistrates: they are local members of the business community that have been elected among their peers. They used their experience and expertise in commercial matters to resolve the conflict pro bono. The features mentioned above tend to favor entrepreneurs facing difficulties with their companies/in the handling of distressed firms (pro debtor, prevention procedure, justice ruled by business people including many former entrepreneurs). The reform of July 2005 constitutes a modernization of the corporate insolvency codes to adapt to the challenges of the market economy with the stated goals of promoting economic activity. Overall, this reform could be assessed as pro-entrepreneur.

To grasp the impact of corporate bankruptcy laws on entrepreneurship, one approach could be to undertake an across-countries comparison of entrepreneurship development based on the different bankruptcy regimes. For example, comparing France and the UK entrepreneurial levels might be interesting, as the two countries present significant divergences in their bankruptcy system. However, trying to assess the impact of a specific institution element on entrepreneurship across nations could prove challenging, because many other factors come into play. That is why we have chosen to focus on one country.

Furthermore, studies that have tried an across-countries comparative approach have considered the insolvency regime as a fixed framework during the timeline of the study. They have not taken into account the occurrence of possible changes and reforms in the different countries studied. Nevertheless, laws in general change over time, especially insolvency regimes that tend to evolve to try to respond to the economic context. This is why we have chosen to focus on the reform of insolvency codes and procedures.

In 2005, France introduced a reform that emphasized prevention in the case of distressed businesses. The reform proposed specific features that are beneficial to entrepreneurs, such as quick procedures for liquidation, but also the “*procédure de sauvegarde*”, which enables a firm to be placed under the protection of bankruptcy laws and negotiate with the creditor in a better-

secured context. The reform prioritizes the prevention aspect of failure risks. Objectively, it seems that the reform is beneficial to entrepreneurs and would mitigate potential barriers preventing them from launching a business venture.

We have identified the main potential reason for the reform not acting as an incentive for entrepreneurs. The main reason would appear to be the lack of anticipation of difficulties by entrepreneurs, as the reform focuses on prevention features that have to be undertaken at an early phase of difficulties if they are to yield significant results.

Thus, a relevant assessment of the impact of insolvency procedures on entrepreneurship may be a study focusing on France, in order to, firstly, highlight and quantify the potential impact of the implementation of the reform on entrepreneurship indicators; and secondly, to explore the effect of the French bankruptcy system at the scale of entrepreneurs.

The overall purpose of the study is to provide elements that might improve our understanding of the impact of bankruptcy laws and procedures on entrepreneurial activity.

3. General methodology

This study aims at providing insight on the impact of corporate bankruptcy laws on entrepreneurship activity through the case of a modernizing reform of the bankruptcy regime in force in France, which was voted on July 27, 2005, and applied from January 1, 2006. The details of the reform are given in the section on France's bankruptcy system (cf. supra “The 2005 reform”). As this new law constitutes a significant reworking of the corporate bankruptcy code and procedures in force in the country, we sought to assess the impact on entrepreneurial activity in France. In order to provide a broadened and exploratory overview of this issue, we decided to use a mixed method approach. This combined method approach used in this study is grounded on the belief that collecting diverse types of data provides a more accurate understanding of the research problem than either quantitative or qualitative data alone. The research adopts an explanatory sequential mixed method.

The first phase of the study involves analyses of a large set of data related to the impact of the implementation in 2006 of the bankruptcy reform on the trends in entrepreneurial activity

indicators in France. More precisely, we conducted a quantitative study in order to answer the following research question: since the reform of 2005 offers benefits to entrepreneurs facing difficulties with their business, we ask whether it stimulated entrepreneurship (enterprise births) or not.

The second phase of the study is devoted to semi-structured qualitative interviews with entrepreneurs and restructuring professionals who assist them in case of a firm in difficulty. The goal of this study is to build up on the quantitative results, assessing whether entrepreneurs consider the reform positively or negatively but also how they consider corporate bankruptcy laws in general, if they integrate this as a factor when starting their business and their awareness regarding the laws and procedures available to them.

The general research follows a funnel scheme, starting from generalized macro-level data related to entrepreneurship, and going to the individual level with the testimony of some entrepreneurs.

3.1. Quantitative methodology and results

3.1.1. Design study

We tried to assess whether the bankruptcy reform implemented in 2006 in France had a significant impact or not on entrepreneurship development in the country.

The first hypothesis is that this reform, even though pro-entrepreneurs, did not significantly impact entrepreneurship's development because of the lack of anticipation of entrepreneurs regarding failure. We argue that entrepreneurs who by nature are over-optimistic tend to focus their attention on the development of their activity rather than thinking about potential failure. Thus, they tend to pay little attention to the changes in the bankruptcy legislation.

The alternative hypothesis is that the reform had a stimulating impact on entrepreneurs who are conscious and aware of the importance of the evolution of bankruptcy legislation.

To verify those hypotheses, we ran a multivariate statistical test taking into account potential concomitants variables.

Dependent variable:

The dependent variable in our model is the trimestral number of firms created because it is publicly available. While the rate of new firm's entries has been used as a proxy for entrepreneurship measurement in previous studies (Claessens & Klapper, 2002; Kawai & Urata, 2002; Lee et al., 2011; Yamawaki, 1991) we were unable find official data on the rate of new firm's creation. We believe that using the number of firms created instead of the firm's creation rate does not create significant bias because we focus our study on one country. Most studies that used the firm's creation rate, such as the study by Lee et al. (2011), consists in cross-countries analysis, thus in their case it makes sense to look at the firm's creation rate because the study compares countries of different size, thus with different numbers of firms. Furthermore, we counterbalance the fact that we focus on the firm creation number as our dependent variable by including in our model the number on firm failures that provides insight on the dynamics of entrepreneurial activity in France. We used the trimestral number to match with other explicative variables such as the official trimestral rate of GDP growth both for France and Europe.

Other explicative variables

We selected other variables based on a review of the literature and the assumption that they have an impact on our dependent variables.

Economic variable: for example, we can assume that the economic performance of a country can affect its firm creation number. A growing economy may lead to a higher firm creation number, regardless of reforms (Lee et al., 2011). In addition, it is likely that the number of firms created in France can be affected by the European economic trends. The GDP growth of the European Union constitutes an indicator of the dynamic of the regional economic activity. Therefore, we retrieved the trimestral growth rate of France's GDP, and the trimestral growth rate of Europe's GDP. We also added the trimestral number of business failures in France to give insight on the dynamic of entrepreneurship in the country.

Financial variable: entrepreneurs need capital to finance their projects, therefore their decision to start a business in a given country can be influenced by the country's financial stability. The interest rate gives an idea of the variance and stability of a country's financing infrastructure (Lee

et al., 2011), furthermore it represents an indicator of the cost of capital, which matters greatly to entrepreneurs in need of funds to finance their project.

Demographic variable: we also took into account the demographic change of the country studied which is an indicator of about the variance and stability of the country's residents. Wide variations in this indicator represent potential change in a country's workforce and market, thus might have an effect on enterprise creation number.

At this point, it is crucial to note that we limited our analyses to the major variables recognized to impact the creation of new firms. However, there are many potential concomitant variables that can impact the number of firms created. Some of them cannot be measured or the data are not publicly available. Given limited resources in time and data access, an exhaustive selection of variables impacting the number of firms created was not possible. We based our choice on the existing study by Lee et al., (2011) which consists in cross-national comparison. However, our study focuses on one country only, France, therefore not all the concomitant variables used in their study are relevant in the case of a study focusing on one country. Furthermore, the data Lee et al., (2011) studied spans about twenty years. We focused our study on a shorter time period around the time of the reform (2005 to 2008) to hedge against the influence of events not taken into account in our model. Indeed, the more extended the period studied, the greater the chances of significant events occurring that affect our dependent variable. In our model, we selected a period which is not too long although enabling a quite robust estimate based on a consistent sample size. We selected data from 2005 to 2008 to spot the potential effect of the reform which was implemented from 1st January 2006. We chose to stop at the end of 2008 because the potential effect of the global financial crisis was felt on our dependent variables. In addition, cultural factors such as risk adversity and stigma associated with failure, which can have an impact on entrepreneurial activity, are less likely to change in a short period of time (Hofstede, 2007). We strongly emphasize that this model is by no means perfect or free of defects, it simply constitutes an attempt to pinpoint a potential effect of the bankruptcy reform on entrepreneurial activity by the proxy of the number of firms created. To prove such a relation would require an exhaustive study led by scientists with high expertise in quantitative methods and provided with adequate resources and access to data.

3.1.2. Data sources

For assessing the overall impact of the reform on entrepreneurship, we used factual information from public records: INSEE and OECD data. The INSEE is the French National Institute of Statistics and Economics Studies. It collects and analyzes data on the French economy and society. Even though INSEE is part of the French ministries of the economy and finance, its professional independence is enshrined in law. Indeed, *“as the official statistic authority, INSEE has a responsibility to ensure that the principle of professional independence is maintained in the design, production, and dissemination of official statistics”* (“Getting to know INSEE | Insee”, n.d.). The Organization for Economic Co-operation and Development (OECD) aims at *“promoting policies that will improve economic and social well-being across the globe”* (“About the OECD - OECD”, n.d.). To do so, the organization gathers and analyzes various economic and social data, so that governments can take evidence-based decisions when drafting policies. Trust, integrity and transparency are deeply embodied in OECD culture. The data collection was done on a national scale, as the reform concerns the entire country. Such databases (INSEE, OECD) are updated and endorsed by other researchers, which ensures the reliability of the data collected from those sources (Blazy, Chopard & Nigam, 2013; Armour & Cumming, 2008; Armour & Cumming, 2006). All data which have been used in this part were extracted from the databases in December 2017. We extracted available data from December 2004 to December 2008.

Enterprise births (Excluding Micro-entrepreneurs³)

INSEE records the civil status of all enterprises and their establishment from the SIRENE register. When the newly-created firm submits its first declaration, it receives a unique identification number called the SIRENE. INSEE retrieves and presents monthly numbers of enterprise births based on the SIRENE register. The statistic of enterprise births includes all trade sectors except agriculture. Since January 1, 2007, the concept of firm creation adopted by INSEE corresponds to the concept defined by EUROSTAT, to harmonize data collection throughout Europe. The harmonized enterprise birth concept refers to: *“the creation of new means of production, cases where the entrepreneur restarts activity after less than one year of interruption,*

³ Reference Identifier: INSEE 001667492

takeover by new company of another firm's entire activity and means of production when there is no continuity of the acquired Company". ("Définition - Enterprise birth | Insee", n.d.). Correction for seasonal variations and calendar effects are used.

Since January 1, 2009, a new simplified self-employment status, the status of "*Micro-entrepreneur*" (or *auto-entrepreneur*) has been in existence. By consequence, specific data are available and series concerning the number of "*enterprise births excluding micro-entrepreneurs*" are provided by INSEE. Therefore, till January 2009, the number of enterprise births, whether it included or not "*micro-entrepreneurs*", remains the same. We chose to focus on enterprise birth numbers excluding "*micro-entrepreneurs*" because this status is closely associated with self-employed status which, as seen in the literature review, can be a misleading indicator in the case of entrepreneurship. Furthermore, it was only until 2011 that *micro-entrepreneurs* could benefit from limited liability by having the possibility of allocating a specific patrimony, distinct from their personal patrimony, to their business activity ("Définition - Micro-entrepreneur | Insee", n.d.). As a consequence, the corporate insolvency procedure could not be used by a *micro-entrepreneur* until 2011.

