**UNIVERSIDAD AUTÓNOMA DE BARCELONA**

**Department of Business Economics**

# Doctoral Dissertation

# "Determinants of the decision-taking process of the entry into insolvency, evolution of the procedure and earnings management: An economic perspective of Spanish distressed companies".

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**For the award of Doctor of Philosophy**

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**CERTIFICATION OF DISSERTATION**

I certify that the ideas, research work, results, analyses and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

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Signature of Candidate Date

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Signature of Supervisor Date

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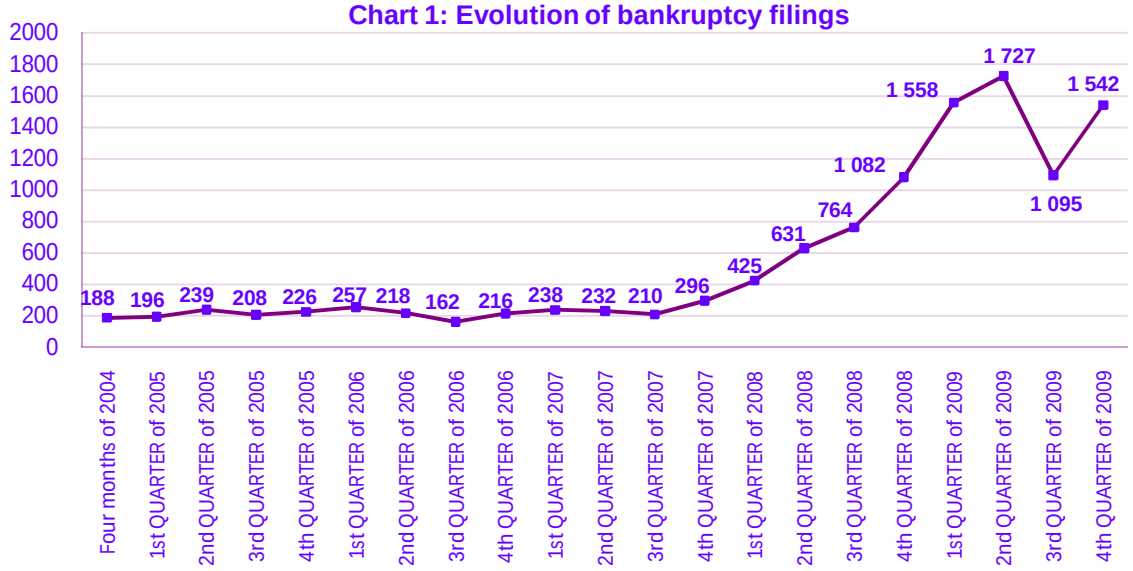
## Motivation of the study

Corporate finance theory argues that states of financial distress, default, and bankruptcy present a fundamental stage in the life-cycle of corporations that provokes substantial changes in the ownership of firms' residual claims and the allocation of rights to manage corporate resources (Jensen (1989), Wruck (1990). The company default is an inevitable component of every market economy in which the survival of the producers is conditioned in short term by liquidity and in long term by solvency. The bankruptcy process results in transfer of assets and employees to efficient units from inefficient ones. When businesses are incapable of competing profitably, the logical move is to provide a means for their voluntary dissolution or exit from the market. The modern companies are characterized by a network of formal and implicit contracts that integrate and articulate the interests of different parties with claims on a firm's assets. These contracts are part of the system of property rights in developed market economies. New methods of commerce, communication and technology are constantly reshaping national markets and redefining notions of property rights. Capital flows are driven by public perceptions and investor confidence in local markets. Businesses routinely transcend national boundaries and have access to new types of credit. The infringement of these contracts, invoke appropriate reactions from market participants and impose definite regulations on those units and agents. Effective insolvency and creditor rights systems are an important element of financial system stability, providing an efficient exit mechanism for unprofitable businesses and help rehabilitate viable ones. Stiglitz (2001) defined as a central role of bankruptcy in modern capitalist economies the encouragement of reorganization - an enterprise is more valuable as a going concern than if it is liquidated. From the other side, Tirole (2002) has emphasised on the "common agency problems" affecting sovereign borrowing: the contracting externalities which may lead to over-borrowing and excessive short-term debt, and the collective action problems that prevent efficient roll-over and restructuring. That was the primer motive for the conduction of the research – to determine how the excessive short-term debt affects the possibility of reorganization and which the other factors that influence on the bankruptcy resolution are. Before that, we

aim to establish the determinants of firms' short and long-term capital structure as firms' preference between debt and equity financing; to determine whether the insolvent firms manipulate their financial reports and the direction of earnings management (downwards/upwards); to describe the evolution of the bankruptcy procedure; to establish the factors, which affect the decision to initiate it voluntarily or necessarily; to explore the duration of each of the phases of the procedure. The topic has become emergent recently due to the global financial and economic crisis from one side and because of the novelty of the insolvency law, from the other.

**Chart 1: Evolution of bankruptcy filings**




Source: National Statistics Institute of Spain (www.ine.es)

The financial markets' destabilization provoked by created excessive liquidity and increased public yearning for lending and property purchase; the downward trend of the construction and related industrial sectors; the rigorous and complex access to bank credit (crisis of confidence); lack of bank regulation are some of the reasons for the drastically augmented bankruptcy cases. This amplification affects the economy as whole and especially the core and efficiency of the procedure – the celerity of creditors' redemption. Remarkably, the civilization creates financial institutions with the purpose to serve, but with the time this role reverses and the society becomes their servant. The research on the evolution of the bankruptcy procedure is considered an additional impetus for the study, which might be of great interest for academicians, economists, lawyers and practitioners.

# Chapter I: Genesis of the bankruptcy regulation

## 1. Genesis of the bankruptcy regulation

Modern bankruptcy regulation has been formed from a number of distinct historical strands. The foundation of the development of the modern concept of credit was trade. The first proves of the credit relations existed more than 3000 years ago and were found in the south of Baghdad (city Urun). These were tablets indicating the repayments of commodities that had been loaned; the tablets were evidently drawn up and retained by the lender (often in a sealed clay container) to record the amount due and the date of repayment. The people in those ages used to interchange grain and cattle and these recordings of financial transactions were the first discovered in Mesopotamia, region with abundance of fertile land, combined with mild climate and necessary water resources. As the early societies developed, the trade became necessary for further progress (MacDonald and Gastmann, 2004). The debt was as a very powerful mechanism of motivation for farmers to work harder and efficiently. The farmers in a case of impossibility to pay back their debt were facing foreclosure or selling themselves in slavery.

The concept of debt relief and the credit regulation is traceable to the Code of Hammurabi (c. 1795 - 1750 B.C.). King Hammurabi united all of Mesopotamia and ruled for forty-three years in Babylon. The Code of Hammurabi is one of the best preserved legal documents and fairly reflects the social structure of Babylon during Hammurabi's rule. During the reign of Hammurabi the first regulations of interest, forgiveness of debt and extension of credit were developed. The payments were made official through a written on a tablets draft against deposit. Interest was rarely charged on advances, but in cases of non-payment it was very high. Merchants charged the grain with a rate of 33,3 % and silver with 20 % and the creditors who exceeded the maximum rates were punished by depriving them of their debt. The Code of Hammurabi was harsh, providing for the imprisonment of debtors who are unable to satisfy their obligations. The Code was not, however, without mercy. The honest debtor also had the option of selling himself and or family members into slavery, for a period of no more than three years, in an effort to satisfy the obligation. Hammurabi

provided for liquidation of the assets of the insolvent debtor and their distribution among creditors on a *pro rata* basis, very much like contemporary law. The code except harsh pretended to be compassionate providing relief for the farmers in case of natural disaster and granting pay-off period after the harvest. The land could not only be mortgaged at interest, but also leased, usually for three years (Homer and Sylla, 2005). To prevent violations, the loan contracts were made in the presence of official and witness and in many times in the temples, which were very active in business, as were central, safe and prestigious establishments. More advanced banking practices were established in the Neo-Babylonian period (600 B.C.) – transferring deposits from one merchant to another, buying loans on land, lending large sums to individuals, merchants and even governments, mediation in entering in business ventures as partners. King Hammurabi was not the only in formulating laws. Assyriyan, Hittie and Eshununna laws dealt with a wide range of economic and social concepts like transactions, property rights, contracts, and penalties for default of obligations (MacDonald and Gastmann, 2004). The earliest civilizations in the Middle East were not able to establish the metallic coins as a mean of exchange – an invention, which simplified significantly the transactions.

The Greeks from the seventh century B.C. developed an economic system that was urban, commercial and monetary. Credit facilitated the Mediterranean trade and there was extensive borrowing on interest on ships. The borrower was in most of the cases merchant, anxious to make profit from the money. The temples once again provided convenient place for exchange. The farmers were under severe economic pressure, because of keeping only a sixth part of the production. The debt had converted into heavy burden, which augmented the defaults. In ancient Athens, the harsh criminal code of Draco in 623 B.C. considered default on debt a capital crime. The death penalty was usually relinquished however, in favour of the sale of the debtor and his family as slaves, the proceeds to be distributed among the creditors. The alternative for the insolvent debtor was to leave the country, and this became a common practice. The Draconian Code was revised in 594 B.C. by Solon, who abolished servitude and the pledging of the person of the debtor as security. In exchange for the legal discharge of his debts, the bankrupt was to forfeit Greek citizenship

for himself and his heirs. In the fourth century B.C. private banking began to play important role with a diversity of financial services – money exchange, discounting letters of credit, money orders, and transfer between deposit accounts. The loans were principally on cargos, pawns, real estate. The interest rates varied from 12 % to 30 %, depending on the risk. The conquest of Alexander "the Great" over Athens was the end of its Mediterranean trade domination.

Credit became more institutionalized during the Roman Empire. The Roman legal system proved for strict enforcement of contracts and property rights (MacDonald and Gastmann, 2004). Unlike the Greeks, the Romans had low industrial activity (result of the use of credit) - produced little and transported little and the augmented consumption was served by imported goods (Gelpi and Labruyère, 2000). Soldiers' payment was heavy financial burden, but the government until the Second Punic War did not borrow. The taxes were the main government income, followed by war indemnities, mines, port dues, rental of public lands. The manufacturing, trade and banking was left for the foreigners. The Romanians considered themselves soldiers and farmers (Homer and Sylla, 2005). The aristocracy was largely agrarian. Beneficial for the trade resulted to be unique coins adopted by the Romanians, the protection of transported goods from pirates and free trade zone in the whole Empire. The credit system was based on trust. The involvement in credit was not respectful and the members of high society abstained from similar activities, having own deposits. The principal segment of debtors was the farmers and the merchants were granted with credit facilities. The machines invented were employed in infrastructure and public construction, but not in production, because of the lack of capital. Joint-stock companies with limited liability were permitted to finance public projects (Homer and Sylla, 2005). In the early days of the Roman Empire individual creditors were left to follow their remedies to collect debts by such means as the law or practice of the community might permit. The republican government was oligarchic. Under the Roman law of the Twelve Tables, drawn up in 443 B.C., the borrower again pledged himself as collateral. In ancient Roman law an unpaid judgment creditor could have the debtor's estate sequestered (*missio in bona*) and sold for the benefit of all creditors (*venditio*

*bonorum*). Proceedings of this type caused loss of civil rights. To alleviate this hardship a debtor was given the privilege of relinquishing voluntarily his assets to his creditors by petitioning a magistrate (*cessio bonorum*). The creditors were not only empowered to sell or take the debtor into slavery, but as a final resort to divide the debtor's body into proportionate shares. The copper and bronze became the mediums of exchange. The Gallic invasion of 387 B.C. was accompanied by great destruction of property and popular distress (Homer and Sylla, 2005). The tables were complemented by the Lucinian's laws in 376 B.C. to respond to the people's increased demand of reduction of debts. These laws granted a remission of interest to the insolvent debtors, and a moratorium of three years in which to pay-off the capital sum outstanding (Gelpi and Labruyère, 2000). In 357 B.C. the maximum interest rate was fixed at 8⅓ % and in 342 B.C. was reduced twice and was established moratorium on loans. The laws were pacified in 326 B.C. to make imprisonment for debt the rule and the death penalty was abolished. The influx of goods, money, slaves and cattle boosted the economy; the labour was cheap and plentiful. Nevertheless, the profile of the borrower was quite different from the Greek's – indebted farmer, threatened with ruin by the war, taxes, land rights and creditors.

During the Caesar's era citizens were exempted from imprisonment, but their debt was not discharged nor future earnings exempted from attachment. The interest rates were volatile. The volume of gold and silver increased and was absorbed by the expansion in Asia. By 54 B.C. safe loans were available at far below the legal limit. After that followed civil wars, this led Rome to bankruptcy, ruinous confiscations and returned high interest rates (Homer and Sylla, 2005). Caesar introduced the golden coin into circulation. The civil wars destroyed faith in property rights and led to financial stagnation. The value of the money increased. The treasures of Egypt were used by Caesar to pay-off obligations and the liquidation of debt resulted in reduction of interest rate. A crisis occurred in 33 A.D., provoked by prosecution of bankers for overcharging, which led to the withdrawal of large sums from the treasury to be loaned for three years without interest. The discharge of debts upon the testimony of the debtor that he was insolvent was introduced by Justinian in 533 A.D. and immediately led to widespread fraud and perjury and total disruption of the

credit market. The debtors lost the protection from unfavourable harvests and compulsory military service. The wealth from the wars was dissipated, trade declined and the ruin of some bourgeoisies reduced the income from taxes. The administration was so indebted that could no longer pay the troops.

The fall of the Roman Empire occurred over a period of several hundred years and marks the beginning of the medieval period (approximately 5$^{th}$ through 15$^{th}$ centuries A.D.). As the Roman Empire gradually weakened, the Germanic tribes from the Scandinavian regions began to conquer. These Germanic tribes were uneducated, subject to tribal rule and barbarous in nature. They lived mainly by hunting and some crude farming and their laws were based upon tribal custom and superstition. The Germanic invasions destroyed most commerce. Money almost went completely out of use. By the ninth century, most of Western Europe was carved into large mansion estates ruled by landlords and worked by poor peasants. Each mansion was autonomous and supported almost entirely by the production of its inhabitants, which restrained the credit relationships. The fall of the Roman Empire created a massive disruption in trade, and the rudimentary credit system that existed largely melt away (MacDonald and Gastmann, 2004).

Despite the mighty of the Byzantine Empire, it contributes little to the development and regulation of credit relations. There was no properly organized credit or financial institution that provided systematic, rather than circumstantial financing for commercial or productive activities. In the eighth and ninth century there was a climate of antagonism and resentment towards lending at interest, provoked by religious ideology. The Byzantines made use of provisions of Roman law to form associations, which spread the risk between investor and trader (Laiou, 2008). With the purpose to stimulate the trade during the legislation of Justinian I the interest rate was established at 12% for the farmers and higher than that level was allowed for maritime loans, because of the high risk. Exchange transaction that involved monetary mediation existed, but at fairly low level. The late Byzantine society in the fourteenth century decided to make the wealth accumulated more productive. Money was borrowed against security to purchase and lease houses and workshops, to acquire and improve

productive land, to invest the borrowed money in speculative business deals. If no date of repayment was agreed on, the creditor was entitled to demand repayment at any time. If the debtor was recalcitrant and failed to repay the loan the creditor, having the recourse of the court, could reclaim the assets of the debtor to obtain satisfaction. First were seized the movable and in case of insufficiency - the immovable assets. When the loan granted had been guaranteed by a moneylender, the creditor was not obliged to address himself first to the debtor, but might address himself directly to the moneylender and demand satisfaction from him (Laiou, 2008).

Credit played an important role in the Islamic world, despite the Koran's explicit prohibition. The Arab world in the Middle Ages was able to organize credit, banking, and partnership and investment practices, much more advanced than Europe, because of the elevation of the trade over the agriculture. It promoted the commerce and the merchants became influential in the governing process. The credit system was different from the modern conception - the depositor gave money to the bank, which could invest it in business ventures and both parties shared profit or lost. The Christians and the Jews were also opposed to usury, but Jews found a compromise to respect the religious prohibition considering that the Bible referred to the members of the Jewish society only. After that the usury was practiced with other religious communities, thus making the Jews the only creditors in many Islamic and Christian societies, allowing them to apply high levels of interest rate (in many times 50% of the principal). The decline in the Islamic credit system was influenced by the invasion of Mongols and Turks who were soldiers, but not traders and had little interest in commerce and production. It came in a moment when the Christian West was slowly beginning the establishment of transnational credit system that would continue to advance through innovations in methods and institutions (MacDonald and Gastmann, 2004).

During the Middle Ages the development of credit system was directly related to the evolution of the nations and was stimulated by the improved political situation, the advent of trade fairs and the development of merchant banking. The medieval Italian cities enacted statutes dealing with the collection and

distribution of the assets of debtors, especially merchants, who had absconded or fraudulently caused insolvency. Such bankrupts (*rumpentes et falliti*) were subjected to severe penalties, and their estates were liquidated. In addition, medieval Spanish law restored the judicial *cessio bonorum*. In medieval Italy, the law called for imprisonment of a merchant who failed to pay his creditors, and the sale of his property to cover the debt. If the sale failed to raise enough, and the creditors were unwilling to forgive the remainder of the debt, the merchant stayed in jail for a term and was usually expelled from the guild. In practice, however, the insolvent merchant would usually leave town. If he never returned, he was declared bankrupt *in absentia,* his property sold and distributed among his creditors. More commonly, friends of the bankrupt would contact his creditors and receive a temporary "safe-conduct", a grace period during which the bankrupt would return and negotiate settlement with his debtors. In the twelve century the remittance of foreign exchange was combined with credit, payable at the next fair. The organization of fairs augmented the credit sale and regulation. The credit regulation adopted had the purpose to protect the commerce. It established the origins of the bankruptcy doctrine in Europe and had extended to France, Spain, Portugal, and Netherlands. The price at the fairs was paid in many cases with bills of exchange and it granted a special peace, guards, immunities from tariffs and seizures, and immunity from the prohibition of usury, provided that fixed maximum rates of interest were observed. A medieval bill of exchange, unlike a modern draft, was always originated in an exchange contract. A merchant gave a sum in local currency to another merchant and received a bill payable at a future date in another place and in another currency. Active trade was assisted by a growing supply of money from mines. Money borrowing in all Europe was in the hands of Jews. In England they were protected by the king and practice of money lending (usury) was tolerated by secular society as it offered an opportunity for personal gain through indirect taxation. Debtors who defaulted sought to have their cases heard in church courts where the debt would be declared illegal. Jews on the other hand preferred the use of secular courts where they could bypass canon law and collect on the debt. The church saw the Jewish community and its relationship with the crown as a direct threat to its authority. Jewish creditors travelled extensively to practise their trade. Rates of interest however were

exorbitant and the debtor frequently found himself in trouble. Debts were also liable to be passed on to heirs which meant that whole families and even institutions might find themselves ruined. Prior to 1215 Jewish money lending and the debt that came with it had become a mean of political control for the English crown.

Laws dealing with the property of absconding and fraudulent debtors, modelled after the statutes of the medieval Italian cities, spread throughout Western Europe. Provisions of this type were adopted in the commercial centres of France, Brabant, and Flanders during the 15th and 16th centuries. The emperor Charles V, as count of Flanders, inserted stringent provisions for the repression of bankruptcies in his Decree for the Administration of Justice and Good Order of 1531. In Europe the prices and the urbanization of the commercial centres increased. In thirteenth and fourteenth centuries in Venice, Genoa, Florence (seventy-two international banks had offices located in Florence in 1422 A.D.), Rome, Bruges and Barcelona were created banks as the deposit became a mean of investment, although that such deposit at interest were criticized as usury, especially when there was no risk and fixed rate (Homer and Sylla, 2005). Credit sales and instalment sales were common. Bank accounts were used for business and in everyday life. In Spain bill of exchange were used in the trade and money was lent through sea loans, which repaid interest on the arrival of the goods purchased with the loan. Contract forms, interest rates, hours of labour, and prices were all regulated by the Spanish government (Ferguson, 2008). Speculation in foreign money and in shares of public loans was active. Merchants' credit was in effect secured by their physical assets, which were generally realizable in case of a shortage of cash; furthermore, Merchants were under necessity to maintain good credit or else lose their power to trade (Homer and Sylla, 2005). The interest rate of commercial loans in Italy varied between 20% - 25%, of mortgages – 14%, on public debt were reduced from 15% to 10% and later on – 5%. In medieval times there was far more evidence of state loans, city loans and princely loans than in ancient times. Credit gradually became a political device and by the sixteenth century the interest rate was generally accepted and the credit was the main source of financing wars and commerce. In the seventeenth century the wars, the

excessive loans, the inflations, and the defaults of the late sixteenth century brought the Crowns of Spain and France, and with them their great Italian and German bankers, to financial ruin. In France, national rules on insolvency and bankruptcy were inserted into the Ordonnance du Commerce of 1673. It regulated both voluntary assignments for the benefit of creditors made by merchants and the proceedings and effects flowing from bankruptcy. It was interpreted to restrict bankruptcy proceedings to merchants only, and the laws of many other countries followed the French lead. In Spain, under the government of Alfonso X (1256 – 1265) were established provisions related to insolvent debtors, applicable to merchants and non- merchants, enabling them to secure a voluntary liquidation of their assets under judicial supervision. An unpaid creditor could insist on either payment or assignment of his estate by the debtor to all creditors. The Code "*Siete Partidas*" regulated the assets' seizure and preventive out-of-court agreement. In Spain, the first official bankruptcy regulation has origins from 1299 at the government of Jaime II. The regulation was not a complete treatment of the evolution of the insolvency procedure, but regulated the non-accomplishment of contractual obligation and especially the debtors, denominated as "*abatuts*". On that basis a Spanish jurist of the 17th century, Salgado de Somoza, elaborated detailed rules for the initiation and conduct of voluntary liquidation proceedings, which were styled "concourse of creditors." His tract, entitled "*Labyrinthus Creditorum*", influenced the course of Spanish law and also had great impact on the common law of the German states. Thus in Spain the limitation of bankruptcy to merchants was adopted by the Ordinances of Bilbao, which were sanctioned in 1737 and subsequently applied in Latin America, especially Argentina. As a result, Spanish law developed two classes of liquidation proceedings, one for merchants and one for non- merchants. Spanish law in that respect was the model for the legislation in Portugal, Argentina, Brazil, and other Latin-American countries. Other nations, including Austria, Germany, England, the United States, and nations influenced by English laws, brought both merchants and non-merchants under their bankruptcy laws. As the Middle Ages declined and commerce increased it became clear that debt became necessary for the growth of society. The development of trade required the establishment of regulated credit relationships, and therefore the contracting of debt was not only

justifiable, but necessary. Italian bankers lost their European dominance, the credit market became more domestically regulated. The English government reformed financial practices, instilling principles of commercial honour, order, and economy and as a consequence foreign bankers had been excluded. Up to the last decade of the seventeenth century England had no money market, no substantial bank, and no organized national debt (Homer and Sylla, 2005). An influx of American gold and silver augmented liquid capital.

During the formative period of bankruptcy law in the 18th and 19th centuries, the courts developed the doctrine of the “force of attraction” of bankruptcy proceedings, resulting in the concentration in the bankruptcy court of all litigation relating to the creditors or the assets of the estate. In England, the first official laws concerning bankruptcy were passed in 1542, under Henry VIII. At that time, a bankrupt individual was considered a criminal and, as such, subject to criminal punishment ranging from incarceration in debtors' prison all the way to the extreme sentence of death and not to be repealed by Parliament until the 19th century. The debtor was regarded as a thief. The creditors had been allowed to nail a defaulting debtor to a post by his ear. If payment was not immediately forthcoming, the creditor was allowed to cut off the debtor’s ear. The first specific bankruptcy statute was established in 1542 under Henry VIII. This act dealt only with "involuntary" bankruptcy (in which creditors initiate legal action against the debtor) and applied only to traders and merchants. The delinquent debtor was incarcerated and remained behind bars until he had settled his obligations. It was the practice in England to distinguish bankruptcy law, which was only commercial, from insolvency law, which dealt with non-commercial debtors. This distinction was originally continued in America, as evidenced by the placement of the bankruptcy clause in the commerce section of the U.S. Constitution. There were no debtors' prisons in the United States in the early 1800’s, at a time when English debtors could end up languishing in jail for years. Since 1898, it has been every American's right to file for Chapter VII (liquidation) or XIII (voluntary personal reorganization) (Ferguson, 2008). Thus the American law encourage the entrepreneurship spirit – to facilitate the creation of businesses. By the early 19th century English bankruptcy procedure was in shambles. Bankruptcy courts

were largely bypassed in important cases, which were settled by private arrangement. Under the common law of private adjudication, creditors instituted attachment proceedings, and received compensation according to the priority with which they lodged their claims. In England the nineteenth century was one of rapid economic growth, of hard money, declining interest rates and gave rise to the limited liability corporation (Homer and Sylla, 2005). The liability of the individuals who invested in these firms was already limited; they had no need of bankruptcy regulation. Nevertheless, bankruptcy remains a means of sorting out the affairs of a failed firm.

Before the 20th century, rules and practices concerning bankruptcy generally favoured the creditor and were harsher toward the bankrupt. The focus was on recovering the investments of the creditors, and unlike now almost all bankruptcies at this time were involuntary. The practice of involuntary filings does continue to exist, with an option to convert to voluntary filing status, but is relatively rare.

In the United States the financial failure was not limited to the wealthy. The colonists from England brought with them seventeenth-century English attitudes toward credit and interest. Commercial loans at interest were considered entirely moral and legal and a normal part of business life. Moderate interest rates were desirable, while high interest rates were usurious and were forbidden by law (Homer and Sylla, 2005). The English usury laws had established the legal maximum at 6%. This 6% tradition crossed the Atlantic and in most of the states survived until the 1950's. The colonies also adopted the harsh English laws in favour of creditors. At the end of the eighteenth century over 150 companies failed and 64 merchants and speculators were imprisoned. Large percentages of the population were brought into court for bad debts. In 1800, a national bankruptcy statute was passed that forgave the debts of insolvent debtors. Even death did not liberate delinquent debtors from the claims of creditors. Their bodies were subject to seizure by creditors, who would then sell the corpses back to relatives in order to pay off the debt (Ferguson, 2008).The financial market was well developed - 250 exchanges were operating in America in 1850. A permanent bankruptcy law was enacted in 1898. It provided for equitable distribution of the property of the bankrupt estate and for discharge

of the debtor from debts once that distribution was made. Modern bankruptcy laws and practices in the United States emphasize rehabilitating (reorganizing) debtors in distress with a limited emphasis on punishing the debtor.

The Bankruptcy Act of 1898 was the first to give companies in distress an option of being protected from creditors. The company could be put in an "equity receivership," a provision made much more formal and extensive in the United States during the 1930s. The economic upheaval of the Great Depression yielded additional bankruptcy legislation, in particular, the Bankruptcy Act of 1933 and the Bankruptcy Act of 1934. In a 1934 U.S. Supreme Court decision, the Court reveals that the primary goal of bankruptcy laws was to offer debtors a "fresh start" from financial burdens. Another reform was sought by the NYSE, which requested in January of 1895 that listed companies publish annual financial statements. The Hughes Committee, in 1909, had found abuses when corporations were placed in receivership. Those receiverships sometimes lasted more than ten years. During that period, stockholders lost control of their corporation, and even secured debtors were precluded from foreclosing on their debt. Receivers were using “receivers’ certificates” to finance the operations of the companies while in receivership. These certificates were given precedence over first mortgage bonds in the event of liquidation (Markham, 2002).

Following the failure of the mortgage bonds, protective committees were established that frequently induced investors to give up important claims and privileges. The SEC conducted an examination of the reorganization process of corporations experiencing financial difficulty. The SEC’s investigation of protective and reorganization committees concluded that such committees were often riddled with conflicts of interest and were being used as “fronts” for management. The SEC found that many reorganization committees were unnecessary and were being used to increase management’s control over the company even when it was not in serious financial straits. The Bankruptcy Act was amended to provide more flexibility to debtors. These amendments authorized the reorganization of corporations as an alternative to their liquidation. This legislation culminated with the Chandler Act of 1938, which included substantial provisions for reorganization of businesses The Chandler

Act, which amended the federal Bankruptcy Act, required that reorganization plans for large corporations be reviewed by the SEC (Markham, 2002). The securities' industry saw significant turbulence in 1969 and 1970 leading to voluntary liquidations, mergers, receiverships and bankruptcies of a substantial number of brokerage houses. In reaction to this situation, Congress enacted the Securities Investor Protection Act of 1970 in an attempt to quell the filings, restore investor confidence and upgrade financial responsibility requirements for registered brokers and dealers.

The Bankruptcy Reform Act of 1978 was passed in 1978 and took effect on October 1, 1979. This act, which continues to serve as the uniform federal law that governs all bankruptcy cases today, substantially revamped bankruptcy practices. A strong business reorganization Chapter was created: Chapter 11. On October 22, 1994, the Bankruptcy Reform Act of 1994 (Public Law 103-394, October 22, 1994), the most comprehensive piece of bankruptcy legislation since the 1978 Act, was signed into law by President Clinton. The 1994 Act contains many provisions for both business and consumer bankruptcy, including the following: to expedite bankruptcy proceedings, to encourage individual debtors to use Chapter 13 to reschedule their debts rather than use Chapter 7 to liquidate and to aid creditors in recovering claims against bankrupt estates.

In Spain, the first legislative document which treats the "*suspension de pagos*" is the Commercial Code from 1829, modified in 1885. It specified the objective of bankruptcy filing and its relation with the suspension of payments. The difference between these two concepts is the interpretation that the suspension of payments, produced in cases when the integrity of assets could cover the obligations with slight discount. According to the Code the procedure could be initiated in case of impossibility to serve an expiring obligation or anticipating unfeasibility of accomplishment. The declaration of insolvency had been accepted independently from the assets' availability. The Law from the 26 of July of 1922 unquestionably determined the limits between the bankruptcy (if the assets are less than liabilities) and the suspension of payments (when the assets are more or equal than the liabilities and the debtor lacks liquidity). These definitions are the origins of unparalleled and unique classification of insolvency – **provisional** (similar to financial distress or illiquidity, applied to

"unfortunate traders", in which the bankruptcy filing is accompanied with automatic decree of creditors' meeting) and **definitive** (bankruptcy).

The Law 22/2003 largely reforms the Spanish insolvency regime. With this law, the legislator's intent was to establish the principle of unity, gathering the substantive and procedural provisions on insolvency under a single statute and thus ending the fragmentation of the repealed regime. The defragmentation of the previous regime produced high legal costs together with a certain complexity resulted inefficient. The new Law has opted for a single system, called '*cocurso'* (insolvency), in which the former proceedings of '*quiebra'* (insolvency), '*suspensión de pagos'* (suspension of payments or bankruptcy), '*expediente de quita y espera'* (the remission and deferral of debt proceedings) and '*concurso de acreedores'* (insolvency) have been unified. The principal purpose of modern insolvency legislation rests no longer on the liquidation and elimination of insolvent estates but on the remodelling of the financial and, if necessary, organizational structure of a debtor in economic difficulties so as to permit the continuation of the economic activities.

**2. Efficient enforcement of judgments**

From an economic point of view, one of the primary aims of bankruptcy procedures is to increase overall efficiency by eliminating the functionally inefficient firms, whose assets can be used in a more productive way elsewhere. Therefore, the optimal bankruptcy law should always satisfy the overall efficiency criterion according to which a firm is liquidated if its value as an ongoing concern is lower than its liquidation value which corresponds to its opportunity cost. Hart (1999) argues that an optimal bankruptcy procedure should maximize the total value available to be divided between debtor and creditors (*ex-post* goal). First, an optimal bankruptcy law should prevent excess liquidations by creditors, which occurs when continuation results in the highest total value, but debt value is higher in liquidation. Second, an optimal bankruptcy system provides in managerial incentives to liquidate the firm voluntary when creditors fail to discover or facilitate inefficient continuation (Berkovitch and Israel, 1999).

When a debtor fails and can no longer meet its obligations, either a creditor of the debtor or the managers of the debtor itself can begin a bankruptcy proceeding. The affairs of the debtor are exposed to scrutiny, what assets exist are divided among the creditors, and the life of the firm is brought to an end. The creditors turn to other things, knowing there is nothing more to fight over the firm.

Capital flows are driven by public perceptions and investor confidence in local markets. Effective insolvency and creditor rights systems play an important role in creating and maintaining the confidence of both domestic and foreign investors. Effective systems respond to national needs and problems and are rooted in the country's broader cultural, economic, legal and social context. For example, in Japan, where in the ancient ages every failure supposed taking personal responsibility and often required suicidal ritual (*hara-kiri* or *seppuko,* prohibited in 1873*)* has had influence on the bankruptcy system. Once declared insolvent, there had been no restructuring possibility, the directors and managers had been obliged to quit and the company had been liquidated.

The World Bank in 2001 published "Principles and guidelines for effective insolvency and creditor rights systems" and part of this doctrine is mentioned below. A regularized system of credit is supported by mechanisms that provide efficient, transparent and reliable methods for recovering debt, including seizure and sale of immovable and movable assets and sale or collection of intangible assets, such as debt owed to the debtor by third parties. An efficient system for enforcing debt claims is crucial to a functioning credit system, especially for unsecured credit. A creditor's ability to take possession of a debtor's property and to sell it to satisfy the debt is the simplest, most effective means of ensuring prompt payment. It is far more effective than the threat of an insolvency proceeding, which often requires a level of proof and a prospect of procedural delay that in all but extreme cases make it not credible to debtors as leverage for payment. Insolvency regimes are complex in design as they try to balance several objectives, including protecting the rights of creditors - essential to the mobilization of capital for investment and working capital and other resources - and preventing the premature liquidation of viable firms (Claessens and Klapper, 2005).

In case that enterprise cannot repay its obligations as they come due or cannot raise enough money from asset sales to repay all its obligations, then assumptions about enterprise activity, governance and ownership change. When a distressed or insolvent enterprise is unable to uphold commercial agreements, market confidence falls. A bankruptcy filing initiates a collective legal procedure by which all claims against the firm are settled. Without such a procedure, individual creditors would engage in a costly and unproductive race to be first to sue the firm for repayment of their own claims (White, 1989). This collective procedure ensures prompt resolution and maximum recovery by creditors. This procedure must be flexible enough to provide a range of options, including rehabilitation for viable enterprises and liquidation for non-viable enterprises. Liquidation can occur by selling the business as a going concern, in productive units or through the more conventional sale of assets. Alternatives to outright liquidation may vary in terms of formality and degree of involvement of courts and other official agencies, but they share the common goal of giving the debtor an opportunity to exit from relative (or even absolute) insolvency and to enjoy the prospect of a more balanced existence for the future.

Where an enterprise is not viable, the main thrust of the law is quick and efficient liquidation to maximize recoveries for the benefit of creditors. Liquidations can include the preservation and sale of the business, as distinct from the legal entity. On the other hand, where an enterprise is viable, meaning it can be rehabilitated, its assets are often more valuable if retained in a rehabilitated business than if sold in a liquidation. The rescue of a business preserves jobs, provides creditors with a greater return based on higher going concern values of the enterprise, potentially produces a return for owners and obtains for the country the fruits of the rehabilitated enterprise. In that sense, strong institutions and regulations are crucial to an effective insolvency system. Although that the reorganization process preserves jobs, Schwartz (2002) considers that the social objective of the insolvency law is in conflict with its economic aim and the law and economics approach should ignore the social problems that economic failures create, because they are part of more general social problems. When the company is not efficient, the human capital employed is not used efficiently, too and such human capital is best redeployed

to other pursuits. Here appears the logical question: "What is the sense of keeping an inefficient firm with the only purpose to preserve jobs?" Kaiser (1996) reports that when the financial insolvency code attempts to give strong protection to employment, it does not facilitate maintaining firms as going concern, and consequently it does not preserve employment either.

Enforcement and insolvency systems stabilize commercial relationships by enabling market participants to more accurately price, manage and control risks of default and corporate failure. Enforcement systems provide a vehicle for resolving individual disputes between creditors and debtors, while insolvency procedures offer a means for collective resolutions when performance failures raise questions about an enterprise's viability. Insolvency systems provide an efficient exit mechanism for unprofitable businesses and help rehabilitate viable ones. Insolvency procedures are a way of dealing with the casualties of competition in markets. When businesses are incapable of competing profitably, the logical move is to provide a means for their voluntary or necessary dissolution or exit from the market. Company laws often contain voluntary exit procedures, but such procedures are generally accessible only for solvent companies that can repay their debts from assets liquidated in the wind-up of the business.

Efficient enforcement of judgments is crucial to a functioning credit system, especially for unsecured credit. While the seizure of immovable or movable assets to pay debts often may not be necessary, it is the ultimate threat to a recalcitrant debtor to pay what is owed. The existence or perception of weak creditor rights influences a creditor's approach to all stages of commercial relationships. Conversely, creditors who perceive that insolvency will reinforce their economic rights will exploit the process to their advantage. Two types of efficiency can be attained:

1. *Ex ante* efficiency consisting of encouraging the participants in a market economy (shareholders, banks) to make the right decisions in order to avoid situations resulting in deficit of short-term liquidity and long-term insolvency.

2. *Ex post* efficiency consisting of liquidation only of non-viable companies and maximizing, or at least protecting, the value of the company in the interest of all stakeholders and the economy in general. The individual actions by creditors to recover their claims would result in piecemeal sale for the disposal of its assets. The number of stakeholders (creditors with absolute priority, secured or unsecured creditors, shareholders, administrations) generates a variety of often conflicting interests.

Baird (1986) and Aghion *et al.* (1992) argue that in a world without cash or credit constraints, auctions are an efficient bankruptcy procedure. Bebchuk (1988), Jensen (1991), and Aghion *et al*. (1992) demonstrate that market solutions where firms are auctioned and the proceeds are paid according to the absolute priority rule yield efficient liquidation outcomes. In particular, neither the shareholders nor the incumbent management receives any advantage in the resolution of distress. Bercovitch and Israel (1999) consider that this *ex post* efficiency does not necessarily prompt an efficient decision making prior to bankruptcy. Bulow and Shoven (1978) and White (1989) demonstrate the effects of priority rules and show that no priority rule always gives managers incentives to make efficient bankruptcy decisions. None of the commonly considered bankruptcy priority rules give firms an incentive to choose bankruptcy or to remain out of bankruptcy only when that alternative is more economically efficient. Failing firms may liquidate even in circumstances when their resources are most valuable if they continued operating and they may continue to operate even when their resources could be better employed in some new use.

Jackson (1986) acknowledges the historical role of the bankruptcy law – allowing for some second chance option and providing creditors with compulsory and collective forum to sort out their relative entitlement to a debtor's assets. The basic problem that bankruptcy law is designed to handle is that the system of individual creditor remedies may not favour the creditors as group, when the assets are not sufficient to repay all. The existing conflicting rights tend to be prejudicial for debtor's restructuring option. Jackson (1986) alleges the existence of "common pool" problem does not mean that individual

behaviour is necessarily and entirely self-interest or that the law can solve all collective problems. The author labels two features of the bankruptcy law – collectiveness and compulsoriness.

Bebchuk (2000) considers that *ex ante* efficiency is equal to optimal division of total value and *ex post* efficiency is equal to maximization of the value of the reorganized company. The author affirms that from an efficiency perspective, what matters is not only that the total bankruptcy value will be as large as possible but also how this value will be divided among the participants. This *ex post* division has important ex ante consequences. In particular, to induce participants to provide finance to the company *ex ante*, it is desirable that, in the event of *ex post* insolvency, the value will be divided according to the distribution that was agreed upon contractually.

Bercovitch *et al.* (1998) argue the efficient bankruptcy law results in an *ex post* efficient allocation of resources and provide the entrepreneur with optimal *ex ante* incentives by placing him/her in a superior bargaining position in the bankruptcy negotiation.

Aghion and Bolton (1992) study the optimal balance of control between the entrepreneur and the investor. Of particular interest, they show that the optimal allocation is state contingent: the entrepreneur should have residual control rights in states of the world where his private benefits are relatively high, and the investor should have control in states where the entrepreneur's private benefits are relatively low. Their model have been criticized, because ignore the role of debt as a mechanism for getting a debtor to pay (see Hart and Moore, 1999). Bolton and Scharfstein (1990) develop a model where the penalty for non-payment of debt is that the creditor withholds future finance rather than liquidating existing assets. They are more concerned with how debt can be used strategically to influence competition in product markets than with a general characterization of debt contracts.

Hart and Moore (1999) analyzed the role of debt in persuading an entrepreneur to pay out cash flows, rather than to divert them. They found that short-term debt gives the creditor early leverage over the project's return stream, but give too much control to the creditor in certain states and lead to premature

liquidation. The creditor may liquidate early because the debtor cannot credibly promise to repay later. The authors conclude that long-term debt contracts protect the debtor from the creditor.

Claessens and Klapper (2005) attribute three specific features to the optimal bankruptcy regime. First, it should include *ex ante* screening mechanisms that prevent managers and shareholders from taking imprudent loans and lenders from giving loans with a high probability of default. The level of such loans has been reduced due to the global financial crisis and the access to borrowed funds was restricted. Guarantees different from real estate are preferable form banks in Spain, because such assets are difficult to be converted into cash. Second, the insolvency regime should provide for a degree of entrepreneurship in the economy, that is, not suffocate risk-taking. Third, an insolvency regime should also deliver an ex post efficient outcome, in that the highest total value is obtained for the distressed firm with the least direct costs and loss in going concern value. The authors conclude that the efficiency of a country's judicial system further complicates balancing these objectives.

The priority order, established by the law, causes conflicts of interests between high priority and low priority creditors and may impede reorganization or out-of-court agreement. Secured creditors may favour liquidation over reorganization even though total payments to creditors would be higher in reorganization. Since secured creditors influence the decision to reorganize, their opposition to reorganization may cause excess liquidations of viable firms. This effect may be especially strong when the expected payoff in liquidation is close to the amount owed to the secured creditor. From the other side if creditors are very well-secured, they may not have the incentive to enforce a sale of the firm in bankruptcy, since they may be fully redeemed even if the firm fails to reorganize. Secured creditors have an incentive to resist reorganization most when the firm’s prospects are unpredictable. Secured creditors have less incentive to race against each other since they can foreclose on their collateral if default occurs (Jackson, 1986). Secured creditors might oppose a debtor’s court-supervised reorganization because their incentives are skewed towards liquidation over reorganization (Bulow and Shoven, 1978; White, 1989; Kordana

et. al, 1999) because the expected loan repayment under reorganization is lower than the loan recovery under immediate liquidation.

The creditors' type is not the only impediment for procedure's inefficiency, taking into account the creditors' diversity - the "common pool" problem. In practice, there are usually multiple creditors with interests that are not congruent. If a claim can be satisfied out of a firm's tangible assets, the creditor is indifferent as to whether the firm continues as an economic entity or disappears. Thus, each creditor has an incentive to seize assets sufficient to satisfy its claim, so long as assets exist. Creditors as a group would benefit from saving a viable firm and receiving shares in it because this would increase the creditors' insolvency payoffs. Saving such a firm, however, often requires its creditors to coordinate their collection efforts and coordination costs can be high. Depending on the nature of the debt contract, it may be difficult to achieve an agreement among creditors. Moreover, each creditor according to the Spanish insolvency law has incentives to be the first to force a liquidation of the firm's assets in order to guarantee 25% of the payment before the unsecured creditors. The choice of bankruptcy resolution belongs to the debtor, but the decision in the case of reorganization is taken after a consensus between debtor and creditor.

The debt restructuring can only be implemented if the creditors approve the plan of reorganization. This situation emerges from the distribution of control rights. Financial contracting theory postulates that shareholders are a class of residual claimants, whereas creditors have a fixed claim. The shareholders hold the control rights as long as the company is solvent. When the company is financially sound, shareholders' gains have unlimited upside potential, whereas if the company defaults, the risk is limited by the amount that the shareholders invested in the company. In contrast, the upside potential of creditor gains is always limited by some fixed amount. Therefore, debt contracts are written in such a way that in case of default the control over the company as well as the wealth is transferred from shareholders to creditors.

Equity claims in default become almost worthless, while the claims of the creditors change their character from fixed to residual. Zender (1991) created a model of restructuring, based on the transfer of control from shareholders to bondholders. The author argues that reallocation of control rights improves the efficiency of investment decisions, because the creditor is the residual claimholder and is motivated to maximize firm's value, in order to be redeemed. The control rights of the creditors, their actual ability to influence the outcome of distressed restructuring, and their wish to obtain the amount of debt paid in full produce a well-known incentive problem. The holdout problem arises when some of the creditors refuse to participate in the reorganization plan and, therefore, block the possibility of restructuring troubled debt out of court. The motivation to "hold out" exists because of the divergent incentives of dispersed claimants. In classic out-of-court restructuring, the renegotiation would imply a debt reduction by means of the creditor's giving up their claims on the principal, the extension of the maturity of debt, a decrease in the interest, or an exchange of the old debt for stocks. However, some of the creditors would like to hold out in order to benefit at the expense of other creditors, of those who agree to negotiate. Holdout incentives originate from the residual character of payoffs to the claimants: the more creditors negotiate about their debt the higher the payoff for remaining creditors.