Business failures in France⁴

INSSE provides monthly numbers of business failures in France. The enterprise bankruptcy statistics are retrieved from the official bulletin of civil and commercial announcements (Bodacc), which publishes the judgments pronouncing the opening of a legal settlement on a monthly basis. A business is in a situation of failure or filing for bankruptcy from the moment when a judicial settlement procedure is opened against it. This judicial settlement procedure is opened when the business is in a situation of suspension of payment and that it can therefore no longer face up to its debts. The outcome of the procedure is not taken into account: liquidation or settlement by continuation or resumption.

⁴ Reference <https://www.insee.fr/en/statistiques/serie/001656092> INSEE Identifier: 001656092

Gross Domestic Product (GDP) Growth for France and Europe⁵

The GDP is the monetary value of all finished goods and services produced within a country's borders, GDP is a broad measurement of a nation's overall economic activity (Segal, 2003). The trimestral GDP growth rate measures quarterly change.

Population⁶

INSEE provides a monthly estimation of the total population in France. This database concerns the population in France at the beginning of the month. We extracted data from January 2004 to December 2008. The unit is one thousand people.

Long-term interest rate⁷

OECD provides monthly monetary and financial statistics which include Main Economic Indicators (MEI), containing financial statistics on interest rates. For France, the direct source is *Banque de France*. We extracted monthly data on long-term interest rates from December 2004 to December 2008. The Interest rate is presented percent per annum. Long-term interest rates refer to the price at which government bonds (in this case French government bonds), are traded on financial markets. Those rates are one of the determinants of business investment ("Interest rates - Long-term interest rates - OECD Data", n.d.).

3.1.3. Statistical test method and results

We used a multivariate time series model to model the quarterly changes of the number of firms created, excluding the micro-entrepreneurs, according to explanatory factors (number of firm failures, GDP growth rate of France and Europe, population of France, and the long-term interest rate in France), and to study the impact of the reform of January 2006. The test is structured as the

⁵ <https://tradingeconomics.com/france/gdp-growth> retrieved from INSEE.
<https://tradingeconomics.com/euro-area/gdp-growth> retrieved from Eurostat

⁶ Reference : INSEE Identifier 001641607

⁷ Reference: <http://www.oecd.org/std>

graphical analysis of the trend of the variables (part 1), followed by a modeling by multivariate analysis (part 2), and finally the analysis of the effect of the January 2006 reform (part 3).

Part 1: Graphical analysis

Dependent variable: Quarterly numbers of firm creations (excluding microentrepreneurs)

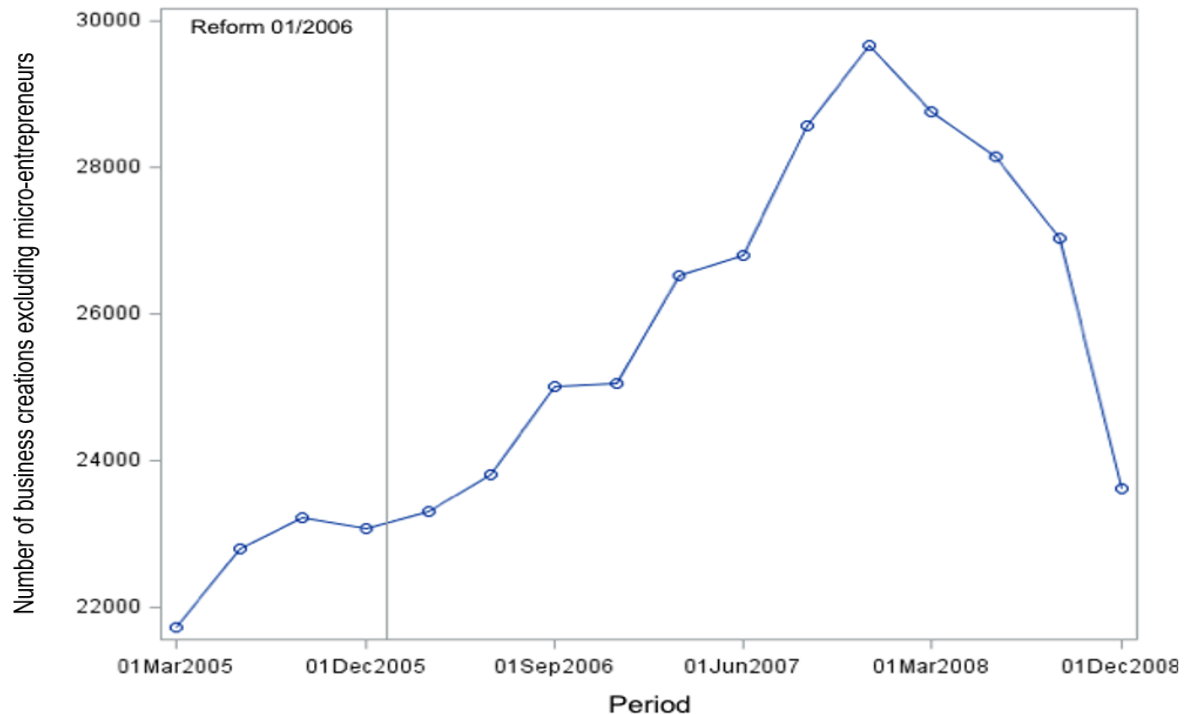


Figure 2: Trend of quarterly number of firms created (excluding microentrepreneurs)

The graph above shows the trend of the quarterly number of business creations (excluding micro-entrepreneurs). Overall, there is a progressive increase reaching a peak of 29666 in December 2007, followed by a sharp decline to reach 23614 in December 2008. This might be an effect of the global financial crisis. The financial crisis of 2007/2008 started with a crisis on the subprime mortgage market in the USA linked to a burst of the bubble in the US housing market. In August 2007 BNP Paribas, a French bank announced that it was ceasing activity in three hedge funds specialized in US mortgage debt, which was a clear indicator of a major issue in the mortgage debt market (Elliott, 2011). As banks relied heavily on financial product based on subprime mortgages, they suffered significant financial loss, thus triggering a financial crisis. The peak of the financial crisis was reached when in September 2008, Lehman Brothers went bankrupt. The

financial crisis affected the global economy because of globalized banking system and interdependences between banking institutions. This caused a global economic downturn known as the great recession, considered to be among the worst in modern economic times. The global recession was associated with the weakening in the world economy; low trust in the financial market; more restrictive access to funding and loans, and high uncertainty for households and companies (“Financial crisis and the economy - OECD Observer,” n.d.). Between September 2005 and December 2005, there was a slight stabilization, then giving way to a long period of growth after the December 2006 reform. This change in the behavior of the series will have to be analyzed in greater depth to ensure that the reform is indeed at the origin of change.

Variable 2: Quarterly number of business failures

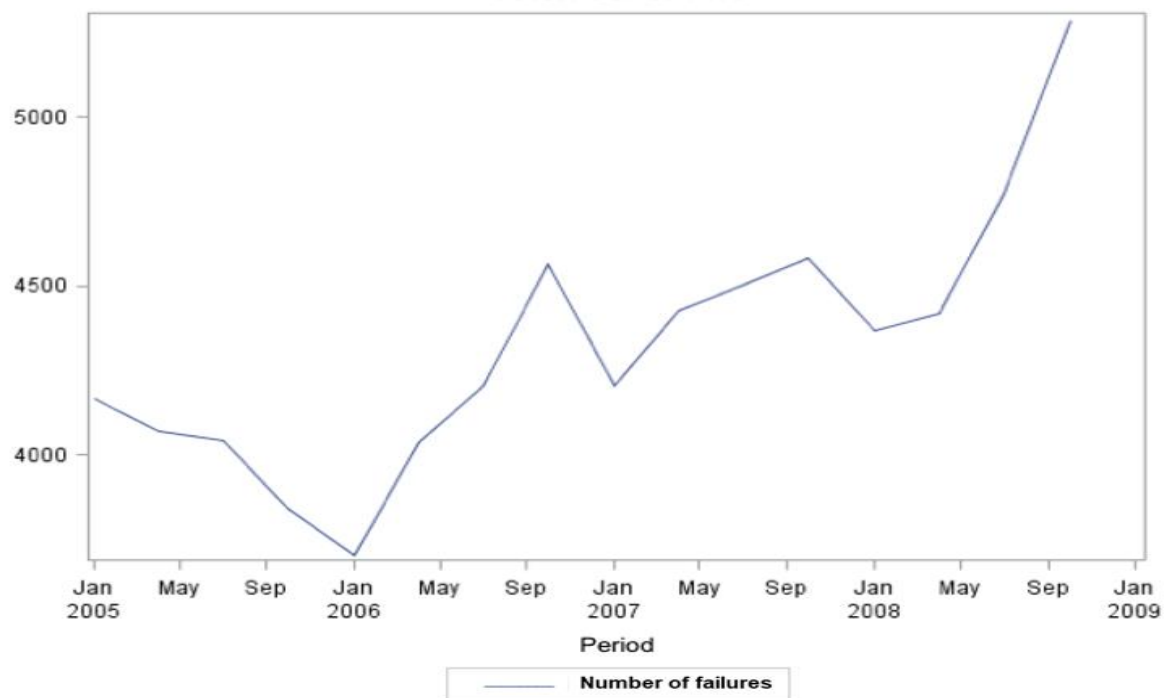


Figure 3: Trend of quarterly number of firm failures

We can distinguish two distinct periods of change. A decline from March 2005 to January 2006 (time of the reform), and a long period of growth from January 2006 to December 2008. There is little fluctuation during the first period, unlike the second, especially during the period from September 2006 to May 2008.

Variables 3 and 4: France and Eurozone's GDP quarterly growth rates:

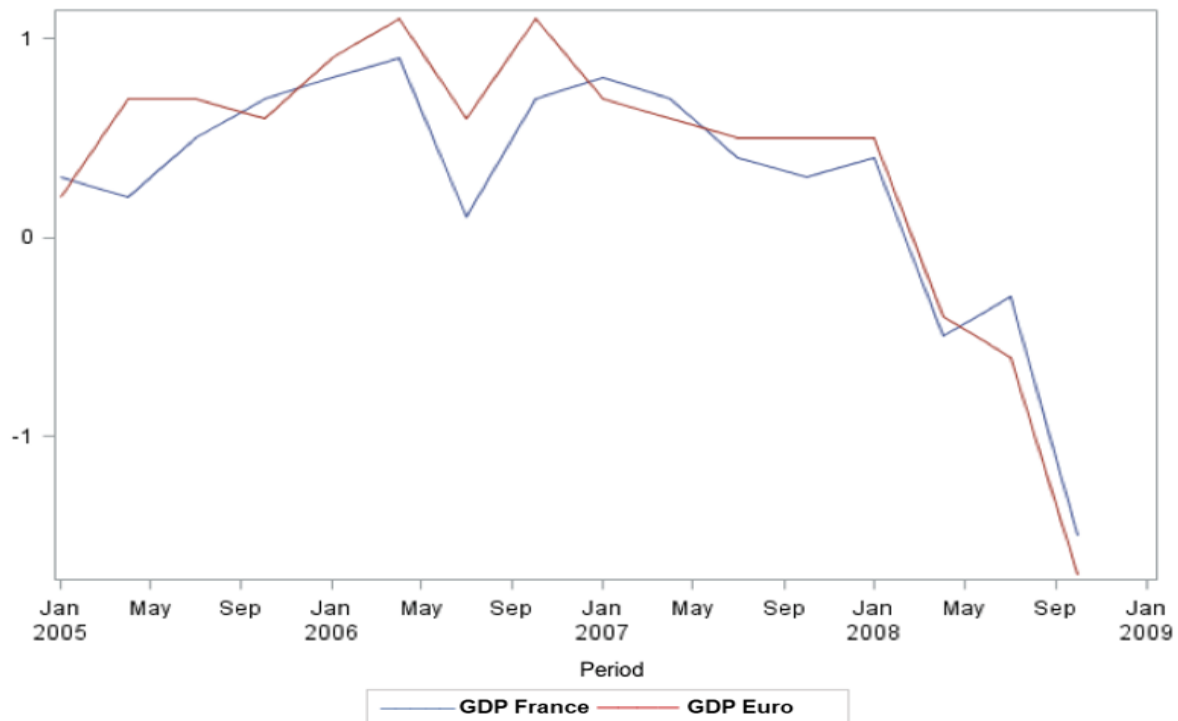


Figure 4: Trend of France and Eurozone GDP quarterly growth rates

The graph above represents the trend in the France and Euro GDP. There is a strong correlation between the two series: indeed, they evolve in a similar way, describing a bell-shaped pattern. A first period of slight growth was followed by a decline. Fluctuations were observed during the growth period then in the decline phase, the trend fluctuates less.

Variable 5: Quarterly Long-term Interest Rate

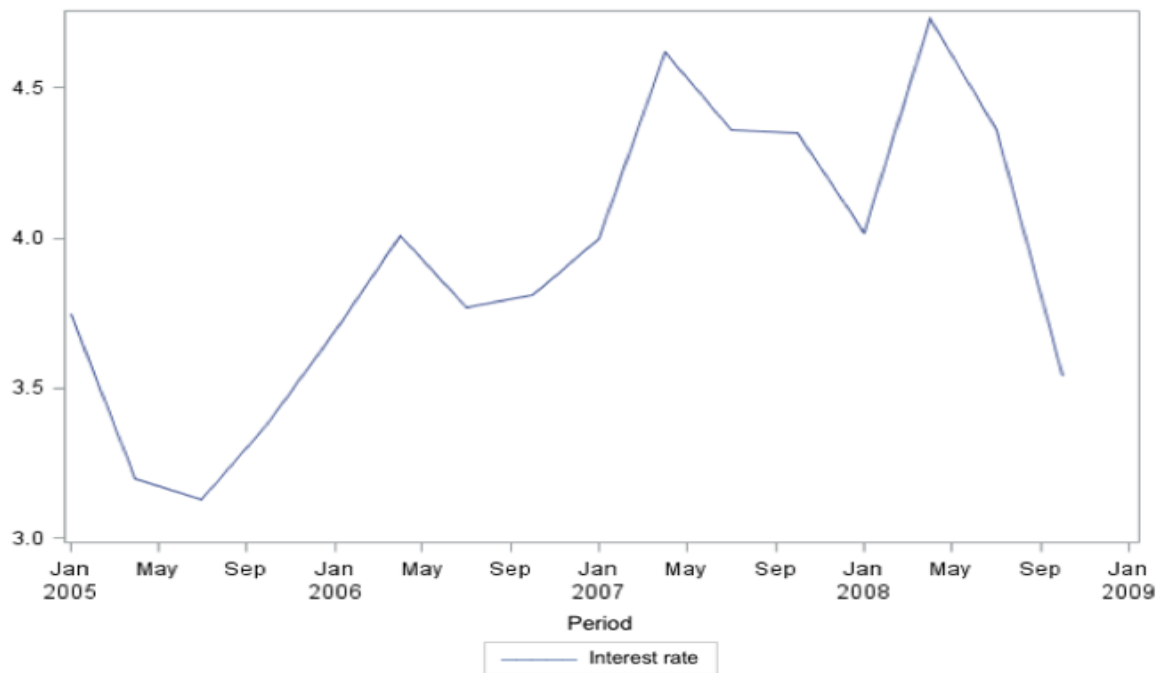


Figure 5: Trend of quarterly long-term interest rate in France

There is a trend of sawtooth type growth but a sharp decline from June 2006 as we can see in figure 5 above.

Variable 6: Quarterly France's total population

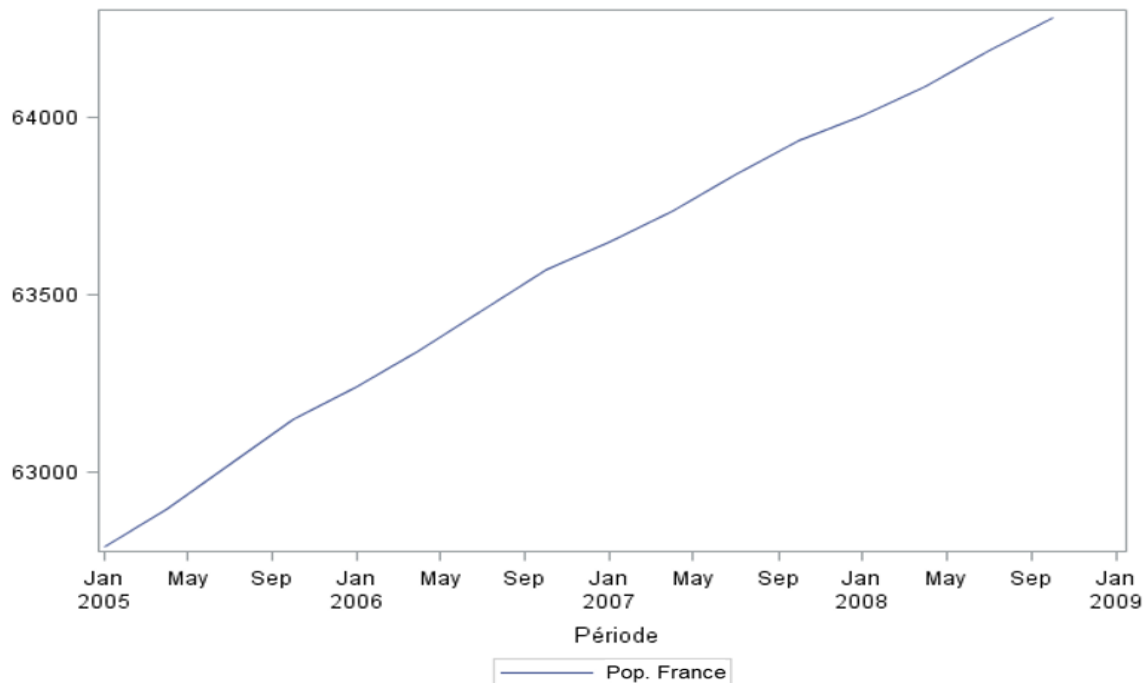


Figure 6: Trend of quarterly total population in France

A clear linear growth is observed in the figure above.

Part 2: Modeling by multivariate time series

Objective:

On the one hand to find a model which allows faithful representation of the trend in the number of company creations (excluding micro-entrepreneur) and on the other hand to study the interdependencies of the indicators: number of failures, GDP growth of France, France's population, long term interest rate with our dependent variable, the number of creations of companies (excluding micro-entrepreneurs).

Methodology:

In order to achieve the stated objectives, we have chosen to use multivariate time series models to simultaneously take into account all the series illustrated in the graphs in Part 1. To find the most relevant model we have followed the following steps:

Step 1: Choice of the type of model: process Auto Regressive Vector of order p or VAR (p), (Lu, 2001).

We focused on the model class VAR (p) for which the model is written:

$$y_t = c + \Phi_1 y_{t-1} + \Phi_2 y_{t-2} + \cdots + \Phi_p y_{t-p} + u_t$$

This equation indicates that the recent data (instant t) or older (instants t-1, t-2, ... t-p) are used to model the existing data (time t) and to make adequate predictions (times t + 1, t + 2, ...) concerning future behavior. In our model, time periods are quarters. To create a VAR type model, the data must be stationary, that is, the series must show no trend, either up or down. In other words, it is necessary to reach a certain stability in the average of the series.

1) Determination of the order of the VAR

Several models are tested by varying the parameter p. The model chosen is the one that has the lowest value on the corrected Akaike information criterion (AICC).

2) Validation of the model

Several tools have been explored to verify whether the model of order p fits well with the data.

- Fisher's univariate test which will focus on the coefficients of the series of residues. Four autoregressive models AR (j) j = 1, ..., 4 are tested. The rejection of the null hypothesis means a rejection of the white noise hypothesis on these residues, and therefore a questioning of the selected order.

- Univariate ANOVA test to test the simultaneous nullity of the coefficients of the model. A significant p value indicates an existing relation between the responses and explanatory variables.
- Test of significance of the partial autocorrelations. For a p-order VAR model, the elements of the partial autocorrelation matrices must be insignificant ($p > 0.05$) after the order p.

A set of graphs also relating to the residues of the equation: autocorrelation function, partial autocorrelation function, inverse autocorrelation function can be found in the appendix. For a VAR of order p, the coefficients must be zero after the order p.

- The normality of the residues is explored by means of the Q-Q plot. It compares the theoretical fractiles of Gaussian with those observed in the series of residues. An alignment on the right indicates perfect fit.
- The analysis of the R^2 indicator (R-square) indicates the share of variances explained by the explanatory variables.

Those tests and their results can be found in appendix as they are not the focus of this study. The VAR (1) model was chosen and confirmed after running the tests. The validation indicators fit well the model: the partial autocorrelation was null above the order 1 and the univariate Fisher tests were significant for the model (cf. to appendix part A for more details).

The model hold for the variable number of firms created (excluding microentrepreneurs) is VAR (1):

$$\begin{aligned} Nbr\ firms\ created_t = & 232762 + 1.2 * Nbr\ firms\ created_{t-1} + 0.7 * Nbr\ firmfaillure_{t-1} + \\ & 1973.8 * GDP\ france_{t-1} - 3.9 * pop\ france_{t-1} + 1807.4 * \\ & interest\ rate_{t-1} + error \end{aligned}$$

It is observed that the values of the previous quarter (t-1) of the variables: number of firms created (excluding microentrepreneurs), France's GDP growth, France's population, and long-term interest rate, are predictive of the trends for the number of business creations (t). Looking at the standardized estimates (giving the weight of each variable in the prediction of the number of business start-ups), we observe that the number of business start-ups from the previous quarter is

the one with the most weight t-1 (5.4), in second position the GDP France t-1 (3.25) and third the interest rate t-1 (2.31). The variable number of failures is not significant P (0.546) and is therefore not associated with the number of business start-ups.