Hotchkiss *et al.* (2008) argue that until a debt restructuring is completed, the interests of different claimholders regarding the firm's investment decisions can deviate substantially. The authors affirm that the relocation of financial claims may not be independent of the firm's asset restructuring decisions, because for the highly leveraged insolvent firms different claimholders may have conflicting incentives to the investment decisions. The value of the unsecured claims increases with the level of risk, while the value of the secured decreases. The authors conclude that this could raise a conflict whether to liquidate or reorganize the firm and the secured creditors may prefer the inefficient variant.

In addition to the "common pool" problem, the incomplete contracting and the asymmetric information between debtors and creditors about the value of the assets can hamper reaching a consensus and a mutually beneficial debt

renegotiation. Bankruptcy law would be superfluous, if each creditor would be fully informed on the future financial situation of the debtor at the time the contract was signed (Brouwer, 2006). The onset of distress alters the nature and costs of the information asymmetries between managers and stakeholders: investors face estimation risk as the future cash flows becomes more uncertain, managerial reputations suffer, suppliers risk the loss of a customer, customers may seek other suppliers, and lenders are likely to increase the cost of borrowing to combat increasing default risk (Wruck, 1990).

The managers of modern corporations are in the unique position of using resources owned by stakeholders. With management's superior knowledge of the firm's true financial position and the asymmetric information between them and creditors there is always the probability of taking imprudent investment decisions, which can lead to insolvency situation. While creditors have an incentive to shut down failing firms prematurely by racing to be first to collect, managers of these firms may have an incentive to delay bankruptcy as long as possible, because they lose their jobs and equity loses its value when the firm is liquidated. This can also give rise to inefficient bankruptcy decisions. The manager will always pretend that the firm is economically viable in order to avoid liquidation, no matter what his private information indicates. Hence, in order to achieve the desired separation of healthy from distressed firms, the manager must be given incentives to reveal this information truthfully. The prompt bankruptcy resolution favours the debtor and the creditor, as well, and its prolongation could be beneficial not only for the managers, but also for the insolvency administrators. They, as was explained, are lawyers and economists in charge and the longer the common phase continues, more payment will receive. In order to contribute to the timely bankruptcy resolution the researchers in that field created models that distinguish reorganizing from liquidating firms. Firms filing for bankruptcy share similar characteristics of financial distress and therefore it have been difficult to predict the final resolution.

The lender needs to choose borrowers of high credit quality before the loan is granted, to minimize his losses due to default, when due to asymmetric

information it may be impossible to distinguish good and bad risks. This is valid only for bank loans, because when we talk about commercial debt, receivables or even obligations to employees and governmental institutions the estimation of default risk is even harder task. The lender monitors the borrower after the concession of the loan, which implies additional expenses. Creditors would not sign a debt contract, if they could foresee the debtor's bankruptcy in the near future. However, uncertainty about future states makes bankruptcy a desirable action to prevent a further deterioration of the company's value (Brouwer, 2006). Creditors have more experience with older firms and may consider the owners of older firms to be more trustworthy. Firm age may also reflect firm quality. The firms with the highest probability of failure are likely to fail the earliest and therefore not be as likely to be observed as healthier firms (Bergström *et al*., 2002). Creditor-friendly codes, honouring claimants' contractual rights, have been accused of excessively closing down viable firms, selling assets at depressed prices. Debtor-friendly codes, from the other side, might allow inefficient continuation of non-profitable firms by removing the true residual claimholders from the reorganization process in favour of a broader set of stakeholder interests.

Schwartz (2002) compared the initial law and economics approach to the modern concept. According to Schwartz (2002) the initial law and economics approach alleged that a bankruptcy system is necessary to solve a collective action problem among the creditors of an insolvent firm, while the modern law and economics approach incorporates much of the traditional analysis, but importantly changes its focus. On the modern view, a good bankruptcy system facilitates wealth creation through its effect on the interest rate: the set of good projects that firms can finance and the incentive for firms to invest efficiently in those projects both are maximized when the interest rate is minimized.

The important point about rehabilitation as a balance to secured credit is that it encourages entrepreneurs to take risks. If secured parties are given too much power over debtors, entrepreneurs may be reluctant to start new businesses, and the disincentives imposed by risk-adverse secured creditors may hamper economic success. A long-term solution is the development of an efficient capital market that allows successful entrepreneurs to raise equity capital and to

borrow unsecured. A more immediate balance can be achieved through a reorganization procedure that offers debtors a chance to save a business in temporary trouble, with the concurrent protection of creditors under court supervision. Effective enforcement for secured creditors coupled with effective protection for a rescue effort under insolvency law strikes an appropriate balance between debtors and creditors and gives both a strong incentive to negotiate reasonable resolutions without litigation. From a lender's perspective, once it is apparent that a firm is experiencing financial difficulties and approaching insolvency, a creditor's primary goal is to maximize the value of the borrower's assets in order to obtain the highest debt repayment. A lender's support of an exit plan, whether through reorganization and rehabilitation or liquidation, depends on the quality of the information flow. To restructure a company's balance sheet, the lender must be in a position to prudently determine the feasibility of extending final maturity, extending the amortization schedule, deferring interest, refinancing, or converting debt to equity, while alternatively or concurrently encouraging the sale of non-core assets and closing unprofitable operations.

Disclosure of basic information - including financial statements, operating statistics and detailed cash flows - is recommended for sound risk assessment. Transparency increases confidence in decision making and so encourages the use of out-of-court restructuring options. Such options are preferable because they often provide higher returns to lenders than straight liquidation through the legal process and because they avoid the costs, complexities and uncertainties of the legal process.In many developing countries it is hard to obtain reliable data for a thorough risk assessment. Indeed, it may be too costly to obtain the quantity and quality of information required in industrial countries. Still, efforts should be made to increase transparency. There is a widespread perception among lenders that indigenous stakeholders can manipulate procedures to their advantage, and often benefit from fraud and favouritism. In general, a borrower's operational, financial and investment activities are not transparent to creditors. And creditors perceive that they lack sufficient information and control over the process used to enforce obligations and collect debts. The lack of transparency and certainty erodes confidence among foreign creditors and

undermines their willingness to extend credit. If the debtor is unable to pay, the existence of an efficient debt enforcement system will encourage the debtor to file an insolvency proceeding. In turn, an efficient insolvency system will protect the assets for the benefit of all concerned. From the creditor's perspective, an efficient enforcement system is often a more attractive remedy than the filing of involuntary insolvency proceeding, which may be result in delayed recovery if the debtor contexts the filing and because individual creditor interests are often subordinated to the larger goals and objectives of the collective proceeding. In resume, an efficient judgment enforcement system interacts with an efficient insolvency system to force a debtor - the party with the most information about its financial condition - to pay or to file an insolvency proceeding. Complex procedures could discourage market use because of their complexity or the costs associated with the process. Because credit costs are generally beard by borrowers, the more efficient and less costly is the system, the lower is the cost of financing. Lower financing costs in theory should promote access to credit, but one of the outcomes of the contemporary crisis situation is that central banks reduce the interest rates, in order to stimulate consumption, but the commercial and investment banks restrain credit concession because of firm's excessive levels of debt. That affects negatively many entrepreneurial expand projects from one side and closes down whole entities, which have relayed on short-term external financing to serve their current obligations.

## 3. Conclusions

Throughout the ages, bankruptcy laws have addressed the circumstances of a debtor's financial failure by offering many different kinds of specialized procedures designed to adjust the rights of one or more of the parties involved. Initially, they were thought as a remedy for creditors; eventually, they evolved into a relief for debtors. In any case, they should provide an environment in which an efficient allocation of resources is achieved. The role of the bankruptcy laws is part of an optimal contracting problem between firms and their creditors when contracts are incomplete and laws are imperfectly enforced. That is why the efficiency of bankruptcy procedure is not only an academic concern; it is also an issue of importance for government and corporate policy.

## Chapter II: Modern Spanish Insolvency Law

The new Spanish Insolvency Law came into force on the 1 of September 2004 and replaced the old insolvency regulations. It entirely reforms the Spanish regulations on insolvency, abolishing the outdated rules in the Spanish Commercial Code of 1885 and the Suspension of Payments Law of 1922. It seeks to unify and modernize all existing insolvency rules and procedures, introducing a single restructuring scheme, which applies to commercial and non-commercial entities, and individuals. This law has been the object of a recent reform, by way of the Royal Decree Law 3/2009 of the 27th of March, driven in part by the current global economic crisis.

The objectives of the reform were to reduce the insolvency procedure duration, thus reducing the costs associated with it and to stimulate the reorganization, aim severely affected by the economic and financial crisis, where due to previous overcrediting, most banks are reluctant to finance restructuring projects. Also, two new important concepts are introduced: an additional time period is allowed for out-of-court negotiation an agreement with the creditors in advance, anticipated liquidation petition within the procedure and newly determined concepts of the subordination of credits.

One of the main aims of the new law is to ensure that the insolvency rules satisfy creditors by helping a company survive a business and financial crisis rather than liquidating the company. Reorganization is favoured over liquidation and, where liquidation is unavoidable, selling the company as a going concern is preferred to a piecemeal liquidation. The competences to declare and precede the insolvency are in the power of judges of commercial courts, in the region where the declarer exercises its principal economic activities (LC, §10.1.). One of the main differences with the old provision relates to the concept of insolvency. Up to now a distinction had been made between bankruptcy (‘*quiebra*’) and suspension of payments (‘*suspension de pagos*’) and this distinction had caused great controversy both among legal authors and in case law. The New Insolvency Law complements just one definition of insolvency (‘*concurso*’): a situation in which the debtor cannot regularly meet his mature obligations and a private negotiation is not sought after by the affected parties.

The insolvency procedure is composed by various stages that lead to one of the two possible resolutions – reorganization or liquidation.

Each bankruptcy regime decides to what degree of bankruptcy procedure offers debtor protection. In Spain, have been adopted the main three debtor's rights:

1) **Absolute priority rule** - a system of priority to settle the claims of different claimants or stakeholders. Known as the "absolute priority rule" (APR), the system generally starts with the government's tax and social security claims, followed by unpaid wages of employees, the claims of secured creditors, unsecured creditors, trade creditors and finally the firm's shareholders. The importance of the APR is the principle that each category of claim, in the established order of priority, must be settled completely before the claims of next class of creditors are attended to. Lenders are paid before shareholders and secure lenders are paid before the unsecured. Junior creditors and shareholders are paid after senior creditors if any residual remains. Such feature can help overcome the coordination problems of creditor when a corporation is in reorganization. At the same time, if the law stipulates that shareholders receive nothing in bankruptcy, a firm may attempt to delay or avoid bankruptcy, including undertaking more high-risk projects when the corporation falls into financial distress.

2) **Debtor in possession rule** - whether the management will be stay in the director board in the process of bankruptcy and the debtor remains in control of operations. The pro-debtor opinion considers the original management team is more familiar with the affairs of company, and they can re-establish the firm as soon as possible. However, the pro-creditor opinion alleges the failure of firm will be due to the duty of management team, and it is not appropriate that they still stay in the role of decision maker. Under the Spanish Law the firms, which maintain their managerial competences are supervised by insolvency administration.

3) **Automatic stay rule** - describes the suspension of actions, such as debt collection or foreclosure, against the company in bankruptcy. This action

protects the debtor from creditors seeking to seize its assets. It protects some creditors in that it prevents one creditor from obtaining an excessive share of the assets of the bankrupt to the exclusion of the other creditors. The absence of an automatic stay may lead to a creditor race to seize assets, thus possibly accelerating the possibility of liquidation. Automatic stay prevents secured creditors from gaining possession of their security.

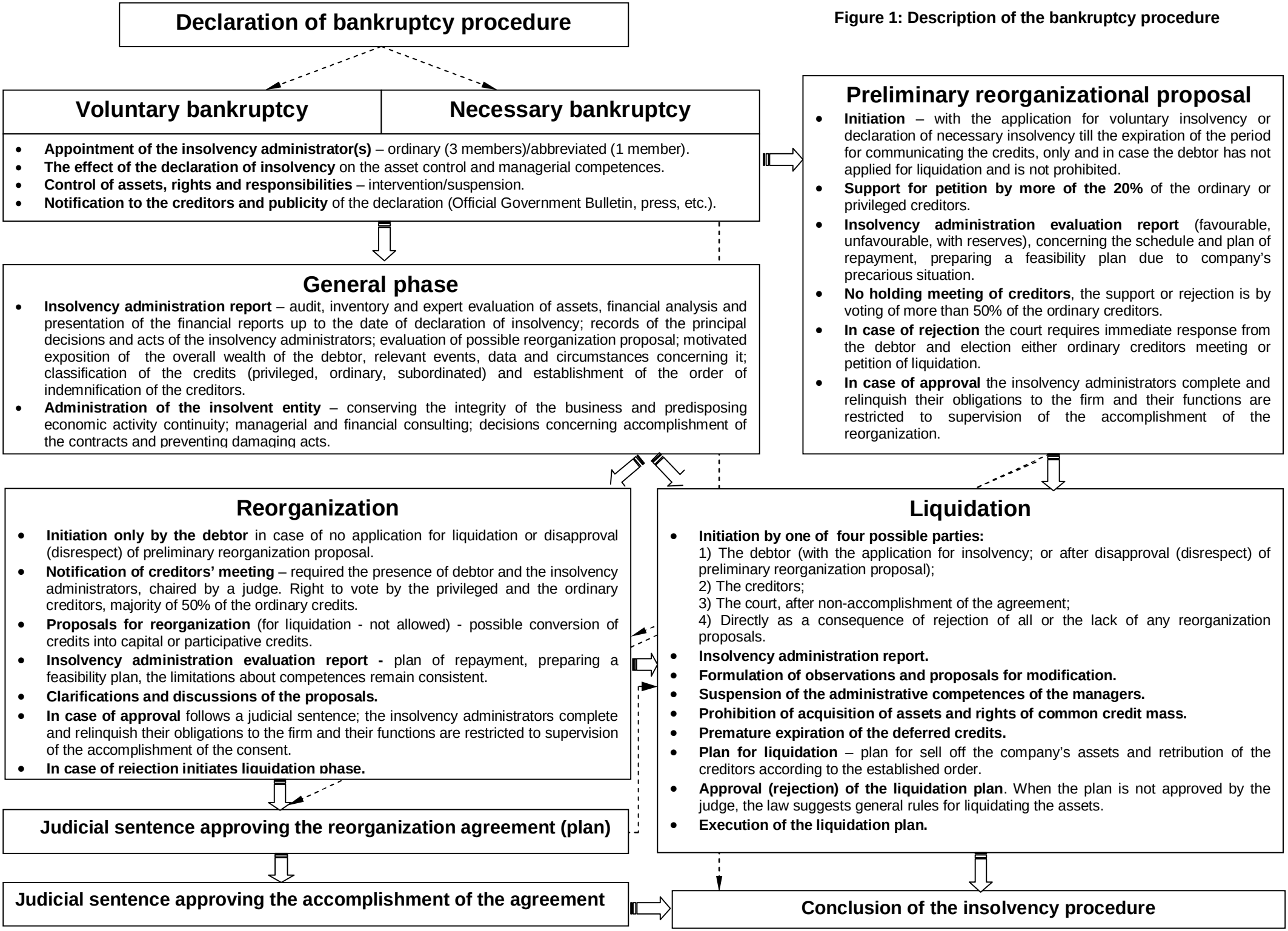
### 1. Declaration of insolvency

The bankruptcy declaration process comprises all the measures relating to entry into bankruptcy proceedings. The sooner this occurs, the better it is, both for the creditors – who have more chance of recovering their loans – and for the firm itself – which is more likely to survive (White, 1996). However, the executives of the firm do have incentives to delay entry into bankruptcy proceedings if this implies their loss of control or even dismissal, so that the legislation establish a series of incentivizing and/or penalizing mechanisms to ensure that bankruptcy filing occurs at the most appropriate time.

The application for insolvency can be filed with by the debtor (voluntary bankruptcy) or, under certain circumstances, by a creditor (necessary bankruptcy). In the case of companies, the partners with personal liability for the company's debts can also apply for the company to be declared insolvent. The debtor has to declare insolvency situation in two months following the date in which the distressed situation is recognized (LC, §5.1.).

Creditors may not have a clear picture of the actual financial situation of a company, if there are many creditors that all operate at arms' length from the company. It could, therefore, be preferable, if the debtor, who knows the company best, would initiate bankruptcy in order to save as much of the company's value as possible. Necessary bankruptcy may come too late in some cases. The debtor might want to continue the company as long as possible for his own sake or that of his employees and hide the real financial situation of the company from creditors.

**Figure 1: Description of the bankruptcy procedure**



The sentence of declaration of insolvency does not interrupt or suspend the economic activity of the debtor. In case that the debtor is suspended from exercising directorial competences, the insolvency administrators have to adopt and apply the measures necessary for the continuity of the economic activity (LC, §44.1.). As an exception, after a petition and recommendation of the insolvency administrators and hearing of the debtor and representatives of the employees, the judge may sentence partial or total closure of offices, plants and equipments or activities (LC, §44.4.). Insolvent firms have a strong tendency to lose their position within their sector, even if they do not get involved in bankruptcy processes.

It is interesting to note that the insolvency law now allows debtors to start insolvency proceedings even if they are not yet in a situation of insolvency, but where it can be anticipated that they will become insolvent in the future (imminent insolvency). There are certain events which are considered to be clear evidence for the debtor to be insolvent:

- a general failure to pay debts then due;
- the existence of asset seizure which generally affects the debtor's assets;
- the fraudulent sale, accelerated liquidation or ruinous sale of the debtor's assets;
- not-payment of tax for a period of three months;
- not-payment of Social Security contributions for a period of three months;
- not-payment of salaries or indemnifications arising out of labour relationships for a period of three months.

If the debtor fails to request the insolvency upon the occurrence of any of these circumstances then there is a presumption that the debtor acted with gross negligence or even in bad faith. Although the debtor is allowed to submit evidence to the contrary, if the presumption is upheld, then the insolvency will be classified as an "illegal insolvency" ("*concurso culpable*"). Creditors can now ask the court to aggregate the insolvency of several debtors in one single

insolvency proceedings in the event of commingling assets ("*confusión de patrimonios"*) or when they are part of a group.

The documents applied to the declaration of insolvency are: economic and judicial records, financial reports for at least last three years, administrative and auditory reports, the causes for the distressed situation, evaluation and suggestions concerning the assets' feasibility (LC, §6.2. & §6.3.).

In case that the declaration is applied by one of the creditors, it should of be accompanied by documents justifying the origin, type, exact sum of the credit, the dates of acquisition and mature (LC, §7.1.). In the necessary insolvency procedure the judge may order warranty measures which he/she considers most appropriate to assure the integrity of the debtor's assets (LC, §17.1.).

The possibility to solicit an anticipated liquidation of a company is also established. More clearly, such liquidation can be applied for during the first phase of the insolvency proceeding (the common phase) without waiting for the termination of those incidents that may arise in those insolvency proceedings relating to the challenge of the inventory list and of the list of creditors.

The declaration of insolvency has been defined as the stage of definition of the control rights, since once the firm has entered bankruptcy proceedings, it becomes especially important to know who is going to exercise authority. The decision depends on whom the legislator wishes to protect most, which will in turn affect the valuation of the firm made by the creditors and the executives, as well as the degree of resistance sparked by the initiation of proceedings.

In most countries the debtors remain in charge of the firms, although their actions are controlled by an administrator acting solely in the name of the court – in the case of the French system – or a mixture of judicial administrators and some representative of the creditors – in the case of the two German legislations and the Spanish code. The UK is at the opposite extreme, where an external administrator always assumes control of the firm – although in receivership the administrator acts solely in the interest of the creditor that has named them, while in administration their responsibility is to all the firm's creditors.

Insolvency administrators ('IA') are appointed by the Courts to assist companies in dealing with their insolvency proceedings. In the cases of a non-incorporated debtor and a corporation where the release of annual abbreviated accounting statements and, in both cases, if liabilities sum up to a figure less or equal to 1.000.000 euro, only one IA will be appointed. With the reform of the Law it is established that those insolvency proceedings whose initial estimation of debt owed does not exceed 10 million euro, always when the other legal requirements are met, will be able to be processed by way of the abbreviated procedure. In the other cases IA team will be comprised of one lawyer, one accountant and one of the largest unsecured creditors. In practice, this means that a great number of insolvency proceedings that before should have been processed by means of the ordinary procedure can now be processed using the abbreviated procedure, enjoying the advantages of the cost and time that the abbreviated procedure implies. The lawyer and the accountant must have at least 5 years of experience.

In addition, the insolvency administrators of the parent company may apply for the merging of its insolvency proceedings with the case of its subsidiaries. This is a significant change which will facilitate the restructuring of groups of companies by all of the group's creditors making a single arrangement.

As far as the automatic stay is concerned, the aim is to prevent the creditors from making their guarantees effective, with all the negative consequences that this would entail for firm continuity, since the sale of an asset that guaranteed a particular debt may mean the loss of a productive asset leading to immediate paralysis of the firm's operations, making any solution involving its survival completely impossible. The existence of this suspension may improve the behaviour of firms managing to come out successfully from bankruptcy proceedings (Jayaraman *et al.*, 2001). The automatic stay means that a firm's entry into bankruptcy proceedings in fact acts as a protection from its creditors.

The sentence of declaration of insolvency consists of the following requisites (LC, §21.1):

1. Type of the procedure – voluntary/necessary and indication if the debtor appeals for liquidation and sell-off of the assets.

2. The company's administrative competences (maintained/suspended) and appointment of the insolvency administrators.
3. To summon all creditors to reclaim their credits in a period of one month after the publication of the decree.
4. Additional information, which the judge considers relevant to proclaim.

The decree itself has immediate jurisdiction effects and is considered to be the aperture of the general phase of the insolvency procedure. The insolvency administration has to notify individually each one of the creditors and inform them to reclaim their collections.

In the case of voluntary insolvency the debtor keeps (in most of the cases) the administrative competences and the control over company's assets, under the supervision of the insolvency administrators and the necessary insolvency principally is characterized with the fact that the debtor is suspended from exercising his managerial power and substituted by the appointed administrators, if in both of the cases the judge does not decide the contrary and the decision have to be motivated, expressing the possible risks which it pretends to evade and the advantages it pretends to obtain (LC, §40.1, 2, 3.).

The judge may order with decree modification of the directorial competences when it is requested and recommended by the insolvency administrators (LC, §40.4), measure used to control companies' managers. The accomplishment of the administrative competences has as a principal purpose the protection of firm's assets for the interests of the insolvency procedure and till the judicial sentence approving the reorganizational or the publication of the decree initiating the liquidation of the company, the assets and the rights, part of the active mass cannot be transferred without the court's authorization.

**1.1. Effects of the declaration of insolvency:**

1) With regards to the company.

The effects will vary depending on the party, which petitions for the insolvency:

### *Benefits of voluntary insolvency for the debtor*

Debtors which are in difficult financial situation are well advised if they initiate insolvency proceedings before any of their creditors do so first, for a number of reasons:

- Upon requesting the declaration of insolvency, the applicant may ask the judge to take precautionary measures to ensure the integrity of debtor's assets (e.g., prohibition to sale certain goods or assets, blocking the bank accounts, etc.). Usually he will be interested in such precautionary measures, but the creditors may certainly be to ensure that a maximum of assets is available for recovery of their credits.
- If a creditor requests that a debtor is declared insolvent, it is for the debtor to prove that he is in a solvent position. To this end the debtor must provide evidence that the events of insolvency alleged by the creditor do not exist or that, even if such events exist, he is not insolvent and can continue paying his debts. Sometimes it may be difficult for the debtor too provide the type of evidence needed to success in his option to the creditor's request for insolvency, and this will leave the initiative of the proceedings in the hands of the creditors.
- As a general rule, while in a voluntary insolvency the debtor continues to have the control over the firm's assets (under the supervision of the administrator of insolvency), this control is suspended if the insolvency has been requested by a creditor. The judge can make exemptions to this general rule, but if the debtor wishes to keep control on his assets the voluntary insolvency seems be the safer course of action to take.

### *Benefits of necessary insolvency for the creditor*

Administration of the company and the power to control its assets is generally transferred to the insolvency administrators (directors lose most of their control rights). If creditors perceive the firm's financial condition to be deteriorating, they have an incentive to try to raise their positions in the priority ordering. Creditors holding claims that are long term and due in the future have little bargaining power with management. But creditors holding short-term claims that

are willing to make new loans to the firm have substantial bargaining power. These creditors often improve their positions in the priority ordering by bargaining with the firm to convert some or all of their claims from unsecured to secured status (Schwartz, 1981).

Thus, the creditors located in Spain have been given a quite powerful and flexible weapon to put pressure on their debtors: if the debtor wants to continue running its business without the supervision of the insolvency bodies he has few choices but to pay, while the creditor can drop its claim upon being fully satisfied. It must be pointed out, however, that the creditor will have to bear the costs of the proceedings and pay damages to the debtor if the judge finds that the request for the insolvency was not justified. If the debtor does not pay its debts and the insolvency proceedings are initiated, than the creditor who started the procedure is granted a privilege over his unsecured credits, up to 25% of the amount due. Thus, an “active creditor” would have an advantage over the rest of the unsecured creditors. As he would be entitled to receive 25% of his credit before the other unsecured creditors. Thus, the creditors of financially distressed firms play crucial role of monitoring its performance and imposing financial discipline.

2) With regards to the contracts.

The declaration of insolvency does not affect the validity or enforceability of ongoing contracts with reciprocal obligations so that the business activity of the debtor is not discontinued. However, by way of exemption, the administrators of the insolvency - and in certain cases the insolvent debtor- may ask the Judge to declare the early termination of ongoing contracts. In that case the Judge would hear all the parties involved and, when no agreement among the parties as to the termination and its effects can be reached (payment of compensations, return of goods or materials, etc.), to declare if the contract is terminated or maintained. As far as financial contracts are concerned (loan agreements, credit facilities, purchase agreements with deferred payments), the Insolvency Law allows the administrators to cure any defaults that may have caused the early termination if they manage to pay all amounts outstanding (or offer sufficient

security to this extend) and confirm that all future payments will be made against the bankruptcy state.

Of particular relevance to international business contracts is also a provision of the Insolvency Law that deals with the validity or arbitration clauses: as long as the insolvency proceedings have not been closed all arbitration clauses entered into by the debtor are denied any legal effect, thereby forcing creditors to file their claims with the judge of the insolvency. The arbitration clause is denied any legal effects from the moment in which the insolvency is declared and up to the time of closure of the insolvency proceedings. At that point of time, the arbitration clause would become fully effective and enforceable again.

3) With regards to the creditors' claims

As in most legal systems, the Insolvency Law provides that upon the passing of the declaration of insolvency, all creditors of the insolvent debtor will be brought together in the mass of debts of the insolvency, with the only exemption of those excepted by law. This is not a novelty in the Spanish legal system and businessmen and practitioners are familiar with this general principle. However, the new law contains a series of provisions that can be regarded as a clear departure from the traditional rules. The main aim of these provisions is to ensure that the debtor continues trading, and that its business is not impaired by judicial actions affecting the debtor's assets. After issuance of the declaration of insolvency all civil and labour claims against the debtor must be brought to the commercial judge, where the insolvency proceedings are being heart.

The law prevents creditors (labour and tax authorities) from starting enforcement proceedings against the debtor once the insolvency has been declared. Following the declaration, a list of Insolvency claims ("*créditos concursales*") will be prepared by the Insolvency Administrators. There is another set of claims called Estate claims ("*créditos contra la masa*"), which include accumulated during the procedure unpaid salaries, legal and judicial expenses related to the insolvency proceedings, expenses generated as a result of keeping the company going concern, ongoing trading expenses incurred by the insolvent company in the course of its business after the

declaration of insolvency, etc. One of the most important reforms in this respect is the regulation of the rights of secured creditors. According to the legislator, a balance has been sought between the rights of secured creditors – which are part of the mass of debts – and the need to ensure a smooth proceeding and the achievement of the most convenient solution for the debtor and its unsecured creditors. The Insolvency Law states that, with some few exemptions, all actions to enforce collateral rights (mortgage, pledges, etc.) over assets of the debtor which are needed in the conduct of the business are automatically suspended during one year or until an agreement with the creditor is reached or the liquidation of the debtor's assets is ordered, at any moment of the procedure. This provides a fair balance between the interests of the all parties involved in the insolvency.

**2. Report of the insolvency administration**

The insolvency administrators in a period of two months after their assignation have to present a detailed report including the following items:

1. Evaluation of the documents applied to the declaration of insolvency: economic and judicial records, financial reports for at least last three years, administrative and auditory reports, the causes for the distressed situation, evaluation and suggestions concerning the assets' feasibility;
2. Accounting analysis and audit;
3. Report about the principal decisions and measures taken by the insolvency administrators;
4. Inventory of the active mass;
5. List of all creditors;
6. Evaluation of the reorganizational proposal, if any;
7. Overall report accounting for the company's assets and all relevant circumstances related to the procedure.

The insolvency administrators prepare as soon as possible an inventory report, evaluating debtor's assets and rights integrated in the active mass. Each one of the assets and rights is presented and expressed with its characteristics, nature

and place of exploitation, possible burdens and charges. All the credits are computed in euro currency and those which are not monetary are evaluated and converted into monetary value at the date of declaration of insolvency (LC, §88.1; 3).

Administration is likely to generate significant procedural costs. The new procedure involves a greater likelihood of court appearances. Moreover, the administrator(s) will be required to engage in several types of accountability and audit procedures, preparing and extending reports to creditors; calling and conducting creditors' meetings; preparing reasons for their actions, etc. All of these may be expected to lead to increased costs.

The law classifies the insolvency claims and according to that specification establishes the proper order of indemnification of the creditors.

**a) Privileged claims** (or secured)

- Specially privileged – secured claims and specific assets or rights arising from lease and financial agreements - credits secured by a mortgage and a pledge without a transfer of possession, credits accrued from financial or operating leasing;
- Generally privileged – unpaid salaries, taxes, social security contributions, intellectual property rights, claims of the creditor filled the petition for insolvency of the company.

Traditionally, the foreclosure proceedings of secured creditors were not stayed as a result of insolvency proceedings opening. In contrast, under the Insolvency Act, the initiation of single court and out-of-court enforcement proceedings against the debtor's estate after the initiation of insolvency proceedings is generally forbidden and the suspension of any enforcement proceedings already initiated is provided for. A stay of enforcement actions over secured assets and rights will in any event be provisional. In particular, it will only be effective until the first of the following circumstances is verified: approval of a creditors' agreement; after the passing of one year since the declaration of the insolvency without liquidation proceedings being initiated; or since the initiation of liquidation proceedings. During this period, the insolvency trustees may opt to

pay these creditors and therefore release the assets from the security interest created thereon.

**b) Subordinated claims** – unpaid interests (not the ones generated by privileged credits), fines and monetary penalties, contractually subordinated claims, credits held by persons with a special relationship with the debtor (related persons).

The consequences of subordination are onerous for creditors. Subordinated creditors are not permitted to vote on any restructuring or liquidation proposal and will only be able to collect their credits in the rare event that all the other secured and unsecured creditors are repaid in full. Moreover, the classification of certain insolvency credits as subordinated entails the extinction of any security granted in their favour.

**c) Ordinary claims** – those which are neither privileged nor subordinated.

### 3. Preliminary (anticipated) agreement proposal

The preliminary reorganizational proposal gives the opportunity for the debtor to resolve its precarious situation promptly and less costly. Very small fraction of the procedures has been accompanied by an anticipated proposal, because the insolvent parties at that stage do not perceive how the pay off could be effectuated. It has to be presented with the application for insolvency or before the judicial decree proclaiming it. It has to be supported by the ordinary or privileged creditors, which represent more than 1/5 part of the lend capital (LC, §106). The insolvency administrators prepare an evaluation report and feasibility plan, concerning the schedule and plan of pay off. In case that the preliminary reorganizational proposal is being rejected, the judge will request an immediate decision (in three days) from the debtor if the proposal will be maintained for the creditors' meeting or proceed to company's liquidation (LC, §110).

### 4. Possible solutions to conclude the insolvency procedure

The Law sets out two alternatives to end the insolvency procedure:

a) Company Voluntary Arrangement (CVA) - may not include stays of more than 5 years or a release of more than 50% of the claims (unless the judge accepts surpassing those limits), nor the transfer of all the assets in satisfaction of all the claims. There is only one creditors' meeting to approve a CVA and generally requires the vote of at least half in value of the unsecured claims. In contrast to the former legislation, no majority of creditors by number is required. The court has to approve the CVA and it has limited discretions not to do so.
b) Liquidation commences when the company requests it or when a CVA is not reached or approved or when it is not fulfilled and in accordance with a liquidation plan proposed by them and approved by the court or, otherwise, according to the rules set out in the law. The creditors cannot propose terms of the plan nor vote upon it and will be paid in accordance with the strict order of priority set in the law.

Here are the main characteristics of the two insolvency resolutions:

- **Reorganizational phase**

Reorganization or restructuring is aimed at finding a method of rescuing the firm from financial distress and salvaging all or parts of it for the benefit of all claimants. Typically, it involves a process of negotiation between debtors and creditors with a view to establishing a new mechanism for the settlement of claims – writing off some claims, investing new capital, swapping new equities and bonds for old ones. The capacity of the debtors to present preferentially proposed plan – accompanied by their maintenance in control of the firm – provides strong incentives for the continuity of the firm compared to its liquidation (Jayaraman *et al.*, 2001).

The reorganizational proposal has to include propositions for pay-off or periods of grace, or both. It might contain alternative propositions for all or part of the creditors, including the conversion of the debt into shares or capital. It has to include a notice about the continuity of the economic activity. In any case the proposal does not have to be based on the sell-off of the assets for redemption of the creditors, neither the total liquidation of company's wealth, nor alteration of the classification of the credits (LC, §100.1, 2).

With the proposals have to be attached a pay-off feasibility plan, detailed with the capital necessary for the accomplishment and the sources of financing (LC, §100, 3; 4; 5). If there is no debtor's request for liquidation and the preliminary reorganizational proposal has not been accepted or maintained and 15 days after the expiration period of contest of inventory and the list of creditors, the judge will decree the end of the general phase of the insolvency procedure and aperture of the reorganizational phase (LC, §111).

In order for plan of reorganization to be confirmed by the court, the debtor must show that the plan is feasible. To meet this requirement many firms provide earnings forecasts, generally prepared by management or their financial advisors, when the plan is submitted to creditors and the court. The ability to meet these projections provides another measure of post-bankruptcy success, through should be considered how macroeconomic and industry conditions influence the results.

The forecasts presented at the time of reorganization may also reflect reporting incentives of the persons preparing those forecasts. If managers have private information about their firm's prospects, they may have incentives to overstate or understate these projections. Management, concerned with firm's survival, may need to convince creditors and the court that the firm value is high enough to warrant reorganization, rather than liquidation. A shareholder-oriented management might also overstate forecasts in order to justify giving a greater share of the reorganized stock to prepetition equity holders. Alternatively, they may understate the firm's prospects in order to justify greater concessions from creditors.

The judicial sentence will order to summon the creditors at assembly, specifying the date, hour and place, informing the debtor, the insolvency administrators, creditors and the parties concerned. The reorganizational proposal will be approved by the judge if it is conforming to the requisites for period of presentation, content and form. Once it is approved it cannot be revoked nor modified (LC, §113).

In order to be accepted, the reorganizational proposal has to receive favourable vote by at least one half of the ordinary creditors. If the proposal is accepted

cease all the effects provoked by the decree of insolvency and cease the charges of the insolvency administrators. The proposal might establish restrictive or limitative measures concerning the administrative competences of the company (LC, §137.2.).

With regards the contents of the plan, in the legislation limits are established that protect the interests of minority creditors, although this may in turn make it more difficult to reach an agreement, as well as limit their capacity to negotiate with the debtor. In this respect, there tend to be violations of the absolute priority rule in the payment of the credits, either in favour of privileged creditors such as the State or in favour of the shareholders. This harms creditors, who see how junior debts are satisfied while their credits lose value.

Priority differences cause conflicts between high and low priority claimholders. These conflicts hamper the consensus needed for reorganization or an out-of-court workout. Secured creditors who believe they will receive close to full payment in liquidating bankruptcy may prefer bankruptcy over reorganization, even when total payments to creditors would be higher in reorganization. Secured creditors receive only part of the gain if the value of the reorganized firm increases, but bear all of the costs if the value decreases. Theorists acknowledge the likelihood that secured creditor incentives are skewed towards liquidation over reorganization.

When the reorganization plan of a company is accepted, the debtor is given sufficient time during which is allowed full control of the business. At the same time the company is also provided with a temporary protection from the repayment obligations of the creditors. During the time period provided, the debtor can go for a full restructuring of its units, which in turn should get the approval of the majority of the creditors. Such restructuring scheme often involves debt relief and rescheduling of debts, payment by instalments, and extension of the repayment period. However if the plan does not receive the approval of the creditors, then the company ends in liquidation.

The debtor has to inform twice a year the judge of the procedure about the accomplishment of the agreement. Once it is achieved, the debtor has to

present a justified report and request the pronouncement of a decree for accomplishment of the agreement and the procedure is considered concluded.

Any of the creditors who considers the non-fulfilment and breach of the agreement may request the decree proclaiming it, which leads to the aperture of the liquidation phase.

In case that no reorganizational proposal is presented the judge will decree the aperture of the phase of liquidation.

- **Liquidation phase**

The liquidation is the prevailing resolution of the bankruptcy procedure. It consists of disposal (sell-off) of debtor's assets. The phase initiates in one of the following situations:

1. Debtor's request;
2. If the preliminary reorganizational proposal has not been maintained;
3. If during the reorganizational phase the debtor recognizes the impossibility of accomplishment of the payment plan and the contracted obligations or by a creditor if the debtor does not do it;
4. If the reorganizational proposal has not been accepted;
5. If it there is evidence and judicial decree concerning possible breach and nullification of the agreement.

During that phase the debtor has been suspended from exercising directorial competences and is replaced by the insolvency administrators. The aperture of liquidation leads to maturity of the deferred credits (LC, §145 & §146).

The insolvency administrators have to present a plan for the sell-off the assets, part of the active mass and supervise that process. The debtor and the creditors may present observations and modification proposals. The law prohibits the acquisition of assets and rights, part of the active mass of the insolvent company, which is affected by such prohibition. Each 3 months the insolvency administrators have to present a report for the accomplished activities. If the liquidation process is not completed in one year, each of the parties concerned may request substitution of the insolvency administrators (LC, §153), a measure

provided by the law in order to increase the debt recuperation time and the efficiency of the supervisors' work.

**5. Conclusion of the insolvency procedure**

The insolvency procedure concludes in the following situations:

1. With the decree of accomplishment of the agreement;
2. When all the credits are paid-off and the creditors are indemnified;
3. When it is verified the non-existence of company's assets and rights. In that case the debtor maintains the obligation to pay-off the rest of the credits unpaid.

In the third option, the sentence of conclusion of the procedure has as a consequence the extinction of the company and ceasing of the insolvency administrators. The duration of the insolvency procedure has been reduced considerably. Under the old regime certain proceedings were likely to last for several years (from 1 to 3 years and in the most complex cases from 3 to 5 years). With the new regime, the duration of insolvency proceedings could be estimated to be within a range of 1 to 2 years, if an arrangement with creditors is reached, and about 2 years or a little more in the case of liquidation.

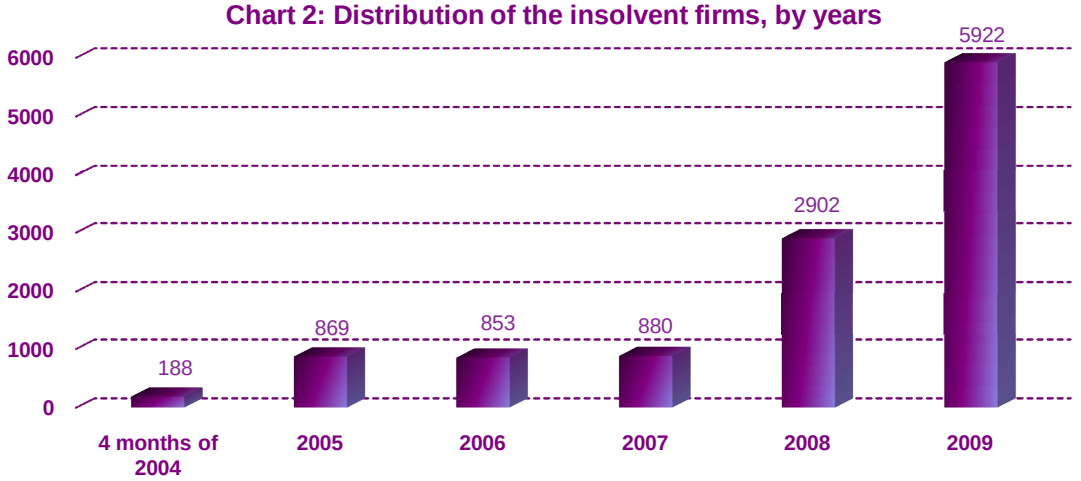
**6. Conclusions**

The Insolvency Law, in general, makes progress towards legal certainty and modernity, restoring confidence in the Spanish market. In this respect, it should be welcomed by financial institutions. It provides for a scheme that seems appropriate for dealing with financially distressed companies in a predictable and rapid manner, maximizing creditors' ability to recover their credits and minimizing the associated social and economic costs. However, the evident desire to protect business that is at the root of the new regime might also have negative consequences for lenders. Sensible lenders will have to carefully consider the specific features of this reform, which pose risks to the realization of the full value of lenders' credit assets.

# Chapter III: Descriptive statistics of the insolvent firms

The number of insolvent firms for the first years of the new law is equally distributed. For the 2008 due to the economic crisis, which affected principally sectors like construction and supporting it materials, real estate services, the number of bankruptcies increased to 2902, cases doubled during 2009 year. The increased number of cases overloads the commercial courts and affects the duration of the procedures at all.

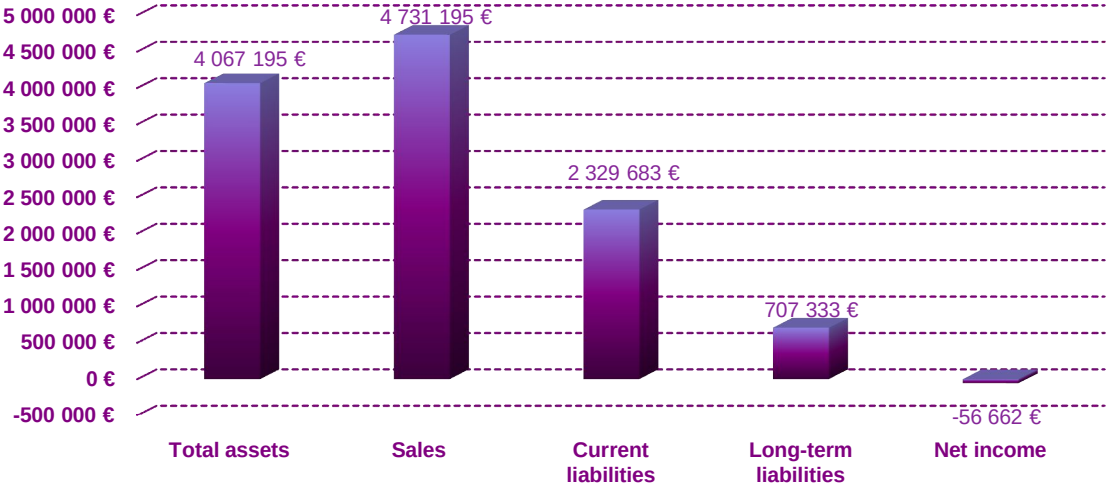
**Chart 2: Distribution of the insolvent firms, by years**




Source: National Statistics Institute of Spain (www.ine.es)

From all the 2790 firms registered for the period 01.09.2004 – 31.12.2007 year in the National Statistic Institute of Spain (INE) our sample is composed by 2270 firms, whose financial statements have been found in SABI database. An unbalanced panel database, consisting of 15 858 observations, was composed.

**Chart 3: Mean of the main financial indicators of the insolvent firms**



The profile of the average insolvent firms is branded of 4 million euro assets, about 18 years of age, 40 employees and about 3 million euro liabilities. The percentiles 10 and 95 indicate that the sample is relatively diverse and there are 10% of very small and young firms, with less than 3 employees, assets valued at less than 162 thousands euro and equal accumulated loss. From the other side, there are 5% of firms at more than 40 years on the market, with assets valued at more than 15 million euro, liabilities more than 11 million euro.