Variables of the model	Estimate	Standard Error	Standardized estimate	t Value	Pr > |t|
Constant	232762.4968	86237.47246	2.69909	2.7	0.0244
Nbr firms creation at t-1	1.21717	0.22359	5.44376	5.44	0.0004
Nbr firms failure à t-1	0.73751	1.17585	0.62721	0.63	0.5461
GDP France at t-1	1973.81217	606.54039	3.25421	3.25	0.0099
Pop France at t-1	-3.92353	1.45463	-2.69727	-2.7	0.0245
Interest rate at t-1	1807.39773	780.96314	2.31432	2.31	0.0459

Table 5: Analysis of the interdependence of the studied variables

3) Granger causality analysis

The Granger causality test makes it possible to check whether the patterns of change over time of several phenomena described by the variables {x1, x2, x3} are a useful source of information for predicting the trend of another phenomenon of interest (Sims, 1972). A $p < 0.05$ indicates a significant causal link. We will study the following causalities:

- {Number of firms failures, GDP France, Population France, Interest rate} cause “number of business creations (excluding micro-entrepreneurs)”
- As before but each of the variables individually

The Granger causality test shows that when taken together the variables {Number of firm failures, GDP France, Population France, Interest rate} are sources of information for the prediction of the number of business creations ($p < 0.0001$). Looking at the univariate analyses we find that only GDP France is a source of information ($p = 0.0019$).

Granger Causality test	P-valeur
{Nb_d_fail, PIB_france, pop_france, tx_interet}	<0.0001
Nbr_firm_faillure	0.5234
GDP_france	0.0019
Pop_france	0.0561
Interet rate	0.6086

Table 6: Granger causality test multivariate and univariate analysis

4) Analyses of the interdependence of variables

We also explored the potential link between the explanatory variables derived from the previous model VAR (1) (cf. appendix part B).

Once the “number of business start-ups (excluding microentrepreneurs)” model has been validated, the predictor variables are identified by the significance test of the parameters of the VAR model (see equation step i). A $p < 0.05$ indicates that the predictive variable is significantly associated with the “number of start-ups (excluding micro-entrepreneurs”).

Part 3: Analysis of the effect of the “January 2006” reform and the “January 2008” date

A. Objective:

Did the January 2006 reform have an influence on the patterns in the number of business start-ups excluding micro-entrepreneurs?

After January 2008, can we say that there is a statistically significant change in the number of start-ups (excluding micro-entrepreneurs)?

B. Methodology

In order to study the effects of the January 2006 reform and the January 2008 date, a mixed model was applied. The dependence of the observations over time has been modeled by an autocorrelation structure matrix of order 1 (= AR (1)), as this indicates that the information available at the previous instant is a predictor of the data. We retained only the previous time and not the earlier moments because the optimal time series model in Part 2 indicated that only the previous time was relevant.

The variable to be explained is the “number of business start-ups (excluding micro-entrepreneurs)” and we modeled the effect of the reform and the date “January 2008” by 2 binary variables:

$$reform\ 2006 = \begin{cases} 0, & \text{if } date < \text{January } 2006 \\ 1, & \text{if } date \geq \text{January } 2006 \end{cases}$$

$$dateJan2008 = \begin{cases} 0, & \text{if } date < \text{January } 2008 \\ 1, & \text{if } date \geq \text{January } 2008 \end{cases}$$

The mixed model at time t is defined as follows:

$$Nb\ firms\ creat_{time\ t} = \beta_0 + \beta_1 * times_t + \beta_2 * reform2006 + \beta_3 * dateJan2008$$

For the reform of January 2006, the statistical test consists in testing the following hypothesis:

$$H_0 : \text{if } \beta_2 = 0$$

$$H_1 : \text{if } \beta_2 \neq 0$$

To assess the financial crisis effect we set the date to January 2008, the statistical effect consists in testing the following hypothesis:

$$H_0 : \text{if } \beta_3 = 0$$

$$H_1 : \text{if } \beta_3 \neq 0$$

A $p < 0.05$ indicates that the change after the date is significantly different from before the date (simplified graphic illustration below).

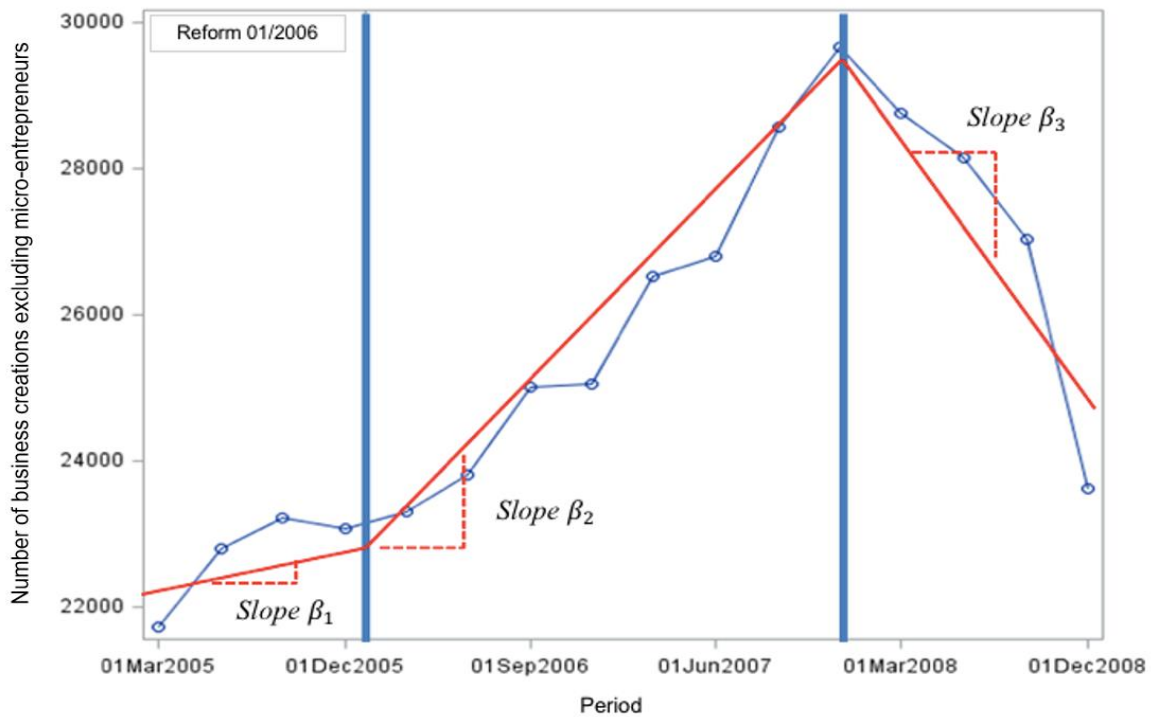


Figure 7: Simplified graphic illustration of the slopes of the firm creations trend

Results of the analysis of the effect of the January 2006 reform and the January 2008 date. In view of the results of the mixed model, there is a significant change after the date “January 2008” (the slope went from 218.37 to -384.52 $p = 0.004$), while the 2006 reform does not seem to have an impact on the trends ($p = 0.95$).

Variables of the model		Estimate β_t	Standard Error	t Value	Pr > |t|
Reform 2006	Before	154.75	245.53		
	After	8.4	143.71	0.06	0,95
January 2008	Before	218.37	35.27		
	After	-384.52	126.8	-3.03	0.004

Table 7: Analysis of changes in firm creations trend

All analyses were performed using SAS 9.3 software. Statistical tests are performed at the risk of alpha error = 5%. The *proc varmax* procedure has been applied for the modeling of multivariate time series (“The VARMAX Procedure,” n.d.). The *proc mixed* procedure was applied for the study of the effect of the January 2006 reform and the January 2008 date.

3.1.4. First conclusion

Our statistical test indicates that the bankruptcy reform introduced did not impact on the firm's creation. The financial crisis (represented in our model by the date January 2008) was found to have a negative impact on the firm creation numbers in France. This result would appear to support the initial hypothesis that entrepreneurs are not reactive to bankruptcy legislation. However, as many potential concomitant variables can come into play, the relation between the reform and the number of firm creations may have been affected by other variables not taken into account in our model. To try to understand those results, we undertook a qualitative research seeking to assess the awareness of entrepreneurs regarding bankruptcy laws and the importance they give to it but also how they consider the features introduced by the reform.

3.2. Qualitative methodology

3.2.1. Qualitative data collection procedure

The qualitative part of the study aims at better assessment of the personal impact of the reforms on entrepreneurs. Interviews focus on their awareness of the laws, whether they regard them as positive, neutral or negative towards their activity, and other personal perceptions of bankruptcy laws. The interviews are not designed in a too structured or specific way, as the goal is to allow entrepreneurs to express themselves freely. This is a crucial matter, as the success of public policies rests on the cooperation of the concerned actors. Therefore, the concerned party's mindset and perception of the measures is a critical part of assessing the impact on the variable. The goal is to assess first awareness, then the attitude of entrepreneurs interviewed on bankruptcy laws and procedures in general, then the reform itself. The content has then been transcribed. We have tried to get a sense of the entrepreneur's perceptions of the available procedures, which remains a great unknown in most studies and for policymakers.

Target audience

In order to get in-depth information on the impact of bankruptcy reform on entrepreneurs, we used purposeful sampling of individuals that are "information rich" (Patton 1990, p.169) in our

research. To present multiple perspectives of the complex link between bankruptcy reforms and entrepreneurship we used maximum variation sampling. Therefore, this research includes interviews from French entrepreneurs active at the time of the reform and from other professionals who assist entrepreneurs at times of insolvency.

In order to provide both “internal” and “external” views on the impact on entrepreneurship of the bankruptcy laws at the scale of entrepreneurs, we conducted interviews with two types of people:

- Entrepreneurs: because they are the direct beneficiaries of the reform, and this gives direct insights into the impact the reform had on them. We selected one entrepreneur who was faced with insolvency and one entrepreneur who has not been confronted with such an experience, but as he is also a leading representative of small and medium entrepreneurs in the Provence-Alpes-Côte d’Azur (PACA) region located in the south east of France, we asked him questions to which he responds first as an entrepreneur, and then in his official capacity as representative. We also selected one Transition Manager who has handled restructuration of many firms facing difficulties. A Transition Manager may not be regarded as an entrepreneur from a traditional viewpoint as he is not the one who created the business. However, on the basis of “*behavioral notion of entrepreneurship*” (cf.supra), he definitely is an entrepreneur. Furthermore, he manages the business during the transition phase, either directly (when he replaces the management), or when assisting management. The transition manager lives the procedure from the inside, from the firm’s perspective, and see through entrepreneurial lenses.
- Institutional actors: people that assist the entrepreneurs in case of insolvency. We selected one business lawyer and one institutional actor - the president of the commercial court of justice. We checked with them the degree of awareness of entrepreneurs regarding bankruptcy laws, and their assessment of the reform and bankruptcy laws in France.

For selecting interviewees, we have mainly used convenience sampling; we have chosen entrepreneurs who were active before and after the reform, who are willing and available to

participate. We also interviewed external actors who are not entrepreneurs themselves but have dealt with many entrepreneurs facing difficulties with their company. This allowed for external checking of information obtained through direct interviews with entrepreneurs. Through this method, we gained access to a wide variety of sampling regarding entrepreneurs' situations.

Processing the interviews

To collect the information, we conducted one-on-one interviews, held face-to-face or by phone meetings that lasted approximately 30 minutes.

Meetings were preceded by sending to the selected interviewees a list of the main points to be dealt with and a short summary of the "collective procedures" and of the content of the 2005 reform.

The interviews were conducted in a semi-structured format, with open-ended questions to allow the interviewee to express his/ her personal opinion based on their own experiences. This format is intended to let the interviewees express their views without a rigid framework.

Several points were systematically covered during the interviews:

- Awareness of entrepreneurs regarding bankruptcy procedures at the time of the creation of the business venture;
- Means of information used to access knowledge of the procedures;
- Assessment of the 2005 reform and its implications for business;
- The 2005 Reform seen as pro-entrepreneur, pro-creditor or neutral.

To ensure the accuracy of the transcription and interpretation of their answers, interviewees were able to check the results of their interviews and suggest amendments of the content. Furthermore, the fact that we collected interviews from a diverse range of individuals (triangulation) curtails the risk of systematic biases and allows for a better assessment of the generality of the explanation of each interviewee. Respondent validation and triangulation are recognized means of checking validity of the result of qualitative research (Maxwell, 2009).

The complete draft of the interview's questions is included in the appendix section.

3.2.2. Qualitative Results

Entrepreneur confronted with failure

Robert Lovighi has spent his professional life creating and managing business companies. He founded his first company, *Compagnie Francaise de Nettoyement*, at the age of 26, after business administration studies. He sold his business eight years later. He then founded and managed another venture, which is a catering specialized healthcare company called Amphitryon. He sold this company to a larger group in 2005 for leverage buy-out but remained involved in the management of the firm until 2008, when it was acquired by the group Sodexho, one of the global leaders in catering.

He then became an associate in an investment fund called Connect, with which he participated in various ventures. One of its latest ventures was the development of a snacking franchise called *Cœur de Blé*, owned by Casino Restauration. Unfortunately, the enterprise was a failure. In that context, Robert L. was confronted with the insolvency procedure, which he admits knowing well now.

Awareness regarding the bankruptcy procedure at the time of the creation of the venture

Robert L. confesses that throughout his career as an entrepreneur, he did not think about potential failure. He states that if an entrepreneur thinks about failure before launching his projects, he will not start. Though he did not consider failure as a potential outcome, he took precautions while managing his firms by focusing on positive treasury.

As he had always been successful in business for most of his ventures, he was more in a mindset of development than protection at the time of creation of his numerous businesses.

Overall thinking and assessment on the reform of 2005

He judges the reform positively as progress for all parties concerned. Even at the time when his venture was successful, he noticed the impact of the insolvency reform of 2005 via suppliers and clients. Before 2005, when a client could not pay, it was more difficult to get his claims met,

in case of “*redressement judiciaire*” because, as a supplier, the claims he held were among the last ones in terms of order of priority and were rarely honored.

The reform, via the focus on prevention, allows more time to find solutions. He identifies the main benefits that resulted from the reform: a quicker and more agile process, which provides a securing framework both for debtors and creditors. Furthermore, the presence of a professional administrator gives the negotiation credibility.

He cannot see any negative impact of the reform. However, he notes that the confidentiality highlighted for the procedures such as conciliation is not actually applied because rumors tend to circulate among the different stakeholders.

Overall thinking on the system

He thinks that, overall, the French system works, but admits lacking sufficient expertise and hindsight on the subject to think about specific potential improvements.

He considers the commercial court to be an efficient institution for the handling of insolvency.

Entrepreneur never confronted with failure

In 1996, Alain Gargani founded *Atout Organisation Science* (AOS), an event company, with Marie Tessanne, and they have been managing it since then. The company was initially specialized in organizing scientific and medical conventions, but later expanded into a general events organization. AOS is a member of the International Congress and Convention Organization and has been involved in the organization of various events such as the G8 Summit for the Environment in 2008.

Alain G. holds a PhD in physics. He was originally working in a laboratory when he had to organize a convention on Physics and Astronomy, in 1992. The event was a success, and out of passion for event management, Alain G. chose to follow the entrepreneurial path.

In parallel with his new career, Alain G. became gradually involved in employer organizations. In 2013, he became President of CGPME 13, a confederation of small to medium enterprises in the Provence region, in the south east of France. This federation aims at protecting, representing

and assisting entrepreneurs and business managers operating firms ranging from 0 to 250 employees. In his role as president of CGPME 13, A. Gargani is permanently in contact with entrepreneurs and is involved in the business community's preoccupations.

Awareness regarding the bankruptcy procedure at the time of creation of the venture

Alain. G did not know much about the bankruptcy procedure at the time when he created his venture and did not try to look for information on the matter. He estimates that, if it were not for his involvement in CGPME, he still would be pretty ignorant on the matter. As an entrepreneur, his energy was and still is more focused on avoiding difficulties than considering failure. According to him, most entrepreneurs do not think about bankruptcy procedures at the time they start their venture, because they are over-optimistic and refuse to consider potential failure.

Nevertheless, as president of CGPME 13, he gained insights on the insolvency system because it is a major preoccupation for the organization. The principal concern of CGPME regarding procedures for distressed firms comes from the alarming observation that entrepreneurs, especially those managing small to medium businesses, have very shallow awareness regarding the available procedures and tools they could make use of in hard times. One of CGPME's goals is to communicate to a large number of entrepreneurs the information concerning what the options are in case they run into difficulties, but he deplores that the organization lacks the resources to do so effectively.

Overall thinking and assessment on the reform of 2005

He states that as an employers' syndicate, CGPME was involved in the discussion of the drafting of the laws. Representing entrepreneurs' interests, CGPME had called for procedures that could be started when the firm is not yet in a position when it cannot honor its debts ("*cessation de paiement*"). The procedure of "*sauvegarde*" and "*Conciliation*" constitute major progress and were introduced based on the observations and demands of his and other business association and unions. Overall, as an entrepreneur, he is pretty satisfied with the features introduced by the reform. However, he estimates that 80% of entrepreneurs are not aware of the procedures proposed by the reform if never confronted with them. The access to the information remains the major impediment for distressed firms.

The prevention aspect of the reform is pro-entrepreneur and pro-business in general. He states that if the process is undertaken at the right time, before the firms get too distressed financially, it could potentially save firms from liquidation. The main problem arises from the fact that entrepreneurs are still not using those tools because of limited knowledge on these matters. As a consequence, when confronted with difficulties, the entrepreneurs are looking for a way to overcome those situations but are not necessarily looking for the protection that the laws offers them. The entrepreneurs will try to look for other markets, for example, but do not have the reflex to seek proper counseling or protection from insolvency practitioners.

Overall thinking on the system

He thinks that getting access to and navigating between the available procedures can prove challenging for the entrepreneur on his own. If the entrepreneur in his company is not accompanied by professional accountants to first raise the alarm on deteriorating finances and then advised by business lawyers on potential options, the whole process of handling the distressed firm is arduous. He states that getting access to the commercial court is not easy either.

He estimates that the central axis of progress would be a matter of educating entrepreneurs to begin thinking about and anticipating an exit strategy or foreseeing potential difficulties even at the time of the creation of the company.

Transition manager

Philippe Destenbert began his career as an engineer in the aeronautics industry. He later completed an MBA at HEC and pursued a career in business. Throughout his career, he has acquired substantial experience in operational management, acquisition mergers, and turnaround, and began to be involved in the restructuring of companies as transition manager.

He has occupied many executive roles. In 1999, as a manager, he participated in the successful turnaround of Synodys, a firm specialized in tech monitoring systems, and became its CEO until 2015. He has also been president and member of the executive and supervisory board of numerous companies (Technoflex, Lohr Industrie, etc.).

He officiated as an advisor and transition manager for Baudoin Motors when the company ran into difficulties. P. Destenbert now runs a consulting company, DRM & Associés, which offers support to investors and CEOs whenever they are looking for operational and management expertise or focused reinforcement.

Awareness regarding the bankruptcy procedure at the time of creation of the venture

In Mr. Destenbert's experience as transition manager, entrepreneurs have insufficient knowledge regarding the procedures available to distressed companies when they launched the company, but also at later stages of the firm's life, including when difficulties arise.

According to Mr. Destenbert, those that provide the knowledge are the specialized lawyers and counselors. In the case of mid-sized firms, there is an organized structure with a legal department that handles the legal aspects of the firm's operations. However, members of this legal department do not generally have in-depth knowledge and expertise concerning the handling of distressed firms. Thus, it is desirable for a company to get in contact with specialized lawyers.

Mr. Destenbert considers that most entrepreneurs do not know how to handle the situation when the company they manage runs into difficulties. In such crisis situations, entrepreneurs are overstressed. Indeed, the stakes are high for the entrepreneurs as they have invested a lot of time, energy and often money in the company. It is not rare that there is a special bond between the entrepreneurs and his company, as in the case of family businesses, or when they created the business from scratch. It is not only their job that is at stake, but also their responsibility as managers. Furthermore, in some cases, entrepreneurs are personally liable for the debt of their firm and back up the company's debt with personal assets, such as their house, as a guarantee. Thus the firm's difficulties often have a substantial impact on the entrepreneur's personal life. This creates a lot of pressure for entrepreneurs, which makes it hard for them to think clearly and results in irrational decisions. Mr. Destenbert emphasized this point by recounting that during a transition mission, he once encountered an entrepreneur who fell asleep during their meeting, because he could not sleep at night.

He says since there is no certification or exam to pass to create and run companies, as opposed, for example, to driving a car, it often happens that entrepreneurs have significant lack of knowledge in many areas needed to manage a business.

According to Mr. Destenbert, one area that is particularly neglected by entrepreneurs is the option available to seek the protection of the law when a firm is going through major difficulties.

Mr. Destenbert considers that there is a lack of anticipation from entrepreneurs concerning potential difficulties.

He thinks one of the main explanations for that lies in the nature of entrepreneurs. Firstly, the entrepreneur is generally over-confident in his ability because he has already overcome many obstacles. An entrepreneur has already managed to create and establish a business. An entrepreneur generally thinks he can fix the situation by himself using a “recipe” that has worked in the past. He thinks that a given action or strategy that worked well in the past for him will work again. Except that, in many cases, the context can be completely different this time.

According to Mr. Destenbert, entrepreneurs are in addition by nature optimists, and tend to overestimate their range of options.

Overall thinking and assessment on the reform of 2005

According to Mr. Destenbert, the spirit of the 2006 reform is a laudable one as it draws inspiration from Chapter 11 in force in the US, which works well according to him (Mr. Destenbert also worked as transition manager in the US). He considers that the reform marks progress not only for the entrepreneur, but for business in general. The emphasis on the notion of prevention is the right approach, according to Mr. Destenbert.

He finds the procedure of “*conciliation*” and “*sauvegarde*”, which allows negotiation with creditors to begin before the financial situation has deteriorated too far, definitely useful when trying to turn companies around. Mr. Destenbert considers that the confidentiality of the “*conciliation*” procedure is a key point, because making a firm's difficulties public is no way to help a company. Quite the contrary, most of the time it would worsen the firm's situation. However,

the supposed confidentiality of those procedures, even though enshrined in the law, is not fully respected.

For example, as an anecdote, it once happened to him during a restructuring mission for a firm that he contacted the commercial court to open a procedure of conciliation, but one of the main creditors was also a member of the commercial court and was informed of his intention to start this procedure. In this case, it raised difficulties for Mr. Destenbert in his restructuring mission, because even before the negotiation had started, one creditor was already aware.