**Table 1: Descriptive statistics of the insolvent firms**

| | Total Assets | Sales | Current liabilities | Long-term liabilities | Net Income | Staff | Age |
|---|---|---|---|---|---|---|---|
| Mean | 4,067,195 € | 4,731,195 € | 2,329,683 € | 707,333 € | -56,662 € | 40 | 18 |
| Standard deviation | 16,400,000 € | 18,800,000 € | 8,747,258 € | 4,987,493 € | 1,946,591 € | 116 | 12 |
| Standard error | 130,064 € | 148,925 € | 69,462 € | 39,608 € | 15,460 € | 1.08 | 0.09 |
| Interquartile range | 2,326,845 € | 3,233,261 € | 1,459,963 € | 309,664 € | 48,396 € | 29 | 13 |
| Percentile 1 | 18,639 € | 0 € | 203 € | 0 € | - 2,971,924 € | 1 | 3 |
| Percentile 5 | 90,663 € | 52,468 € | 46,080 € | 0 € | - 409,690€ | 1 | 4 |
| Percentile 10 | 162,347 € | 195,969 € | 94,638 € | 0 € | -146,529 € | 2 | 6 |
| Percentile 90 | 8,192,191 € | 9,823,285 € | 4,853,600 € | 1,164,860 € | 133,982 € | 79 | 32 |
| Percentile 95 | 14,800,000 € | 16,700,000 € | 8,639,297 € | 2,488,709 € | 286,020 € | 139 | 40 |
| Percentile 99 | 50,700,000 € | 48,200,000 € | 26,700,000 € | 10,400,000 € | 1,252,079 € | 438 | 58 |
| Minimum | 463 € | 0 € | 0 € | 0 € | -83,600,000 € | 1 | 0 |
| Maximum | 830,000,000 € | 882,000,000 € | 356,000,000 € | 392,000,000 € | 89,700,000 € | 2898 | 105 |
| Kurtosis | 640 | 699 | 451 | 2,717 | 969 | 218 | 8 |
| Skewness | 19 | 22 | 18 | 42 | -7 | 12 | 2 |

**Chart 4: Distribution of the insolvent firms according to the age (in years)**

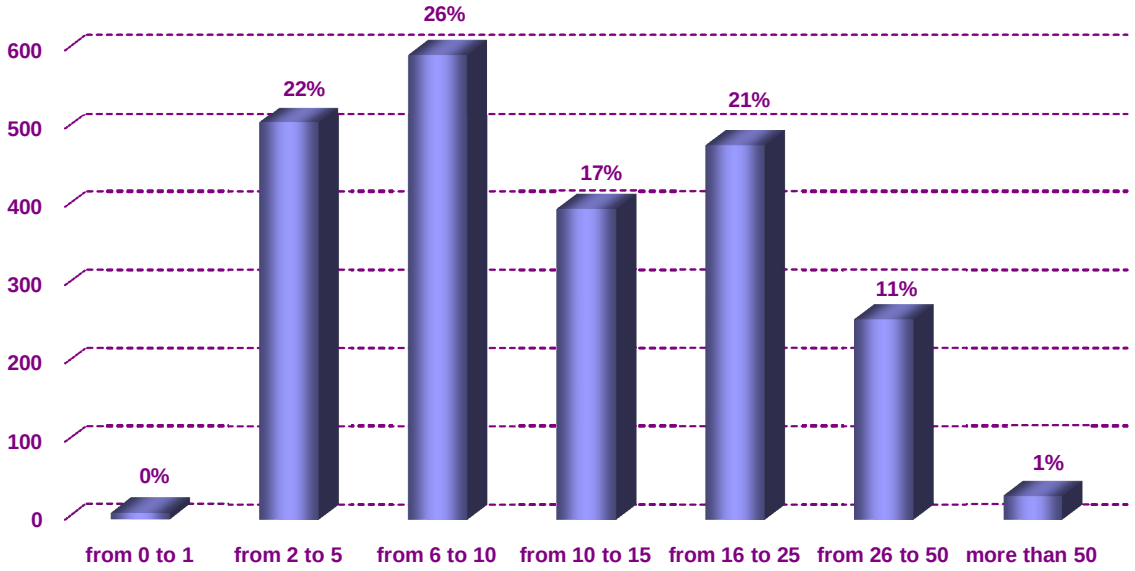
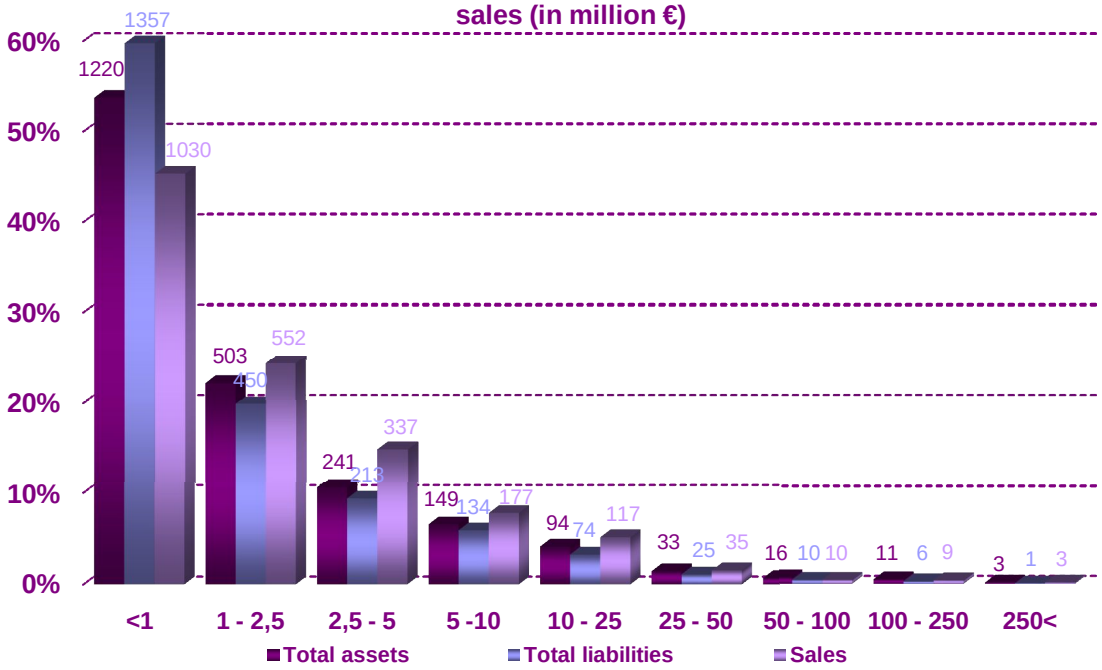
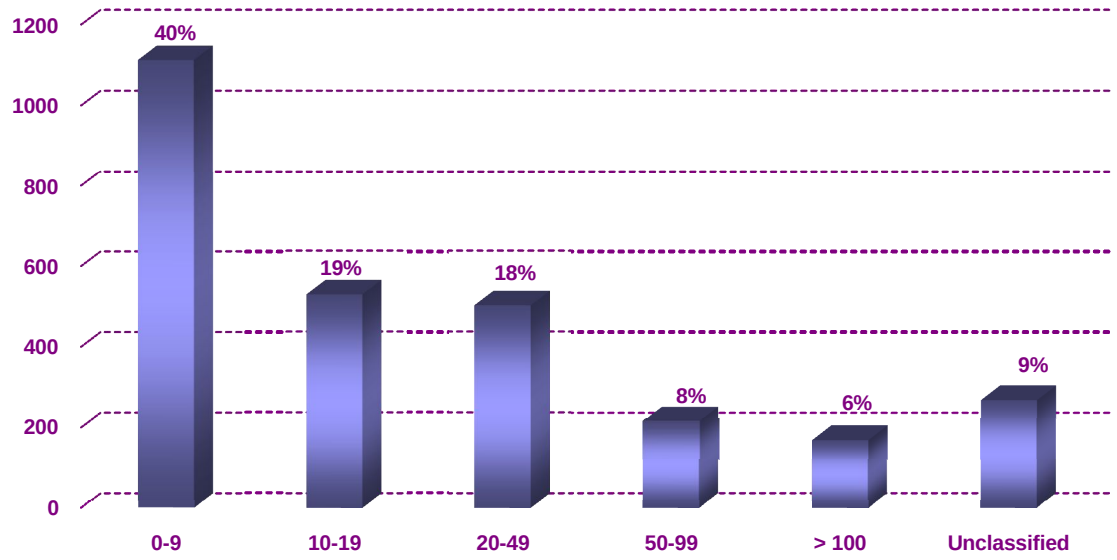


**Chart 5: Distribution of the insolvent firms by assets, liabilities and sales (in million €)**



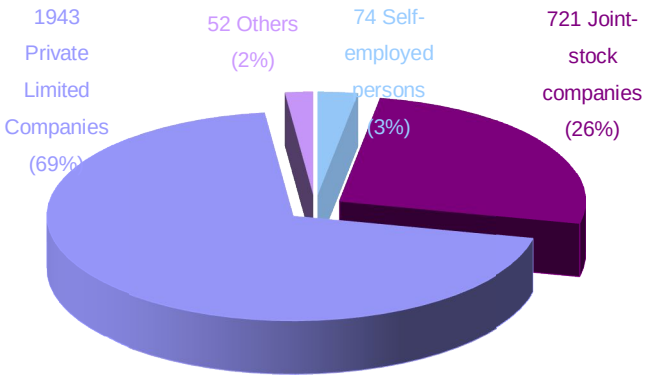

The majority of the firms in the sample are small and with up to 10 employees. Half of the insolvent companies have assets valued up to 1 million euro.

**Chart 6: Distribution of the insolvent firms by the number of employees**



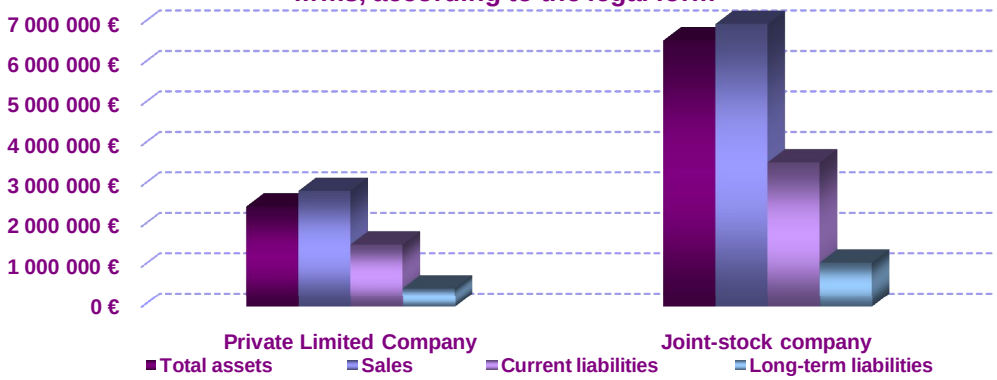

The private limited companies represent 69% of the sample. For their establishment the commercial law requires minimum of about 3 thousand euro and for the not listed joint-stock companies the minimum is about 50 thousand euro. That, together with the percentile 90 and the charts below, suggests that 2/3 of the distressed companies are small and medium ones.

**Chart 7: Distribution of the insolvent firms according to the legal form**




The companies of both types of legal form present volume of business activity and total liabilities close to the assets employed, with the difference that in the joint-stock companies, these indicators are significantly superior.

**Chart 8: Mean of the main financial indicators of the insolvent firms, according to the legal form**

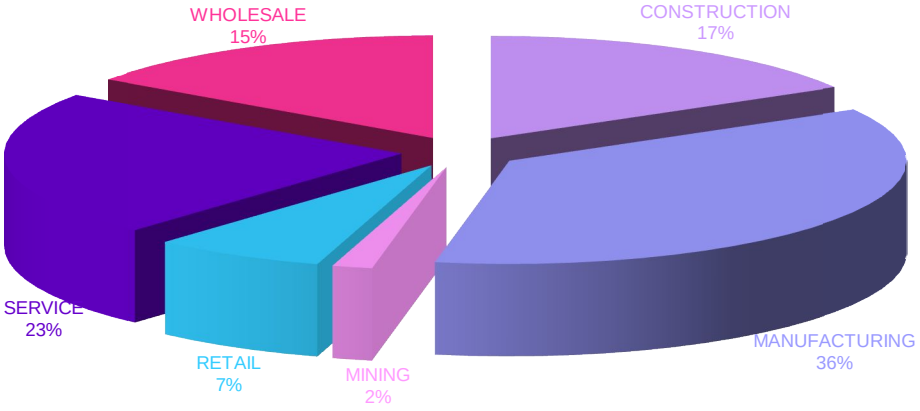



The joint-stock companies are well established on the market, with average of 24 years and the double of employees 57, compared to the limited companies (14 years of age and 29 employees). The cooperatives in the sample are 16, mainly agricultural societies and their average age is 23 years.

**Chart 9: Mean of age and number of employees of the insolvent firms, according to the legal form**

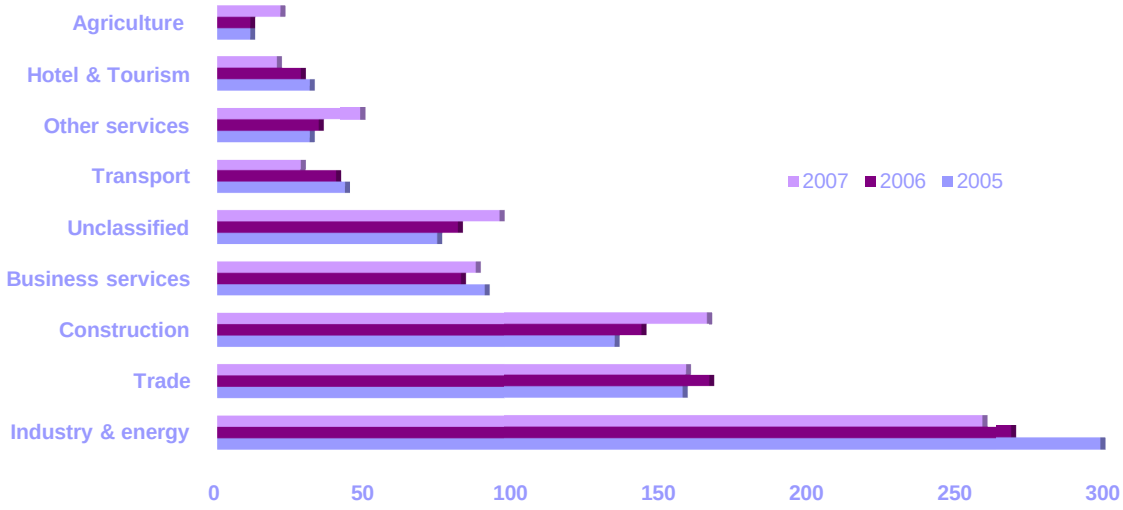
More than ⅓rd of the firms belong to the manufacturing industry, disposing of average assets valued at 5 million euro and accumulated external funds about 3,5 million euro. The barriers of entry into the mining industry impose high resource foundation (more than 10 million euro). The distressed firms in that sector are only 2% of all insolvent and are characterized with low operating activity, which impedes them to serve their high level of current debt. Retail and wholesale trade firms compose 22% of the sample and are characterized with low level of long-term debt. Their current liabilities are mainly trade accounts payable to the suppliers.

**Chart 10: Industry sector distribution of the insolvent firms**




The evolution of bankruptcy filings is characterized with increase of the cases in the construction industry and reduction in the manufacturing and the hotel and tourism sector.

**Chart 11: Evolution of the insolvency procedures, classified by industries**




Source: National Statistics Institute of Spain (www.ine.es)

**Chart 12: Regional distribution of the insolvent firms**

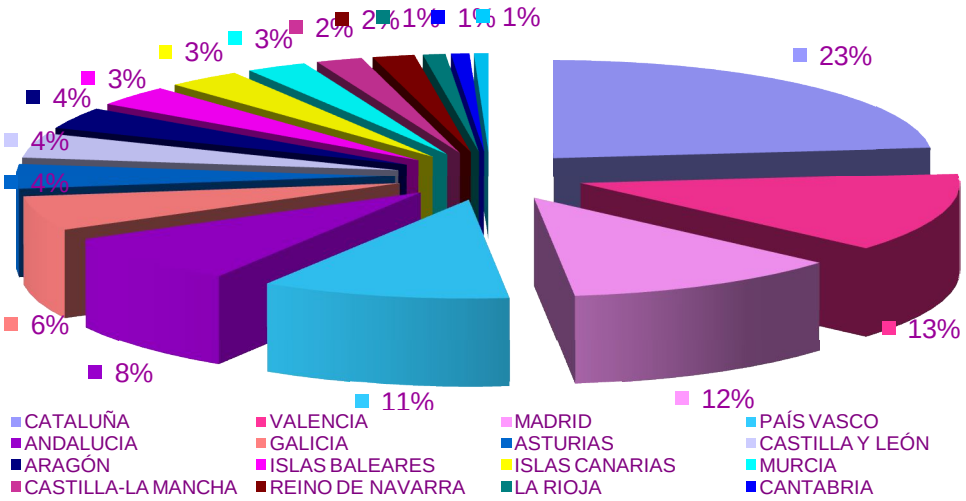
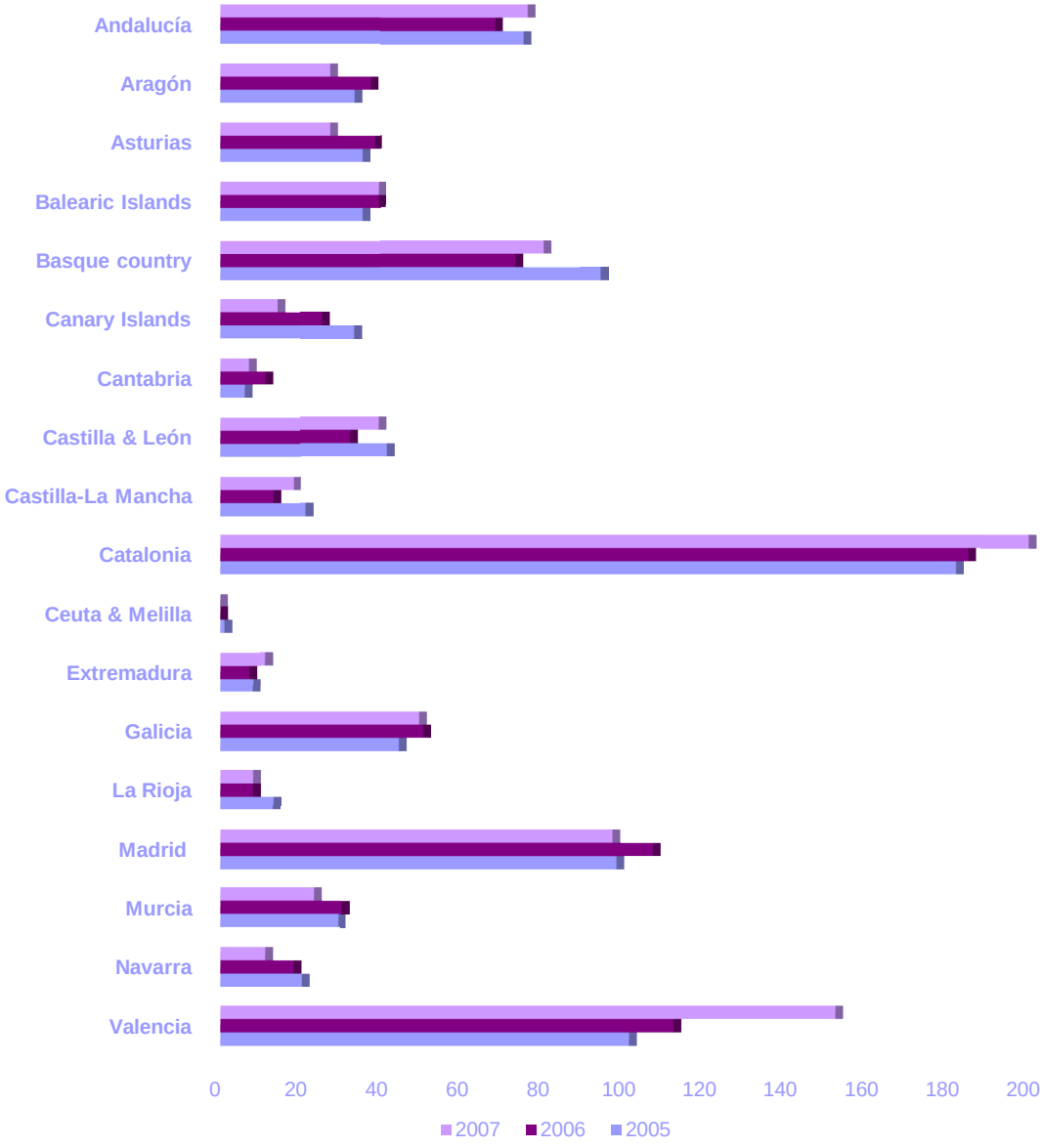



**Chart 13: Evolution of the insolvency procedures, by autonomous communities**

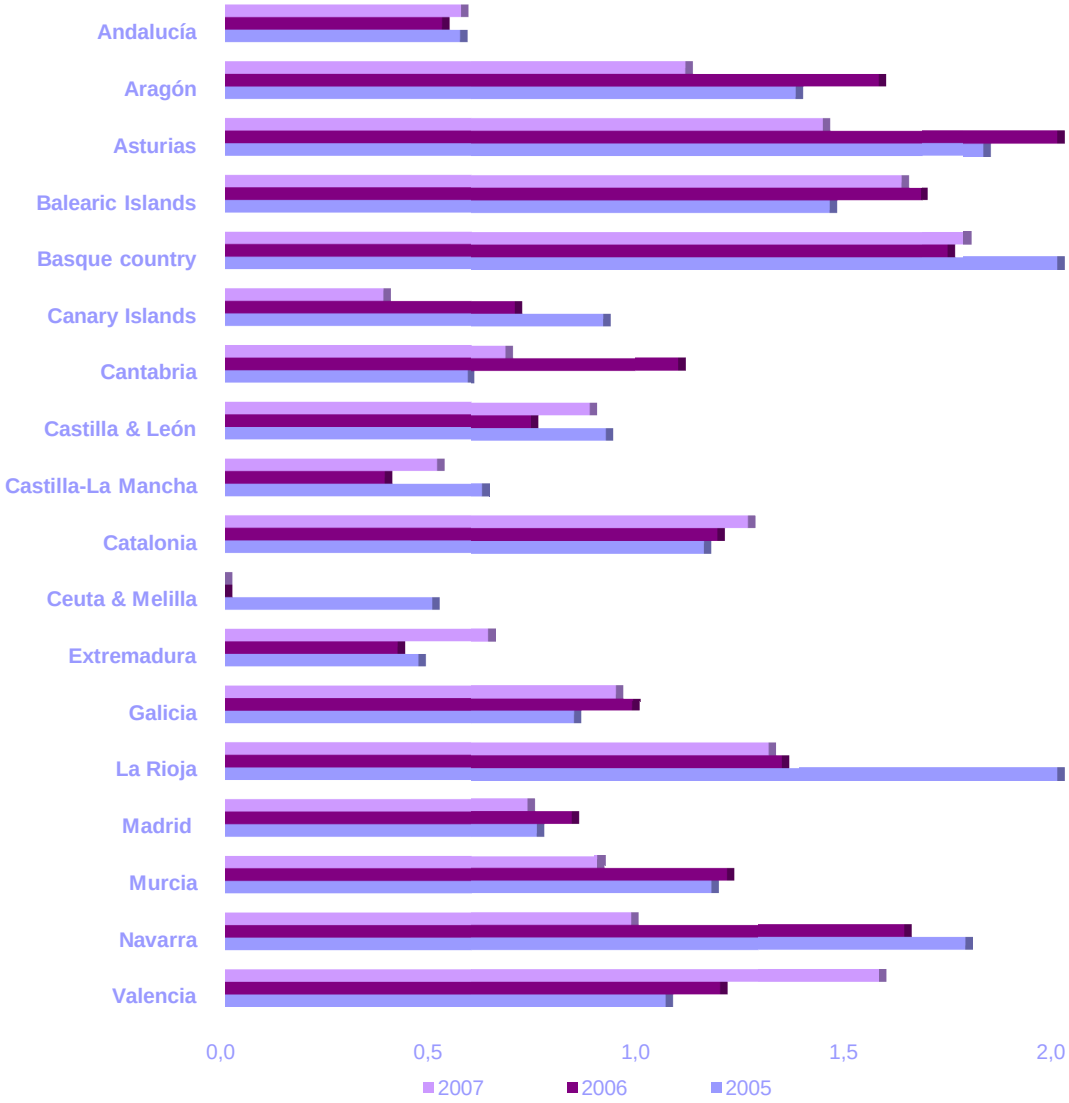



Source: National Statistics Institute of Spain (www.ine.es)

The evolution of the procedures in absolute terms presents augmentation of the filings in Catalonia and Valencia communities. Nevertheless, according to the Spanish National Statistic Institute, the Catalonia community presents the major number of legal entities registered in Spain (2005 – 567.019 firms; 2006 – 578.340 firm; 2007 – 612.404 firms; 2008 – 626.020 firms). That is why we create a relative index of the insolvency fillings, calculated by dividing the percentage of the bankruptcy cases in each autonomous community by the percentage of the firms in the community in the total number of companies.

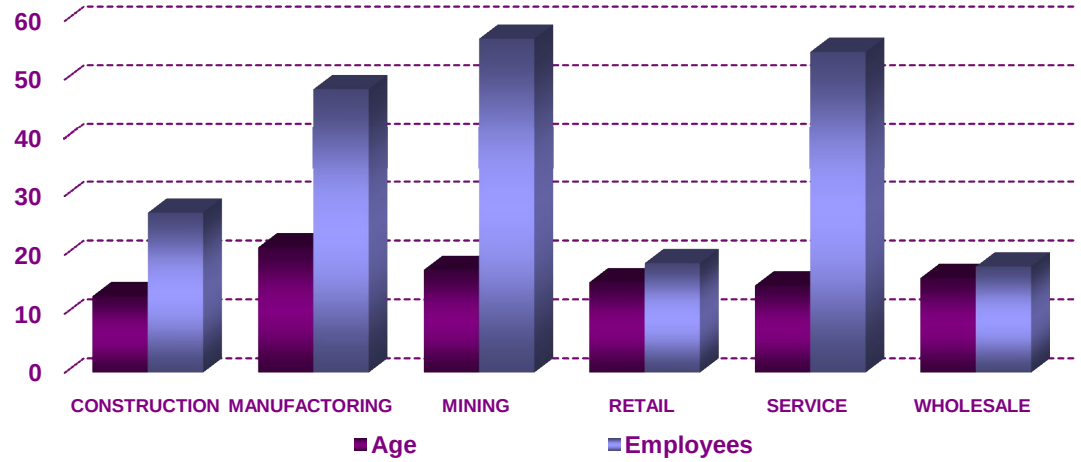
**Chart 14: Relative index of the insolvency filings by regions**

(% of the insolvency filings in each community / % of the firms in the community in the total number of companies)



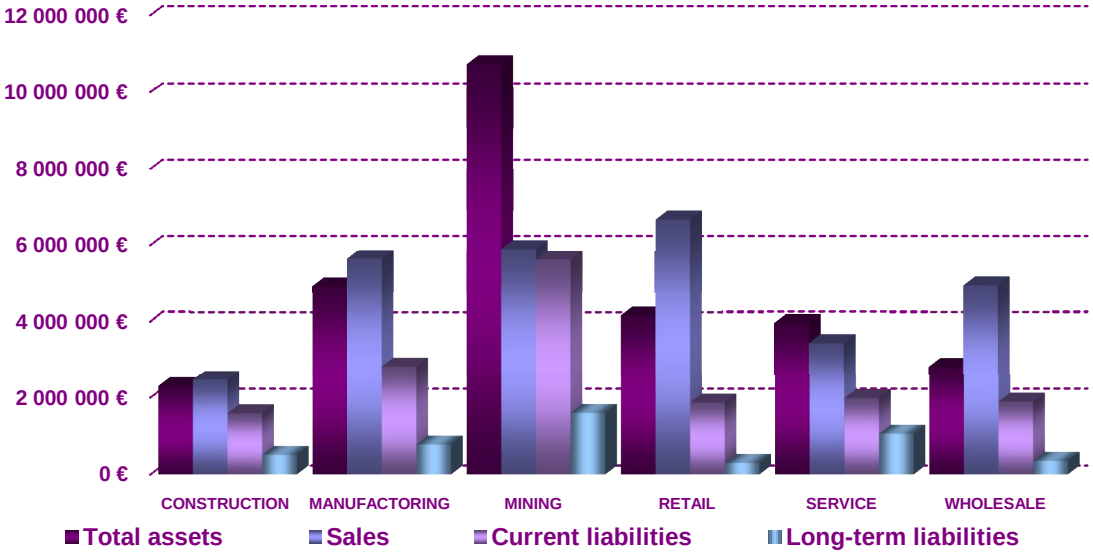

The results reveal that there is a raising trend of the filings in Catalonia and Valencia, but the relative index has highest values in the Basque country, Balearic Islands and Asturias.

**Chart 15: Mean of the age and the number of employees of the insolvent firms, by industry sector**



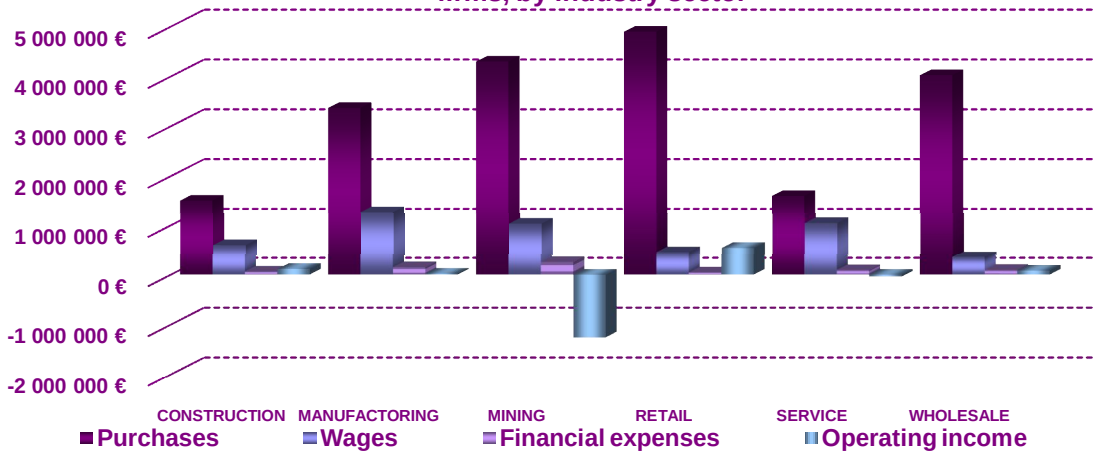

Both types of trade industries, in consistency with the brand present high operating activity and due to unfavourable capital structure or economic distress they fill in insolvency. The construction sector is represented by firms with a small amount of assets and insufficient sales to cover their debt. It is a common practice that some of the firms in that sector have been established for the accomplishment of a short term project and then being closed.

**Chart 16: Mean of the main financial indicators of the insolvent firms, by industry sector**



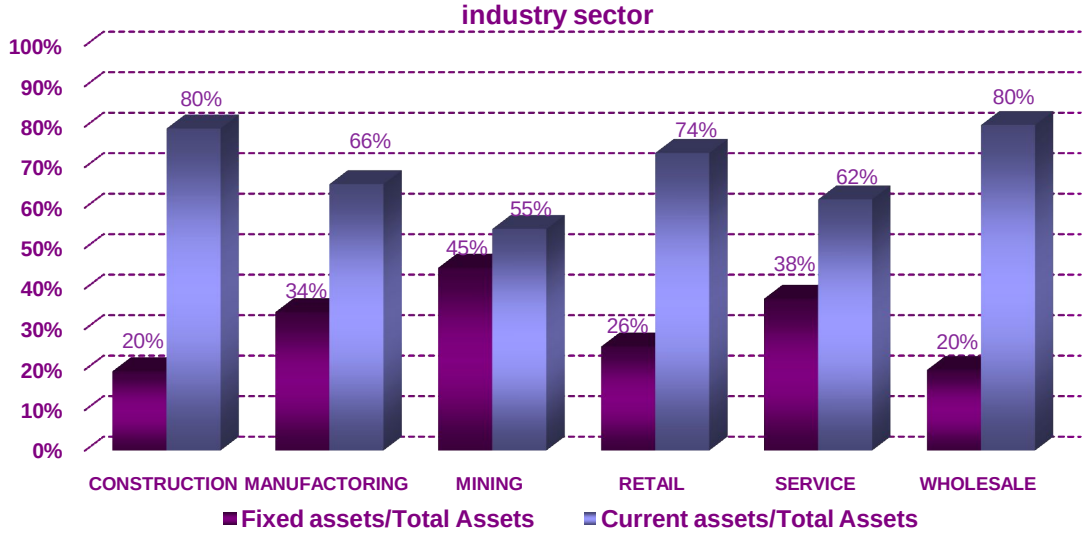

The firms from the manufacturing, service and mining sector are characterized with high employee utilization, which increases their operating expenses, and relatively low operating income. The financial expenses do not seem to be a heavy burden for the insolvent firms or at least not as the principal debt does.

**Chart 17: Mean of operating and financial indicators of the insolvent firms, by industry sector**



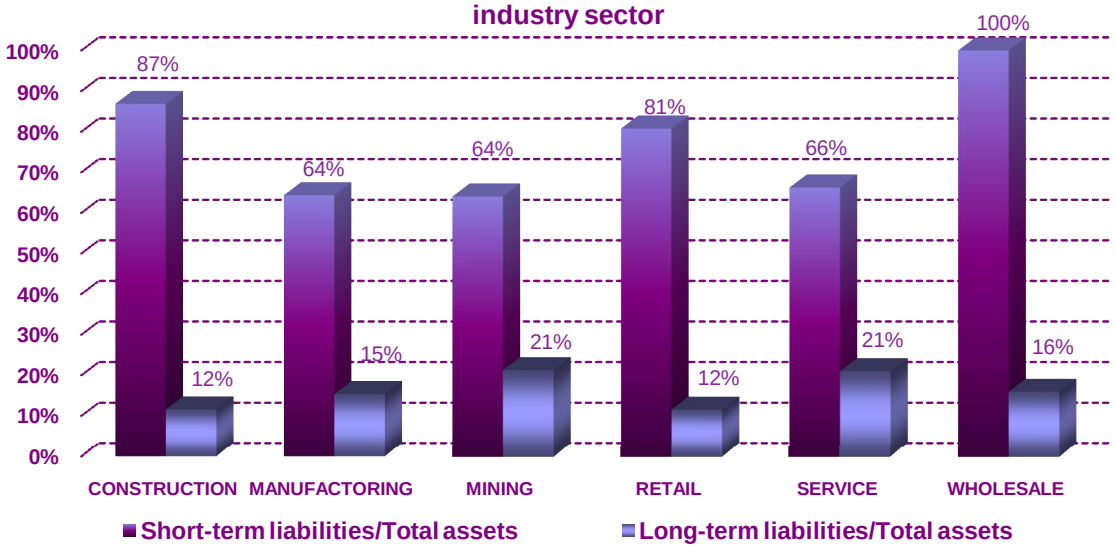

The firm's assets structure is predetermined by the industry belonging requirements. The companies from the construction, retail and wholesale branch usually invest their funds in short-term assets, in many occasions use suppliers' and/or clients' funds as circulating funds. On the other hand, the nature of the firms in the mining industry requires heavy excavating equipment and their capital structure is more balanced.

**Chart 18: Mean of the asset structure ratios of the insolvent firms, by industry sector**



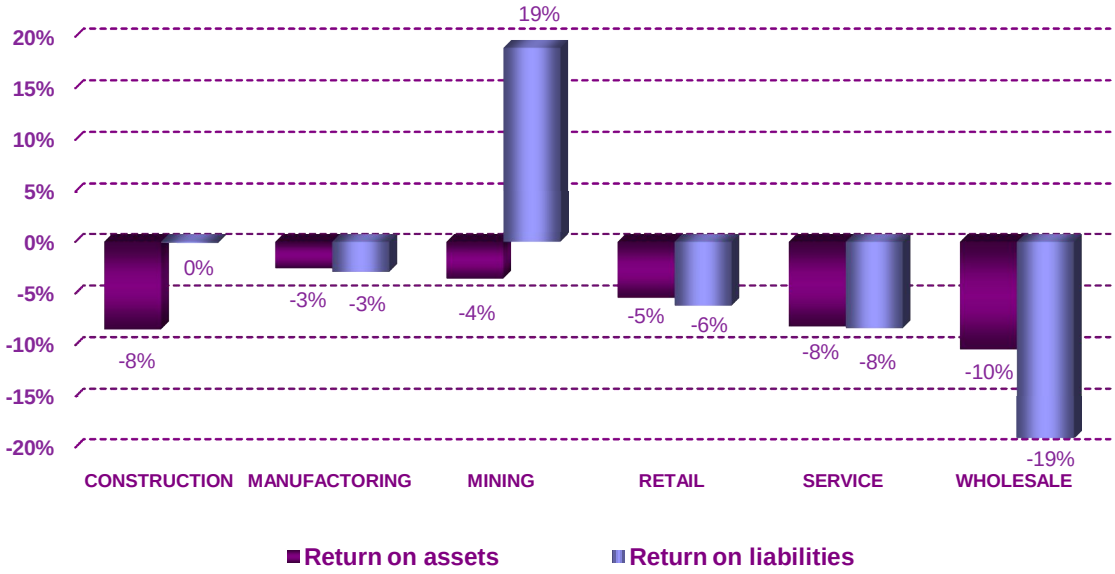

Firms' capital structure depicts the distribution of the external funds employed. The insolvent companies are characterized with extremely unbalanced proportion of the short-term debt compared to the total assets' volume and in some cases (wholesale industry) the sum of the total liabilities is higher than the book value of the total assets. Is not the fact that the firms are over-credited one of the causes of the contemporary financial crisis?

**Chart 19: Mean of capital structure ratios of the insolvent firms, by industry sector**




Firm's profitability is a significant indicator for management's ability to explore the assets with lucrative purpose. The companies in the sample are not only temporarily distressed; they are loss generating firms, which inefficiently use the assets employed. Only the companies from the mining sector present positive return on the lend capital.

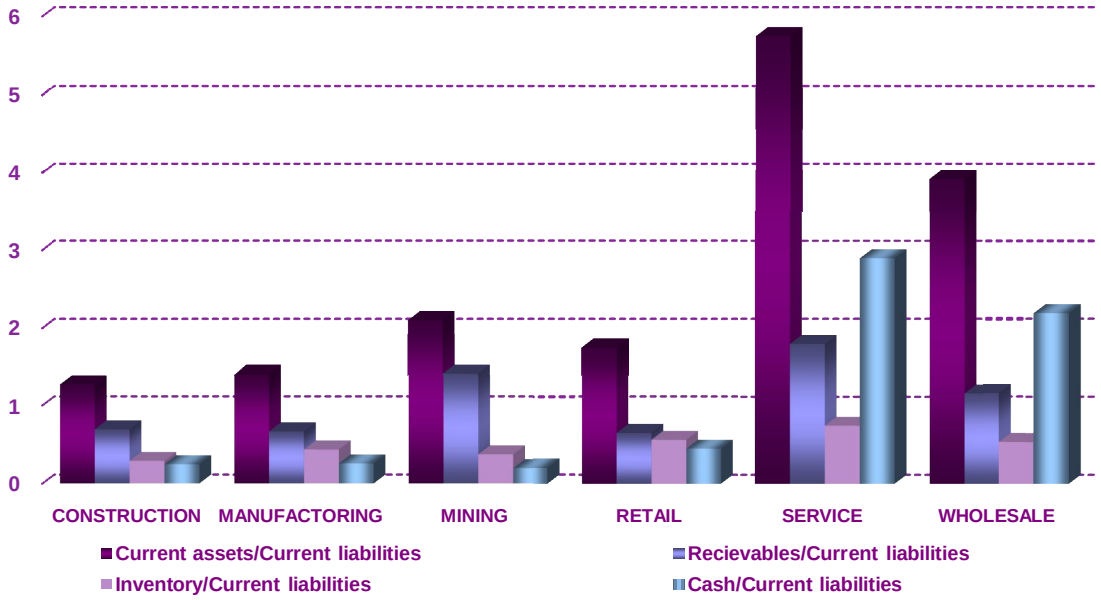
**Chart 20: Mean of profitability ratios of the insolvent firms, by industry sector**




Firms' liquidity is a significant indicator for the availability of sufficient current assets in order to cover the forthcoming current obligations. The chart below shows that on average, the companies in all the industry sectors dispose of current ratio higher than 1, but in the composition of the current assets we

observe high proportion of uncollected receivables and stored inventories. The firms from the service and the wholesale sectors have sufficient cash to cover their current debts. Values of current ratio higher than 2 are strongly required from the credit institutions to be conceded lend capital.

**Chart 21: Mean of the main liquidity ratios of the insolvent firms, by industry sector**




The working capital ratio is similar indicator of liquidity, which measures the excess/deficit of current assets. On average, the manufacturing firms present near to the ground excess, while the wholesale firms – extreme deficit.