Overall thinking on the system

Mr. Destenbert considers that the system is quite satisfactory and has kept improving since the reform. It seems to him that the direction taken by the legislator is the right one. When intervening as a transition manager, he considers there is no major impediment to the efficient handling of firms in difficulties with regard to the law.

He identifies the main area where progress is still required in providing adequate training for entrepreneurs and managers for dealing with companies in difficulties. He regrets that few business schools offer a course or teaching module for this in their management program. According to him, there is no need for extensive and in-depth training, but enough to clarify the available options and the right actors to contact and rely on in such cases. That way, the entrepreneur could have general guidelines to know how to proceed if his firm ever faces difficulties. Mr. Destenbert regrets that some procedures are well designed but are rarely used because the management of firms do not know about those procedures, or because they fear the reaction of the bank.

To conclude, he considers that the law itself cannot resolve all the issues regarding firms in difficulties in France, as many cultural factors come into play. He thinks that the high stigma related to failure in the French entrepreneurial community and the high-risk adversity of bankers are two factors which are deeply linked to the business culture, which can dramatically impact the efficiency of the firm. Usually, bankers are too risk averse to be good collaborators during the restructuring of the firm. As the stigma associated with failure is high in France, entrepreneurs sometimes wait too long to admit the company is having difficulties and to seek protection from the law. He feels that there is room for progress in those areas in France.

Judge at the commercial court

Mr. Vialeton has always worked in the business world. Throughout his career, after graduating in business administration and management, he has occupied management positions in various firms and also launched business ventures on his own.

Toward the end of his career, he chose to get involved in the commercial court to maintain this link with the business world. He has occupied this function for fifteen years now.

As stated before, procedures concerning distressed firms are overseen by the commercial court. According to Mr. Vialeton, in the case of collective procedures, the role of the judge is to manage the procedure. The judge is in charge of overseeing the procedure. He monitors the participants and decides the outcomes of the court proceedings. He makes sure that the procedure goes as fast and as smoothly as possible. He also looks after all the participants' interests, debtors, and creditors. The court's goal is to try to rescue the distressed firms while respecting the rights of creditors. Judges make sure that dishonest business owners that have been involved in illegal business activities will be excluded from the business world. They can pronounce sanctions such as prohibition from managing a firm and fines against dishonest business owners. If the distressed firm undertakes a restructuration process, a plan of reorganization is set up with the creditors. In this case, the judge will make sure that the terms of the plan are respected over the whole duration of the process, such as creditors' claims being reimbursed entirely or partially, according to the terms. The specificity of the commercial court in France is that the judges are not professional magistrates: they are experienced local business people, chosen among their peers. When elected, they receive legal training and updates if there are changes in commercial law legislation. Their business acumen, experience, and knowledge of managing a firm and of business are supposed to help them in ruling on commercial matters.

This is based on a quite liberal rationale: business matters should be dealt with by businesspeople, as they are the ones who knows best.

Awareness regarding the bankruptcy procedure at the time of the creation of the venture

He notes that most entrepreneurs that he sees in court do not know about the procedures available to distressed firms or have learned it the hard way when confronted with it.

He himself, as a former entrepreneur, confesses that at the time he launched his venture, he did not know much about this. However, over the years he has grown to realize the importance of it. He now defines some procedures as an almost normal tool for managing the business. Coming from an academic management background, he deplores that he was not taught the things to do in case of distressed businesses. He says that a good entrepreneur should know and be educated in all aspects related to management of the business and that anticipation of difficulties is definitely one crucial aspect. Mr. Vialeton affirms that if managers and entrepreneurs knew about the procedures for distressed firms, this would enable them to take the right decision at the right time, and not too late, as is too often the case nowadays. He underlines that it is considered a fault to maintain the activity of a company which is getting too distressed. French law sets a deadline to declare the situation of “*cessation de paiement*” in the case of a company that cannot honor its debt, but many managers do not know that, and continue running the business as they would normally do, hoping for a recovery. The problem is that the longer the entrepreneurs wait, the more distressed the firm becomes. Mr. Vialeton knows that the stigma associated with failure is severe in the business community. As a creator of an entrepreneurs’ club, he noticed that entrepreneurs do not want to think about failure and are in the euphoria of creation. He states that a good business leader knows about most management tools which are needed to run a company, but most entrepreneurs that he sees in the court lack knowledge about those failure issues. He says that it is an act of good management to stop when the financial situation of the firm is getting critical and to seek the protection of the law.

Overall thinking and assessment on the reform of 2005

He thinks that the reform is an essential progress for business, in general equally for creditors and debtors. The prevention features could prove to be particularly beneficial to the business if they are used at the right time.

One good point is that the reform introduces confidentiality for the procedure designed for pre-negotiation with creditors, such as “*conciliation*”. The process is confidential, as opposed to the collective procedures, which are public and unusually lead creditors and suppliers to cut off the provisioning of finance and goods, which aggravates the firm's situation and precipitates its failure. The judge has the capacity to force creditors to honor the agreements made before the procedure, but this remains complicated to implement. Thanks to the confidentiality of the procedure, not all the creditors are aware of the distressed situation of the firm. Thus, the negotiations can be carried out one by one with each creditor. According to him, confidentiality is significant progress and a beneficial point of the reform.

Overall thinking on the system

Overall, the advantages of the system, as described by the judge, are that procedures for distressed firms are fast, less costly and administered by people who know the ins and outs of running a business. The fact that the Commercial Court of Justice is composed of local members of the business community allows for a better understanding of the economic contexts and more informed decision-making. Mr. Vialeton estimates that judges rely on knowledge of the law, of course, but definitely use their experience as company managers and businessmen when overseeing procedures.

All the tools to help entrepreneurs and rescue the firm exist and are effective. However, the problem is that entrepreneurs arrive too late at the court, due to the problem of the lack of anticipation of difficulties and of proper training of business leaders and entrepreneurs. He does not think that the law tends to be pro-debtor.

Corporate lawyer

Alain Guidi has been practicing laws since 1995; since then he has assisted many businesses of all sizes that were faced with collective procedures for businesses in difficulty.

Awareness regarding the bankruptcy procedure at the time of the creation of the venture

When asked about the general degree of awareness and knowledge of bankruptcy procedures among the entrepreneurs he has dealt with, he says that there are two kinds of entrepreneurs. One type is entrepreneurs with an organized structure, some legal or administrative departments, who are generally aware of the available procedures, even though this knowledge remains vague. The second kind is the entrepreneurs with smaller and less organized structures that do not have a clue about the procedures. When they seek assistance from Mr. Guidi, their business has often been in a situation of “*cessation de paiement*” for a long time, and they are facing pressure from creditors. In other words, the business situation is too far deteriorated, and options are limited, which generally leads to the ending of the activity.

Overall thinking and assessment on the reform of 2005

Mr. Guidi assesses the reform as progress which has enabled entrepreneurs to take steps to prevent bankruptcy and provide rescue tools. He says that it is more beneficial for big companies than small ones. He judges the reform as pro-entrepreneur. He explains that, in general, the collective procedures are mainly oriented towards the interests of debtors. According to Mr. Guidi, if we look at the statistics, creditors are the losers in the procedure, as they do not often fully recover their investment.

Overall thinking on the system

The system is well designed; however, some improvement could be made concerning some legal specificities. Overall, the system tends to favor debtors, as creditors rarely get back their money.

3.2.3. Summary of the interviews

	Entrepreneur confronted with failure	Entrepreneur never confronted with failure	Transition Manager	Business Lawyer	Judge at the Commercial Court of Justice
Awareness on system before difficulties occur	Very low (personal)	Very low (personal and entrepreneurs encountered)	Very low (entrepreneurs encountered)	Very low (entrepreneurs encountered)	Very low (entrepreneurs encountered)
Assessment of procedures introduced by the reform	Good	Good	Good	Good	Good
Most noted important features introduced by the reform	Anticipation procedure	Anticipation and Confidentiality	Anticipation and Confidentiality	Anticipation and Confidentiality	Anticipation and Confidentiality

Table 8: Summary of the interviews

Analysis of the interviews highlighted the low awareness of entrepreneurs regarding bankruptcy legislation. All the entrepreneurs interviewed denied investigating corporate bankruptcy legislation before launching their venture. For those who know and used procedures designed for firms in difficulties, the overall assessment on the reform is positive, especially if the reform is praised for introducing prevention procedures which guarantee confidentiality to entrepreneurs. Overall, the French corporate insolvency code is assessed as supportive of entrepreneurs' needs and well designed to deal with firms in difficulties. However, some interview outcomes suggest that the reform outcomes can be restrained by other factors (entrepreneur education, risk adversity of bankers, stigma associated with failure).

4. Conclusions

4.1. Main findings

The results of our quantitative study suggest that the reform of the insolvency procedures introduced in 2006 by the French government did not have a stimulating impact on entrepreneurial activity in France. Besides the fact that the reform introduced benefits to entrepreneurs dealing with difficulties with their firms, this reform did not seem to incentivize firm creation. It is important to keep in mind that the reform may have had a stimulating impact, but this impact was affected by events not taken into account in our model.

Our qualitative study suggests low awareness of the corporate insolvency code among entrepreneurs. The reform was assessed as progress by most interviewees. The main positive points are the focus on the prevention aspect and the confidentiality of the prevention procedures. It is interesting to note that all the entrepreneurs interviewed denied being aware of the insolvency codes at the time of starting their venture; they also stated that they did not look for information on that matter. This might explain why the entrepreneurs did not seem to react to the 2006 reform. The small sample size of the entrepreneurs interviewed prevents us from making any claim of generalization of the results. However, we may talk about “transferability”. Indeed, we noted a similarity of the dynamics and points of convergence among interviews. Some features may be extended to other cases. Moreover, the professionals in charge of assisting entrepreneurs with the bankruptcy procedures (lawyer, judge commercial court), who throughout their career have been confronted with many corporate insolvency cases, confirmed in the interviews that, very often, entrepreneurs had limited knowledge on the bankruptcy procedures available to them. We cannot compare the results of our qualitative analysis with other studies, as we did not find any qualitative research focusing on the impact of bankruptcy reform on entrepreneurs.

The qualitative results might provide an explanation for the quantitative results. The entrepreneurial community did not seem to react to the pro-entrepreneur corporate bankruptcy reform of 2006 because entrepreneurs do not consider failure. They focus all their attention and resources on development and tend to overestimate their own capacity to redress the firms. Therefore, they do not look for information regarding procedures available to firms in difficulty. The 2006 corporate bankruptcy reform introduced procedures and processes that enable protection

of the entrepreneur in the case of firms in difficulties. Raising the awareness of entrepreneurs regarding the means of protection available to them in case of difficulties could, in fine, create positive effects of the reform on entrepreneurship.

We may draw some conclusions based on converging points in the interviews. The reform has been considered as pro-entrepreneur and pro-business, but its features have not been well assimilated by entrepreneurs. This is mainly due to the fact that entrepreneurs are mainly focused on developing their business: they do not want to think about failure. When confronted with a distressed financial situation, the entrepreneurs do not have the reflex to get help on those matters: they pursue their activity, moving forward, hoping for a turnaround which may never come. The prevention aspect introduced by the reform could prove effective in the case of difficulties for the business. However, as those preventive procedures have to be started at the initiative of the entrepreneurs, they have to be well assimilated by them. It may be that the very own characteristics, deeply embodied in the nature of individuals, that push them to choose the entrepreneurial path, are the same that prevent them from anticipating difficulties. Entrepreneurs are mainly preoccupied with the creation and development of the business activity. Those are laudable goals and this focus may be inherently linked to their nature. But if they want the business to thrive they must transform themselves into good managers. That means being able to operate on a normal basis but also to protect the business in times of difficulty.