**Chart 22: Mean of working capital ratio of the insolvent firms, by industry sector**

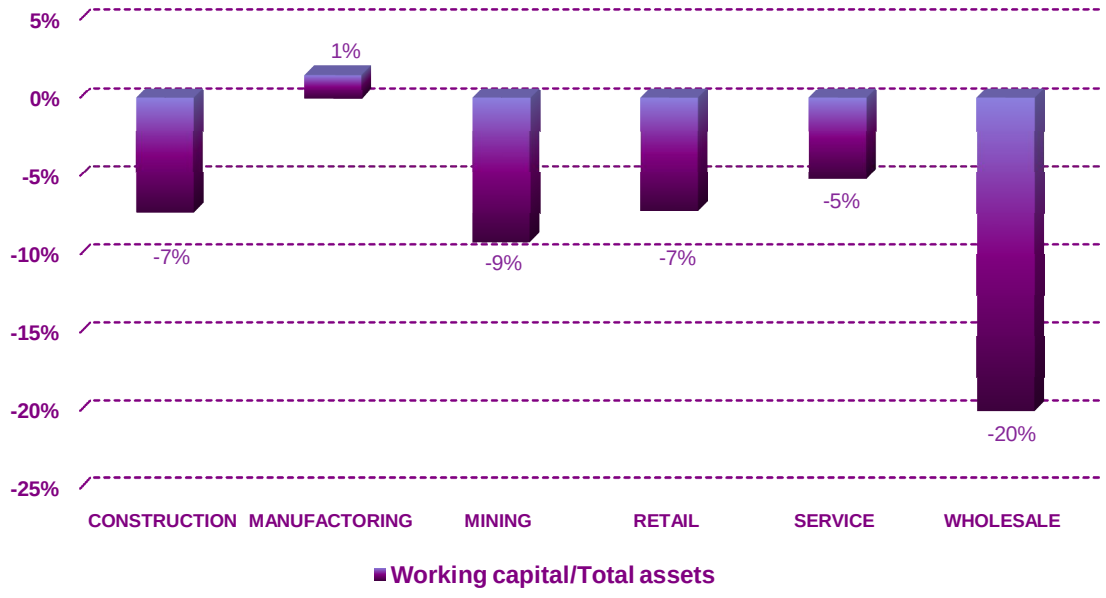
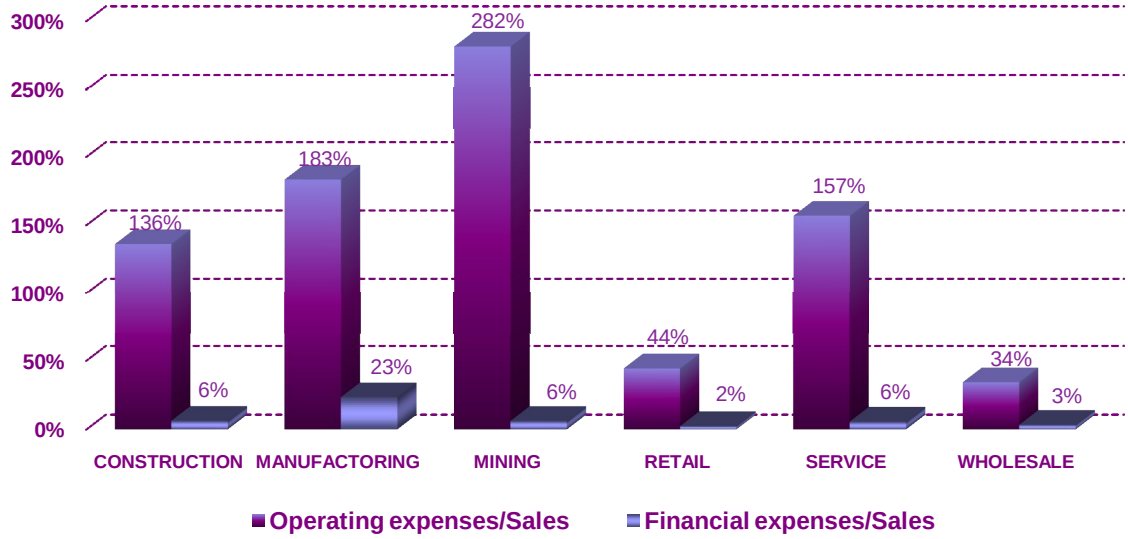
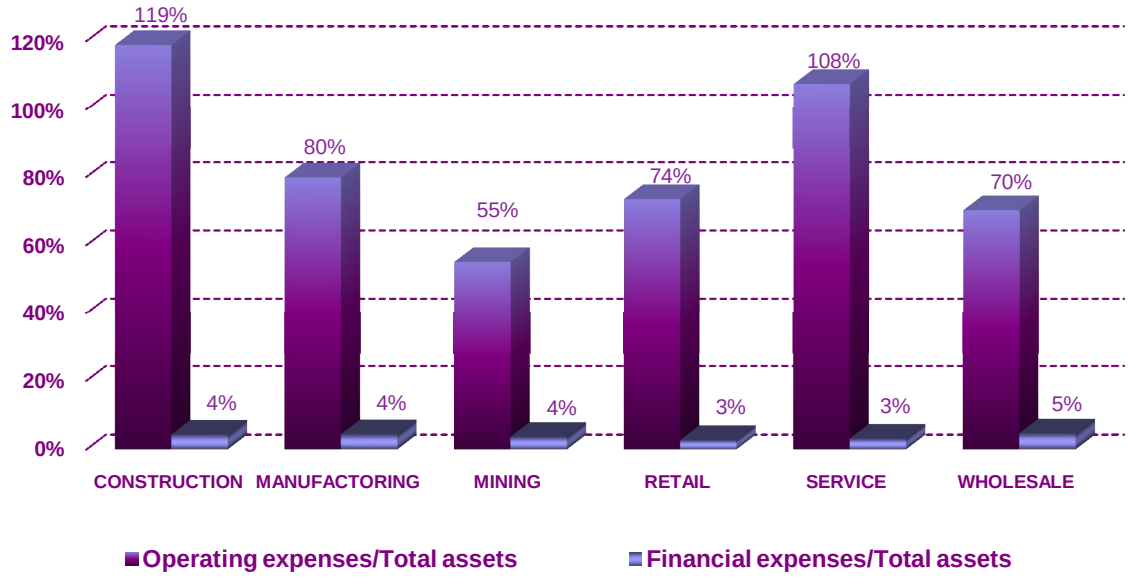


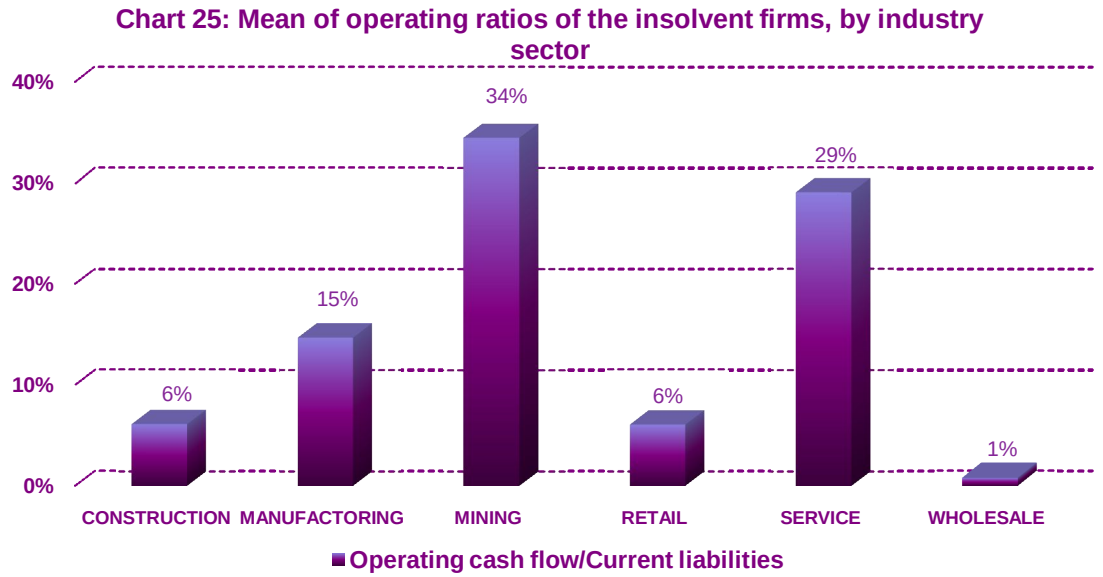
**Chart 23: Mean of operating ratios of the insolvent firms, by industry sector**



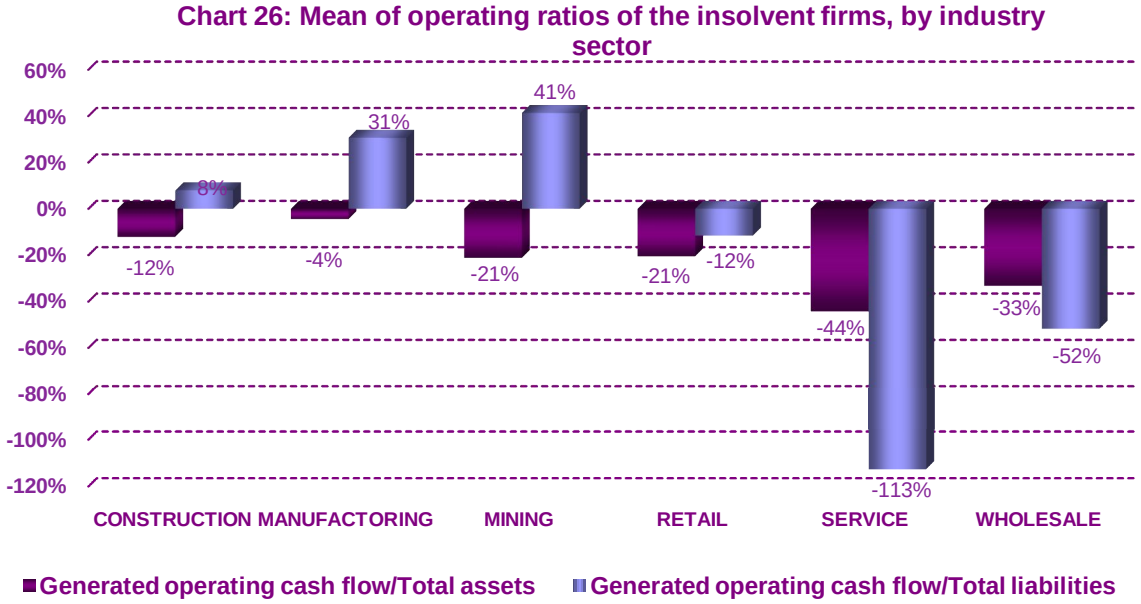

The operating expenses of the insolvent firms in the both trade industries represent between 34% and 44% of the sales and about 70% of the total assets. In the service and in the construction industries they prevail over the sales and the assets. Depending on the industry belonging some sectors are highly material absorbing (construction, manufacturing and mining), which predetermines the higher proportion of purchases in their operating expenses. Are the companies insolvent because of the low volume of sales, or because of their high expenses? The reason lies probably in the sales. Those firms are no more compatible in the market and do not generate operating income.

**Chart 24: Mean of operating ratios of the insolvent firms, by industry sector**



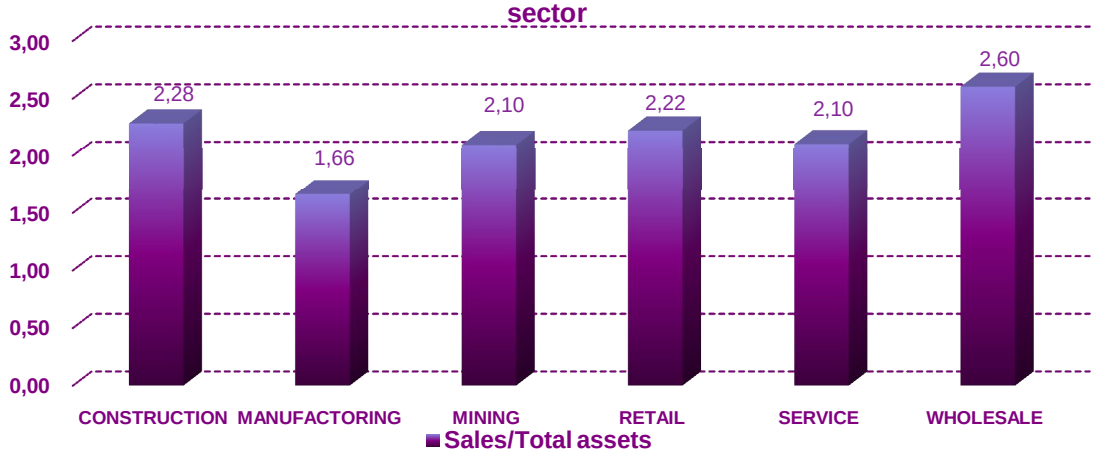



The low sales volumes logically result in reduced operating cash flow, which for the firms in the mining and service industry on average pay-off only 1/3 part of their current liabilities, while for the firms in the rest of the industries that debt coverage ratio is significantly lower.



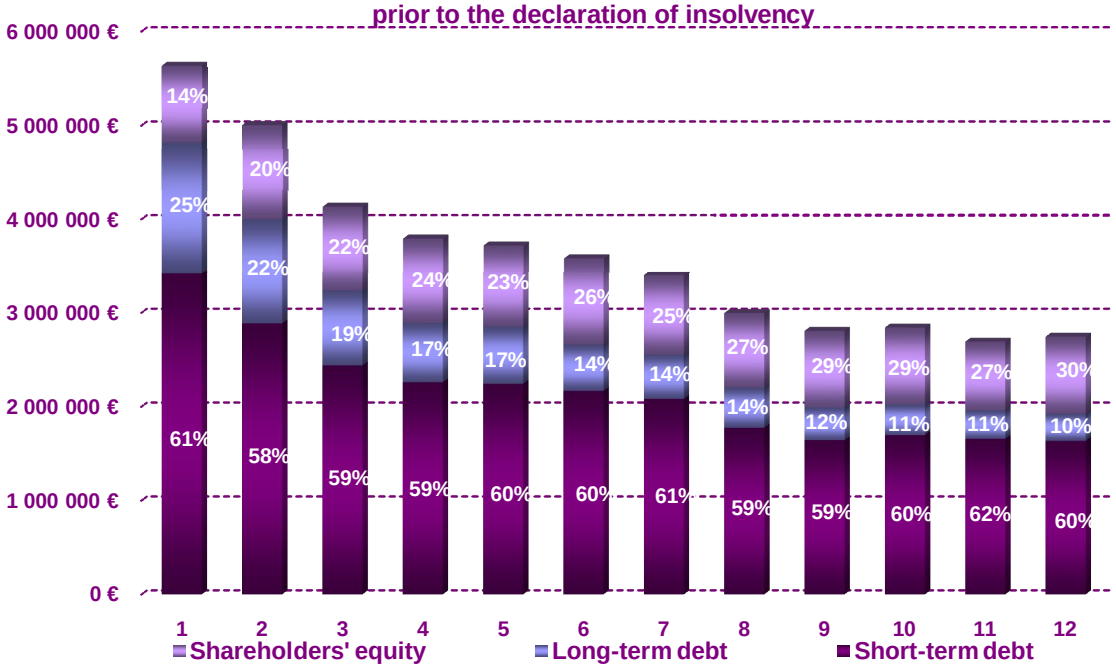

A low activity ratio (sales to total assets) indicates that the total assets of the business are not generating adequate revenue. The reason could be inefficient utilization or obsolescence of assets, which may be caused by excess capacity or interruptions in the supply of raw materials, due to unpaid trade accounts. The smaller this ratio, the higher the investment required to generate sales revenue and, therefore, smaller profitability of the firm.

**Chart 27: Mean of activity ratio of the insolvent firms, by industry sector**




The capital structure of the insolvent firms is exceedingly unbalanced with prevailing pending short-term debt, which remains constant through the years. On average, the shareholders' participation decline from 30% to just 14%, compensated by grow of the percentage of the long-term external funds. The question in this case is: Why companies with such an unfavourable capital structure have received additional external finance and how this debt has been guaranteed?

**Chart 28: Capital structure of all insolvent firms according to the years prior to the declaration of insolvency**

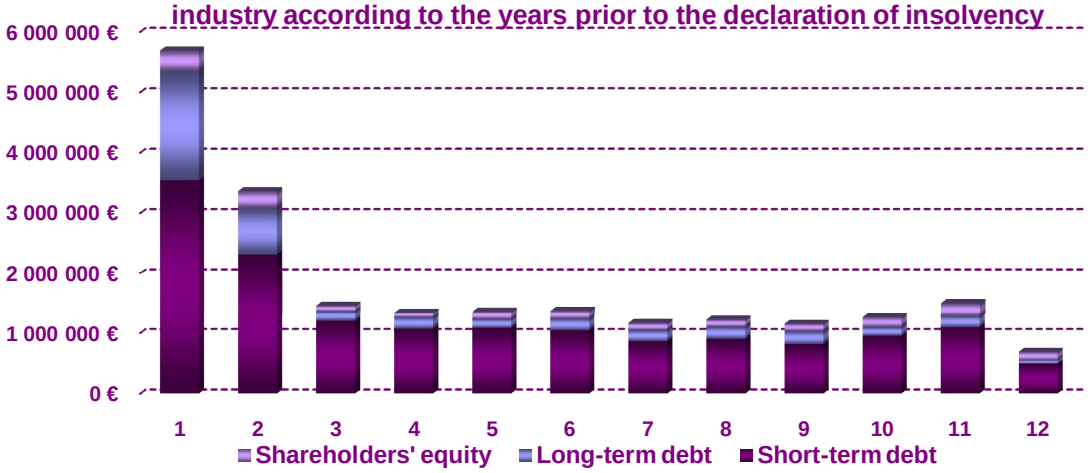



For all the industry sectors (except mining) we observe that the amplification of the borrowed capital is accompanied by increased sales, but they are not enough to assure their enlarged liquidity needs.

### 1. Construction industry

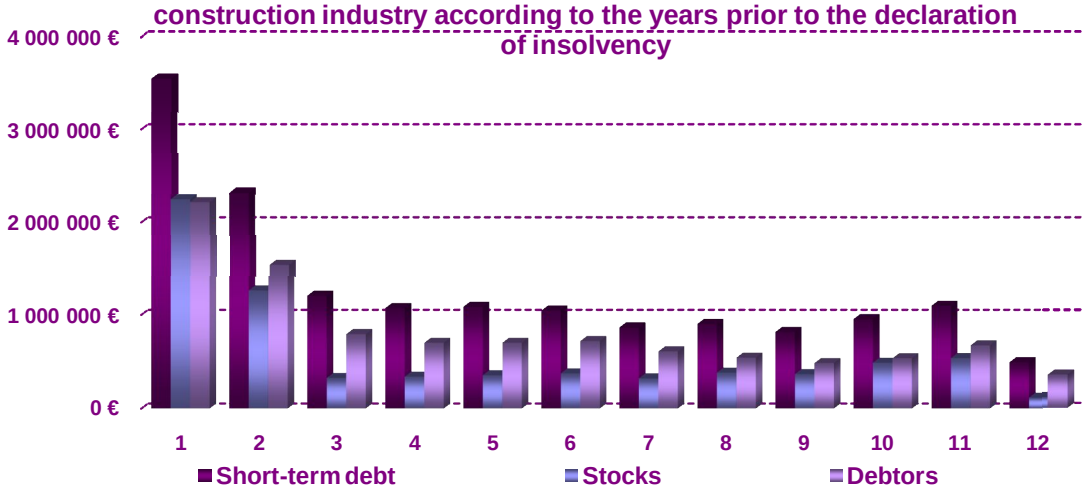
On average, the companies in this sector are characterized by a large proportion of the short-term debt (70% - 80%), related to the constant materials employed, provided by the suppliers and only 6% - 10% own capital. During the last two years prior to insolvency the companies sharply raise their long-term debt, but their operating income is insufficient to cover the increased debt.

**Chart 29: Capital structure of the insolvent firms in the construction industry according to the years prior to the declaration of insolvency**



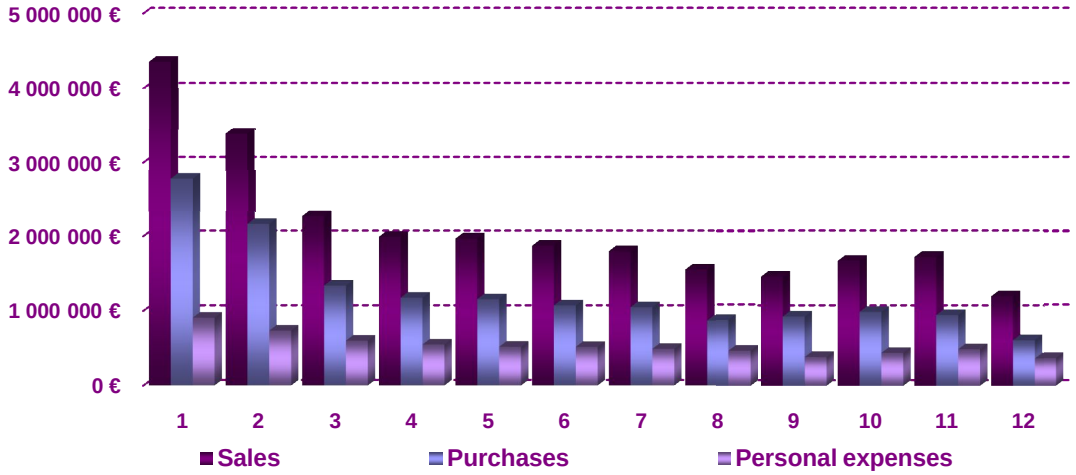

One of the reasons for the distressed situation is in the working capital structure, where the increasing debt during the last two years is accompanied by accumulation of stocks due to crisis in the sector and rise of the uncollected debt. The illiquidity forces the companies to apply for new external long-term funds, which rise with about 20%. The building sector at that time was in blossom and this explains the creditors' decision to concede more funds, although the paucity of warranties from debtors' side.

**Chart 30: Working capital structure of the insolvent firms in the construction industry according to the years prior to the declaration of insolvency**



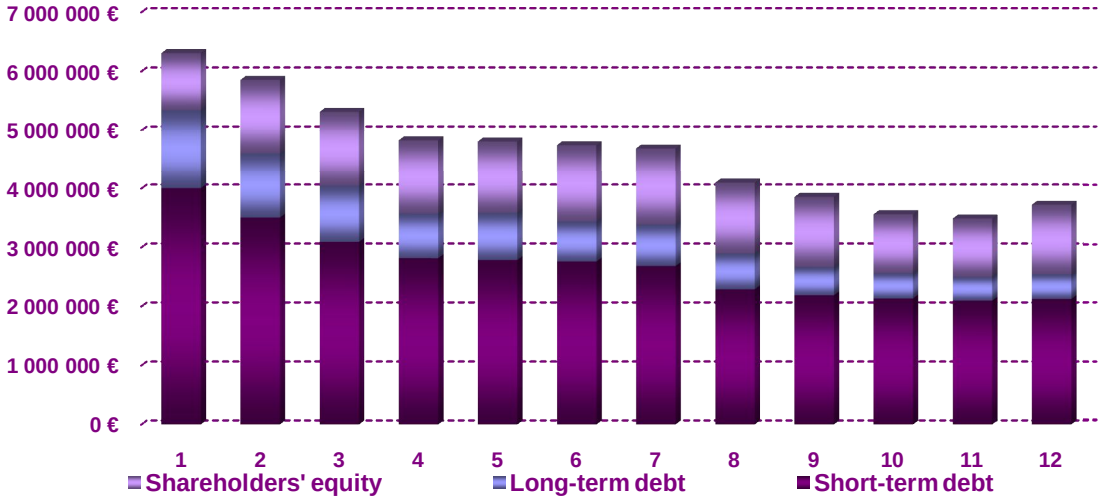
For the last three years prior to insolvency the firms manage to double their sales volume[1], but these additional operating revenues result deficient to cover the (2 – 5 times) increased debt.

**Chart 31: Operating indicators of the insolvent firm in the construction industry according to the years prior to the declaration of insolvency**




## 2. Manufacturing industry

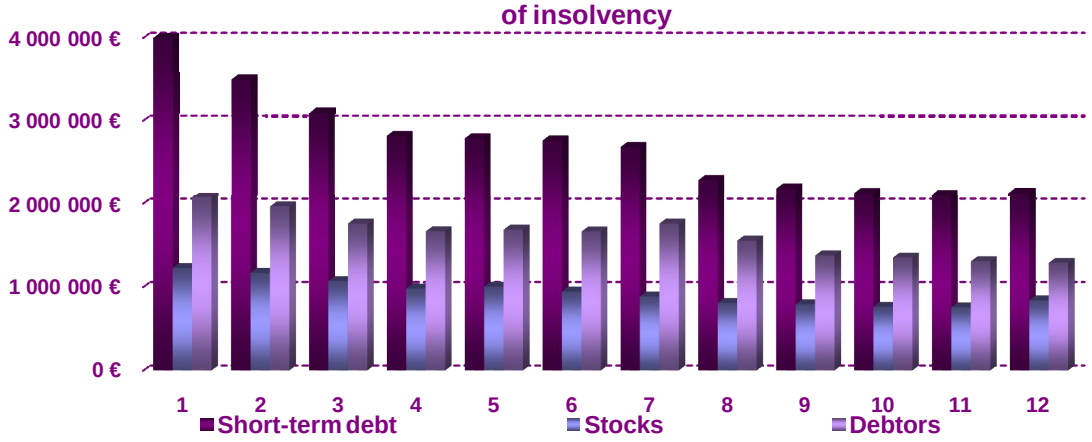
**Chart 32: Capital structure of the insolvent firms in the manufacturing industry according to the years prior to the declararion of insolvency**




The companies in the manufacturing sector present an average of 25% internal funds, 60% short-term debt, and 15% long-term debt. Their current liabilities increase with the years faster than the current assets, which leads to incapacity to serve the acquired debt.

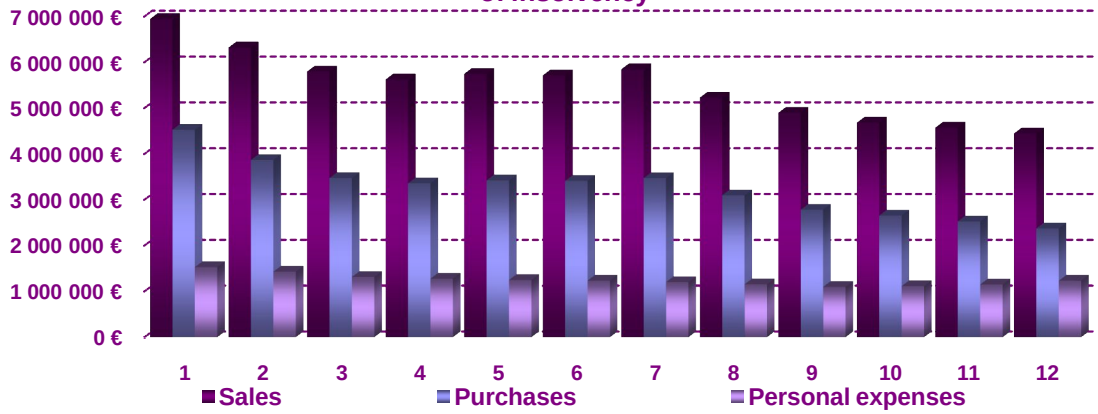
[1] Part of the sales volume increase is due to inflation and speculatively high prices in the construction sector.

Chart 33: Working capital structure of the insolvent firms in the manufacturing industry according to the years prior to the declararion of insolvency




It is highly resource-absorbing sector and the survival in it requires economies of scale to reduce costs, something difficult for the small firms represented.

Chart 34: Operating indicators of the insolvent firm in the manufacturing industry according to the years prior to the declaration of insolvency




## 3. Mining industry

Chart 35: Capital structure of the insolvent firms in the mining industry according to the years prior to the declaration of insolvency

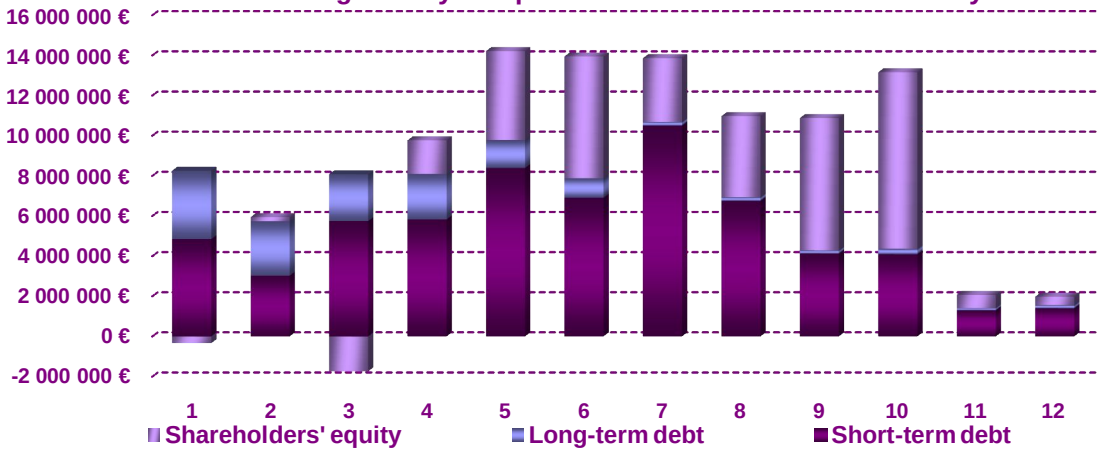
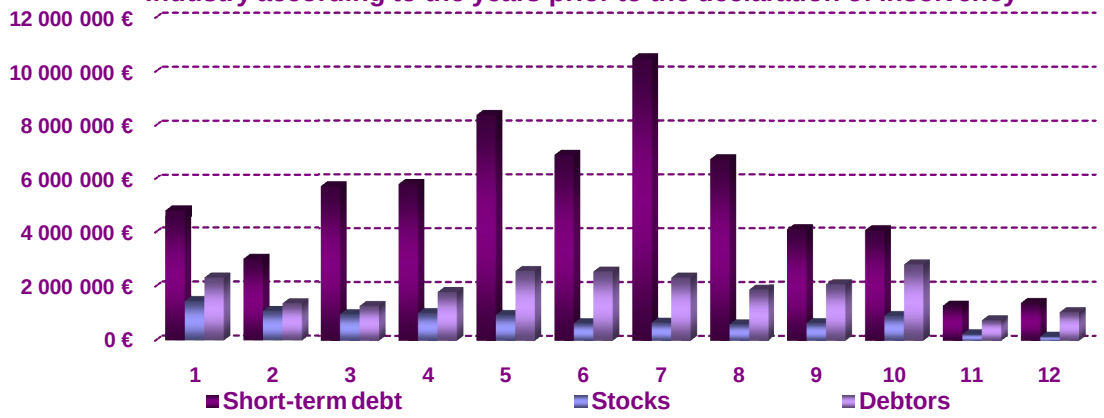
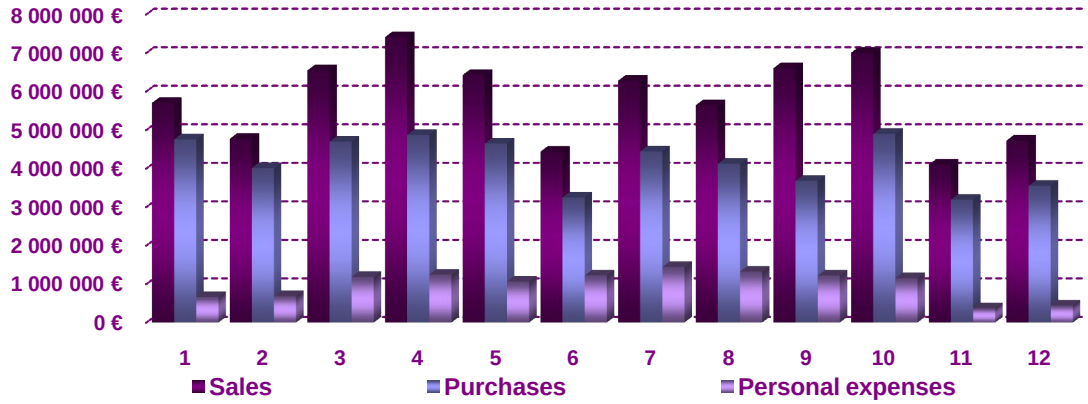


**Chart 36: Working capital structure of the insolvent firms in the mining industry according to the years prior to the declaration of insolvency**




Contrary to all other sectors, in the mining industry there is no tendency for the average augmentation of the debt. Except in the last years before insolvency, the shareholders' funds represent significant part of the capital structure, in order to complete the high investment requirements of the sector.

**Chart 37: Operating indicators of the insolvent firm in the mining industry according to the years prior to the declararion of insolvency**




## 4. Retail industry

**Chart 38: Capital structure of the insolvent firms in the retail industry according to the years prior to the declararion of insolvency**

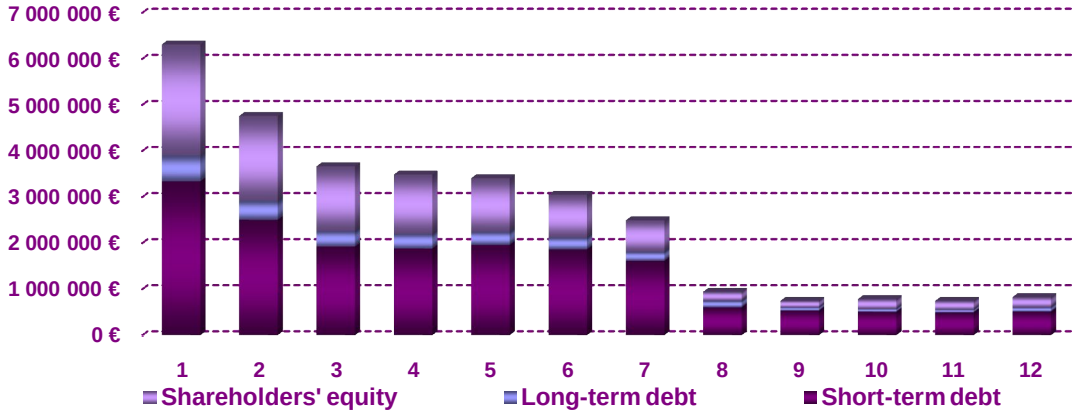
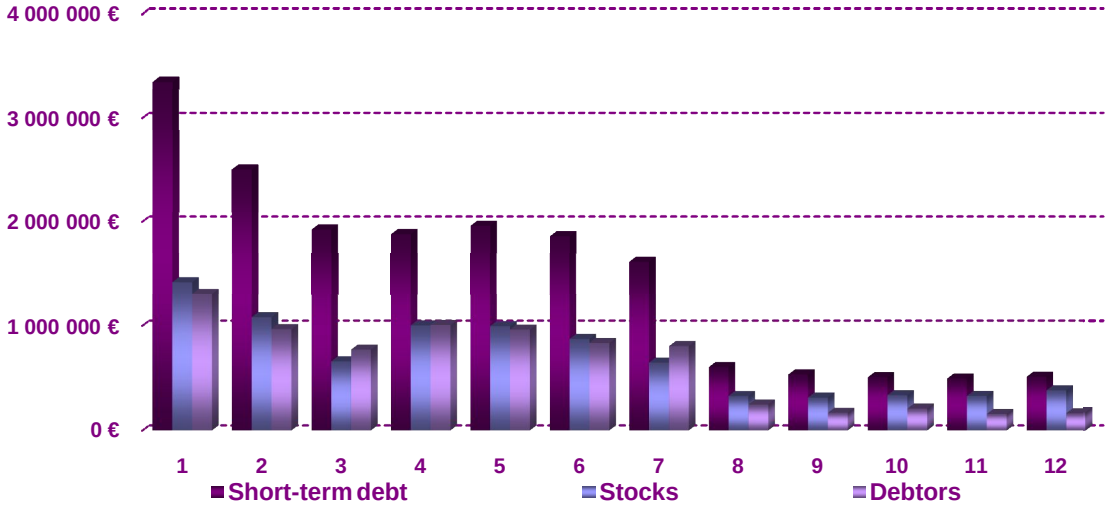
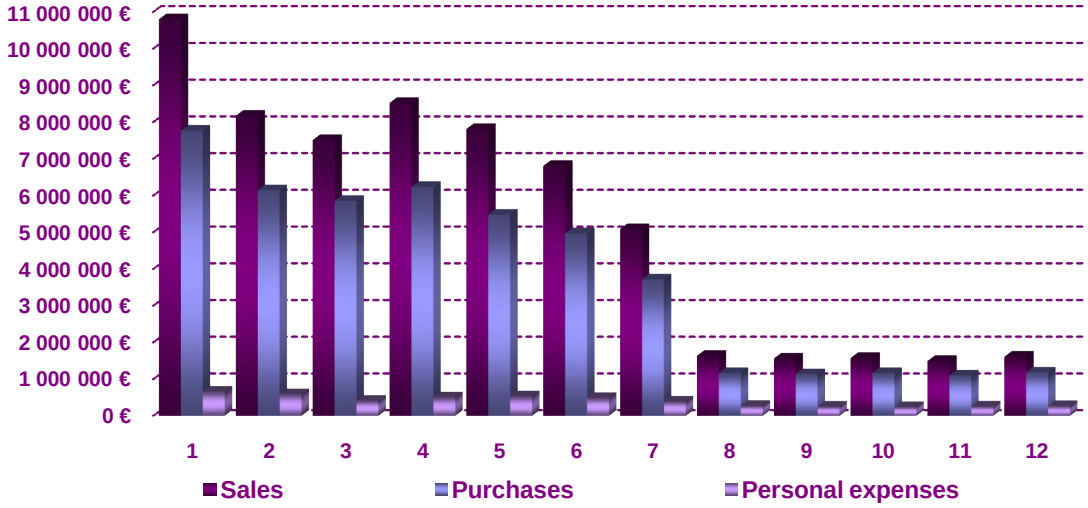


**Chart 39: Working capital structure of the insolvent firms in the retail industry according to the years prior to the declaration of insolvency**



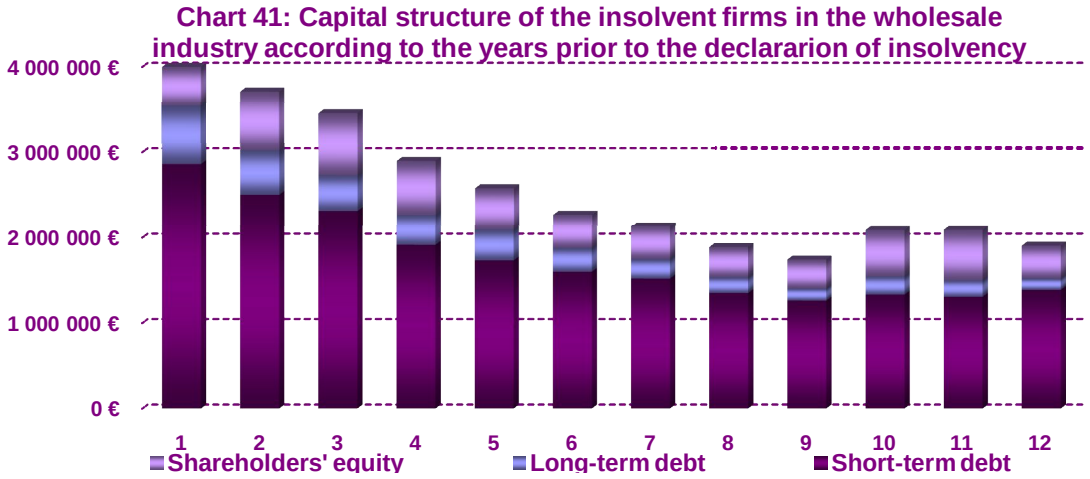

The industry is characterized by low long-term debt and personal expenses. The shareholders' funds represent about ⅓ of the capital and the current liabilities (mainly trade debts) tend to grow through the years. Although that we observe increasing level of sales all over the time, their volume does not impede the insolvency filing.

**Chart 40: Operating indicators of the insolvent firm in the retail industry according to the years prior to the declararion of insolvency**

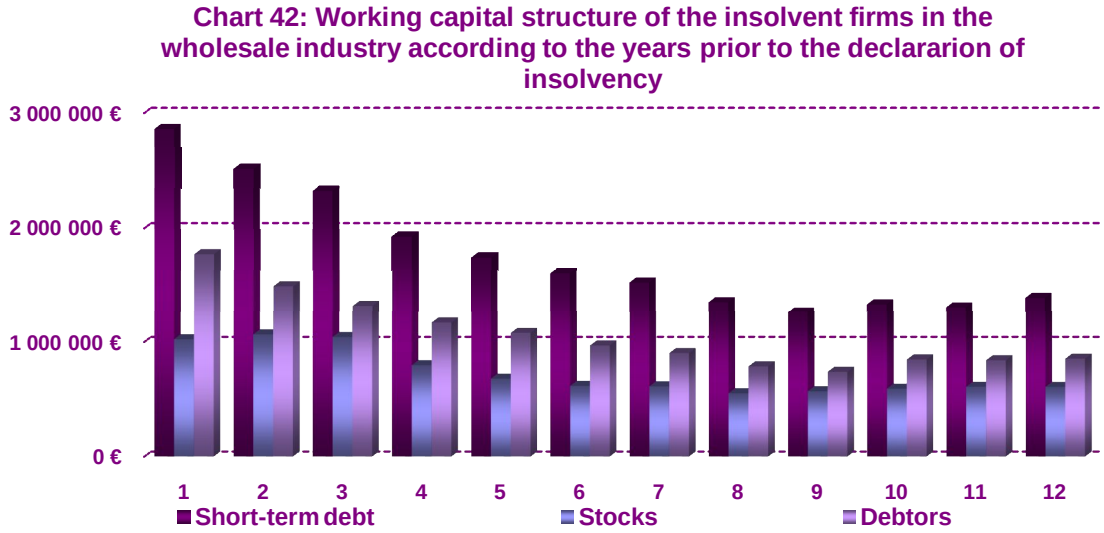


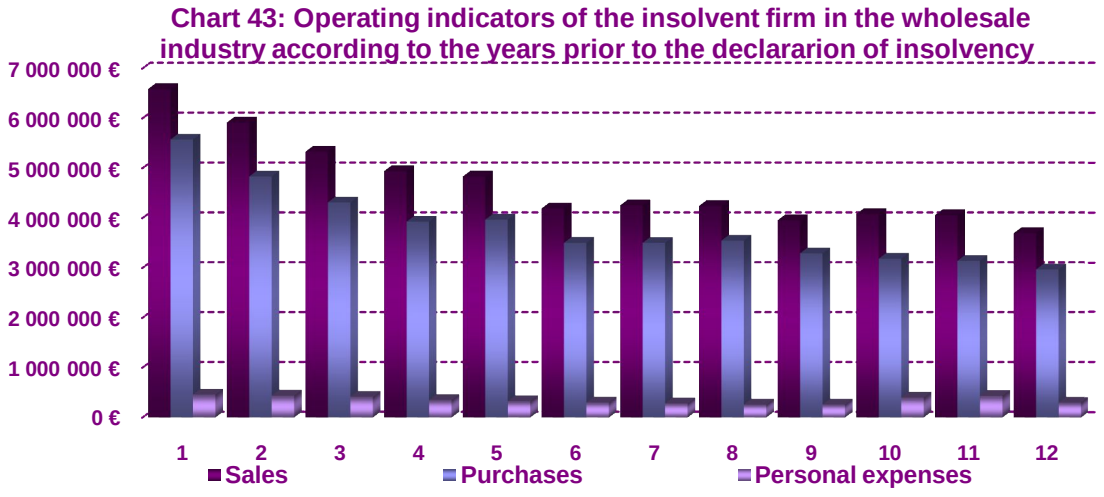

## 5. Wholesale industry

Contrary to the previous trade industry, the firms in the wholesale sector have less share capital (about 20%) and higher current liabilities (about 70%). There is a tendency of capital expansion through the years, but all that funds are external and the share capital tend to diminish from 28% to 12%.




The working capital structure illustrates that the additional shot-term debt is has not been served efficiently because of the increased uncollected debts. Like in the retail sector, in the wholesale the personal expenses are constant and low and the companies in the sample fail to register sufficient operating margin.

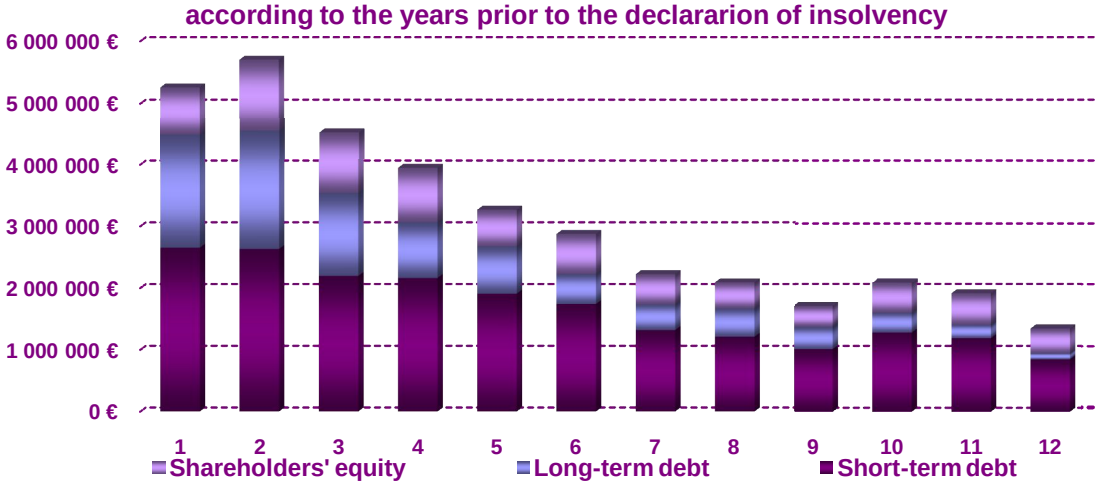


The operating margin (difference between sales and purchases) results to be relatively low for the insolvent firms in the wholesale industry, which explains their negative return on assets (see chart 20).

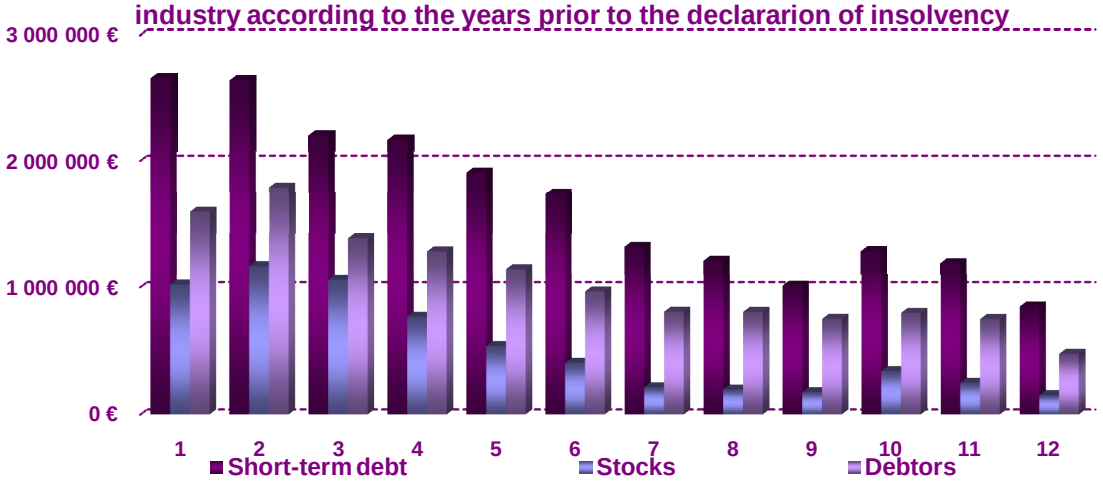
### 6. Service industry

Chart 44: Capital structure of the insolvent firms in the service industry according to the years prior to the declararion of insolvency

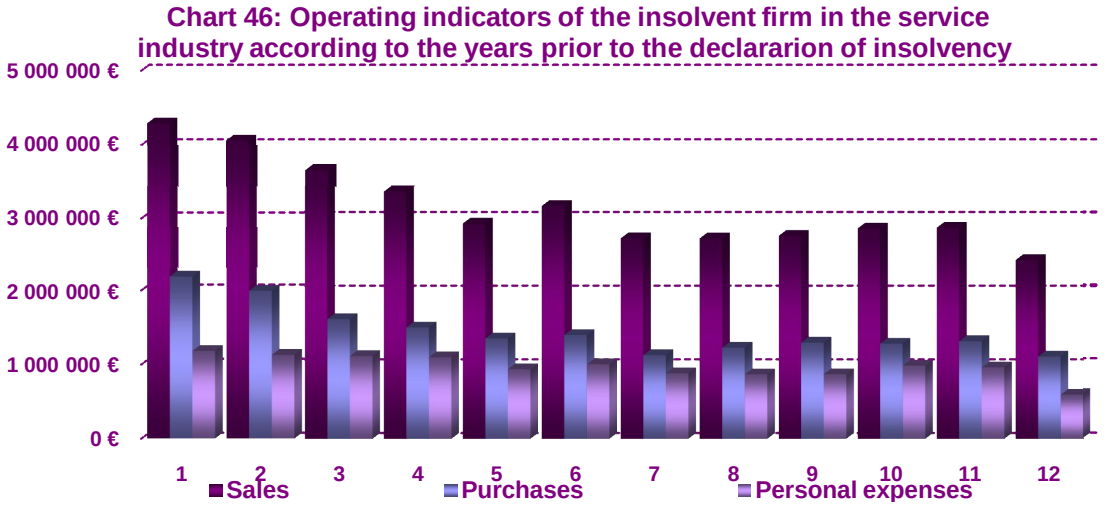



The service industry is characterized with about 50% - 60% short-term debt and long-term liabilities increasing through time from 7% to 35%, thus diminishing the share capital from 30% to 15%.

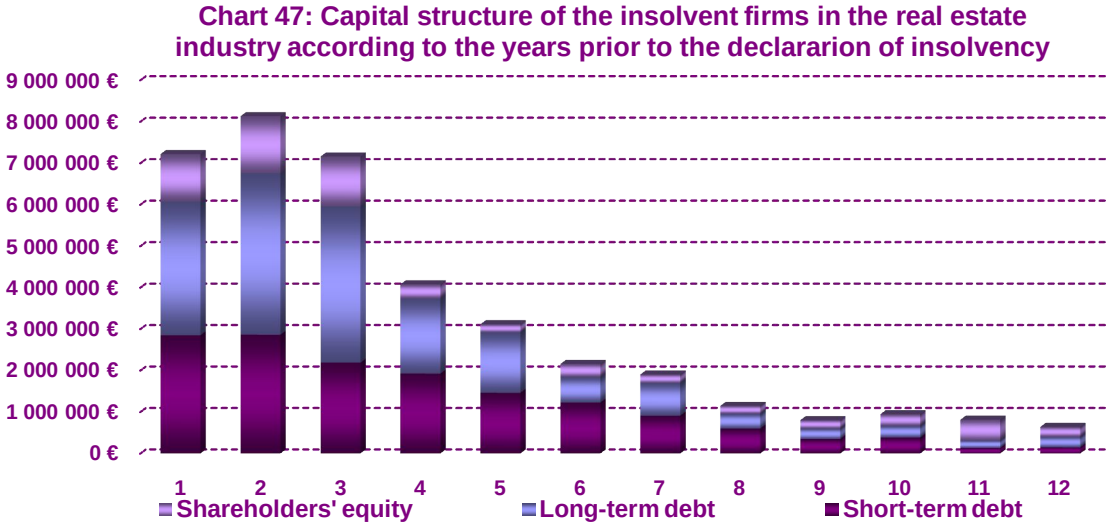
Chart 45: Working capital structure of the insolvent firms in the service industry according to the years prior to the declararion of insolvency

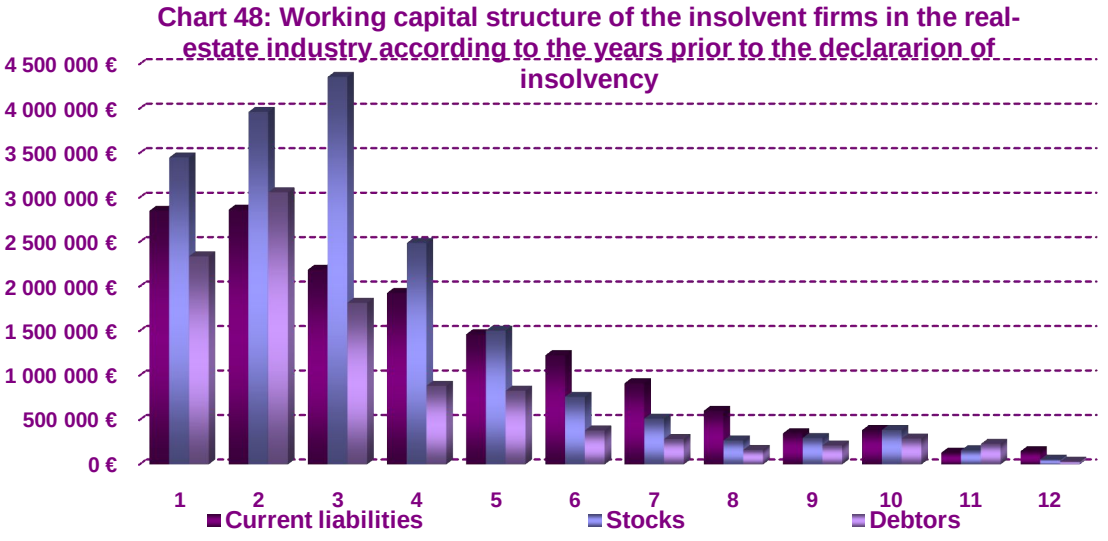



In a sector, where principally the stocks are insignificant, we observe, that 5 years prior to insolvency their volume increases, affecting company's liquidity. Compared to the both trading industries in the service we observe higher difference between sales and purchases, from one side, but also higher employees' expenses from the other.



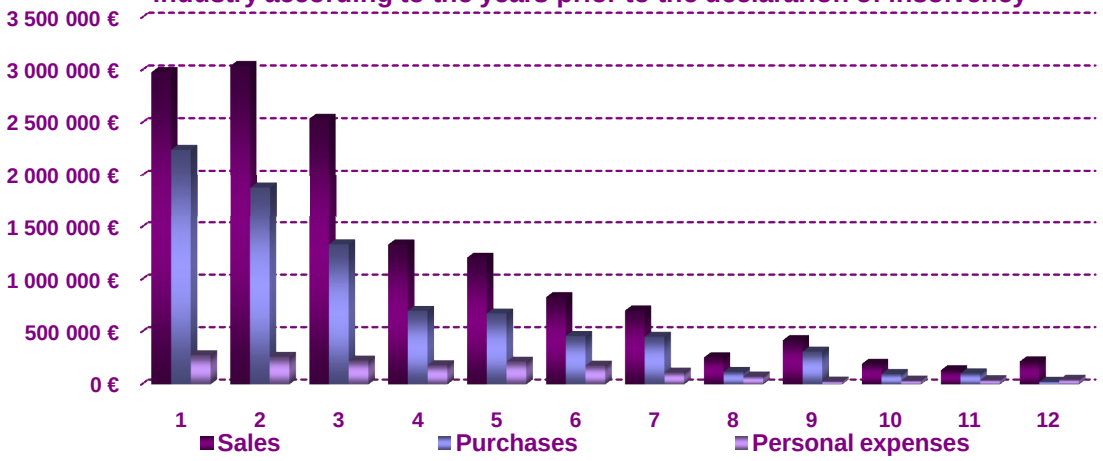

A subsector of the service industry which provoked great interest in the last two years with the numerous bankruptcies is the real estate service sector. We observe with time that companies become bigger, employing long-term debt.



The sector was in progress and the banks were predisposed to concede long-term financing. The stagnation of the sector provoked the decline, depicted in the working capital structure figure, where we observe high level of stocks and uncollected debt. The operating expenses rise proportionally with the revenues, but the current assets are invested in stocks and it takes time to be converted into cash to pay-off the pending obligations.

**Chart 49: Operating indicators of the insolvent firms in the real-estate industry according to the years prior to the declararion of insolvency**




## 7. Conclusions

In summary, the firms in the sample have high levels of debt in their structure and at the moment of declining sales volumes, their liquidity and solvency results negatively affected. How those firms, that appear to be permanently distressed, choose between debt and equity to finance their projects? Or probably for them there is no choice of capital structure and rising debt is the only source of finance. Asset characteristics influence the choice of capital because high debt levels can lead to the realization of liquidation costs in financial distress. The type of assets depends on the industry characteristics and requirements and is strongly individual. Myers (1977), Harris and Raviv (1990) and Shleifer and Vishny (1992) relate asset characteristics and capital structure by comparing the benefits of financial leverage to the costs of liquidation. Their models suggest that high leverage is discouraged if assets are either firm-specific or hence not easily liquidated or trade in illiquid secondary markets. While these models focus on the choice between debt and equity, they are also consistent with the idea that firms may move from highly restrictive to

less restrictive debt contracts as liquidation costs increase. Poor performance and a decline in value require the firm to respond operationally. Operational responses include: changing the asset structure by selling assets, divesting divisions, and discontinuing unprofitable operations; changing the size and scope of operations by consolidating production facilities and reducing number of employees; and changing top management. These maneuvers aim to moderate the unfavourable capital structure and increase cash flow in the short term but may not be consistent with a long-term value maximizing strategy because of possible liquidity costs associated with distressed-assets sales. There are several types of asset restructuring, however, that cannot be used to immediately retire debt. Such actions include discontinuing or consolidating operations and closing plants or headquarters.

**8. Methodology applied**

Firms' financial statements were used for calculation of ratios, depicting their solvency, profitability, liquidity, structure, ability to generate cash flow. Publications in the Official Governmental Bulletin have given details related to the insolvency procedure – date of initiation and conclusion of different phases, type, mode of entry, number of administrators, among others. Some macroeconomic variables like industry belonging, interest rate, consumer price index and gross domestic product were used as control variables. Firms' age has been calculated as a difference between the date of insolvency declaration and the date of company's establishment.

The panel data created (2270 firms) gives researcher a large number of data points, increasing the degree of freedom and reducing the collinearity among explanatory variables, thus improving the efficiency of econometric estimates. Greene (2004) underlines the benefits of panel data:

- Time and individual variation in behavior unobservable in cross sections or aggregate time series
- Observable and unobservable individual heterogeneity
- Rich hierarchical structures
- More complicated models

- Features that cannot be modeled with only cross section or aggregate time series data alone
- Dynamics in economic behavior
- Financial data by firm, year – "huge panels"
  - $r_{it} - r_{ft} = \beta_i(r_{mt} - r_{ft}) + \varepsilon_{it}$, i = 1,…,many; t=1,…many
  - Financial data, essentially infinite T, large N
  - Effects: $\beta_i = \beta + v_i$

For estimation of quantitative dependent variables was applied fixed effect linear regression for panel data.

$$y_{it} = \alpha_i + x'_{it}\beta + \varepsilon_{it}$$

Total variation = Within groups variation + Between groups variation

Decomposition of Total variation:

$$\Sigma_{i=1}^{N}\Sigma_{t=1}^{T_i}(z_{it} - \bar{\bar{z}})^2 = \Sigma_{i=1}^{N}\left[\Sigma_{t=1}^{T_i}(z_{it} - \bar{z}_i.)^2\right] + \Sigma_{i=1}^{N}T_i\left[\bar{z}_i. - \bar{\bar{z}}\right]^2$$

For estimation of qualitative dependent variables was applied analysis for binary outcomes - logistic regression for panel data. The technique analyzes change in behaviour when attribute changes (Baltagi, 2005).

- Prob[y=1] = Prob[$\varepsilon \geq -(\alpha+\beta 1 + \beta 2 + \ldots + \gamma)$]
- Prob[y=0] = 1 - Prob[y=1]

The model is estimated using maximum likelihood (Cameron and Trivedi, 2005):

$$\text{log-likelihood } \sum_{i=1}^{N} \ln f(\mathbf{y}_i|\mathbf{X}_i, \beta, \sigma_\alpha^2), \text{ where}$$

$$f(\mathbf{y}_i|\mathbf{X}_i, \beta, \sigma_\alpha^2) = \int f(\mathbf{y}_i|\mathbf{X}_i, \alpha_i, \beta)\frac{1}{\sqrt{2\pi\sigma_\alpha^2}}\exp\left(\frac{-\alpha_i}{2\sigma_\alpha^2}\right)^2 d\alpha_i$$

# Chapter IV: Capital structure of the insolvent firms

## 1. Introduction

The financial distress is an imperfect indicator of economic viability. If a firm enters financial distress, an important problem facing its creditors is to distinguish between economically viable firms and firms that should be liquidated. If there is sufficient uncertainty about the firm's viability, it may be optimal for the creditors to postpone the liquidation decision and wait for more information about the firm's viability. In particular, creditors may want to keep their debt claims, leaving leverage high, and require high short-term payments so that they can liquidate later if the firm does not improve its performance and hence re-enters financial distress. Financial distress gives creditors the right to demand restructuring because their contract with the firm has been breached. Leverage can therefore lead to value-maximization by triggering liquidation (Titman, 1984). When firm value is deteriorating, high leverage leads to an earlier default. Asquith *et al.* (1994) illustrate that capital structure has an important impact on how firms can deal with (cyclical or firm-specific) financial distress. They show that while underperforming firms are more likely to get into financial distress, it is not necessarily a firm's long-term profitability, but rather its capital structure that determines how it fares once in distress.

Firms attempt to issue the particular combination of debt and equity, subject to various constraints. Firms select capital structure depending on attributes that determine the various costs and benefits associated with debt and equity financing. Borrowing contains, by definition, an obligation to pay, whereas equity is usually irredeemable. Debt carries with it the risk that it cannot be repaid, and this risk increases with the amount of the debt assumed. Debt requires that in addition to principal, interest is paid regularly throughout its life. Such interest can consume a significant portion of a business's trading profit, and can completely erode those trading profits so that causes the business to suffer losses. If the interest can fluctuate with market rates, there is an added risk of having to pay at higher rates than the previously estimated.

Debt has three advantages over equity as a source of finance for the business – cheapness, flexibility and retention of control. Debt capital is regarded as

cheaper than equity on an after-tax basis because interest payable is deductible for tax purposes. The tax advantage is due to the time value of money and therefore increases in periods of high inflation and high nominal interest rates. This is not much an advantage for businesses with unrelieved tax losses, depreciation tax shield as they already have an existing lower tax burden. The interest payments are tax-deductible, which implies that firms can reduce their tax liability by additional borrowing. They can then pay out the additional funds to shareholders as dividends who can invest the proceeds and earn a return, although the size of this benefit also depends on the tax regime faced by shareholders. Debt finance is consequently more tax efficient for the company and its shareholders than equity finance because it is better for the firm to borrow than for shareholders to borrow and supply equity capital to the firm. Debt is also more flexible because it can in general terms be borrowed, repaid and re-borrowed in variable amounts at any time and depend on how easy a business can arrange finance on reasonable terms under adverse conditions. Flexibility in raising finance will be influenced by the economic environment and the financial position of the business. Debt is normally evidenced by a straightforward contract between borrower and lender, creating rights and obligations on both sides. Share capital, however, carries with it the additional benefits of ownership of the business, including specifically the right to elect directors and appoint auditors.

Shareholders may be concerned that a leveraged company cannot pay all its interest and still pay a dividend and will raise the rate of return that they require from the company to compensate for the increase in risk. This may effectively put a limit on the amount of debt that can be raised. Except financial (gearing) risk there is a business (operational) risk for the company, regarded to the complexity and the nature of the industry in which the company operates and its higher levels require optimal capital structure. The earnings of a company can fluctuate caused by factors such as changes in market demand and prices, the competition levels, variability of inputs, sales volume, size of the company, quality of management decisions, the state of the economy.

The debt-equity choice implies another stakeholder's concern – the preference between short and long-term debt, depending on the benefits and costs for the

firm. The decision is not unilateral and is subject to negotiation with creditors and also depends on the assets' characteristics and structure. According to Hart and Moore (1995, 1998) and Bolton and Scharfstein (1990) firm's capital structure influences potential future negotiations between the firm and its investors, and the anticipation of such negotiations, in turn, influences financial decisions. The choice of financial contracts is determined as a trade-off between, on the one hand, the desire to discourage *ex post* renegotiation (strategic default), and on the other hand, the wish to limit inefficient liquidation when the firm is cash-constrained (liquidity default). This trade-off determines endogenously an optimal cost of financial distress. In case firms are financially distressed, short-term creditors rarely forgive debt, but in most of the cases they are commercial obligations, which are subordinated. If the firm is unable to repay in the short run, the short-term creditor forces the firm to transfer or sell part of its assets. The maturity of the remaining claims is extended at the expense of some (not necessarily all) junior long-term claim-holders. The short-term debt has the advantage to have cheaper cost (interest), but its totality is often limited and the monthly instalments higher. The long-term debt is usually conceded by banks, needs more bureaucratic formalities and analyses, the banks are more influential, well advised and as privileged their claims are in most cases redeemed in a bankruptcy procedure. Another disadvantage of the long-term debt is that its concession is limited in recession periods of the economy.

A high degree of leverage increases the probability of bankruptcy and therefore increases the riskiness of the overall earnings stream. When leverage is very low, an increase in the reliance on debt is not likely to exert a significant effect on the probability of bankruptcy. When there is considerable debt in the capital structure, however, any increase in leverage is likely to have a much greater effect on the cost of capital. The risk of ruin thus becomes increasingly important as the degree of financial leverage increases (Baxter, 1967). As a firm's leverage increases and the probability of insolvency rises, financial intermediaries become less willing to lend to the firm, even if it proposes a project with a positive net present value. The incentives of managers are a

function of the financial structure of the firm. The higher probability of financial failure may reduce the incentives for risk-averse management.

The demand for information about firm's capital structure increases when it enters distress. Increased disclosure may help the firm avoid some of the costs of distress (contracting, capital, and reputation). The key difficulty is raised by the uncertain possibility that the borrower will default, given costs of bankruptcy, asymmetric information, and incomplete contracts. If there were no costs of bankruptcy, default risk would be of no concern to the lender; assets to pay off the loan would pass smoothly to him in the case of default (Aghion and Bolton, 1992). In practice, resolution of default takes time and effort, the lender may find that assets seized from the borrower have depreciated in value, and/or he may find that second-hand markets for such assets are weak or non-existent. But even given costs of bankruptcy, if there were no asymmetries of information or if the lender were able to specify and verify the borrower's behaviour in every eventuality, then issue of debt would be a relatively straightforward transaction, because probability of default could be known or controlled precisely, and charged or collateralized accordingly. The principal information demanded and analyzed by the creditors in order to evaluate the credit risk is related to the debtors' ability to generate cash flow from operations to pay-off the debt and the capital structure.

In the corporate finance literature there is a dispute about the reasons of the firm's distress – efficiency or debt structure. Probably there is no universal answer and alongside with whose factors we have to add industry and microeconomic characteristics. A firm can be efficient in using the debt to generate cash, but if it is a small one, the debt costs could be a heavy burden. Under the *efficiency-risk hypothesis*, more efficient firms may choose higher debt to equity ratios because higher efficiency reduces the expected costs of bankruptcy and financial distress. On the other hand, under the *franchise-value hypothesis*, more efficient firms may choose lower debt to equity ratios to protect the economic rents derived from higher efficiency from the possibility of liquidation (Berger and Bonaccorsi di Patti, 2006). According to free cash flow theory leverage creates value by imposing a discipline on organizations that reduces agency costs (Jensen, 1986). The value created by leverage does not

necessarily come at the price of an increased profitability of financial distress. A more efficiently run firm can carry a higher debt burden with equal or reduced probability of financial distress. Larger value at risk in liquidation gives the higher-leverage firm's claimholders stronger incentives to reorganize quickly and probably privately, once default occurs, because liquidation and bankruptcy costs can destroy more value. When the firm has a large number of independent claimants, private reorganization is extremely difficult and costly.

Financial leverage can reach very high levels, with companies preferring to raise additional capital by means of loans rather than issuing new equity, a situation in which creditors might want security for extra loan, which the borrowers cannot provide or creditors might be unwilling to lend more to a company with high gearing or low interest cover ratio. In their seminal article, Modigliani and Miller (1958 and 1963) demonstrate that, in a frictionless world, financial leverage is unrelated to firm value, but in a world with tax-deductible interest payments, firm value and capital structure are positively related. Their paper on corporate financial structure provided a starting point for an extensive debate among financial economists concerning the importance of firm's financing decision as a source of firm value and is founded upon a number of restrictive assumptions. These assumptions include no transaction costs, no taxes or inflation, the equality of borrowing and lending rates, no bankruptcy costs and independence of financing and investment decisions. When the firm chooses a certain proportion of debt and equity to finance its assets, all that it does is to divide up the cash flows among investors. Investors and firms are assumed to have equal access to financial markets, which allows for homemade leverage. The investor can create any leverage that was wanted but not offered, or the investor can get rid of any leverage that the firm took on but was not wanted. As a result the leverage of the firm has no effect on the market value of the firm.

There are two main strands in the literature following Modigliani and Miller. The first strand implies an internal solution to the problem of optimizing leverage. The internal solution (target leverage ratio) is defined as that mix of debt and equity which maximizes the value of the firm. Firms equilibrate the costs of debt, relative to equity, to determine their optimal leverage. The second strand, in its

strongest form, is distinguished by the implication that internal funds (retained earnings) are always cheaper than debt funds which are always cheaper than funds raised on external equity markets. As a result, leverage is determined by the demand for funds in excess of limited internal resources.

Building on the foundations laid by Modigliani and Miller, numerous authors have confirmed the no-tax thesis using a variety of equilibrium approaches: a proportional corporate income tax provides sufficient economic incentive for firms to maximize their use of debt financing. Furthermore, they recognized the need for the firm to maintain a substantial reserve of untapped borrowing power in order to provide it with some flexibility since overleveraging tended to reduce the firm's options in capital structure decisions. One of the effects of over-leveraging is that larger fixed interest charges from the greater use of debt financing leads to a high probability that a decline in the firm's earnings will cause financial distress. The increase in the probability of financial distress consequently raises the firm's cost of capital and lowers its current value. Thus threat of bankruptcy does impact on capital structure. A firm's optimal capital structure is found by balancing the tax benefits of leverage against the costs of agency and financial distress resulting from high leverage.

## 2. Theoretical framework

The paper from 1958 stimulated serious research devoted to disproving irrelevance as a matter of theory or as an empirical matter. This research has shown that the Modigliani-Miller theorem fails under a variety of circumstances. The most commonly used elements include consideration of taxes, transaction costs, bankruptcy costs, agency conflicts, adverse selection, lack of differentiation between financing and operations, time varying financial market opportunities, and investor clientele effects. The lack of so many factors in the model provoked the evolution of many different theories. The introduction of taxation effects implies that firms should, theoretically, seek to increase their debt levels as far as possible (Miller, 1988). However other theorists (for example Stiglitz, 1974; 1988) added limitations to the optimal level of firm debt by arguing that bankruptcy costs increase as the firm's level of debt increases, and this places an upper limit on the amount of debt that should be present in a firm's capital structure.

## 2.1. Trade-off theory

The limitations of Modigliani-Miller theorem contributed for the evolution of the static trade-off theory, which proposes that firms attempt to achieve an optimal capital structure that maximizes the value of the firm by balancing the tax benefits, with the bankruptcy costs, associated with increasing levels of debt (Myers, 1984). Kraus and Litzenberger (1973) provide a classic statement of the theory that optimal leverage reflects a trade-off between the tax benefits of debt and the deadweight costs of bankruptcy. The original models of static trade-off theory were first formalized by Brennan and Schwartz (1978) and Leland (1994). In both models firms balance the tax benefits of debt with the risks of bankruptcy. This implies firms have a target leverage ratio that maximizes firm value. The theory describes a firm's optimal capital structure as the mix of financing that equates the marginal costs and benefits of debt financing.

According to Myers (1984) a firm that follows the trade-off theory sets a target debt-to-value ratio and then gradually moves towards the target. The target is determined by balancing debt tax shields against costs of bankruptcy. Tax benefits of debt and control of free cash flow problems are argued to push firms to use more debt financing, while bankruptcy costs and other agency problems provide firms with incentives to use less. The marginal benefit of further increases in debt declines as debt increases, while the marginal cost increases, so that a firm that is optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing. The biggest criticism of the traditional trade-off theory of capital structure is that it predicts a positive relationship between earnings and leverage, contradictory to well-established empirical evidence. High profitability means that the firm has more taxable income shield, and that the firm can service more debt without risking financial distress (Myers, 2001).

MacKie-Mason (1990) using a probit model, predicted that companies with low marginal tax rates would be more likely to issue equity, compared to more profitable companies facing the full statutory tax rate. The result is consistent with the trade-off theory, because it demonstrates that taxpaying firms favour debt, but is also consistent with a Miller (1977) equilibrium in which the value of

corporate interest tax shields is entirely offset by the low effective tax rate on capital gains. A firm facing a low enough tax rates would also use equity, because investors pay more taxes on debt interest than on equity income. Fama and French (1998) could not find evidence that interest tax shields contributed to the market value of the firm. These aspects of the static trade-off theory resulted dissatisfactory for the academicians. Some scholars have reacted by turning away from taxation and bankruptcy costs as key features altogether (e.g., Jensen and Meckling 1976, Myers 1984), and for many years this alternative line of research dominated corporate finance scholarship. In the last few years, some scholars have been returning to consideration of taxation and bankruptcy costs, but with an explicit treatment of the fact that firms last for more than a single period – "dynamic trade-off theory."

Dynamic trade off theory suggests that firms let their leverage ratios vary within an optimal range. In a dynamic model, the correct financing decision typically depends on the financing margin that the firm anticipates in the next period. Some firms expect to pay out funds in the next period, while others expect to raise funds. If funds are to be raised, they may take the form of debt or equity. The early attempts to model the dynamic trade-off appeared to be technically hard, and not all that promising at a time when adverse selection and agency considerations were centre stage in the literature. Currently scholars are starting to work through the technical problems that are present in dynamic models with uncertainty and bankruptcy. The dynamic trade-off models recognize that it is costly to issue and repurchase debt. Firms whose leverage ratios do not coincide with their targets will only adjust their capital structure when the benefits of doing so outweigh the costs of adjustment.

### 2.2. Pecking-order theory

According to the pecking order theory (Myers, 1984) firms prefer internal to external capital to finance their projects and the adverse selection implies that retained earnings are better than debt and debt is better than equity. Myers (2001) uses information asymmetries to allege that issuing debt minimizes the information advantage of the corporate managers. Information asymmetries exist before debt issuance and extend through repayment, creating adverse

selection and moral hazard problems that raise the interest rates charged by lenders. Several researchers have tested the effects of profitability on firm leverage. Fama and French (1988), Rajan and Zingales (1995), Wald (1999), Kester (1986) and Friend and Lang (1988) conclude that there is a significantly negative relation between profitability and leverage, which supports the pecking order theory view that debt is only issued when there is insufficient retained income to finance investment. The pecking order theory explains why more profitable firms borrow less, because they have more internal financing available. Less profitable firms do not generate sufficient cash flow and consequently accumulate debt and agency costs. There are two different ways of explaining the pecking order theory. The traditional view argues that the pecking order can be observed under high transaction costs, taxes, and agency costs. The alternative explanation proposed by Myers (1984), assumes that firm insiders have more information than outsiders. To avoid paying too much for new financing, managers would secure new financing under the pecking order.

The agency costs arising from the separation of ownership and control may exacerbate information asymmetries by inducing conflicts of interest between a company's managers, shareholders and creditors, based on differing incentives. Equity is a residual claim, so the shareholders have benefits when the value of the debt declines and the value of the company remain constant. The choice of capital structure can, in some circumstances, reduce the costs arising from these conflicts. Jensen and Meckling (1976) highlight the agency costs arising from the fact that equity holders have limited liability while debt holders have fixed maximum returns. One of the advantages of debt is that it limits free cash flow available to managers, although investors may seek to limit agency costs by monitoring managers or putting them on compensation packages that align their interests more closely with those of investors. In the event that an investment is successful, equity holders capture most of the gain. If the investment is unsuccessful, however, debt holders share the burden with equity holders. This asymmetry of expected returns may provide incentives for managers, acting on behalf of equity holders, to pursue risky investment projects, even where those projects have a negative net present value.

The risk of default may create what Myers (1977) referred to as an 'underinvestment' or 'debt overhang' problem. Alternatively, it could lead to increased risk-taking activity as managers acting on their shareholders' behalf have incentives to take excessive risks as part of risk shifting investment strategies (Jensen and Meckling, 1976). The conflict of interest means that the cost of debt affects firm's investing and operating decisions. Managers of highly leveraged companies could dedicate more time to prevent creditors from acting to force insolvency or reorganization. Debt contracts give equity-holders an incentive for sub-optimally investing in risky projects, even if they are value-decreasing. If debt-holders anticipate equity-holders' future behaviour, they will impose costs for equity-holders who issue debt, asset-substitution effect (Jensen and Meckling, 1976). Thus, firms with good investment opportunities will be less able to take full advantage of these projects (Myers, 1977). Agency costs of debt explain that firms with good investment opportunities will use less debt (Smith and Watts, 1992) and that the impact of debt on firm value will be negative for firms with good investment projects (McConnell and Servaes, 1995). Given these costs, firms with good investment opportunities will prefer to issue equity over debt.

An increase in the firm's investment opportunities increases marginal agency costs of debt and decreases marginal costs of managerial discretion. Consequently, creditors use debt to generate information and monitor management. They gather information from the firm's ability to make payments and from a costly investigation in the event of default. Debtholders use their legal rights to force management to provide information and to implement the resulting efficient liquidation decision. Fama (1985), James (1987), Nakamura (1993) find that banks have an advantage compared to trade lenders in generating information and subsequently monitor firms' behaviour. Due to the monitoring role of leverage, managers may avoid to issue debt. One of the factors that may influence managerial discretion is ownership structure. Firms with more concentrated ownership are expected to have less agency costs related to managerial opportunistic behaviour and thus managers may not avoid issuing debt, but shareholders will benefit less from debt issues. The influence

of large investors such as banks or institutional investors should also be taken into account (Shleifer and Vishny, 1986).

The debt creates an incentive for managers to work harder and make better investment decisions (Wruck, 1994), but the excessive use of debt can be costly, resulting in substantial increase in firm's bankruptcy risk and may exacerbate agency problems like asset substitution or underinvestment (Lasfer, 1995). As leverage increases, the usual agency costs of debt rise, including bankruptcy costs. The optimal debt-equity ratio is the point at which firm value is maximized, the point where the marginal costs of debt just offset the marginal benefits. Jensen (1989) argues that highly-leveraged firms will respond faster to a decline in firm value than their less-leveraged counterparts because a small decline in value can lead to default. Jensen's argument implies that a highly leveraged firm is more likely to restructure its operations and its financial claims quickly, preserving its going-concern value. When leverage is initially low, default occurs only after continuing losses drive firm value substantially below the pre-distress level. With low leverage, a firm is less likely to respond to short term operational distress, and will therefore lose more of its going-concern value. Consistent with Jensen's argument, higher leverage also significantly increases the probability that certain specific operational actions, such as asset restructuring and employee layoffs, will be taken when performance deteriorates. Highly-leveraged firms are more likely to liquidate assets and raise cash, which they use to repay debt, although these firms are also more likely to take actions such as discontinuing operations and reducing production units that reduce costs but do not increase current cash flow. The debt structure of a firm is a function of the firm's demand for and supply of debt funds. Consequently, investors use debt to generate information and monitor management. They gather information from the firm's ability to make payments and from a costly investigation in the event of default. Debtholders use their legal rights to force management to provide information and to implement the resulting efficient liquidation decision. The capital structure choice also determines in which states of nature the liquidation decision is transferred to the bondholders' control (via bankruptcy) (Titman, 1984).

Asymmetric information considerations are also relevant as determinants of capital structure. Smaller firms in particular face considerable informational asymmetries in their dealings with creditors. The notion of asymmetric information in determining the optimal capital structure is primarily expressed by Myers (1984) and Myers and Majluf (1984). Myers and Majluf (1984) assumed that managers make decisions with the goal to maximize the wealth of existing shareholders. Asymmetric information theories argue that managers have more information about the firm than investors do. While the trade-off theory predicts an optimal capital structure as a result of the trade-off between the tax advantages of debt and the costs of financial distress (Bradley *et al*., 1984), models based on informational asymmetries predict no optimal debt levels. Information asymmetries between investors and managers determine that financing decisions act as informational signals about the firm's present situation and future prospects. Thus, in a scenario of asymmetric information, firms that have not exhausted their debt capacity will choose to issue debt. Also, firms that issue equity when they have slack are more likely to do so when low informational asymmetries are present. Consequently, these firms should present a higher probability of issuing equity and higher abnormal returns around equity issues (Harris and Raviv, 1990).

In recent years, a new approach to the determination of corporate gearing has developed from the financial contracting literature associated with the control rights model, which focus on small entrepreneurial firms, in which owner-managers prefer debt to equity because they do not wish to cede control rights to outside investors (e.g. Baird and Rasmussen, 2001 and Roberts and Sufi, 2009). For the small firms the interest payments could result heavy financial burden and affect their operating activities. To meet their debt payments they may be forced to sell assets in order to raise cash. The probability of asset restructuring in a distressed company increases with the firm's leverage. The asset selling or closing operating units increases the cash flow in short term, but may be inconsistent with long-term objectives, because of possible liquidity costs associated with distressed asset-sales. These measures are often associated with charges to earnings and may require cash outflow. In long term, such actions reduce costs and thus increase the cash available to repay debt.

## 3. Literature review

Gilson *et al*. (1990) and Asquith *et al*. (1994) show how capital structure affects how firms deal in a situation of financial distress. In their examination of U.S. junk bonds issuers the authors find that when companies are distressed, banks, which hold most of the senior debt, virtually never forgive principal and rarely provide refinancing outside of bankruptcy. Concessions come from subordinated bondholders, typically through exchange offers. Postponement, although it may reduce creditor returns to some extent, is more favourable to senior debt-holders than forgiveness, because it comes at the expense of long-term claim-holders.

Ofek (1993) examined the relation between a firm's capital structure and its response to short-term financial distress. The results show that highly-leveraged firms are more likely than their less-leveraged counterparts to respond operationally to short-term distress. Such firms are also more likely to take individual actions such as restructuring assets and reducing number of employees when performance deteriorates. Highly-leveraged firms are more likely to respond financially, through dividend cuts, debt restructuring, and bankruptcy. There are several differences in a firm's response to short-term and long-term distress. Higher leverage significantly increases the probability of debt restructuring following a short period of distress. High leverage appears to induce a firm to respond operationally and financially to adversity after a short period of poor performance, helping to avoid lengthy periods of losses with no response. The existence of debt in the capital structure may thus help to preserve the firm's going-concern value.

Pindado *et al*. (2006) investigated the financial structure of small firms by emphasizing the role played by financial distress. The authors used a panel data of small Portuguese firms and employed variables for size, growth, *ex-ante* insolvency costs, cash flow, non-debt tax shields. First, they found that there are major differences in the determinants of long-term and short-term debt ratios in small firms. This evidence underlines the analysis of the maturity structure of debt. Specifically, the choice of long-term debt is strongly conditioned by the search for a trade-off between tax benefits and *ex-ante*

insolvency costs, as well as by the liquidation value of the firm's fixed assets. On the other hand, short-term borrowing in small firms is negatively associated with cash flow.

**4. Hypotheses development**

The type of assets that a firm possesses can be considered an ambiguous factor for the determination of the debt-equity ratio. Asset structure is closely related with the notion of financial distress costs. Specifically, the costs of financial distress depend on the types of assets that a firm has. Securable assets are considered as being tangible assets such as plant and machinery. The tangible assets of a firm can be considered representative of the real guarantees that it can offer its creditors. Therefore, the importance of those assets among total assets influences its level of debt, which rises with the increase of warranties offered by the firm to satisfy its obligations arising from contracted debt.

*$H_1$: The firms with more tangible assets issue more debt.*

The generation of funds is an indicator for the operational ability of the company. The more operating cash-flow, the easier is to pay-off debt. The distressed companies have difficulties to generate funds and they use external financing. Pindado *et al*. (2006) found a negative relationship between the cash-flow and the short-term-debt.

*$H_2$: Less operating cash-flow is associated with more debt in the structure.*

Other indicators for firms' efficiency are the return on the share and lend capital. Insolvent firms' inefficiency to exploit the capital invested raises the necessity of external funds. Instead of presenting the ROA in one ratio, in our model it is divided into return on shareholders' funds and return on liabilities.

*$H_3$: Less profitability of the assets employed raises the necessity of external funds.*

Our descriptive statistics depict that an increase in the sales volume is related to more debt in the capital structure, which means that the debt absorbs significant part of the payments and even the increased sales are not sufficient

to cover the pending payments. The sales volume is a requisite for obtaining external funds. The break-even point analysis is a powerful tool for the distressed companies in order to establish at what level of revenues they receive benefits.

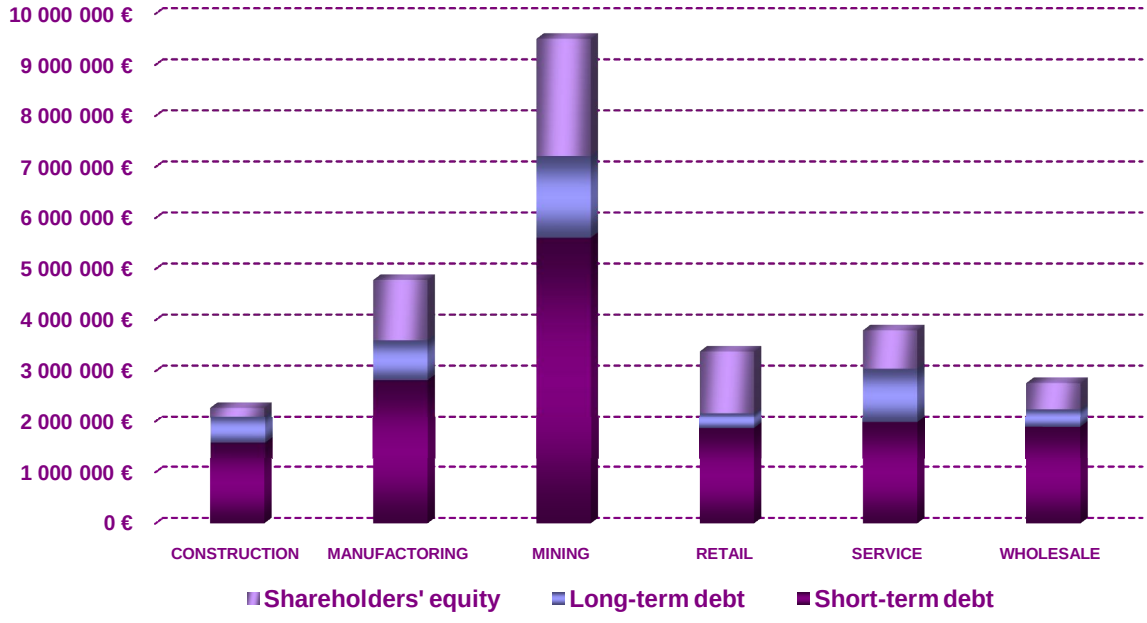
*$H_4$: An augmentation of sales is positively related to debt.*

The reputation and the size of a firm may affect its leverage capability, since it reduces the conflicts between the company and its lenders. This is because companies with better reputations are more mature and better known in the market, since, as Myers (1977) points out, the companies that are most concerned about having a reputation for being honest are those that expect to remain in the market for a long time.

*$H_5$: The firms that are more mature are capable to obtain more financial resources from lenders.*

*$H_6$: The larger firms have more debt in their capital structure.*

**Chart 50: Capital structure of the insolvent firms, by industry type**




Charts 50 and 51 depict the permanent over-credited situation of the firms in the sample. On average the long-term debt maintains relatively stable rate of 20% during the last decade of firms' development, while the shareholders' funds are quite insufficient to justify the conceded credits.

**Chart 51: Debt/equity structure, according to years prior to insolvency**


## 5. Empirical results

Following the study of Pindado *et al*. (2006), we compare the outcomes of two models, where as determinants of the dependent variable (short-tem leverage – model 1 and long-term leverage – model 2) are incorporated financial ratios, macroeconomic and structural variables.

$$Leverage_{i,t} = \alpha + \beta(Financial\ ratios_{i,t}) + \gamma(Macroeconomic\ and\ structural\ variables_{i,t}) + \varepsilon_{i,t.}$$

The results of the fixed-effects panel data regression analysis (see table 2) reveal that there is a difference between the determinants of the short and long-term gearing. The sales are found to be positively related only to the short-term capital structure, which means that insufficient revenues are financed with current debt. The results partially support the fourth hypothesis.

That is consistent with the result that the return on the share capital affects only the current liabilities structure, which means that the lack of profitability is financed by short-term lend capital. There has not been found relationship between the leverage and the profitability of the lend capital. The third hypothesis is partially supported.

The results obtained show that the operating cash-flow generated is negatively related to the capital structure, thus supporting the second hypothesis. This is consistent with the results obtained from Pindado *et al*. (2006) and adds the novelty of existing negative relation with the long-term debt, too.

**Table 2: Determinants of the capital structure of the insolvent firms**

| Variables | Short-term debt/Total assets | | | Long-term debt/Total assets | | |
|---|---|---|---|---|---|---|
| | Coefficient | t-value | P>\|t\| | Coefficient | t-value | P>\|t\| |
| **Sales/Total assets** | .484971 | 42.88 | 0.000 | -.01465 | -4.54 | 0.000 |
| **EBIT/Shareholders' funds** | -.00020 | -7.32 | 0.000 | -.00001 | -1.25 | 0.212 |
| **EBIT/Total liabilities** | .004299 | 0.38 | 0.701 | .001720 | 0.54 | 0.591 |
| **Operating cash-flow/Total assets** | -.07013 | -30.59 | 0.000 | -.00485 | -7.41 | 0.000 |
| **Tangible fixed assets/Total assets** | .429369 | 2.37 | 0.018 | .288459 | 5.57 | 0.000 |
| **Cash/Total assets** | -.48614 | -1.90 | 0.058 | .45272 | 6.18 | 0.000 |
| **Interest rate** | -8.3509 | -7.09 | 0.000 | -1.4006 | -4.16 | 0.000 |
| **Consumer price index** | -.00749 | -4.27 | 0.000 | -.00035 | -0.70 | 0.485 |
| **Age** | 6.71576 | 0.39 | 0.695 | .152539 | 0.03 | 0.975 |
| **Size (Ln (Total assets))** | -.14682 | -3.86 | 0.000 | -.03287 | -3.02 | 0.003 |
| **Constant** | -119.58 | -0.38 | 0.702 | -2.1103 | -0.02 | 0.981 |
| **F of the model** | - | 392.19 | 0.000 | - | 15.40 | 0.000 |

Level of confidence: 99,9%. Number of observations = 13521 Number of firms = 2171.

Firms with more tangible fixed assets are confirmed to issue more debt to finance them. Assets specification and structure plays an important role in the negotiations with creditors. Thus, the first hypothesis is accepted.

The reputation of the firm, represented by the company's age has not been found a factor determining company's capital structure. Firm's maturity was not found to be relative for the creditors.

In the model were introduced two macroeconomic variables – the interest rate and the consumer price index. When the interest rate is low, the companies are more predisposed to use lend capital, only if the economy is not in recession. As was explained above, the sample includes the annual accounts of firms that filed for insolvency before 2008 year, or when the economy was not still affected by the financial crisis. The other indicator (CPI) represents the level of inflation in the economy. It has been found that the indicator is related only to

the current liabilities. More inflation reduces the consumers' purchasing capacity, thus reduces firm's revenues and in order to stimulate it the central bank raises the interest rates, which affects the corporate decision to use short-term debt.

Firm's size, contrary to our expectations, results to be negatively related to both leverages. The larger a firm is the more cash flow generates and needs less external funds. Thus, the sixth hypothesis is rejected.

## 6. Conclusions

The theoretical and empirical literature identifies a wide variety of possible influences on corporate capital structures. Bankruptcy is determined endogenously and will depend on the maturity of debt as well as its amount. The results suggest that both firm-specific and macroeconomic factors influence the leverage of Spanish insolvent firms. This study shows that there is difference between the determinants of firm's debt maturity. Firms with low return on shareholders' funds will prefer shorter term debt, because it reduces agency costs. The increasing inflation reduces consumers' expenditure and the cash flow generated from the firms, thus provoking them to issue short-term debt. The negative relation between leverage and firm's size does not support the findings of Pindado *et al*. (2006).

The balance between debt and equity positively impacts on firm's revenues in periods of reduced sales, because the over-crediting affects its liquidity first, and afterwards – its solvency. The preservation of equilibrated capital structure allows companies to provide maximum return to the equity shareholders and reduce risks. Prior research indicates that financial distress can create an incentive to select income increasing accounting techniques. Earlier studies document a consistent positive relationship between leverage and accounting method choice (Christie, 1990). However, Begley (1990) notes that studies of this type have several limiting assumptions: first, that leverage is linearly related to the probability of violating restrictive covenants contained in debt agreement; second, they assume that all firms face the same leverage restrictions; and third, the net benefit of changing accounting technique is assumed to be monotonically related to the probability of covenant violations.

# Chapter V: Earnings management of the insolvent firms

## 1. Introduction

Earnings management around firm-specific events has received considerable attention from researchers in recent years. It presents accounting practices that depart consciously from established accounting rules and principles in the computation of accounting profits. Earnings management is clearly an extended phenomenon indifferent from countries, because it has been observed to appear in most markets and accounting systems. A key issue in studies investigating the earnings management has been the question of how earnings management affects the information content of earnings. Davidson *et al*. (1987) define earnings managing as the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about desired level of reported earnings. Schipper (1989) explains that managing earnings is a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain. Healy and Wahlen (1999) state that earnings management occurs when managers use judgment on financial reporting in operational transactions to alter financial reports, to either mislead some stakeholders about the underlying economic performance of the economy, or to influence contractual outcomes that depends on reported accounting numbers.

Nevertheless, the earnings management is an international phenomenon and represents operational and discretionary accounting methods to adjust earnings to a desired outcome. Management takes these actions to influence investor's perceptions of the firm. The use of accrual accounting improves the assessment of a firm's current performance as well as improving predictions related to firm's future performance and future cash flows. Accruals application may reduce the usefulness of financial statement if accruals are used for manipulative purposes. Prior research has shown that high levels of accruals lead to future declines in performance. However, declining performance does not mean that a firm is financially distressed. High accruals resulting from increases in accounts receivable may indicate slow collection of the trade debts. Increases in

inventories may indicate that the company's sales are lagging. Both of these problems suggest that the firm may be experiencing liquidity problems that may lead to financial distress. The high accruals may be the result of earnings management intended to artificially inflate earnings (Dichev and Skinner, 2002; DeFond and Jiambalvo, 1994). Controlling for the level of earnings, firms with extreme accruals are more likely to experience financial distress than firms with moderate accruals.