The entrepreneurial path is paved with failure, and those missteps, even though not desirable, can prove rich in lessons that will prepare the ground for future success. Based on our observations, we recommend the inclusion of failure handling in business training. It is also necessary to reconsider the notion of failure in business: if the stigma against failed enterprises was not so severe, perhaps entrepreneurs would not wait so long before seeking the protection of the law.

As entrepreneurship is regarded as a factor of innovation and economic growth, this study may be of interest to governments with a view to the selection of effective public policies to encourage entrepreneurial activity.

4.2. Limitations and future research

First, it is important to note that the quantitative part, due to the selection of variables and the statistical method used, is not free of defects.

As many variables come into play when dealing with entrepreneurship, identifying and getting access to data on those concomitant variables remains challenging.

We used only one variable: firm births, which does not provide insights on the quality of the business created. There is little consensus regarding the appropriate proxy for measuring entrepreneurship. As entrepreneurship is a multidimensional concept, it can be characterized by a wide array of metrics. In our study, we chose the number of firm creations as a measure for entrepreneurship because of its broad and inclusive character. The use of a blend of proxy variables for entrepreneurship that would provide a basis for addressing specifically various aspects of entrepreneurship may be more appropriate as an approach for this complex phenomenon. As entrepreneurship is gradually becoming regarded as central to economic development, it is essential to develop a more precise and nuanced measure of this phenomenon.

The quantitative part did not consider the impact of the reform on existing businesses; this could provide avenues for future research.

The weak point of the qualitative part could be the relatively small sample size of interviewees. This paper focuses on the impact of legislative institutions on entrepreneurship; however, other cultural institutions that are less prone to measurement can also come into play when explaining the progression of entrepreneurship.

The effect of specific features of the bankruptcy reform on entrepreneurship has not been isolated. The duration or confidentiality of the procedure may create a specific impact on entrepreneurship, whether this impact is quantitative or qualitative, have not been highlighted. Despite a range of studies and debates, researchers have so far failed to connect bankruptcy system design to its subsequent results. Future studies should attempt to remedy this drawback.

One avenue worth exploring in future research would be the prevention aspect relative to the handling of distressed firms. This newly focused notion has been promoted by the European Union. Being able to anticipate potential failure would undoubtedly constitute progress for entrepreneurs.

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6. Appendixes

Appendix A: Rest of the quantitative study

Part A) Validation of the model

Minimum Information Criterion Based on AICC	
Lag	MA 0
AR 0	33.523716
AR 1	27.32956
AR 2	

Table A1 : Akaike information corrected criterion (AICC)

The lowest value according to the AICC criterion indicates the best model to use, in the case, AR 1 is the one with the lowest value (27.33).

Univariate Model ANOVA Diagnostics				
Variable	R-Square	Standard Deviation	F Value	Pr > F
Nbr_firms_creation	0.9304	781.85342	24.07	<.0001
Nbr_firms_faillure	0.8650	180.34866	11.53	0.0011
GDP_france	0.6490	0.47079	3.33	0.0561
Pop_france	0.9993	14.29561	2587.34	<.0001
Interest_rate	0.8287	0.25468	8.71	0.0029

Table A2: Analysis of variance (ANOVA)

Based on the univariate model ANOVA diagnostics we reject the simultaneous nullity of the explanatory coefficients. Except for France's GDP quarterly growth rate (GDP_france) ($p=0.051$).

Schematic Representation of Cross Correlations of Residuals													
Variable/Lag	0	1	2	3	4	5	6	7	8	9	10	11	12
Nbr_firms_creation	+.+.+
Nbr_firms_faillure	+.+.+-..
GDP_france	..+.+
Pop_france	..+.+-.+.++
Interest_rate	+.+.+
+ is > 2*std error, - is < -2*std error, . is between													

Table A3: Model diagnostic

For the quarterly number of firms created (Nbr_firms_creation) we cannot reject the nullity for any delay > 0 .

Univariate Model AR Diagnostics								
Variable	AR1		AR2		AR3		AR4	
	F Value	Pr > F	F Value	Pr > F	F Value	Pr > F	F Value	Pr > F
Nbr_firms_creation	1.20	0.2942	1.62	0.2463	2.45	0.1386	2.61	0.1416
Nbr_firms_faillure	2.36	0.1508	1.04	0.3902	1.61	0.2629	1.75	0.2562
GDP_france	0.27	0.6117	0.25	0.7805	0.15	0.9289	0.08	0.9855
Pop_france	0.24	0.6297	13.81	0.0013	6.42	0.0160	3.74	0.0738
Interest_rate	0.00	0.9876	0.58	0.5798	0.38	0.7675	0.35	0.8368

Table A4: Fisher test of nullity of the autoregression coefficients AR (j)

This table represents the Fisher test of nullity of the auto-regression coefficients AR (j), $j = 1, \dots, 4$ on the residual series. For the variables quarterly number of firm's creation, we conclude that the current residues do not depend on its past values, i.e., the absence of significant autocorrelation up to the fourth order.

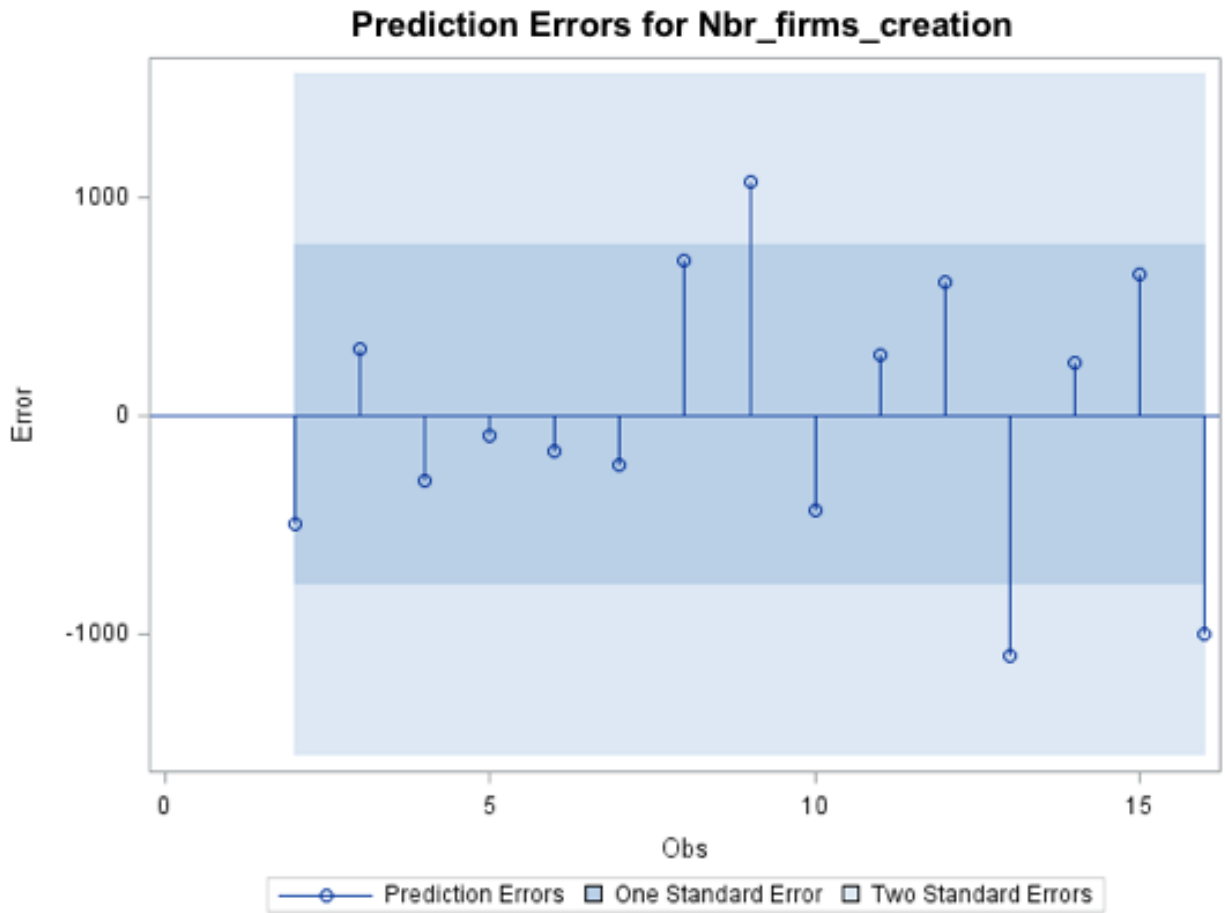


Figure A1: Prediction errors for the quarterly number of firms created

The residuals are below two standards errors.