## 2. Theoretical framework

Financially distressed firms are likely to engage in earnings management to avoid losses or to meet the market expectations (Burgstahler and Dichev, 1997). DeAngelo *et al*. (1994) document that financially distressed firms may adjust the reported earnings downward to obtain better terms during renegotiations on contracts. Prior studies suggest that the management of firms in distress may have various incentives or feel pressure to manage financial information in different ways. Management of distressed firms has motivation to report higher earnings in order to avoid debt covenant violations and probable bankruptcy. The literature provides mixed results with regard to the earnings behaviour of distressed firms. For instance, DeFond and Jiambalvo (1994) show positive unexpected accruals in the year prior to default, consistent with managers manipulating earnings to prevent default. Dichev and Skinner (2002) also provide evidence that managers take actions to avoid debt covenant violations. An alternative explanation is that management of financially distressed firms may manipulate earnings upwards out of self-interest for various reasons, such as to avoid management turnover during the distressed period.

Management of distressed firms may engage in earnings-decreasing behaviour and implement more conservative accounting practices prior to bankruptcy filing to reduce exposure to litigation (a result of prudent practice, not of manipulation). These more conservative accounting practices adopted during the distress period may be either chosen voluntarily by managers (acting on behalf of shareholders) or may be the result of pressure imposed by auditors or by lenders (a result of increased scrutiny as the degree of financial distress

increases). Moreover, lenders may also practise more careful monitoring towards financially troubled firms. By attempting to increase reported earnings, managers may risk losing credibility with lenders, thereby endangering important financial resources at crucial times. Evidence shows that there are various motives that may lead managers to adopt either earnings-increasing or earnings-decreasing behaviour – deliberate choices of managers, intervention of external parties or natural changes in accruals (Charitou *et al*., 2007).

Generally, firms manipulate revenues either through accounts receivable or unearned revenues, depending on the reason for the manipulation and the timing of cash collection. Some firms may manipulate revenues in order to smooth growth, whereas other firms may understate revenues to avoid regulatory sanctions or to minimize taxes. Burgstahler and Dichev (1997) find that firms with high levels of current assets and current liabilities before the earnings manipulation are likely to find it relatively less costly to manage earnings through changes in working capital than firms with low levels of current assets and current liabilities.

The revenue manipulation is achieved primarily through manipulation of the "unearned revenue" account. Earnings management to overstate revenues is usually achieved by recording fraudulent sales and/or by the premature recognition of legitimate sales. These forms of manipulation generally flow through accounts receivable (Dechow and Sloan, 1991). The relative importance of revenues in determining the market capitalization of loss firms provides an incentive for loss firms to manipulate revenues in order to achieve greater market capitalization. For the same reason, loss firms are less interested in manipulating expenses because earnings are not particularly value relevant. Financially weak firms may be forced to invest in accounts receivable in order to survive, but simultaneously may be constrained by their need for cash inflow. Companies apply various financial decisions as instruments of the earnings management. These decisions are related to the application of the accounting principles and could be divided into the following groups:

a) Decisions related to changes of the valuation method or the accounting procedure – changes in the amortization method or changes in the valuation of stocks (FIFO, LIFO (in some countries) and average price);
b) Decisions related to the application of various alternative accounting choices – capitalization of the expenses, which affects the information in the financial statements by reducing the expenses (thus, incrementing the benefits) and incrementing the value of the asset(s), (thus, presenting higher value of the balance);
c) Decisions related to estimations and predictions – estimation of the useful life and residual value of assets;
d) Decisions related to the classification and distribution of some extraordinary revenues and expenses;
e) Decisions related to the accounting provisions, for which the amount and the probability of occurrence are not known – restructuring, warranty costs, provision of taxes, decrees of judicial sentences, environment contamination, etc;
f) Decisions related to the recognition of revenues and expenses for the accounting period – anticipation or prolongation of different revenues and expenses and thus recognizing them in the most convenient manner for the management accounting period.

Therefore, the earnings management is pre-conditioned by the inherent flexibility of the accounting regulation and could be explicit and/or implicit. The explicit flexibility proceeds from the alternative accounting choices, while the implicit is a result of estimations, predictions and probabilities and thus is more difficult to detect.

Because outsiders cannot observe management's day-to day activities, investors and auditors pay attention to warning signals that abusive earnings management presents. The most significant earnings management concern involves revenues and how they are recognized. Revenue recognition is based on judgement, which means great potential for manipulation. Recognition of revenues in the operating cycle, capitalizing rather than expensing operating costs, increasing the expected useful life of fixed assets are common examples

of earnings management techniques. Since many accounting techniques allow alternatives and professional judgement, accounting choice is an important component of earnings management and the following list present the most common used practices:

- Cash flows that are not correlated with earnings – one of the most obvious warning signs that the companies have been related to improper revenue recognition is the lack of correlation between the operating cash-flow and the earnings. When cash flow is lagging significantly behind revenues, could be a sign that the companies are inflating revenues by recognizing sales in inappropriate periods, recording fictitious sales;
- Receivables that are not correlated with revenues – receivables rising more quickly than revenues could be a sign that customers are experiencing financial distress or the firm is recording fictitious sales;
- Allowances for uncollectible accounts that are not correlated with receivables – receivables growth not reflected in the allowance could be a sign that managers deliberately understated their reserves for uncollectible accounts or recorded fictitious sales;
- Reserves that are not correlated with balance sheet items – escalating abusive earnings management practices often provide incentives for companies to use business combinations with no apparent purpose. Management intentionally overstate merger and purchase reserves, which are subsequently reversed directly into operating expenses and revenues;
- Consistency of the reported earnings and expenses – some companies may engage in abusive accounting practices to cover economic or business downturns or to meet analysts' expectations.

## 3. Literature review

Most studies in the accounting research field examine samples of firms that include both healthy and financially distressed firms (Skinner, 1993; Pourciau, 1993; Healy, 1985; Watts and Zimmerman, 1978). These studies assume that contracting incentives have the same effect on the accounting choices of distressed firms as those of healthy firms and that the marginal cost of

manipulating income is the same for both types of firms. Studies using samples partitioned according to the firm's financial conditions recently have emerged that suggest that different incentives affect accounting choices in financially distressed firms.

However, studies using samples of financially distressed firms suggest that different incentives affect accounting choices in those firms. For example, DeAngelo *et al*. (1994) examine the accounting choices of NYSE listed firms with persistent losses and dividend reductions. The authors argue that corporate managers adopt income-decreasing accounting choices to give a signal that they are willing to acknowledge the problems and they are serious about streamlining the firm's operations. They find that managers of these firms adopt income-decreasing accounting choices even though dividends are under pressure due to negotiation of private debt agreements. This is evident from the large negative accruals in the first year of the dividend cut. Further, DeAngelo *et al*. (1994) find that 87% of their sample firms renegotiated contracts with labour unions or lenders and quite a number had changes at the executive level during the dividends reduction year. However, Bergman and Callen (1991), Noe and Wang (2000) and Jaggi and Lee (2002) suggest that managers of a distressed firm during debt renegotiation are focused on convincing creditors to extract concessions so that the firm can overcome its financial difficulties that would derive benefits to both parties.

Peltier-Rivest (1999) analyzes the accounting choices by selecting 127 troubled firms that reduce dividends due to operating losses and finds that these firms adopt income-decreasing accounting policies. By employing a multivariate regression analysis, the author provides evidence about various incentives and trade-offs that troubled firms' managers face when making accounting choices. The results obtained do not support DeAngelo's *et al*. (1994) findings that deflated earnings help managers to convince outside parties to make financial concessions and the adoption of income decreasing accounting polices aims tax expenses reduction.

Smith *et al*. (2001) investigate this issue further by categorising firms as distressed and in imminent failure. They predict that managers of distressed firms that subsequently failed would adopt accounting choices to reflect the underlying economic performance of the firm (on average income-decreasing) due to the high ex-post settling costs. Facing failure, managers may not engage in accounting income increasing policy choice as they may face additional penalties, arising from the adoption of such polices. In contrast, the troubled firms may engage in income increasing policy choice to mask some characteristics of their distressed state. The authors use a sample of 432 Australian firms from all industries, listed on the Stock Exchange. The results affirm that only the momentarily distressed firms switch accounting policies to relatively more optimistic methods.

Jaggi and Lee (2002), using a sample of 234 American distressed firms, investigate whether the choice of income-increasing or income-decreasing discretionary accruals is related to the severity of financial distress and whether this choice is also influenced by the creditors' waivers of debt covenant violations. They find that managers use income increasing discretionary accruals if they are able to obtain waivers from lenders for the violation of debt covenants, but use income decreasing discretionary accruals if debts restructuring takes place or debts are renegotiated because waivers are denied. Based on these results, they suggest that the extent of financial distress determines the direction of discretionary accruals.

Rosner (2003), using a sample of 293 American bankrupt firms, argues that failing firms are motivated to materially overstate earnings in pre-bankruptcy years. Specifically, ex post bankrupt firms that ex ante do not appear distressed are the most likely to have succeeded in reporting overstated earnings in their audited financial statements. She compared non going-concern years with going-concern years for bankrupt firms and found significantly lower magnitudes for receivables, inventories, net property, plant and equipment, sales, gross profit, working capital, current and total accruals in going-concern years, consistent with overstatement reversals. The author found that the behaviour of failing firms that do not appear distressed on the basis of accrual data, but that

show significant decreases in cash flows, is consistent with material earnings overstatements in nongoing-concern years followed by overstatement reversals in going-concern years.

Saleh and Ahmed (2005) examine discretionary accruals in distressed firms that have undertaken debt contract renegotiation subsequent to debt covenant violation with a view to determining whether managers adopt income-decreasing accruals during debt renegotiation. Using 94 firms and four established models for detecting discretionary accruals during the recent financial crisis in Malaysia, they find evidence that distressed firms manipulate earnings downward. The results show that the magnitude of discretionary accruals is significantly negative during the year surrounding renegotiations with lenders, and that these accruals are significantly more negative than those of a control sample of firms which have not undertaken debt renegotiation during the same period but experienced similar financial performance.

Using a sample of 859 American bankruptcy-filing firms (matched with the same number of healthy firms) over the period 1986–2004, Charitou *et al*. (2007) examine the earnings behaviour of managers during the distressed period by looking at sources of abnormal accruals prior to the bankruptcy-filing year. Results show that managers of highly distressed firms shift earnings downwards prior to the bankruptcy filing. The authors consequently examined possible incentives motivating managers to decrease earnings during the distressed period. Significant earnings-decreasing choices up to one year prior to the bankruptcy-filing year were found to be associated with both current and long-term accruals. They show that earnings and cash flow from operations drift downwards in the four years prior to bankruptcy, although cash flows from operations drift upwards in the year of bankruptcy. Total accruals are negative and decreasing over the four-year bankruptcy period. Performance matched current abnormal accruals fluctuate over the period, but are mostly negative (i.e., income decreasing). The performance matched long-term discretionary abnormal accruals decline each year. The results suggest that earnings decreases may be partly due to new managers' earnings bath choices, and that qualified audit opinions may additionally induce managers to be more

conservative in their financial reporting choices. The authors also find that management of distressed firms with lower (higher) institutional ownership has greater (lesser) tendency to manage earnings downwards.

Studies of event-specific earnings management typically analyse the mean abnormal accruals across event firms and test whether the mean is significantly different from zero (see, e.g. Jones (1991), DeAngelo (1986, 1988, etc.). A mean that is significantly different from zero is interpreted as being consistent with earnings management related to the event under examination. In arriving at this conclusion, such studies implicitly assume that the mean abnormal accruals would have been zero in the absence of the firm-specific event.

## 4. Models to detect earnings management

Several models have been developed to measure and predict earnings management (Healy (1985), DeAngelo (1986), Jones (1991), Dechow and Sloan (1991), DeFond and Jiambalvo (1994), Rees *et al*. (1996), and Kothari *et al*. (2005)). A common feature of the models found in the literature involves the measurement of discretionary accruals. In general, these models assume that earnings are managed in predictable ways through the manipulation of discretionary accruals. The estimation of discretionary accruals is accomplished by comparing actual total accruals to the estimated total accruals obtained with an accrual expectation model. The resulting forecast errors are assumed to capture discretionary accruals. Studies examining earnings management typically decompose total accruals into expected (or nondiscretionary) accruals and abnormal (or discretionary) accruals, a procedure that heavily relies on the descriptive accuracy of the expectations model used. Most of the models of expected accruals require the estimation of one or more parameters. The parameters of time-series models are estimated for each firm in the sample using data from periods prior to the event period. In contrast, the parameters of cross-sectional models are estimated each period for each firm in the event sample using contemporaneous accounting data of firms in the same industry. The time-series models and the cross-sectional models provide conceptually different estimates of abnormal accruals due to differences in their approaches for estimating expected accruals (Jeter and Shivakumar, 1999). To estimate

model parameters, time-series models use data from an estimation period during which no systematic earnings management is expected to occur. Cross-sectional models make no assumptions regarding systematic earnings management in the estimation sample, but implicitly assume that the model parameters are the same across all firms in an estimation sample. The abnormal accruals estimated from these models can be interpreted as 'industry-relative' abnormal accruals. By controlling for industry-wide earnings management, cross-sectional models enable researchers to detect earnings management above and beyond the average unconditional earnings management found in that industry (Jeter and Shivakumar, 1999).

Usually accruals are defined as the difference between earnings and cash flow from operation. It could further be broken up into non-discretionary accruals and discretionary accruals:

*Earnings – Cash flow from operations = Discretionary accruals + Non-discretionary accruals*

Non-discretionary accruals are accounting adjustments to the firm's cash flows mandated by accounting standard-setting bodies. Discretionary accruals are adjustments to cash flows selected by the managers. Accruals will total zero over the long run because the sum of earnings must equal the sum of cash flows over the life of business. Consequently, any higher than normal accruals in one period must be offset by lower than normal accruals in other period.

First approach is based on the aggregate accrual models. The researchers attempted to identify discretionary accruals based on the relation between total accruals and hypothesized explanatory variables. The aggregate accrual models use magnitude of accruals as a proxy for the extent to which insiders exercise discretion in reporting earnings (Leuz *et al*. 2003). The aggregate accruals literature began with Healy (1985) and DeAngelo (1986) who used total accruals and change in total accruals, respectively, as measures of management's discretion over earnings.

The first earnings quality proxy used was based on the model developed in Jones (1991). This model focuses on calculating the discretionary portion of total accruals, which is then used as a measure of earnings management. To partition total accruals into its discretionary and non-discretionary components, Jones (1991) used the following model for total accruals to control for changes in the firm's economic circumstances:

$$Accruals_{it}/Assets_{i,t-1} = \alpha_0 + \alpha_1(1/Assets_{i,t-1}) + \alpha_2(\Delta Sales_{it}/Assets_{i,t-1}) + \\ +\alpha_3(PPE_{it}/Assets_{i,t-1}) + \varepsilon_{it}$$

The change in sales and gross property, plant and equipment were included in the above model to control for changes in non-discretionary accruals due to changing conditions. The change in sales was included as it was assumed to be an objective measure of the firms' operations before any manipulation by management, whereas gross property, plant and equipment was included to control for the non-discretionary depreciation expense (Jones, 1991).

The Jones (1991) model and its variations have been widely used to develop proxies for earnings management and, inversely, earnings quality. However, discretionary accruals models have been subject of criticism in a number of studies. It has been argued that there is the potential for the misclassification of expected accruals as unexpected because of the incompleteness of the expected accruals model (Bernard and Skinner, 1996). Guay, Kothari and Watts (1996) suggested that their evidence was consistent with the models estimating discretionary accruals with considerable imprecision and/or misspecification. Hansen (1999) concluded that studies relying entirely on the validity of discretionary accruals models were likely to under- or overstate proposed earnings management behaviour.

Dechow *et al*. (1995) demonstrated that discretionary accruals models typically generated tests of low power for earnings management of economically plausible magnitudes. Their model is known as "modified Jones model" and instead of using revenues, implies the difference between sales and accounts

receivable (the current obligations of the clients, which if paid in next accounting period could be subject to improper revenue recognition).

$$Accruals_{it}/Assets_{i,t-1} = \acute{\alpha}_0 + \acute{\alpha}_1(1/Assets_{i,t-1}) + \acute{\alpha}_2((\Delta Sales_{it} - \Delta Accounts\ receivable)/Assets_{i,t-1}) + \acute{\alpha}_3(PPE_{it}/Assets_{i,t-1}) + \varepsilon_{it}$$

Dechow *et al*. (1995) examined the power and specification of discretionary accrual models and observed that "all models (including the Jones and modified Jones models) were misspecified." Although their findings suggest that the modified Jones model "provides the most powerful tests of earnings management" (p. 223), the implication is that the use of accrual estimation models as they are currently derived, may lead to unreliable results.

Kothari *et al*. (2005) attempted to improve the power and specification of the modified-Jones model by developing a discretionary accrual model that is "adjusted for a performance-matched firm's discretionary accruals, where performance matching is on the basis of a firm's return on assets for the past year and industry membership" (p. 1). The Kothari *et al*. (2005) model is an extension of the modified Jones model (Dechow *et al*. (1995)) and is developed to address misspecification and lack of power. It captures discretionary accruals by obtaining the residuals from annual cross-sectional industry regressions. Performance matching is conducted by establishing a treatment sample of firms (the sample under investigation for earnings management) and a control sample of firms (a sample that is performance-matched to the treatment sample). Performance matching is based on return on assets (ROA) as measured by net income scaled by lagged assets, by industry and year. Finally, performance-matched discretionary accruals for firm *i* at time *t* are estimated by subtracting the estimated performance-matched (control) firm's discretionary accrual component at time *t* from the estimate of treatment firm's discretionary accrual component at time *t*, using the modified-Jones model. Kothari *et al*. (2005) find that a performance-matched approach used to estimate discretionary accruals is superior to the modified Jones model in terms of power and specification. The implication is that use of a performance-matched

approach mitigates the misspecification and lack of power problems inherent in the estimation of discretionary accruals in earnings management research.

$$Accruals_{it}/Assets_{i,t-1} = \beta_0 + \beta_1(1/Assets_{i,t-1}) + \beta_2(\Delta Sales_{it}/Assets_{i,t-1}) + \\ +\beta_3(PPE_{it}/Assets_{i,t-1}) + \beta_4 ROA_{it(i,t-1)} + \Upsilon_{it}$$

The final measure of discretionary accruals we consider is the Ball and Shivakumar (2006) measure. This measure incorporates conditional conservatism into the existing accrual models. They recognize that accruals are expected to be an asymmetric function of firm performance in which economic losses are captured by the accruals process in a timelier manner than gains. Following the same methodology of Kothari *et al*. (2005), Ball and Shivakumar (2006) add four additional explanatory variables to their discretionary accrual model to proxy for economic gains and losses: (1) current period cash flows, (2) change in cash flows, (3) industry-adjusted cash flows, and (4) market-adjusted stock returns. By incorporating cash flows, as demonstrated by Ball and Shivakumar, this discretionary accrual model should have increased explanatory power over the other models (Guay, 2006).

$$Accruals_{it}/Assets_{i,t-1} = \gamma_0 + \gamma_1(1/Assets_{i,t-1}) + \gamma_2(\Delta Sales_{it}/Assets_{i,t-1}) + \\ +\gamma_3(PPE_{it}/Assets_{i,t-1}) + \gamma_4(Var) + \gamma_5(dummy\ Var) + \gamma_6(Var)_x(dummy\ Var) + \varphi_{it}$$

Prior research has depicted financial claims as consisting of rights and the extent to which these rights are protected depends on a country's underlying legal regime (LaPorta *et al*. 1997). An implication that flows from this framework is that investor protection laws and their legal enforcement create safeguards for outside investors and that the protection of rights, particularly outside (minority) shareholders, is important in creating economic incentives for outside investment in companies and the development of financial markets (Hart,1995). This absence (or a lack of threat) of enforcement creates *ex-ante* incentives for borrowers to manage earnings less because the consequences are deemed to be insignificant for violating debt-related covenants. When the threat of legal enforcement by creditors is high, borrowers have the incentives to manage earnings more to avoid debt covenant violations.

## 5. Descriptive statistics and hypotheses development

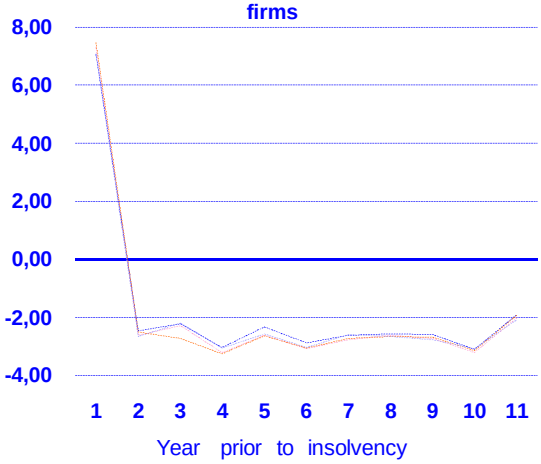
**Table 3: Evolution of the discretionary accruals, according to the years prior to insolvency**

| Model | YPI | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jones 1991 | mean | 1,33 | -3,21 | -2,41 | -2,42 | -2,38 | -2,52 | -2,17 | -2,22 | -2,23 | -2,11 | -1,89 |
| | t - value | 0,90 | -7,24 | -21,3 | -7,85 | -23,5 | -16,3 | -11,9 | -9,50 | -6,74 | -18,6 | -16,9 |
| | Pr(mean < 0) | 0,816 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 |
| Dechow 1995 | mean | 1,28 | -3,09 | -2,26 | -2,35 | -2,22 | -2,36 | -2,01 | -2,07 | -2,15 | -1,97 | -1,77 |
| | t - value | 0,89 | -6,87 | -21,1 | -7,44 | -21,6 | -14,9 | -11,7 | -9,00 | -6,72 | -17,8 | -16,4 |
| | Pr(mean < 0) | 0,811 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 |
| Kothari 2005 | mean | 1,46 | -3,14 | -2,43 | -2,41 | -2,37 | -2,50 | -2,17 | -2,20 | -2,21 | -2,09 | -1,86 |
| | t - value | 0,998 | -7,02 | -23,6 | -7,95 | -22,9 | -15,5 | -11,7 | -9,27 | -6,58 | -18,3 | -16,7 |
| | Pr(mean < 0) | 0,841 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 |
| Non-linear 2006 | mean | 1,08 | -3,16 | -2,38 | -2,33 | -2,22 | -2,38 | -2,05 | -2,09 | -2,10 | -1,92 | -1,83 |
| | t - value | 0,734 | -7,12 | -21,1 | -7,56 | -22,3 | -15,4 | -11,4 | -8,97 | -6,37 | -16,6 | -16,3 |
| | Pr(mean < 0) | 0,768 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 |
| | Companies | 1 910 | 1 769 | 1 651 | 1 511 | 1 339 | 1 207 | 1 096 | 978 | 839 | 703 | 537 |

The results indicate that, for failed firms, the earnings management component is significantly negative suggesting that firms manage the reported earnings downwards by means of discretionary accruals for eleven years prior to failure. The results are consistent with the research of DeAngelo *et al*. (1994), where the distressed firms use earning management techniques to convince the creditors and receive more concessions from them.

**Chart 52: Mean of the discretionary accruals of the voluntarily insolvent firms**


**Chart 53: Mean of the discretionary accruals of the necessarily insolvent firms**




The negative discretionary accruals sharply change after the second year prior to the insolvency. For the necessarily insolvent firms this modification results extremely drastic, due to the deteriorated financial situation and the lack of current assets. This finding supports the contracting theory hypothesis that firms

use their accounting discretion to manage reported earnings upwards before failure (see chart 52 and 53).

After estimating the evolution of the value of the discretionary accruals, our objective is to explore its relation with some firm characteristics. Financial leverage controls for earnings management behaviour that it alleviates the constraints of accounting based debt contracts (DeFond and Jiambalvo, 1994) and income-decreasing managerial activities to facilitate debt renegotiations in the event of financial distress (De Angelo *et al*. 1994). In order explore the relationship of the capital structure and the earnings management, the following hypotheses are proposed:

*$H_1$: Insolvent firms manipulate earnings motivated by the pressure of short-term creditors.*

The relationship between the current assets and the discretionary accruals is determined by the application of earnings management techniques related to the modification of the method of recording the inventory or the allowances for uncollectible receivables.

*$H_2$: The less liquidity, the more discretionary accruals.*

In order to present higher profitability the managers apply earnings management techniques.

*$H_3$: The higher profitability of the shareholders' capital, the more discretionary accruals.*

The age of the company represents its reputation on the market. The older firms are characterized with more established relationships and more credit confidence; therefore they are less motivated to manipulate earnings.

*$H_4$: Younger firms manipulate more than the established ones.*

Large firms have more growth opportunities and are more likely to undertake earnings management (Dechow *et al*. 1998; McNichols, 2000). From the other side large firms are likely to face increased external monitoring, have more stable and predictable operations and hence report smaller accruals (Dechow and Dichev, 2002). To test both suggestions, firm size, measured as the natural logarithm of book value of total assets, was incorporated as independent variable.

*$H_5$: Small firms are less monitored and therefore manipulate more.*

## 6. Empirical results

The results of the fixed-effects panel data analysis reveal that when it comes to leverage, only the short-term capital structure is found to be significantly related to the earnings management. It is the principal factor that eases the limitations of the debt contracts and the primer motive to apply earnings management techniques. The first hypothesis is accepted.

Less liquidity reduces the possibilities of convincing the creditors and is accompanied by more data manipulation. If the companies had sufficient short-term assets they probably would not have been insolvent, therefore in order to raise their liquidity ratio, managers employ manipulation techniques. Thus, we accept the second hypothesis.

The return on the shareholders' funds has been found to be positively related to the earnings management. The unbalanced capital structure affects the objective of maximization of shareholders' return and with the purpose to avoid organization changes, the managers use earnings management techniques. Thus, we accept the third hypothesis.

Larger firms, induced by growth opportunities are supposed to employ more earnings management techniques. But neither the age, no firm's size, has been found to be determinants of the earnings management. Thus, the fourth and fifth hypotheses are not accepted.

**Table 4: Determinants of the discretionary accruals of the insolvent firms**

| Variables | | Jones (1991) | Dechow (1995) | Kothari (2005) | Non-linear (2006) |
|---|---|---|---|---|---|
| **Current liabilities/Total assets** | Coef. | .2904765 | .2537623 | .1165388 | .274708 |
| | t | 11.17 | 9.91 | 4.57 | 10.63 |
| | P>t | 0.000 | 0.000 | 0.000 | 0.000 |
| **Long-term liabilities/Total assets** | Coef. | .1034514 | .0888463 | .3792127 | .0985468 |
| | t | 1.00 | 0.87 | 3.72 | 0.96 |
| | P>t | 0.319 | 0.384 | 0.000 | 0.339 |
| **Current assets/Current liabilities** | Coef. | -.0054098 | -.0055971 | -.0056531 | -.0053633 |
| | t | -3.06 | -3.22 | -3.26 | -3.05 |
| | P>t | 0.002 | 0.001 | 0.001 | 0.002 |
| **Fixed assets/Total assets** | Coef. | 1.763813 | 1.508316 | 1.377908 | 1.219439 |
| | t | 3.38 | 2.94 | 2.69 | 2.35 |
| | P>t | 0.001 | 0.003 | 0.007 | 0.019 |
| **EBIT/Shareholders' funds** | Coef. | .0002872 | .00032 | .0002681 | .0002817 |
| | t | 3.27 | 3.70 | 3.11 | 3.23 |
| | P>t | 0.001 | 0.000 | 0.002 | 0.001 |
| **Age** | Coef. | -6.749655 | -8.040529 | -4.022343 | -3.996538 |
| | t | -0.13 | -0.15 | -0.08 | -0.08 |
| | P>t | 0.899 | 0.878 | 0.939 | 0.940 |
| **Size (Ln (Total assets))** | Coef. | -.15844 | -.0868595 | -.1684728 | -.1785768 |
| | t | -1.5 | -0.84 | -1.63 | -1.71 |
| | P>t | 0.131 | 0.401 | 0.102 | 0.087 |
| **Constant** | Coef. | 122.9137 | 145.7277 | 73.44592 | 73.10017 |
| | t | 0.13 | 0.15 | 0.08 | 0.08 |
| | P>t | 0.899 | 0.879 | 0.939 | 0.940 |
| **F of the model** | F | 23.39 | 18.99 | 8.98 | 20.84 |
| | P>F | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Level of confidence: 99, 9% Number of observations = 13 485 Number of firms = 2167

## 7. Conclusions

This study provides empirical evidence of and insight into the financial reporting behavior of failing firms, potentially useful to regulators, analysts, auditors, and investors in detecting material earnings manipulation. The main contribution of the research is the finding that the insolvent firms engage in earnings management to avoid debt covenant default due to their excessive level of short-term debt. The over-credited short-term structure makes the creditors more exigent towards their liquidity ratios – the primer motive for the application of manipulation techniques.

# Chapter VI: Evolution and efficiency of the insolvency procedure

## 1. Evolution of the insolvency procedure

A successful bankruptcy procedure plays as a filtering mechanism by providing the opportunity for inefficient firms to be liquidated. Liquidation is the basic bankruptcy procedure. Even for firms that decide to reorganize rather than liquidate, the liquidation procedure sets the framework for bargaining over reorganization (White, 1989). Accordingly, it also provides an opportunity for viable firms to be reorganized. The separation of economically profitable firms from those with only poor prospects plays a key role in an economy. As production factors are scarce, it may be socially optimal to liquidate a firm and sell all its assets so that they can be used elsewhere more efficiently. A problem arises, however, if the economic agents involved in a firm, namely, managers and investors, disagree on whether or not the firm should be liquidated, be it due to asymmetric information about future earnings or because of opposing interests in the firm. Financial distress can partly serve as such a separation device: if a firm's current earnings contain valuable information about future business, then a firm that is not able to meet current debt payment obligations will most likely perform weakly in the future as well. Default reveals low performance, and creditors usually tend to liquidate the firm rather than to take the high risk of continuation.

The analysis of the insolvent firms follows the structure of the insolvency procedure. 90 % of the companies fill for bankruptcy voluntarily. The managers are those who are constantly informed about the firm's current financial situation, while for the creditors (although that those have incentives to initiate the procedure) result time and resource costly to observe debtor's development. On average, the voluntarily insolvent companies dispose of 40 employees, assets valued at 4 million € and liabilities with a million less than the assets, while the necessarily insolvent, due to their numerical inferiority (10%), present higher mean values of the assets, debt and sales.

**Table 5: Descriptive statistics of the insolvent firms**

| | Assets | Liabilities | Sales | Employees | Age | Firms | Observations |
|---|---|---|---|---|---|---|---|
| Necessary | 5.135.370 € | 3.982.818 € | 6.966.161 € | 34 | 15 | 228 | 1462 |
| Voluntary | 3.958.715 € | 2.941.258 € | 4.504.189 € | 40 | 18 | 2042 | 14396 |
| Necessary & Maintained | 12.000.000 € | 9.357.128 € | 12.300.000 € | 77 | 23 | 30 | 209 |
| Necessary & Suspended | 3.988.863 € | 3.086.385 € | 6.072.715 € | 27 | 14 | 198 | 1253 |
| Voluntary & Maintained | 3.937.545 € | 2.985.653 € | 4.365.842 € | 41 | 18 | 1870 | 13226 |
| Voluntary & Suspended | 4.198.022 € | 2.439.477 € | 6.067.859 € | 32 | 17 | 172 | 1170 |
| Suspended | 4.089.860 € | 2.774.011 € | 6.070.370 € | 29 | 16 | 370 | 2423 |
| Maintained | 4.063.107 € | 3.084.785 € | 4.489.639 € | 42 | 18 | 1900 | 13435 |
| Ordinary | 6.883.324 € | 5.102.268 € | 7.707.186 € | 59 | 19 | 1149 | 8704 |
| Abbreviated | 640.917 € | 524.217 € | 1.109.407 € | 16 | 16 | 1121 | 7154 |

**Chart 54: Descriptive statistics of the insolvent firms, by the party that initiates the procedure**

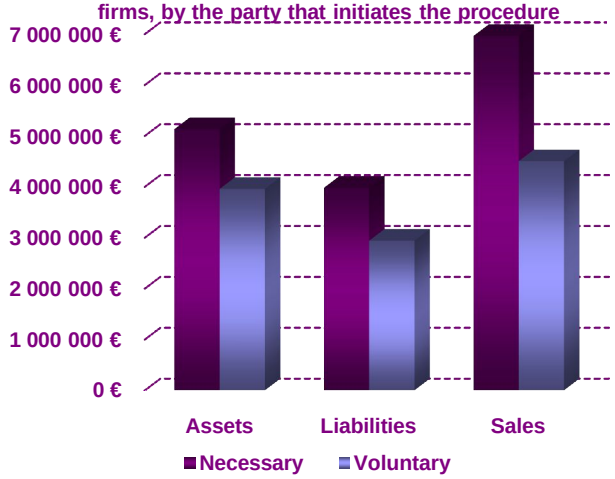
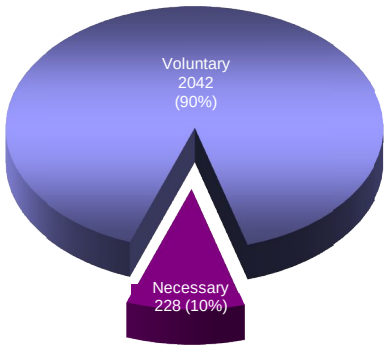



**Chart 55: Distribution of the insolvent firms, by the party that initiates the procedure**




The ratio analysis reveals that the voluntarily insolvent firms are more viable, with more (but still insufficient) liquid funds and positive return on the assets (1%). The lack of working capital and the negative profitability are probably the factors that induce the creditors to fill in first. The cash flow needed to cover the current debt is scarce for both groups.

**Chart 56: Descriptive statistics of the insolvent firms, by the party that initiates the procedure**

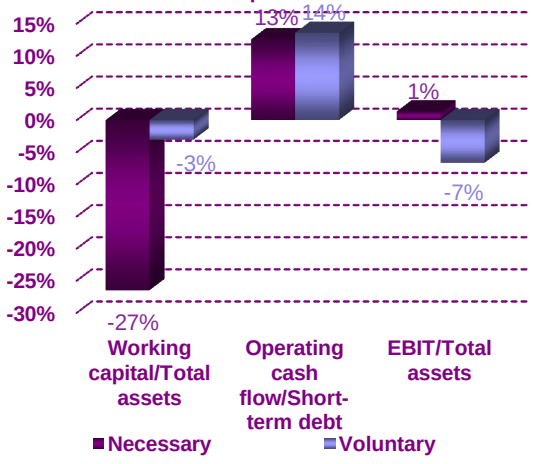



**Chart 57: Descriptive statistics of the insolvent firms, by the party that initiates the procedure**

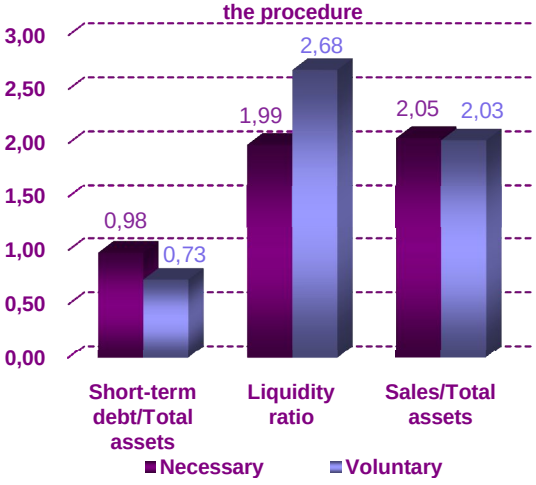


**Table 6: Determinants of the entry mode - panel data logit analysis**

| Entry mode (1 if voluntary; 0 if necessary) | Coefficient | z | P>\|z\| |
|---|---|---|---|
| **Age** | .0850276 | 3.13 | 0.002 |
| **Unavailability of annual accounts (1=Yes; 0=No)** | -33.67755 | -30.03 | 0.000 |
| **Interest rate** | 12.19202 | 0.67 | 0.501 |
| **Construction industry** | -.3859603 | -0.15 | 0.877 |
| **Manufacturing industry** | .5473497 | 0.22 | 0.825 |
| **Retail industry** | .4857134 | 0.18 | 0.859 |
| **Service industry** | -1.768416 | -0.71 | 0.479 |
| **Wholesale industry** | .0452476 | 0.02 | 0.986 |
| **Size** | .3206899 | 1.23 | 0.218 |
| **Constant** | 45.97046 | 10.11 | 0.000 |

Log likelihood = -644.28001; Wald $chi^2$ (7) = 1009.12; Prob. > $chi^2$=0.0000

Likelihood-ratio test of rho=0: $chibar^2$ (01) = 7947.91; Prob. >= $chibar^2$ = 0.000

The distinction between both types of entry is determined by the age and the availability of debtors' annual accounts for public utilization. The firms that initiate the procedure voluntarily result to be more experienced. For some insolvent firms there are missing annual accounts in the trade register ("*Registro Mercantil*") for the 5 years prior to the insolvency filing, thus the users of financial information are not able to establish properly their situation. Those debtors enter the procedure necessarily and in most of the cases lose their management capabilities.

From the mode of entry into bankruptcy depends which party will be delegated with the administrative competences of the firm – the management remain the supervision or is substituted by the Insolvency Administrator(s). That judicial decision could be rectified at any moment of the procedure. The verdict plays an important role for the company's taking decision process and for the bankruptcy resolution, as well.

The decision concerning company's future government is decreed according to the insolvency administrators' recommendation. Up to 82% of the firms in the sample fill for bankruptcy voluntarily and maintain their administration authority.

Chart 58: Descriptive statistics of the insolvent firms, by the party that initiates the procedure and the administrative competences

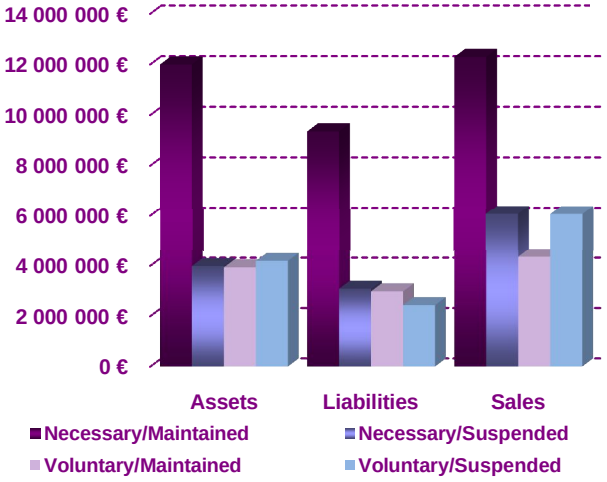
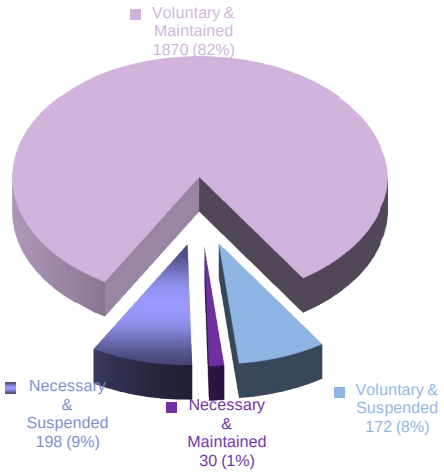



Chart 59: Distribution of the insolvent firms, by the party that initiates the procedure and the administrative competences




Those firms are characterized with an average - 4% working capital ratio, 14 % of the current liabilities are covered by the cash flow generated, and a negative 6% return on the assets. The necessary and suspended firms have short-term liabilities which exceed their assets, a sufficient reason for the creditors to be proactive and declare the debtor insolvent. An interesting observation is that this group of companies on contrary to all the rest have a positive return on the assets. This proves that the primer creditor's concern is the debtor's ability to serve the existing liabilities. The voluntary and continuing legal governance firms present superior liquidity coefficient than the rest of the groups.

Chart 60: Descriptive statistics of the insolvent firms, by the party that initiates the procedure and the administrative competences

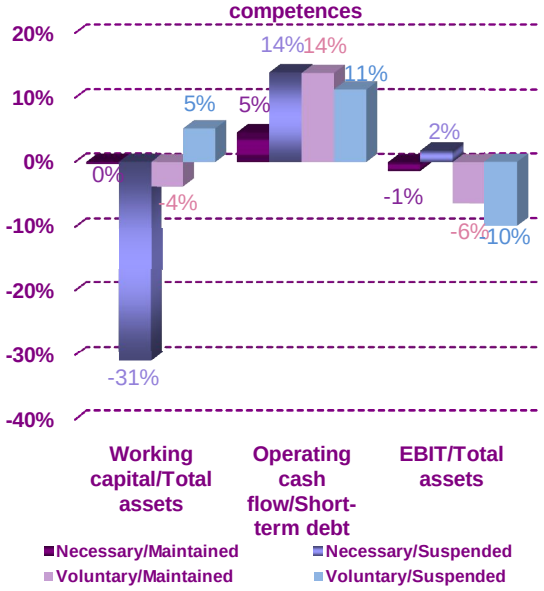



Chart 61: Descriptive statistics of the insolvent firms, by the party that initiates the procedure and the administrative competences

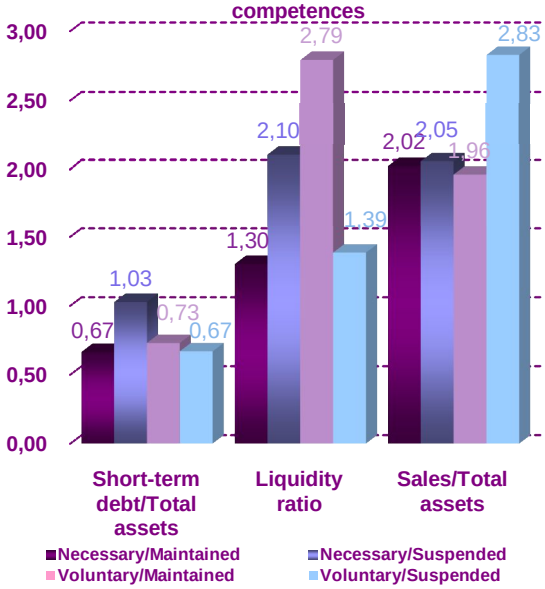


**Table 7: Determinants of the administrative competences - panel data logit analysis**

| Adm. competences (1 if maintained; 0 otherwise) | Coefficient | z | P>\|z\| |
|---|---|---|---|
| **Short-term liabilities /Total assets** | .0212063 | 0.32 | 0.748 |
| **Sales /Total assets** | -.0015331 | -0.10 | 0.921 |
| **Mode of entry (1=Voluntarily; 0=Necessarily)** | 32.13847 | 45.69 | 0.000 |
| **Preliminary proposal (1=Yes; 0=No)** | 6.259389 | 3.17 | 0.002 |
| **Liquidation petition (1=Yes; 0=No)** | -3.197697 | -6.90 | 0.000 |
| **Size (Procedure type (1=Abbreviated; 0=Ordinary))** | -.7913680 | -2.07 | 0.038 |
| **Age** | .0874758 | 4.87 | 0.000 |
| **Constant** | -16.74861 | -21.51 | 0.000 |

Log likelihood = -741.47546; Wald $chi^2$ (7) = 2178.22; Prob. > $chi^2$=0.0000

Likelihood-ratio test of rho=0: $chibar^2$ (01) = 7413.22; Prob. >= $chibar^2$ = 0.000

The judicial decision is determined principally by the mode of entry in the procedure, which is found to be the most significant variable (see table 6). The firms, which are prepared to propose a preliminary agreement, probably suffer temporal financial difficulties and the availability of a pay-off plan is a factor of keeping the managerial competences. On contrary, the liquidation petition is a prerequisite for a suspension of the actual management, in order to be obtained the highest possible value from the assets' sell-off. The size and the age compose the company's reputation and in the case of the bankruptcy the biggest and more established companies are favoured by judicial confidence. No financial ratio has been found to be significant to define the sustainability of company's governance. Obviously, the court takes into account only procedural and organizational characteristics.

**Chart 62: Descriptive statistics of the insolvent firms, by the administrative competences**

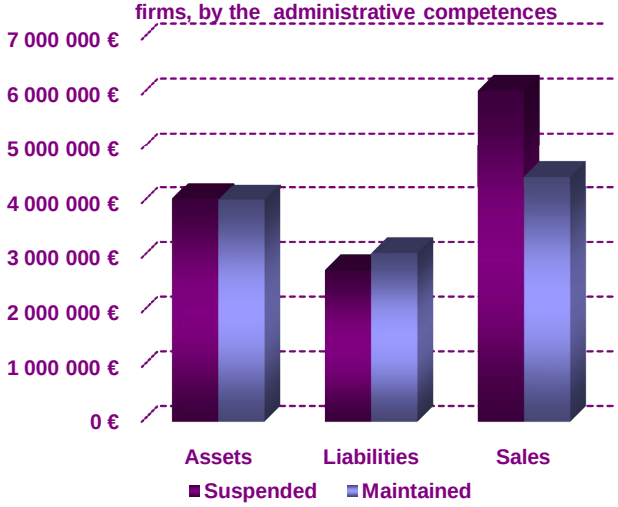
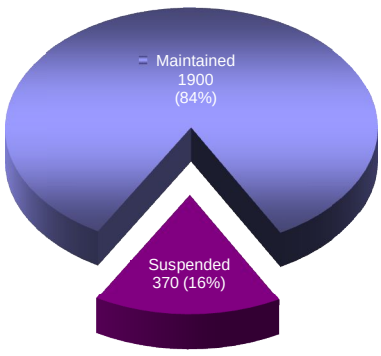



**Chart 63: Distribution of the insolvent firms, by the administrative competences**



Independently from the entry mode is, the firms with suspended managerial competences are characterized with grave liquidity scanty.

Chart 64: Descriptive statistics of the insolvent firms, by the administrative competences

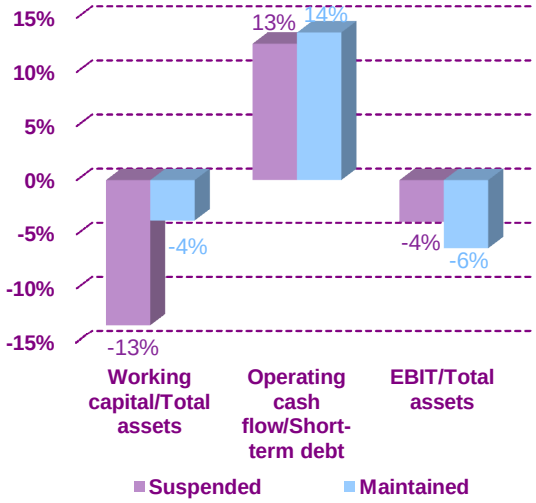
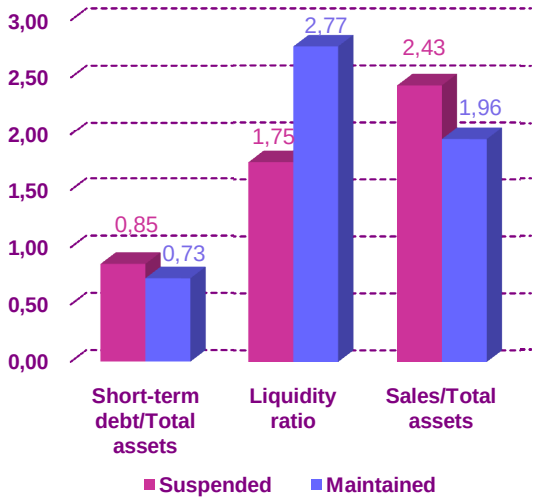



Chart 65: Descriptive statistics of the insolvent firms, by the administrative competences




The size is reflected in the number of appointed of insolvency administrators. The sample composition presents equality between the ordinary and the abbreviated cases. On average, the large firms have a mean of assets valued at about 7 million euro and liabilities - about 5 million euro.

Chart 66: Descriptive statistics of the insolvent firms, by the type of the procedure

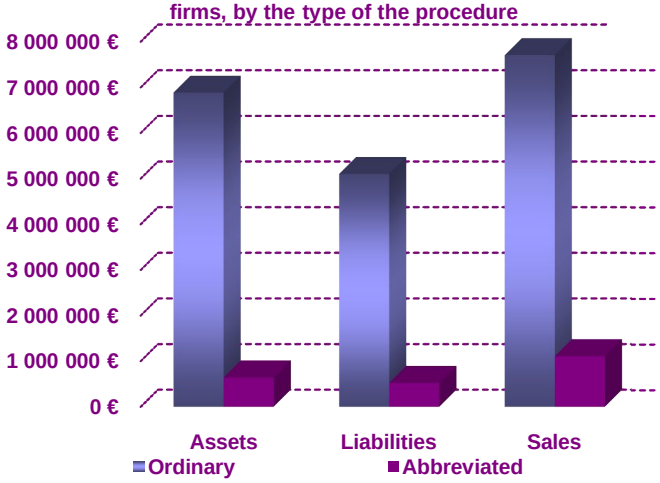
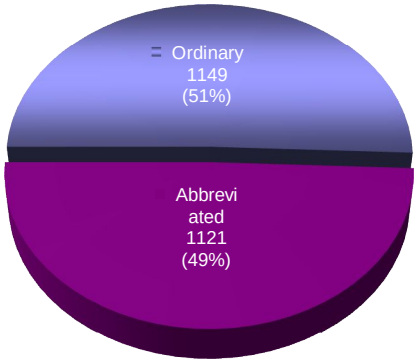



Chart 67: Distribution of the insolvent firms, by the type of the procedure




Large companies differentiate from the small ones in all of the financial aspects, presented below. First, they dispose with current assets which exceed their short-term debt, providing them with positive working capital - an average of 1% of the total assets. Second, they generate more operating cash flow and thus pay-off higher part of their obligations, when come due. Third, they are less unprofitable, when taking into account the return on the assets. The descriptive statistics demonstrate that small firms are more vulnerable to financial distress.

Chart 68: Descriptive statistics of the insolvent firms, by the type of the procedure

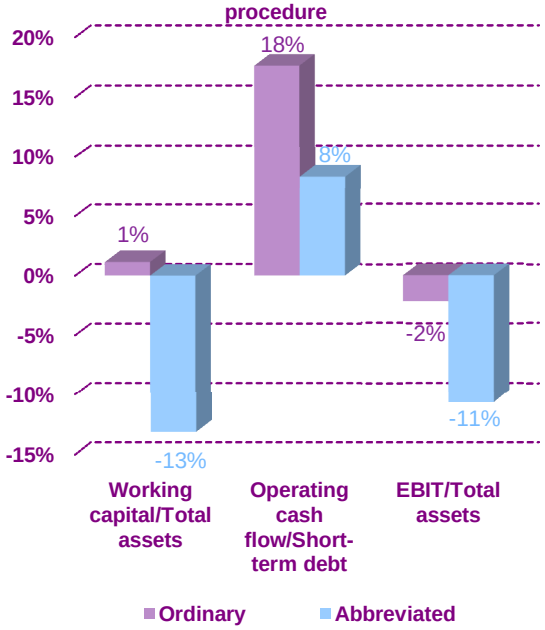
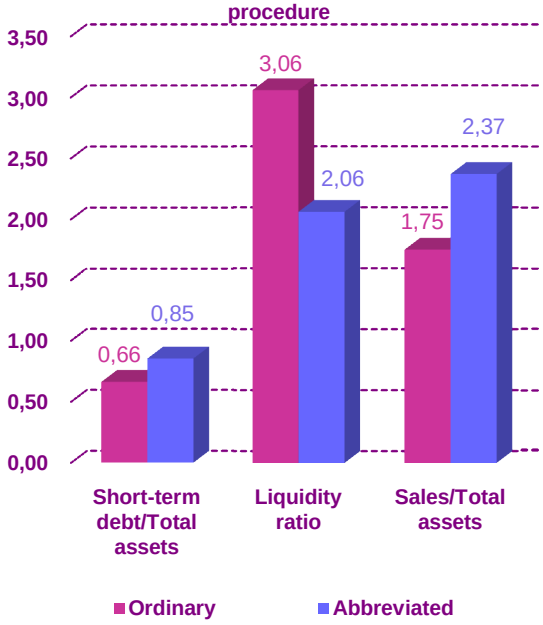



Chart 69: Descriptive statistics of the insolvent firms, by the type of the procedure




17% of the companies in the sample present liquidation petition with the bankruptcy filing. Principally, they are more unprofitable than the rest of the firms. The modification of the insolvency law from 31.03.2009 allows the insolvent firms to present preliminary liquidation proposal for the assets' sell-off in a period of maximum two weeks after the presentation of the insolvency administration report. This will contribute for the time reduction of the insolvency procedure, especially for those companies which have no intention to reorganize, thus the creditors will be repaid in shorter terms, which will increase the procedure's efficiency.

Chart 70: Descriptive statistics of the insolvent firms, by the existence of liquidation petition


Chart 71: Distribution of the insolvent firms, by the existence of liquidation petition

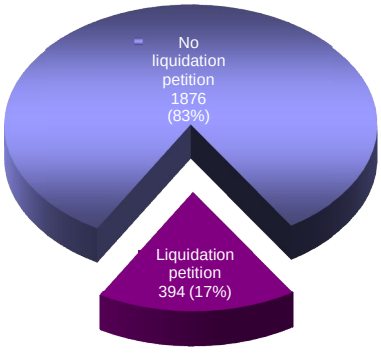


**Chart 72: Descriptive statistics of the insolvent firms, by the existence of liquidation petition**

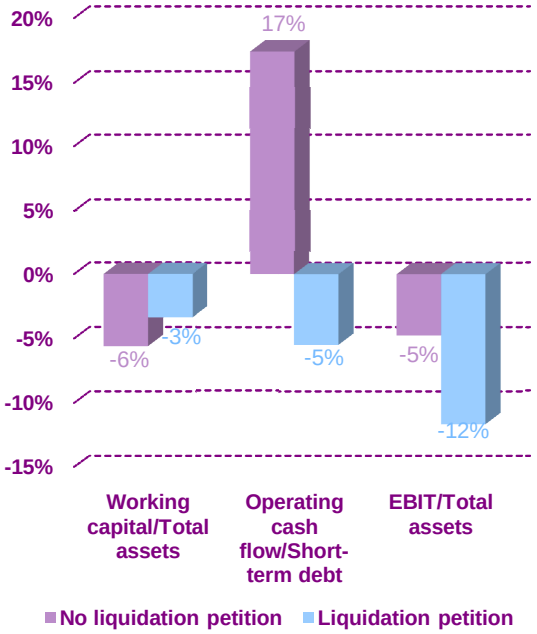
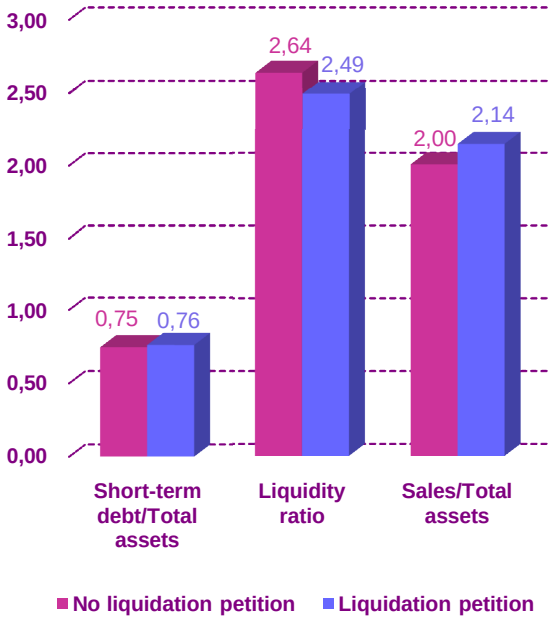


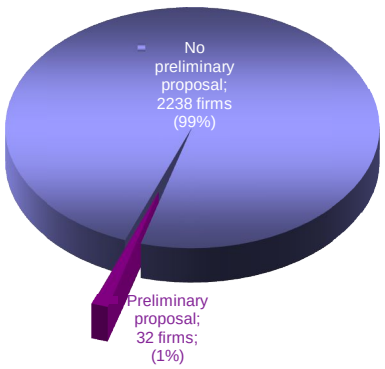

**Chart 73: Descriptive statistics of the insolvent firms, by the existence of liquidation petition**

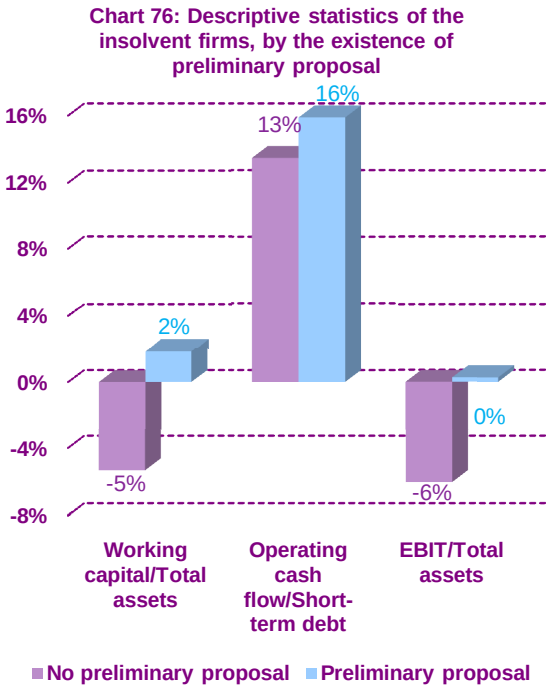


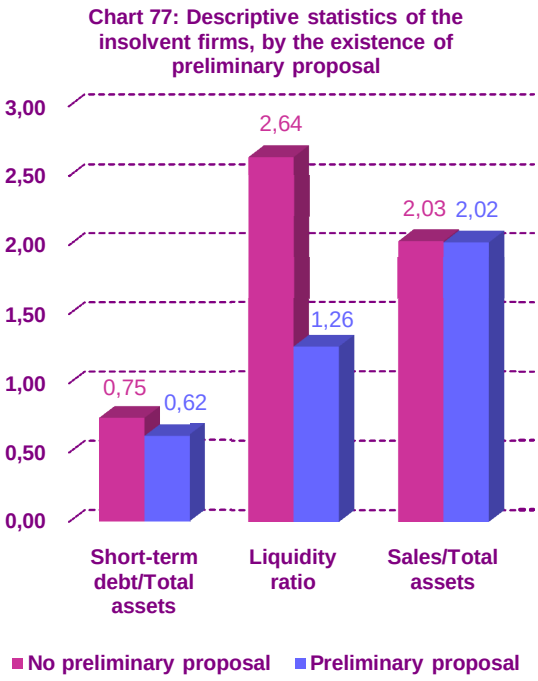

A very small part (1%) of the insolvent firms have prepared a preliminary proposal and clear anticipated vision for the resolution of the ditressed situation. They have a mean assets and sales valued at about 7,3 million euro and liabilities of about 5,8 million euro. These firms have a mean of 54 employees and 21 years of age, more balanced short-term capital structure and are less unprofitable. Their liquidity ratio is two times lower than the mean of the rest of the firms. In case that the preliminary proposal is accepted, the company initiates restructuring process. From the 32 companies in 28 cases the anticipated proposal has been accepteed and the in the rest 4 cases the decreed consecutive stage is the liquidation phase.

**Chart 74: Descriptive statistics of the insolvent firms, by the existence of preliminary proposal**


**Chart 75: Distribution of the insolvent firms, by the existence of preliminary proposal**






According to the modification of the insolvency law (Real Decreto 3/2009), the debtor is not obliged to fill for bankruptcy if initiated negotiations with the creditors, presented in an anticipated reorganizational proposal. This is a great advantage of the law and it allows the firms to reach a private out-of-court agreement, which will be beneficial for all the parties involved – reduction of costs and time for the debtor, creditor(s) and judicial administration. The financial and economic crisis affects significantly and multiplies the number of bankruptcies three – four times. As a result the Mercantile Courts are overloaded and the insolvency procedure duration rises. 15 new Mercantile Courts have been inaugurated in April, 2009 as a response of the augmentation of bankruptcies and the declined procedure efficiency. In the two economic centres of Spain – Madrid and Barcelona, there had been seven and six Mercantile Courts, respectively. In May, 2009 they have increased to nine in Madrid and at the end of 2009 will be twelve. In Barcelona nowadays function eight Mercantile Courts and one more is expected promptly. The Mercantile Courts reflect the economic situation, where the crisis affects with each year more and larger companies. The public expenditure related to the establishment and functioning of those new courts will be additional heavy burden for the budget, which suffers the consequences of galloping unemployment (14 %).

**Table 8: Descriptive statistics (mean) of the insolvent firms, by autonomous communities**

| | Assets | Liabilities | Sales | Employees | Age | Firms | Observations |
|---|---|---|---|---|---|---|---|
| Andalucía | 6.451.529 € | 5.313.034 € | 7.618.365 € | 60 | 14 | 188 | 1116 |
| Aragón | 1.575.518 € | 1.215.891 € | 2.199.263 € | 23 | 16 | 81 | 591 |
| Asturias | 1.742.617 € | 1.518.152 € | 2.086.189 € | 24 | 17 | 95 | 705 |
| Balearic Islands | 1.326.881 € | 1.211.276 € | 1.522.735 € | 25 | 14 | 78 | 391 |
| Basque country | 3.781.328 € | 2.799.443 € | 3.978.981 € | 51 | 20 | 240 | 1625 |
| Canary Islands | 3.171.460 € | 2.356.430 € | 2.878.111 € | 40 | 15 | 72 | 371 |
| Cantabria | 8.120.589 € | 6.232.028 € | 6.634.422 € | 78 | 24 | 18 | 122 |
| Castilla & León | 6.089.778 € | 4.560.563 € | 8.745.220 € | 48 | 19 | 92 | 594 |
| Castilla-La Mancha | 5.105.650 € | 4.036.754 € | 6.139.455 € | 35 | 17 | 45 | 332 |
| Catalonia | 3.426.201 € | 2.488.643 € | 4.337.660 € | 36 | 19 | 530 | 4064 |
| Extremadura | 2.101.417 € | 1.658.542 € | 1.827.165 € | 19 | 17 | 14 | 109 |
| Galicia | 1.534.636 € | 1.310.724 € | 2.228.201 € | 50 | 16 | 129 | 893 |
| La Rioja | 1.950.488 € | 1.399.323 € | 1.748.422 € | 23 | 18 | 22 | 137 |
| Madrid | 5.259.828 € | 3.466.611 € | 7.119.336 € | 37 | 17 | 268 | 1824 |
| Murcia | 5.859.758 € | 4.585.336 € | 6.673.089 € | 54 | 17 | 59 | 414 |
| Navarra | 3.330.141 € | 2.668.019 € | 3.516.609 € | 37 | 18 | 41 | 276 |
| Valencia | 5.346.702 € | 3.976.422 € | 4.709.085 € | 38 | 18 | 298 | 2294 |

**Chart 78: Descriptive statistics of the insolvent firms, by the successive phase**

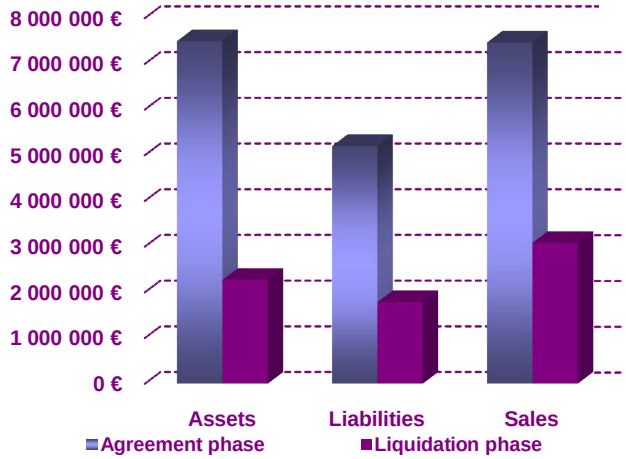
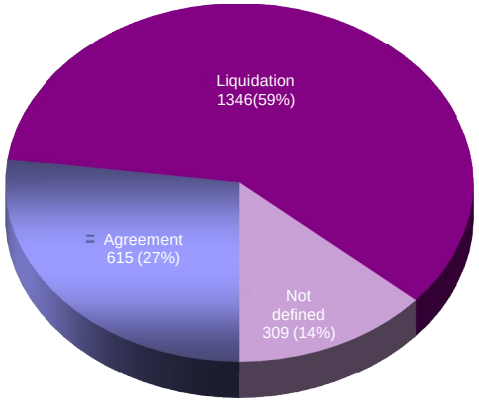
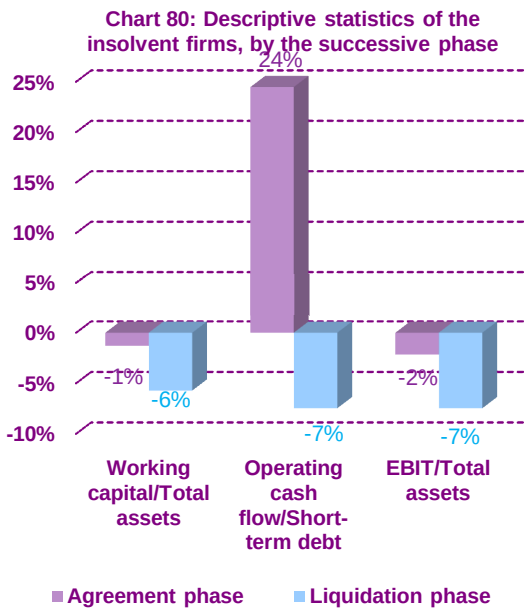
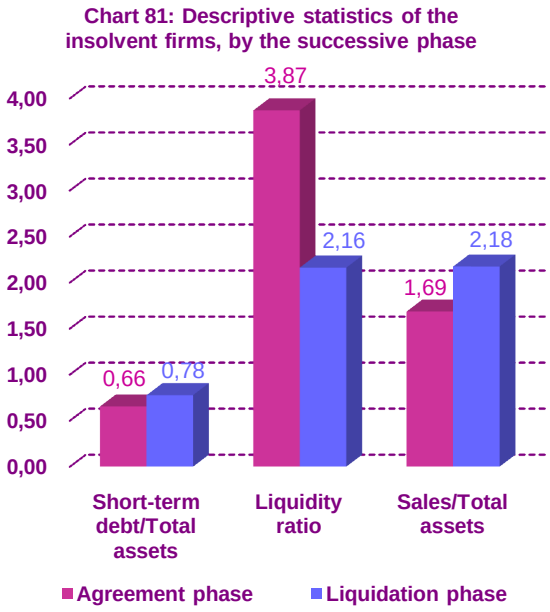



**Chart 79: Distribution of the insolvent firms, by the successive phase**




59% of the insolvent firms choose the liquidation stream as a consecutive phase of the bankruptcy filing, without having attempted to reach an agreement with their creditors. Those firms have a mean of 29 employees, 17 years of age, more than 2 million euro assets and about 1,7 million euro liabilities. Those firms are characterized with a negative 7% return on assets and an operating cash flow, which cover only 7% of their current debt. The firms that intent to survive the distressed situation and pass through an agreement phase, in order to reach reorganization, represent 27% of the sample. Their mean age is 19 years; those firms are larger than the ones that liquidate – mean assets valued at about 7 million euro, 58 employees and about 5 million euro liabilities. They have more liquid funds and more equilibrated short-term capital structure.




Compared to the liquidating those firms generate more cash flow and have a liquidity ratio inherent for healthy firms. The low sales to total assets ratio indicates that the total assets of the businesses are not providing adequate revenue.

## 2. Efficiency of the insolvency procedure

The efficiency of the mechanisms for resolving insolvency situation can be measured by the time incurred in the process of the asset and debt restructuring or the liquidation (Hotchkiss et. al, 2008). A number of factors related to the structure of the firm's capital, to the institutional framework governing the process of restructuring or liquidation, to the number of creditors and their type (financial or commercial), to the manner of initiating the bankruptcy procedure (necessarily or voluntarily), to the industry type and firm's size, affect the efficiency. Hart and Moore (1999) show that when one cannot contract on cash flows, creditors must be given some rights to liquidate physical assets in order to make borrowing viable. Otherwise, managers would always choose to default strategically and divert available cash to them. Anticipating this, creditors would not be willing to lend money to the firm. In contrast, if creditors are given the right to sell assets following non-payment (default), the threat of liquidation helps deter strategic defaults. To keep the threat credible, suboptimal assets sales may sometimes occur following liquidity-induced

defaults (Hotchkiss *et al*. 2008). In contrast to the U.S. bankruptcy procedure, in Spain during the general phase the Insolvency Administrators are empowered with a variety of control functions to preserve the value of assets, independently from the manner of bankruptcy resolution. In general, the Insolvency Law prohibits assets sales (LC, §43) before the approval of reorganization proposal or the initiation of the liquidation phase, except when the sale is judicially authorized. However, the law does not establish explicitly the circumstances and requisites needed for the concession of such authorization.

The most notable type of assets and rights are those with impossible or difficult preservation, or others whose sell-off is convenient at the moment. An example of the second is the authorization of assets disposal in real-estate companies with the purpose to preserve its value from continuing deterioration. Thus, one of the requisites for judicial authorization is peremptoriness – the urgency provoked by corrosion of asset's value. Other requisite of the law is those assets to be mortgaged and their disposal to be via auction sale – not very appropriate method to assure maximum value, because in most of the cases the prices obtained are lower than the established by the market. A possible assets disposal is time absorbing, thus more time spent in the general phase means more costs and therefore less assets to redeem the creditors.

### a) General phase duration

Chart 82: Mean of general phase duration (in days), by consecutive phase

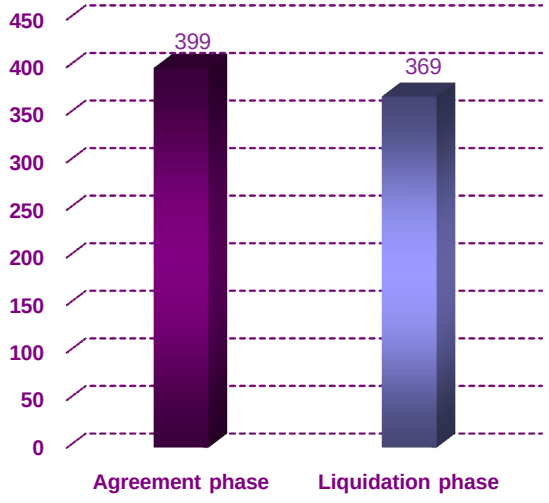
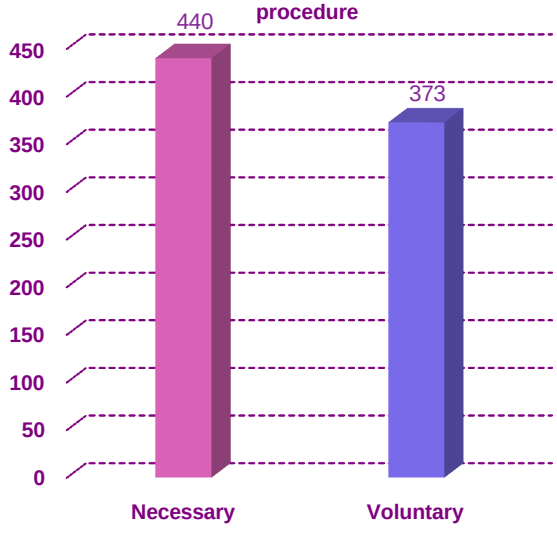
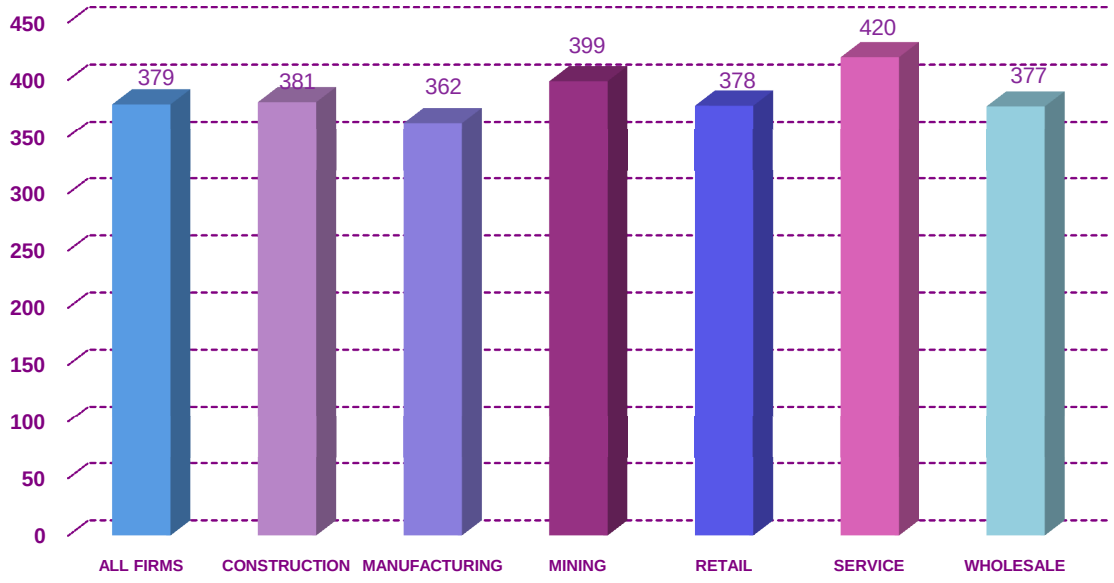



Chart 83: Mean of general phase duration (in days), by party that initiates the procedure



The time has been calculated as a difference between the date of the decree of bankruptcy filing and the date of the decree of the consecutive phase (agreement or liquidation). The mean of the general phase duration is approximately one year (379 days). It takes longer time for the companies, which pass through agreement phase first (399), in comparison to those that liquidate straight after the filing (369 days). The companies that initiate the bankruptcy voluntarily need 373 days to proceed to the consecutive phase, while the time spent in the necessary cases is much longer (440 days). The reason for that difference could be found in the fact that principally in the necessary cases the governing competences are suspended and the managerial functions are delegated to the insolvency administration. This implies more time for the appointed administration to get accustomed with the firm's specific activity and they could face employees' reluctance of collaboration. Van Hemmen (2007, 2008 and 2009) using annual data found that the duration in 2006 is lower compared to next two years, while the results for 2007 and 2008 are identical to ours (see chart 85).

**Chart 84: Mean of general phase duration (in days), by industry type**




The procedures that generate more costs than the mean are those from the mining and the service industry. Less costly from all industries result to be the firms from the manufacturing sector. The mean of the general phase duration in the ordinary procedures differentiates from the mean in the abbreviated cases with two months, because of the firm's size and the volume of lend capital.

As was explained the cases where the managerial competences are suspended have longer general phase duration, than those which maintain them.

Chart 85: Mean of general phase duration (in days), by procedure type

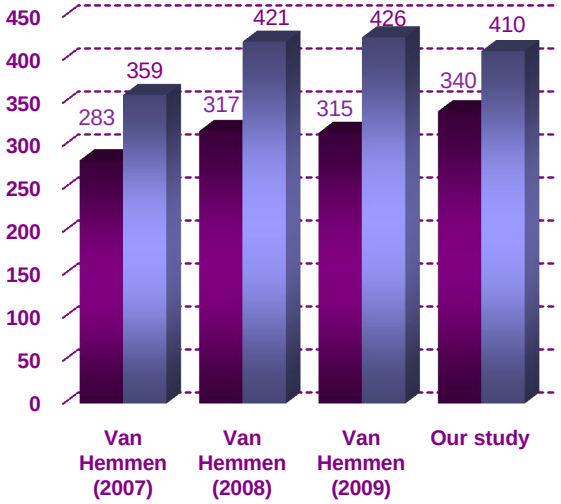
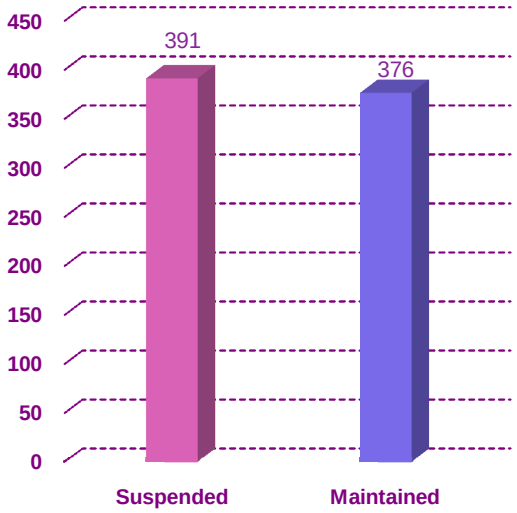



Chart 86: Mean of general phase duration (in days), by administrative competences




The evolution of the general phase duration depicts the decreasing efficiency of the procedure. Although that in 2005, 2006 and 2007 the number of bankruptcy filings remains constant, the time needed to reach the consecutive phase increases. This and the augmentation (almost 4 times in 2008) the number of filings, with the purpose to redeem the creditors in shorter terms, provoked the establishment of new Mercantile courts.

Chart 87: Evolution of the general phase duration (in days)

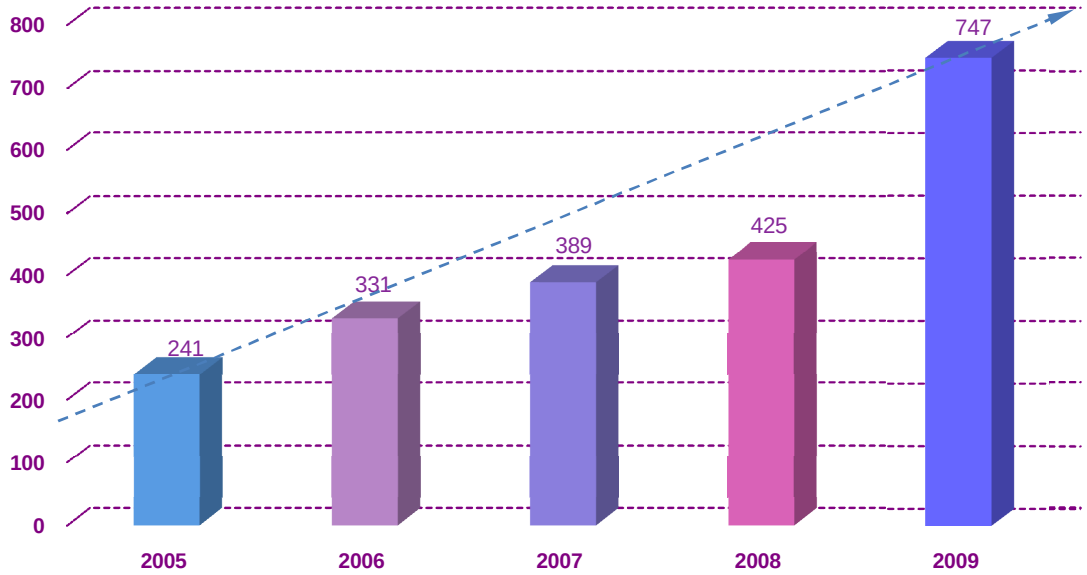


**Table 9: General phase duration by years and successive phase**

| Year | General phase duration | All firms | Agreement phase | Liquidation phase |
|---|---|---|---|---|
| 2005 | mean | 241 | 258 | 230 |
| | firms | 196 | 73 | 123 |
| | observations | 1285 | 495 | 790 |
| 2006 | mean | 331 | 336 | 329 |
| | firms | 594 | 183 | 411 |
| | observations | 4178 | 1269 | 2909 |
| 2007 | mean | 389 | 405 | 382 |
| | firms | 659 | 199 | 460 |
| | observations | 4710 | 1396 | 3314 |
| 2008 | mean | 425 | 451 | 414 |
| | firms | 442 | 127 | 315 |
| | observations | 3140 | 938 | 2202 |
| 2009 | mean | 747 | 764 | 730 |
| | firms | 70 | 33 | 37 |
| | observations | 497 | 252 | 245 |
| Total | mean | 379 | 399 | 369 |
| | firms | 1961 | 615 | 1346 |
| | observations | 13810 | 4350 | 9460 |

This rising tendency could also be observed when the firms are divided according to the consecutive phases, as well. Charts 88 and 89 depict that the mean of the general phase duration of the firms that pass through agreement phase first, rises each year by two months. In any case, the time needed to reach the agreement phase takes approximately a month more than the time mainly because of the size of the companies that composes the both samples. The value of the mean in 2009 is much higher because the number of observations is notably lower, compared to the rest of the years.

**Chart 88: Evolution of the general phase duration (in days), when the consecutive phase is the agreement phase**

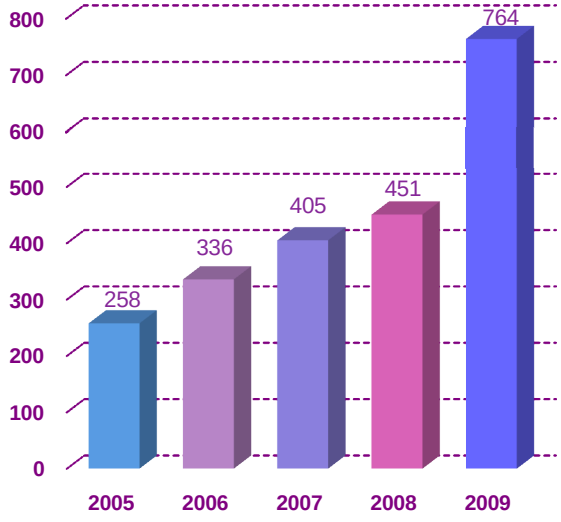
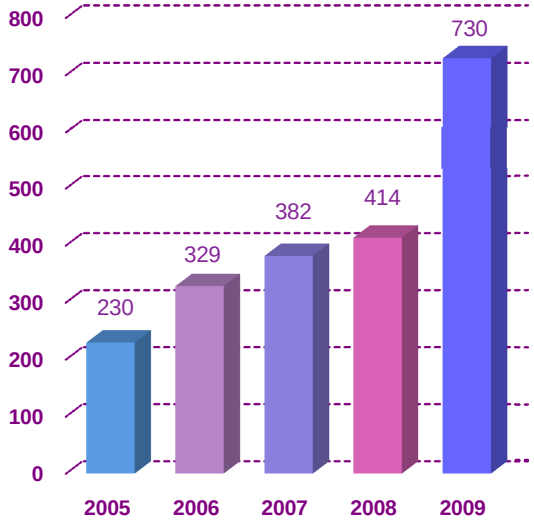



**Chart 89: Evolution of the general phase duration (in days), when the consecutive phase is the liquidation phase**



As a next step, with the object to explore the determinants of the general phase duration, we will describe the variables employed in the regression model. The independent variables are represented by their mean of all the years available.

- **Capital structure** (Long-term debt/Shareholders' funds) – a ratio representing what part of the long-term borrowed capital is covered by the shareholders' funds. The more debt in the company's balance sheet supposes more efforts from company to obtain liquid funds in short terms, more time to negotiate with the creditors, thus the time required to take the decision "reorganize or liquidate" rises.
- **Working capital/Total assets** – a ratio representing the disposal of liquid funds, controlled by firm's size. The less liquid funds means more time to cash-in receivables or sell stocks, which similar to the leverage prolongs the time needed to reach the consecutive phase.
- **Age** of the firm (at the moment of bankruptcy filing). From one side the more established companies are better positioned on the market and more convinced that might reorganize, thus they will need less time to proceed to the next phase. From the other side the younger firms are smaller and have less debt, thus the common phase would be shorter.
- **Liquidation** – a binary variable, which has value 1 if the company is in liquidation or has applied for liquidation at the moment of bankruptcy filing and 0 – otherwise. Principally those companies are predestined to extinction and the belonging to this category supposes short common phase.
- **Unavailability of financial reports** - a binary variable, which has value 1 if its financial records for the last 5 years prior to insolvency filling are not published and 0 – otherwise. The unavailability of financial information about a company in distress results frustrating for the parties involved – creditors, analyzers, employees, etc., which are eager to determine firm's situation.
- **Entry mode** – a binary variable, which has value 1 if the company initiates the bankruptcy procedure voluntarily, and 0 – necessarily. The necessarily initiated procedures increase the conflict of interests between the creditors, because the declarer is granted with 25% of the debt before the unsecured creditors. This rises the monitoring of the insolvent firm and augments the time spent in negotiations.

- **Administration competences** – a binary variable, which has value 1 if the managerial competences initially on the date of declaration of insolvency are maintained and afterwards changed to suspension and 0 – otherwise. As was explained in the descriptive statistics, losing the control over the firm's assets could overload the insolvency administrators and prolong the general phase.
- **Size** – the bigger firms dispose of more assets and debt, which involves more efforts from the insolvency administration, thus more time to reach the consecutive phase.
- **Region** - binary variables of region belonging motivated by the autonomous financing of the different communities, which affects to a certain degree the public expenditure and the budget of the communities, 1 – yes, 0 – no.

**Table 10: Regression analysis of the procedures' efficiency**

| Variables | Dependent variable: General phase duration | | | |
|---|---|---|---|---|
| | Coefficient | Std. Error | t-value | P>\|t\| |
| Long-term debt/Shareholders' funds | .2835912 | .0777023 | 3.65 | 0.000 |
| Working capital/Total assets | -6.883098 | 3.292118 | -2.09 | 0.037 |
| Age | -.9053487 | .374522 | -2.42 | 0.016 |
| Liquidation | -29.20007 | 10.67382 | -2.74 | 0.006 |
| Suspension of competences | 20.26137 | 22.39958 | 0.90 | 0.366 |
| Unavailability of financial reports | -29.50066 | 21.05628 | -1.40 | 0.116 |
| Entry mode | -45.53334 | 14.38642 | -3.17 | 0.002 |
| Natural logarithm of total assets | 22.40457 | 2.861513 | 7.83 | 0.000 |
| Madrid | 61.93803 | 13.37482 | 4.63 | 0.000 |
| Catalonia | -33.89341 | 10.3566 | -3.27 | 0.001 |
| Valencia | -40.55461 | 12.73902 | -3.18 | 0.001 |
| Canary islands | 273.0793 | 28.7701 | 9.49 | 0.000 |
| Navarra | -78.95323 | 29.84258 | -2.65 | 0.008 |
| Constant | 137.8854 | 40.84767 | 3.38 | 0.001 |

F-value = 20.93; Probability>F=0.0000; R-squared =0.1226; Adj. R-squared =0.1167; Sample: 1961 firms.

The results of the regression analysis confirm the proposition that the general phase duration depends on the capital structure and the availability of liquid assets. The excess of long-term debt over the shareholders' funds increases the annual expenses, serving that debt. The increased operating cost affects negatively firm's liquidity and the firm spends more time in the common phase to prepare a viable agreement proposal, either to liquidate.

The diminishing liquidity and the insolvency situation force the firm to convert the inventory and the receivables into cash. The clients of insolvent companies, in many cases, consider that the bankruptcy situation will lead to liquidation that is why there is no necessity to pay. The efforts employed to recover receivables using factoring or via court are timely and costly.

Firm's age was found to be negatively related to the common phase duration, which explains that the better market positioning means prompt decision-taking concerning company's future in distressed situation, faster reaction on the economic or financial turbulences. The preliminary liquidation request reveals firm's resolution inclination reduces administrative procedural costs the time spent in negotiations with creditors, thus decreases the general phase duration.

The transfer of company's control competences from managers to insolvency administrators at any moment of the procedure results costly, due to excessive work and reluctance of collaboration from the employees, but this variable was not found to be determinant of the general phase duration. The lack information about firm's financial situation impedes creditors to take prompt decisions, shortens the negotiation period, reduces the general phase duration and unfortunately the variable was not found to be significant.

The results of the regression analysis confirm those from the descriptive statistics that the necessarily initiated procedures result in increase in the completion between the creditors and this augments the general phase duration. In periods of blossoming economy the number of filings is lower, the judicial institutions not saturated as in crises, and thus more efficient. Large companies dispose of more assets and debt and although that the three

administrative administrators could request reinforcement and corroboration of extra associates, the results reveal that it takes longer to end the common insolvency phase. The insolvency cases proceeded in Madrid, Canary Islands and Castilla La Mancha are found to reach consecutive phase in above the average time, while more efficient in that sense are found to be courts in the regions of Navarra, Catalonia and Valencia, although that the courts in the last two regions operate with the highest total volume of debt. Van Hemmen (2007, 2008 and 2009) found that size is positively related to longer duration of the general phase.