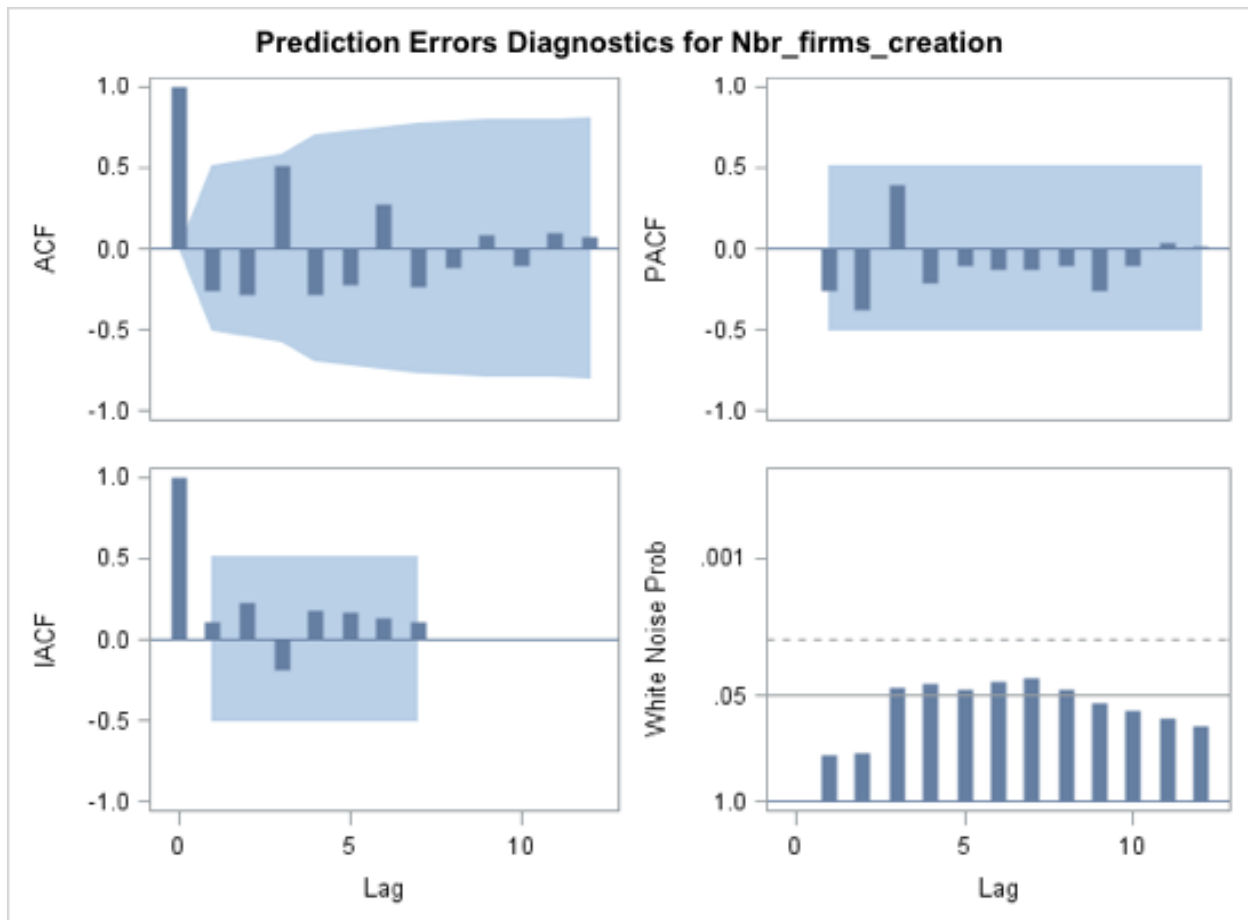


Figure A2: Prediction errors diagnostics for quarterly number of firm's creation

The autocorrelation coefficients are all in the confidence zone (in blue) after order 1 (Lag 1), which shows that the VAR (1) model is satisfactory (ACF, PACF, IACF). The residuals (White Noise Prob) behave like white noise, values are greater than 0.05 and some at the limit

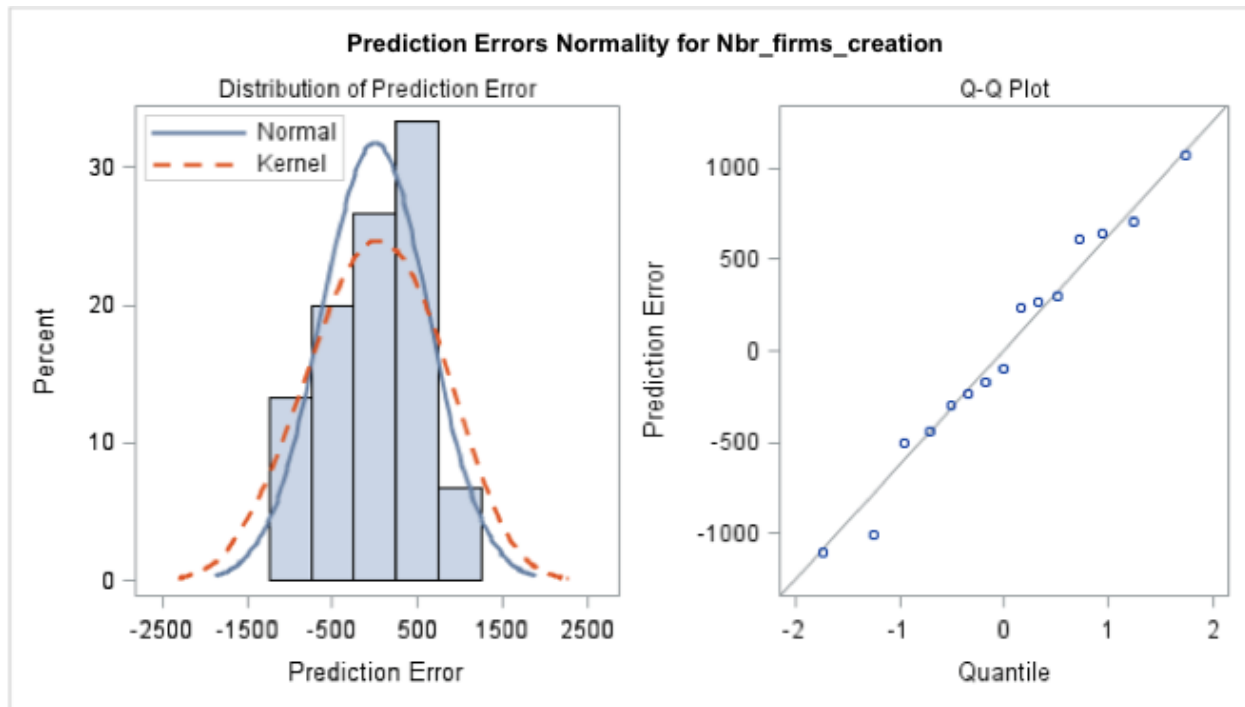


Figure A3: Predictor errors normality for quarterly number of firms created

The residue series behaves like white noise. The Q-Q plot comparing the theoretical Gaussian fractiles with those observed in the residual series shows a good fit of the model with the data (an alignment on the rights indicates a perfect fit).

Figure A1, A2 and A3 show that the VAR (1) model is satisfactory.



Figure A4: Observed and predicted changes in the quarterly number of firms created

Applying the VAR (1) model to the data, we observe that the predictions are quite close to the real values, which confirms the choice of the VAR (1) model.

Part B) Analysis of the interdependence of the variables

a) Model for the variable number of firm failures

Only the France's population of the previous quarter is predictive of number of firm failures ($p = 0.0489$). There is an increase of 0.76 for each additional unit of the population, an increase of 760 ($0.76 * 1000$) for every one thousand additional units of population in France at t-1.

Variables of the model	Estimate	Standard Error	t Value	Pr > |t|
Constant	-43936.01488	19892.23617	-2.21	0.0546
Nbr_firms creation at t-1	-0.09481	0.05158	-1.84	0.0992
Nbr_firms_faillure at t-1	0.33476	0.27123	1.23	0.2484
GDP growth_france at t-1	-259.90827	139.90954	-1.86	0.0962
Pop_france at t-1	0.76372	0.33554	2.28	0.0489
Interest rate at t-1	216.9797	180.1433	1.2	0.2591

b) Model for the variable France's GDP growth rate

No variables are associated with France's GDP growth rate trends.

Variables of the model	Estimate	Standard Error	t Value	Pr > |t|
Constant	92.00953	51.92775	1.77	0.1102
Nbr_firms creation at t-1	0.00021	0.00013	1.57	0.1512
Nbr_firms_faillure at t-1	-0.00048	0.00071	-0.67	0.5188
GDP growth_france at t-1	0.58985	0.36523	1.62	0.1408
Pop_france at t-1	-0.0015	0.00088	-1.71	0.1211
Interest rate at t-1	-0.02133	0.47026	-0.05	0.9648

c) Model for the variable France's population

Only the France's GDP growth rate of the previous quarter is a predictive factor of population France ($p = 0.0001$). An increase of 1 unit of population France will be predicted for each additional unit of the GDP France of the previous month.

Variables of the model	Estimate	Standard Error	t Value	Pr > |t|
Constant	-0.00135	0.00409	-0.33	0.7496
Nbr_firms creation at t-1	-0.01263	0.0215	-0.59	0.5712
Nbr_firms_faillure at t-1	-16.74556	11.09014	-1.51	0.1653
GDP growth_france at t-1	0.98046	0.0266	36.86	0.0001
Pop_france at t-1	3.89361	14.27933	0.27	0.7913
Interest rate at t-1	-0.00135	0.00409	-0.33	0.7496

d) Model for the variable long-term interest rate in France

The model shows that the France's GDP growth rate of the previous quarter is a predictive factor of the long-term interest rate ($p = 0.0476$). For each additional unit of the France's GDP growth rate of the previous month, an increase of 0.45 of the interest rate will be predicted

Variables of the model	Estimate	Standard Error	t Value	Pr > |t|
Constant	-29.29234	28.09048	-1.04	0.3242
Nbr_firms creation at t-1	0.00012	0.00007	1.68	0.1271
Nbr_firms_faillure at t-1	-0.0008	0.00038	-2.09	0.0664
GDP growth_france at t-1	0.45285	0.19757	2.29	0.0476
Pop_france at t-1	0.00051	0.00047	1.08	0.3081
Interest rate at t-1	0.20306	0.25439	0.8	0.4453

Part C) Impact of the reform

Solution for Fixed Effects						
Effect	crise2008	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		20786	780.06	0	26.65	.
x		218.37	35.2749	45	6.19	<.0001
crise2008	1	22197	5518.17	0	4.02	.
crise2008	0	0	.	.	.	.
x*crise2008	1	-602.89	142.70	45	-4.22	0.0001
x*crise2008	0	0	.	.	.	.

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
x	1	45	1.93	0.1713
crise2008	1	0	16.18	.
x*crise2008	1	45	17.85	0.0001

Estimates					
Label	Estimate	Standard Error	DF	t Value	Pr > |t|
post-slope	-384.52	126.80	45	-3.03	0.0040

We found a significant increase of births over time (variable x $p < 0.0001$). A significant change after 2008 January was observed (post-slope = -384.52 $p = 0.004$).

Solution for Fixed Effects						
Effect	reforme2006	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		21218	75752	0	0.28	.
x		154.75	245.53	45	0.63	0.5317
reforme2006	1	1995.80	3591.95	0	0.56	.
reforme2006	0	0	.	.	.	.
x*reforme2006	1	-146.35	284.58	45	-0.51	0.6096
x*reforme2006	0	0	.	.	.	.

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
x	1	45	0.33	0.5691
reforme2006	1	0	0.31	.
x*reforme2006	1	45	0.26	0.6096

Estimates					
Label	Estimate	Standard Error	DF	t Value	Pr > |t|
post-slope	8.4000	143.71	45	0.06	0.9536

From the results of testing that we performed, the Reform Jan 2006 had no impact on evolution of the series of enterprises birth (before the reform, the slope is 154.75 and after the reform, the slope is 8.4, $p=0.9536$).

Appendix B: Questionnaire for interviews

Entrepreneurs

- To what degree did the potentiality of failure influence you at that time?
- How do you estimate your awareness regarding the bankruptcy procedures at the time you created your business venture?
- Did you look for information on bankruptcy procedures at that time? Was it easy to find?
- Are you aware of the reform of 2005?
- If yes, in what circumstances did you get to know of this reform?
- Did this reform impact your day to day life as entrepreneur?
- What is your opinion on the reform? Do you have any comments?
- Do you consider the 2005 reform as pro-entrepreneurs? or pro-creditor?
- Can you identify specific features of the reform that you would consider as beneficial for entrepreneurs?
- Can you identify any particularly negative aspect of the reform?
- What disadvantages and benefits for entrepreneurs did those features bring?
- Can you think of anything missing in the reform, that would be valuable?

Professional assisting entrepreneur in difficulty

- How do you estimate the entrepreneurs' awareness regarding the bankruptcy procedures?
Are they correctly informed ...
- Do they look for information on bankruptcy procedures?
- Do you think they anticipated the eventuality of bankruptcy and its possible consequences when they created their enterprise?
- Do you think they were (they are) aware of the reform of 2005?
- Do you consider the 2005 reform as pro-entrepreneurs or pro-creditor?
- Can you identify a specific feature of the reform that you would consider as beneficial for entrepreneurs?
- Can you identify a particularly negative aspect of the reform?
- What disadvantages and benefits for entrepreneurs did those features bring?