**Table 11: Total debt of the insolvent firms in the sample, by autonomous communities**

| Autonomous community | Total debt | Autonomous community | Total debt |
|---|---|---|---|
| ANDALUCIA | 742 278 377 € | CATALONIA | 1 218 460 561 € |
| ARAGÓN | 87 979 736 € | EXTREMADURA | 22 207 297 € |
| ASTURIAS | 135 797 345 € | GALICIA | 156 118 675 € |
| BALEARIC ISLANDS | 83 652 036 € | LA RIOJA | 31 377 077 € |
| BASCUQE COUNTRY | 638 154 427 € | MADRID | 895 006 140 € |
| CANARY ISLANDS | 178 338 767 € | MURCIA | 333 481 351 € |
| CANTABRIA | 70 026 631 € | NAVARRA | 84 077 927 € |
| CASTILLA & LEÓN | 510 296 749 € | VALENCIA | 1 833 169 769 € |
| CASTILLA LA MANCHA | 146 138 676 € | | |

### b) Time to reach reorganization

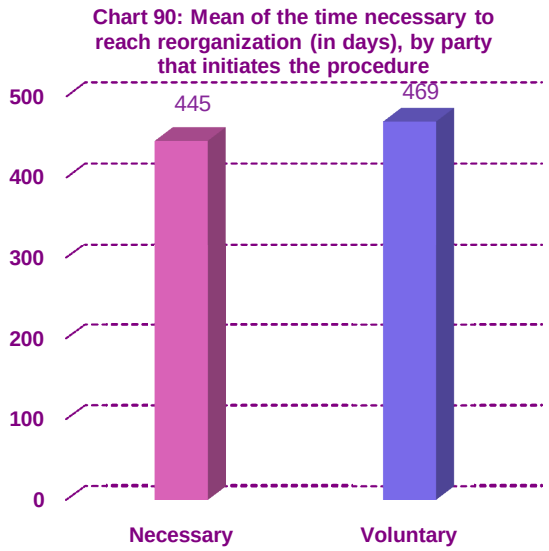



Chart 90: Mean of the time necessary to reach reorganization (in days), by party that initiates the procedure

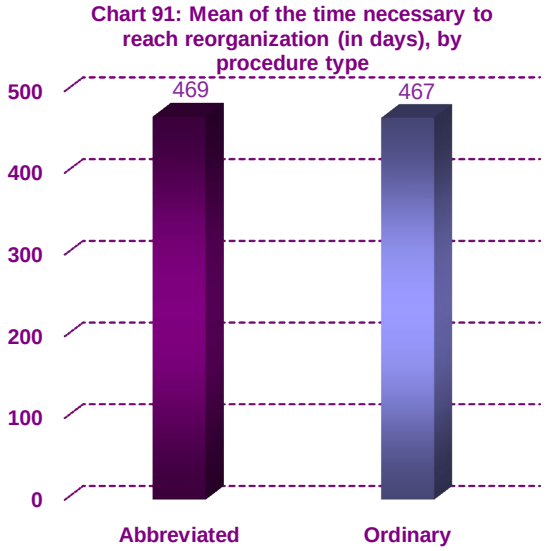
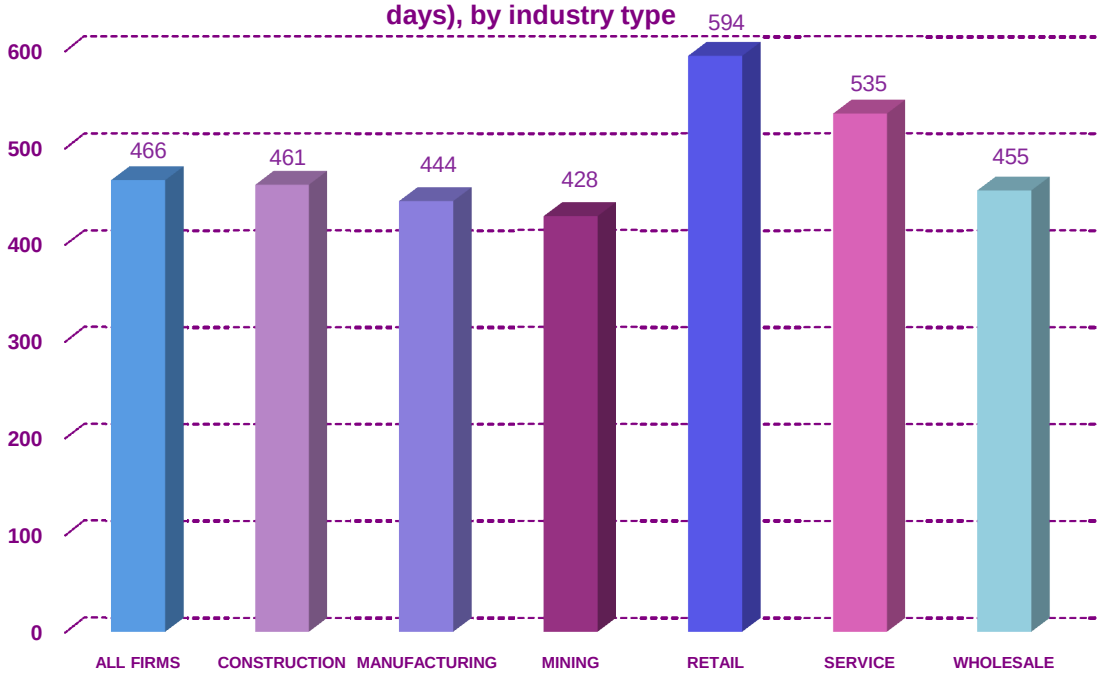



Chart 91: Mean of the time necessary to reach reorganization (in days), by procedure type

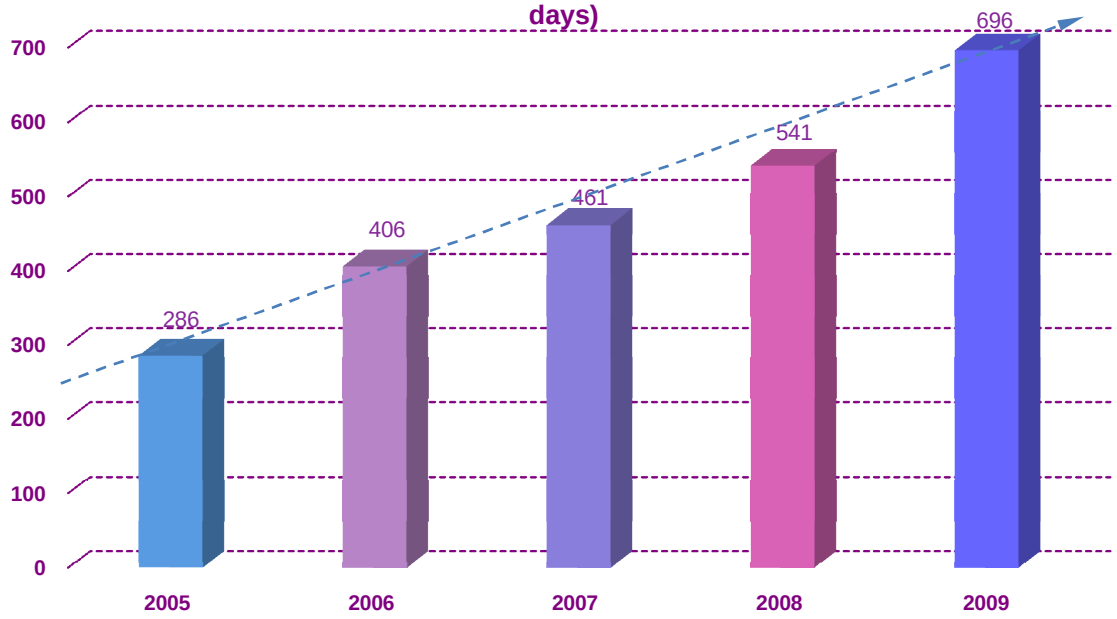
The time necessary to reach reorganization will be the time of the general phase plus a period of about 3 months for creditors' meeting appointment. The descriptive statistics outline that there is no difference according to the size and entry mode.

**Chart 92: Mean of the time necessary to reach reorganization (in days), by industry type**



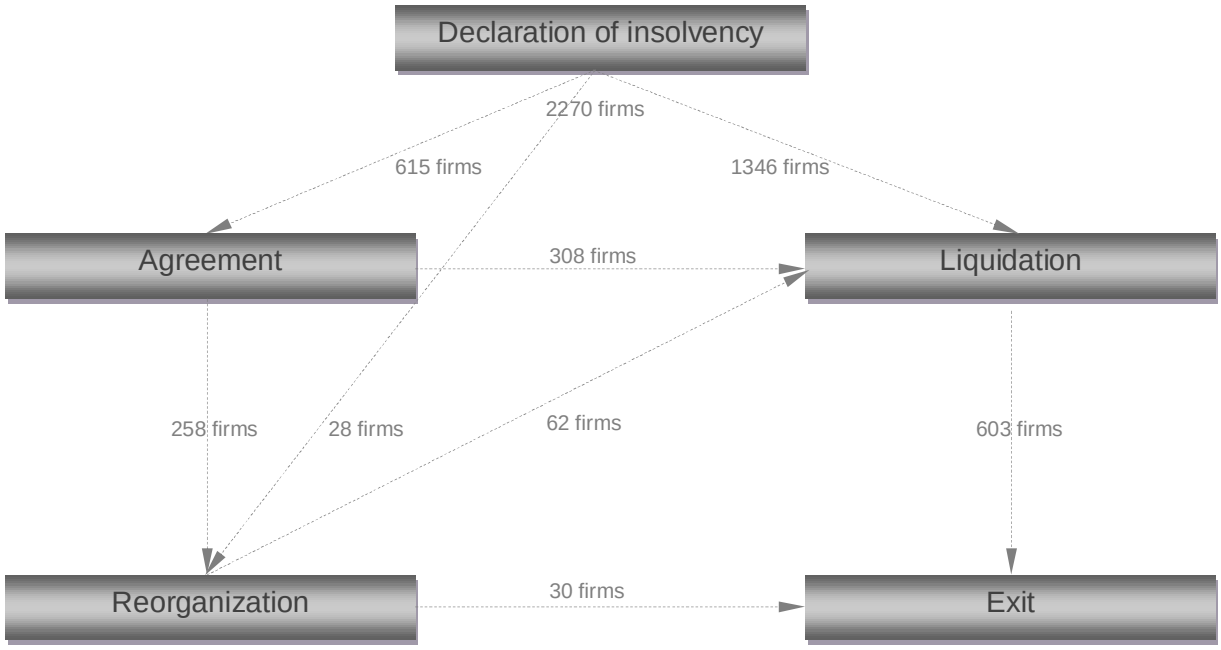

The firms from the mining industry, due to their high asset volume as guarantee, have their reorganization plan accepted in shorter terms, compared to the rest industries, while the firms from the retail and service sectors need more time (between 3 and 6 months) to reach reorganization.

**Chart 93: Evolution of the time needed to reach reorganization (in days)**



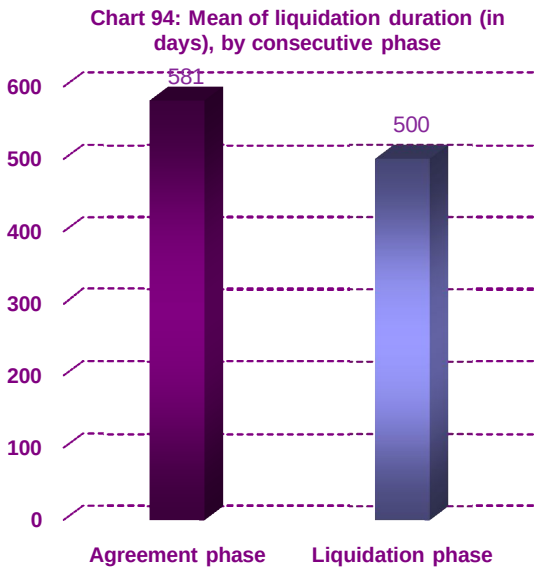

The evolution of the time to reach an agreement depicts its augmentation in the last years, as a result of the economic crisis, which provokes growth of the insolvencies and saturation of the judicial system.

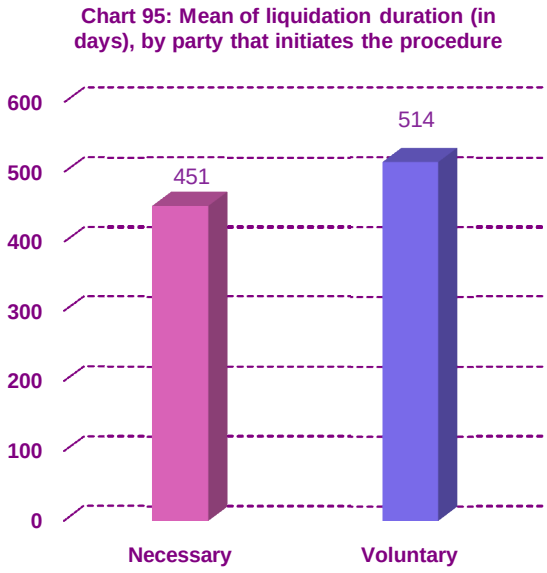
**Figure 2: Distribution of the insolvent firms till 01.09.2009, by phases of the procedure**




## c) Piecemeal liquidation duration

The piecemeal liquidation period of the winding up firms (from the date of the decree of liquidation to the date of company's extinction) has an average of about 1,5 years.




The firms, which pass through an agreement phase first (followed by liquidation) have longer period. Although that we observed longer general phase duration for necessarily insolvent firms and companies with suspended managerial

competences, the results of the assets sell-off demonstrate that those firms liquidate in shorter terms, compared to the voluntarily insolvent and those that maintain governmental capabilities. For the larger firms, due to their higher assets volume the period is 1,7 years, while for the small firms it is 1,2 years.

**Chart 96: Mean of liquidation duration (in days), by procedure type**

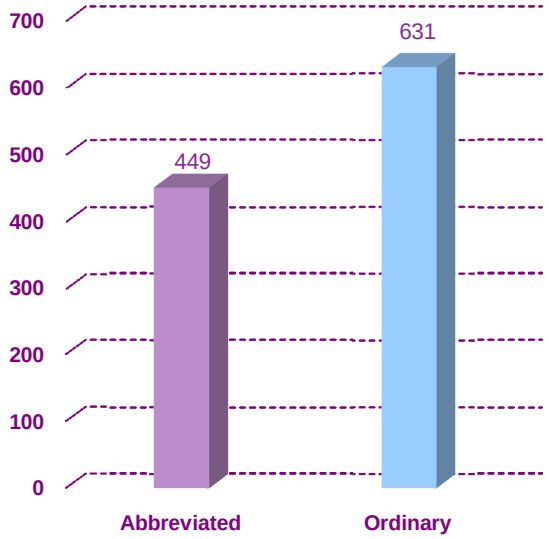
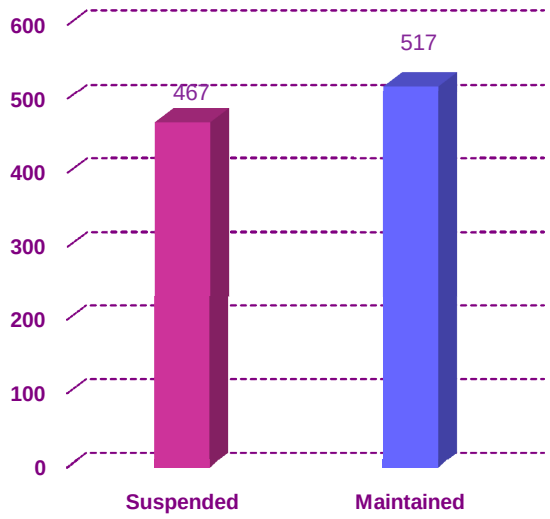
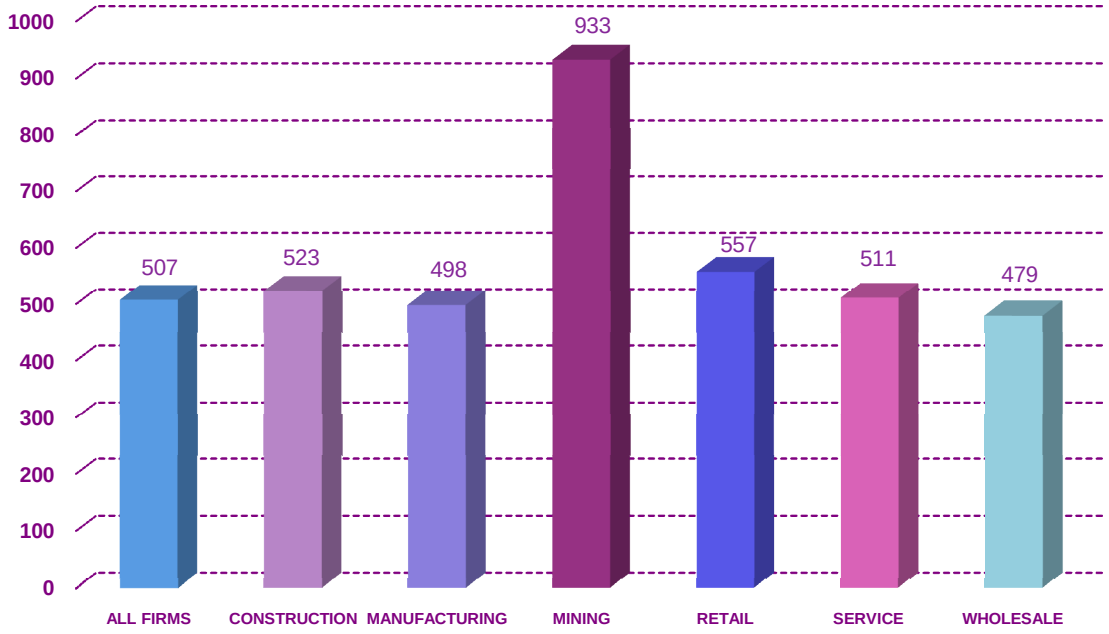



**Chart 97: Mean of liquidation duration (in days), by administrative competences**




The piecemeal liquidation depends on the assets' structure and nature, and the lack of secondary market in some cases complicates and prolongs the process. The industry comparison depicts that companies from mining sector have appreciably higher liquidation duration. The reasons for that could be found in the fact that those firms are a small number and highly capitalized.

**Chart 98: Liquidation duration (in days), by industry type**



### d) Bankruptcy procedure duration

The duration of the winding up bankruptcy procedures has a mean of approximately 2,5 years. For the firms, which pass through an agreement phase first, the procedure lasts longer.

Chart 99: Mean of bankruptcy duration (in days), by consecutive phase

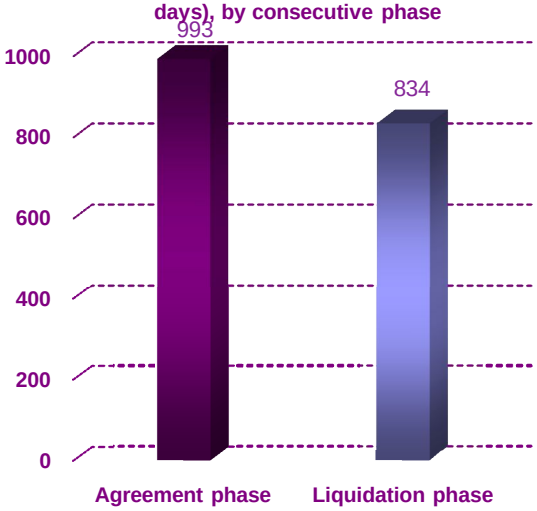



Chart 100: Mean of bankruptcy duration (in days), by party that initiates the procedure


The duration of the winding up bankruptcy procedures has a mean of approximately 2,5 years. For the firms, which pass through an agreement phase first, the procedure lasts longer. Slight difference could be found in the duration according to the entry mode, due to the common phase prolonged period for the necessary insolvencies, which are principally related with abstention of management and that process results to be time consuming.

Chart 101: Mean of bankruptcy duration (in days), by procedure type

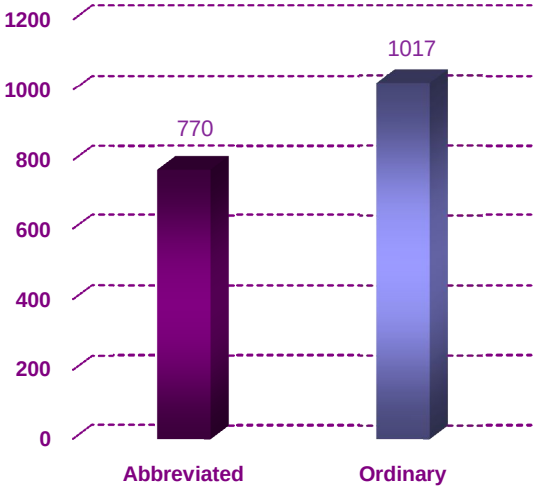
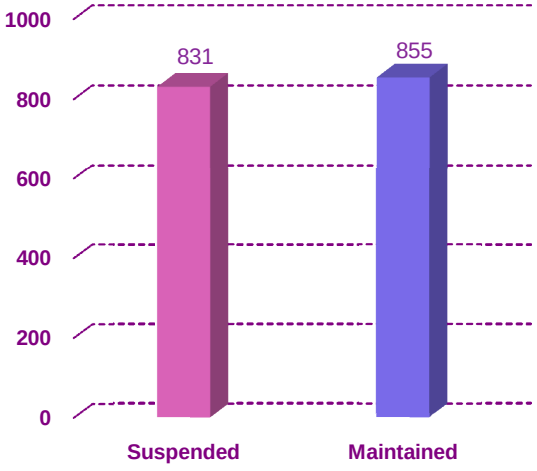
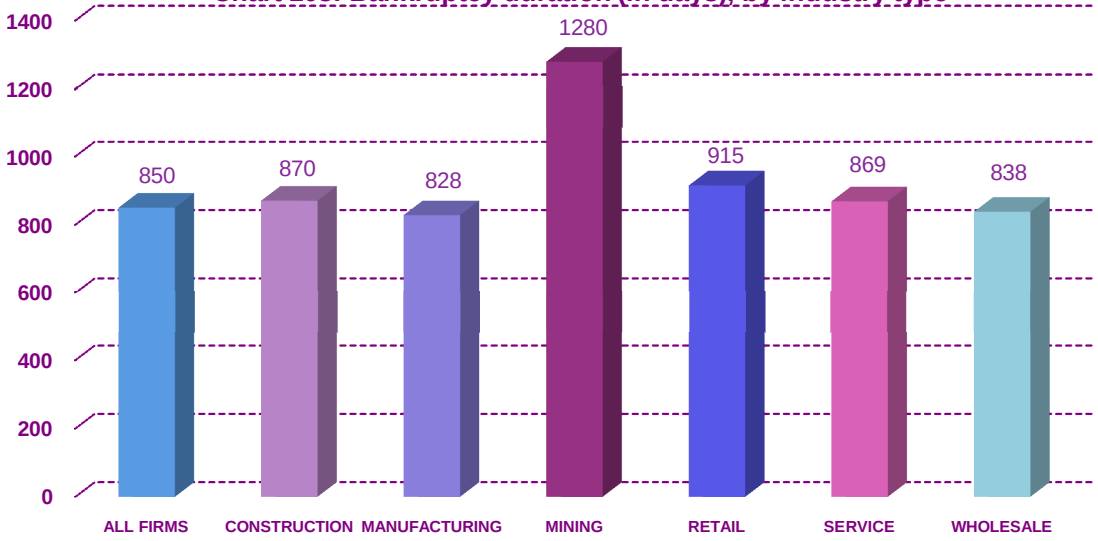



Chart 102: Mean of bankruptcy duration (in days), by administrative competences



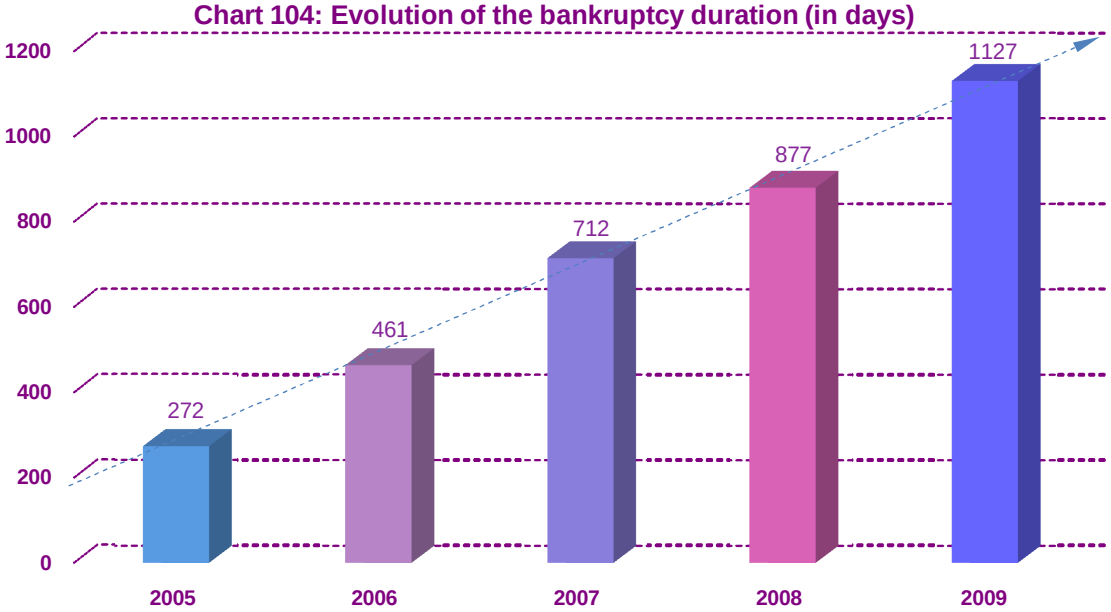
Small firms are found to have shorter bankruptcy duration due to their asset volume inferiority. Like in the general phase duration, in the bankruptcy duration the receivership does not differentiate considerably the firms.

**Chart 103: Bankruptcy duration (in days), by industry type**




Due to the slower piecemeal liquidation of the assets of firms from the mining sector, the overall procedure duration in this industry has a mean value of 3,5 or with a year longer than the rest of the companies. Above the mean are situated also the firms from construction, retail and service industries. The evolution of the bankruptcy procedure depicts a tendency of decreased efficiency in creditors' pay-off. The prompt creditors' redemption is the foundation of each bankruptcy regime and the efficiency obtained from the imposed law is proportional to the creditors' confidence.

**Chart 104: Evolution of the bankruptcy duration (in days)**



In an exploratory study, with the objective to establish the determinants of the bankruptcy procedure duration we found that asset structure is the only financial ratio, which explains the dependent variable.

**Table 12: Regression analysis of bankruptcy procedure duration of the liquidating firms**

| Variables | Dependent variable: Bankruptcy duration | | | |
|---|---|---|---|---|
| | Coefficient | Std. Error | t-value | P>\|t\| |
| Total liabilities/Total assets | 19.39751 | 26.0884 | 0.74 | 0.457 |
| EBIT/Total assets | 6.016099 | 14.78845 | 0.41 | 0.684 |
| Working capital/Total assets | 21.5457 | 33.63561 | 0.64 | 0.522 |
| Receivables/Total assets | -16.04492 | 71.37407 | -0.22 | 0.822 |
| Age | -1.18811 | 1.416488 | -0.84 | 0.402 |
| Tangible fixed assets/Total assets | 175.6432 | 87.95623 | 2.00 | 0.046 |
| Agreement phase | 135.1084 | 42.99506 | 3.16 | 0.002 |
| Liquidation | -113.9437 | 33.48152 | -3.40 | 0.001 |
| Unavailability of financial reports | -228.7861 | 58.97255 | -3.88 | 0.000 |
| Natural logarithm of total assets | 41.24334 | 11.07138 | 3.73 | 0.000 |
| Valencia | -146.7062 | 34.47351 | -4.26 | 0.000 |
| Galicia | 194.9856 | 52.33146 | 3.73 | 0.000 |
| Constant | 316.9613 | 149.4842 | 2.12 | 0.034 |

F-value = 8.45; Probability > F=0.0000; R-squared = 0.1467; Adj. R-squared = 0.1294; Sample: 603 firms.

The more tangible fixed assets firm possess, the longer the procedure is. The level of debt, the return on the assets, the ratio of working capital, the level of receivables and the age (reputation) do not affect the overall duration. The availability of agreement as first consecutive phase prolongs significantly the duration. On contrary, the anticipating liquidation petition reduces it considerably. The lack of sufficient financial data diminishes the creditors' possibilities to take proper decisions, thus predestinating firm's prompt liquidation. The Mercantile courts in Valencia are found to be efficient not only in shorter general phase duration, but in the overall bankruptcy resolution, as well.

## 3. Conclusions

The prompt creditors' redemption is fundamental for the efficiency of the procedure and the confidence and credibility of system. All the judicial decrees for debtor's extinction are accompanied by results of the liquidation, which in all cases concludes that: "the total of assets was not sufficient to pay-off the total of obligations", which supposes partial recuperation of receivables by some creditors. The bankruptcy procedure continues about two and half years, depending on the size, region, and the availability of reorganizational proposal. The process has been affected by the crisis, because of the strongly incremented number of insolvency cases.

# Chapter VII: Resolution of the insolvency procedure

## 1. Bankruptcy resolution

Liquidation is the procedure of winding up a company under court supervision. Reorganization is a court-supervised procedure aimed at rehabilitating companies in financial distress. Reorganization protects the company while it attempts to rehabilitate itself; once reorganization begins, creditors generally may not enforce their claims against the company. Firms filing for bankruptcy share similar characteristics of financial distress and therefore it is difficult to predict the final resolution. The reorganization is functionally equivalent to a going-concern liquidation in which the existing claimants are the purchasers (Baird, 1986). Usually this process involves negotiations between debtor and creditors in order to establish new stipulations for the settlement of the existing claims – investing new capital, converting debt into shares, write-off part of the claims. Reorganization or restructuring is aimed at finding a method of rescuing the firm from financial distress, maintaining its integrity for the benefit of all claimants. Reorganization is intended at raising the value of a distressed firm over its liquidation value, a fact that may potentially benefit most of parties concerned. When corporations reorganize rather than liquidate in bankruptcy, the reorganized corporation retains most or all of its assets and continues to operate. The funds to repay creditors then come from the reorganized firm's future earnings rather than from sale of its assets. Secured creditors bear all of the costs if the value of the reorganized firm decreases and receive only part of the gain if the value increases. To restructure a company's balance sheet, the lender must be in a position to prudently determine the feasibility of extending final maturity, extending the amortization schedule, deferring interest, refinancing, or converting debt to equity. Rehabilitation should protect all parties involved, permit the negotiation of a commercial plan and enable a majority of creditors in favour of a plan.

54 % of the companies that reach agreement phase do not present a reorganization plan or fail to convince the creditors in their feasibility and the rejection of the proposed agreement plan leads to the initialization of firm's liquidation phase. The rest of the firms (46 %) conclude the agreement phase

successfully and proceed to reorganization. The reorganization decision adopted at the creditors' meeting takes effect immediately. Cease all the effects related to the declaration of insolvency – the company modifies at the Trade Register of Spain ("Registro Mercantil") its classification status from "insolvent" to "healthy" (although that the stipulated agreement is not still accomplished), cease the charge of the insolvency administration. At any moment of the reorganizational phase the creditors could reclaim the non-accomplishment of the agreement, which will provoke the initiation of the liquidation phase.

**Chart 105: Descriptive statistics of the insolvent firms, by the resolution of the agreement phase**

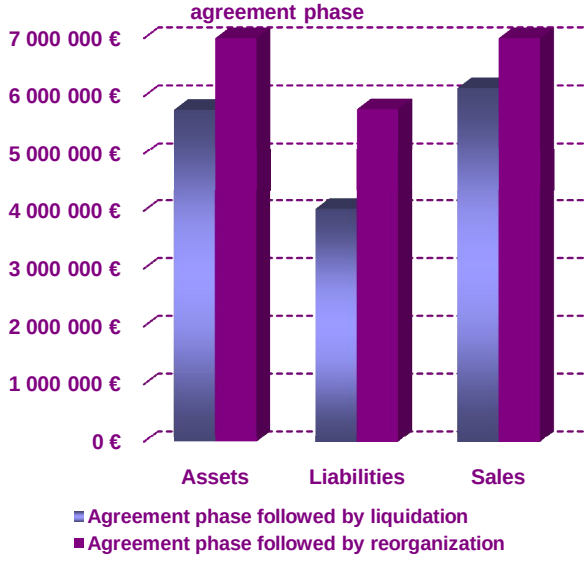



**Chart 106: Distribution of the insolvent firms, by the resolution of the agreement phase**

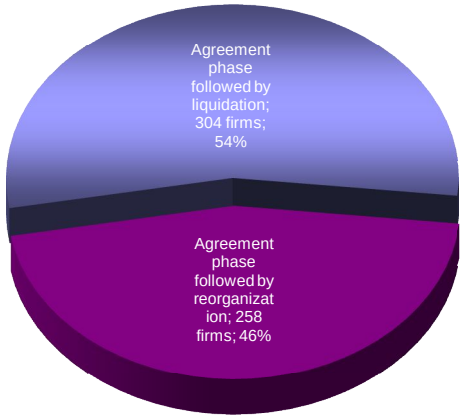



**Chart 107: Descriptive statistics of the insolvent firms, by the resolution of the agreement phase**

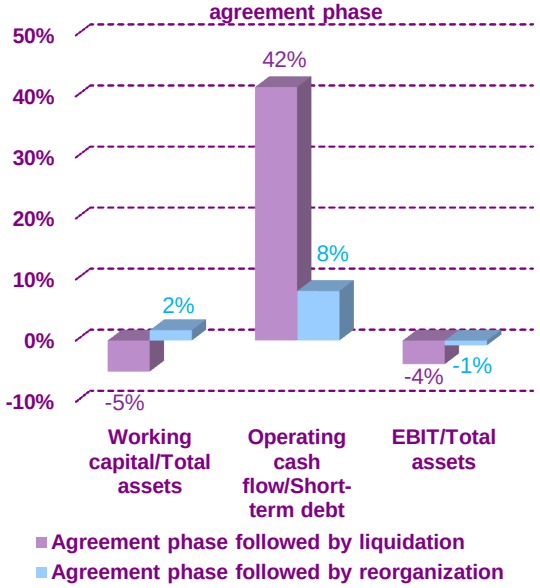
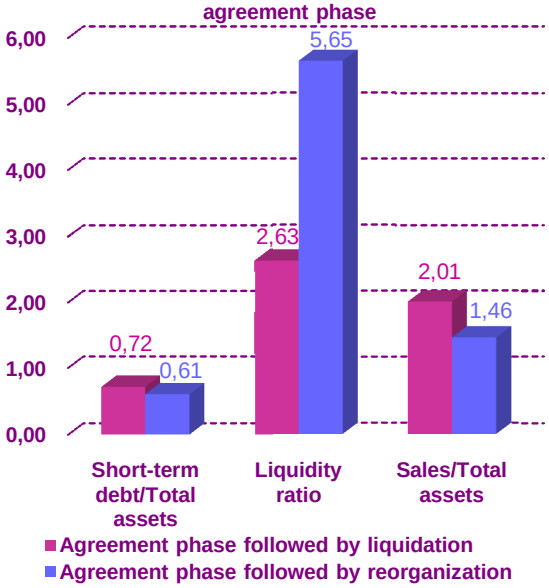



**Chart 108: Descriptive statistics of the insolvent firms, by the resolution of the agreement phase**



The reorganizing firms have a mean assets and sales, valued at 7 million euro, positive (2%) working capital ratio, but lack of operating cash flow to serve their current liabilities (8%). Those firms have less short-term debt in their capital structure (61%) than those that liquidate after agreement phase (72%) and two times higher liquidity ratio.

Next step is to determine which factors influence creditor's decision to accept/reject the proposed agreement. For that purpose was applied panel data logit analysis with the view to distinguish between the two groups of firms, passing through an agreement phase. In the model were incorporated liquidity, profitability, capital structure, operational, procedural, earnings management variables, age and size, as well. As the discretionary accruals were calculated by four methods, we present four models, which demonstrate equal results.

The results of the panel data logit analysis (see table 13) reveal that at the moment of reaching consensus about company's going concern the creditors are indifferent about the availability of working capital or the firm's profitability. Surprisingly, the level of debt in the capital structure has not been found to be significant either. The companies in the both samples share similar characteristics and the reasons decision at the creditors' meeting seems not to be affected by the debtors' historical financial data. The only ratio that differentiates the two groups is sales to assets ratio, which measures firm's efficiency in managing its assets.

The reorganizing firms are characterized by using less earnings management practices, compared to the liquidating companies. We are aware from the fact that the creditors are informed about the manipulation of earnings and this could be a prerequisite for the insolvency administrators at the moment of report's preparing or creditors' monitoring. The discretionary accruals ratio is negative and significant (at 10% level of confidence). This result is consequence to the fact that greater earnings management is exercised by firms with higher degree of distress and liquidation is more possible outcome to these firms. Consistently with the descriptive statistics above, the firms that initiate liquidation are more efficient – need less investment to reach certain level of sales.

**Table 13 a), b), c), d): Differentiation in the resolution of the common phase - panel data logit.**

| Variables | Agreement phase followed by liquidation – 0; Agreement phase followed by reorganization - 1 | | | |
|---|---|---|---|---|
| | Coefficient | Std. Error | z-value | P>\|z\| |
| Working capital/Total assets | -.9119396 | .8743252 | -1.04 | 0.297 |
| EBIT/Total assets | 1.641764 | 1.276864 | 1.29 | 0.199 |
| Total liabilities/Total assets | -.4630109 | .9325583 | -0.50 | 0.620 |
| Sales/Total assets | -.4100244 | .1922474 | -2.13 | 0.033 |
| Discretionary accruals (Jones, 1991) | -.0298125 | .016733 | -1.78 | 0.075 |
| Administrative competences | 3.648968 | .8747023 | 4.17 | 0.000 |
| Suspension of competences | -3.936134 | 1.295245 | -3.04 | 0.002 |
| Age | .0409077 | .0178702 | 2.29 | 0.022 |
| Procedure type | -2.595975 | .6855228 | -3.79 | 0.000 |
| Constant | -5.026073 | 1.213653 | -4.14 | 0.000 |

Wald $Chi^2$= 82.31; Probability>=$Chi^2$ =0.000; Log likelihood: -339.0781; 550 firms; 3415 observations.

| Variables | Agreement phase followed by liquidation – 0; Agreement phase followed by reorganization - 1 | | | |
|---|---|---|---|---|
| | Coefficient | Std. Error | z-value | P>\|z\| |
| Working capital/Total assets | -.9867324 | .785839 | -1.26 | 0.209 |
| EBIT/Total assets | 1.535021 | 1.221895 | 1.26 | 0.209 |
| Total liabilities/Total assets | -.7478732 | .8006242 | -0.93 | 0.350 |
| Sales/Total assets | -.389325 | .179227 | -2.17 | 0.030 |
| Discretionary accruals (Dechow, 1995) | -.0294816 | .0139141 | -2.12 | 0.034 |
| Administrative competences | 3.752501 | .8865081 | 4.23 | 0.000 |
| Suspension of competences | -4.108412 | 1.368131 | -3.00 | 0.003 |
| Age | .0447958 | .0188615 | 2.37 | 0.018 |
| Procedure type | -2.871228 | .6895476 | -4.16 | 0.000 |
| Constant | -4.674691 | 1.176065 | -3.97 | 0.000 |

Wald $Chi^2$= 89.54; Probability>=$Chi^2$ =0.000; Log likelihood: -337.77782; 550 firms; 3415 observations.

| Variables | Agreement phase followed by liquidation – 0; Agreement phase followed by reorganization - 1 | | | |
|---|---|---|---|---|
| | Coefficient | Std. Error | z-value | P>\|z\| |
| Working capital/Total assets | -.9772808 | .8212175 | -1.19 | 0.234 |
| EBIT/Total assets | 1.566169 | 1.272813 | 1.23 | 0.219 |
| Total liabilities/Total assets | -.7362126 | .8441556 | -0.87 | 0.383 |
| Sales/Total assets | -.3695846 | .1770596 | -2.09 | 0.037 |
| Discretionary accruals (Kothari, 2005) | -.0303565 | .0155377 | -1.95 | 0.051 |
| Administrative competences | 3.593074 | .8980495 | 4.00 | 0.000 |
| Suspension of competences | -3.774321 | 1.548668 | -2.44 | 0.015 |
| Age | .0380307 | .0191298 | 1.99 | 0.047 |
| Procedure type | -3.020185 | .7061259 | -4.28 | 0.000 |
| Constant | -4.392458 | 1.247084 | -3.52 | 0.000 |

Wald $Chi^2$= 83.01; Probability>=$Chi^2$ =0.000; Log likelihood: -337.36313; 550 firms; 3415 observations.

| Variables | Agreement phase followed by liquidation – 0; Agreement phase followed by reorganization - 1 | | | |
|---|---|---|---|---|
| | Coefficient | Std. Error | z-value | P>\|z\| |
| Working capital/Total assets | -1.125451 | .884805 | -1.27 | 0.203 |
| EBIT/Total assets | 1.811918 | 1.388224 | 1.31 | 0.192 |
| Total liabilities/Total assets | -.8039352 | .8762217 | -0.92 | 0.359 |
| Sales/Total assets | -.3615991 | .2043399 | -1.77 | 0.077 |
| Discretionary accruals (Nonlinear,2006) | -.0312002 | .0163428 | -1.91 | 0.056 |
| Administrative competences | 3.188772 | .9454181 | 3.37 | 0.001 |
| Suspension of competences | -4.054754 | 1.350523 | -3.00 | 0.003 |
| Age | .040189 | .0195408 | 2.06 | 0.040 |
| Procedure type | -2.887835 | .7235733 | -3.99 | 0.000 |
| Constant | -4.016097 | 1.260094 | -3.19 | 0.001 |

Wald $Chi^2$= 73.72; Probability>=$Chi^2$ =0.000; Log likelihood: -336.10454; 550 firms; 3415 observations.

Maintaining the corporate governance competences was presented with two variables – at the initiation and afterwards at any moment of the procedure, when the insolvency administration decides to suspend (or in very few cases conserve) them. With no doubts, we confirm that loosing the control over firm's administration leads to decline in its credibility. The involvement of insolvency administrators intercepts the process of receivables collection, debt renegotiation, even customer service and predestines piecemeal liquidation.

In an interview with the manager of one of the insolvent (and restructuring) firms from the sample "Embotits Talamanca" on the question "How do you convince the creditors to accept firm's continuation with so much debt in the capital structure?" we were answered that the entrepreneurial individuality, ability and charisma to negotiate personally with each creditor previously to the creditor's meeting, based on long term relations is fundamental. The results confirm that.

The age and the size (0 – ordinary procedures; 1 – abbreviated procedures) have been found to be positively related to the probability of reorganization. The reputation and the time of operating on the market appear to be primer motives for the claimants to accept the proposed plan for reorganization. These two factors give confidence in the creditors, but they should be accompanied by viable and realistic pay-off plan. As will be presented furthermore 22% of the companies that instigate reorganization cannot accomplish the plan they proposed and commence liquidation.

## 2. Literature review

The first attempt to determine the differences between restructuring and liquidating firms was made by Hong (1983). He used a sample of 99 firms, which filled for insolvency during the period 1970 – 1979 year, and examined the outcome of the procedure, distinguishing between three categories of firms – reorganized, liquidated and healthy. The author hypothesized that the larger intangible assets, level of unsecured (free) assets, size and the industrial classification would discriminate these three categories, and only the level of unsecured assets resulted significant.

**Table 14: Literature review of bankruptcy resolution**

| Study | Country | Year | Sample | Objective | Significant variables |
|---|---|---|---|---|---|
| **Hong** | USA | 1983 | 99 | To distinguish among three categories of firms – reorganized, liquidated and healthy. | Unsecured assets - non-collaterized tangible assets divided by total assets |
| **LoPucki** | USA | 1983 | 41 | To determine the characteristics of 41 reorganized firms. | Firm size<br>Manufacturing sector |
| **Casey, McGee and Stickney** | USA | 1986 | 113 | To create a predictive model for the bankruptcy outcome. | Unsecured assets<br>Net income divided by total assets |
| **Franks and Torous** | USA | 1989 | 30 | To understand the institutional features of Chapter 11 and to characterize investment and financing decisions. | Capital structure |
| **Jensen-Conklin** | USA | 1992 | 45 | To discover what percentage of the confirmed plans were consummated and to identify any parameters that indicate whether the plan was more likely not to be consummated. | Successful plans were proposed by larger firms |
| **Hotchkiss** | USA | 1995 | 197 | To examine the post bankruptcy performance of companies that emerges as public. | Size<br>Management change |
| **Fisher and Martel** | Canada | 1995 | 338 | To focus on creditors and especially on the factors that distinguish the approved from the rejected reorganization plan. | Liquidation / reorganization payoff rate<br>Cash payments / Total payments<br>Secured claims / Total liabilities |
| **Campbell** | USA | 1996 | 121 | To provide a statistical model that can be used to predict a closely held firm's likelihood of reorganization. | Firm size; Return on the assets;<br>Number of secured and under-secured creditors.<br>Presence of unencumbered assets; |
| **Kim and Kim** | Korea | 1999 | 45 | To identify the determinants of the bankruptcy outcome. | Free assets; Goodwill<br>Existing period; Liquid assets<br>Firm size; Operating risk |
| **Routledge and Gadenne** | Australia | 2000 | 40 | To investigate whether companies that reorganize can be distinguished from those, that liquidate under the new Australian insolvency code. | Total assets / Total liabilities<br>Current assets / Current liabilities<br>Positive owners' equity |
| **Barniv, Agarwal and Leach** | USA | 2002 | 237 | To classify and predict the final bankruptcy resolution. | Firm size<br>Proportion of secured debt<br>Fraud |
| **Helwege and Packer** | Japan | 2003 | 172 | To investigate close bank-firm (keiretsu) relations among troubled Japanese firms. | Bank affiliation<br>Firm size<br>Employees |

LoPucki (1983) examined the relationships between the outcome of the insolvency procedure and the size, age, geographical location and the existence of creditor's opposition to the reorganization plan. His sample consisted of 41 firms that petitioned for insolvency during the 1979. Significant for the acceptation of the reorganization plan has been found to be the large manufacturing firms.

Casey *et al.* (1986) constructed a model predicting correctly at 70,8% the outcome of the bankruptcy procedure. The authors analyzed a sample of 113 insolvent companies, which filled in the period between 1970 and 1981 year. The variables incorporated were free assets, net income divided by total assets, size, change in the size, retained earnings divided by total assets and stock option percentage. The first two variables mentioned above were found to be good discriminators in the model, thus the authors confirmed the findings of the Hong (1983) and LoPucki (1983).

Franks and Torous (1989) investigated a sample of thirty firms to determine the period spent in reorganization. The authors found that unsecured creditors receive only a small fraction of what secured creditors obtain, and that there are large deviations from absolute priority. Significant for the period of reorganization process was found to be the company's capital structure.

Jensen-Conklin (1992) with the purpose to discover what percentage of the restructuring plans were confirmed and using a sample of 45 firms found that only 6,5% of these cases would culminate in consummated plan and rehabilitated debtor. Successfully consummated plans were proposed by large firms.

Hotchkiss (1995) examined 197 American firms that emerged as public companies, with at least 3 years of post bankruptcy performance, that filed with between October 1979 and September 1988 year. The results showed that a large number of the firms that emerge either are not viable or soon require further restructuring. This evidence questions the view that financial distress leads to rehabilitating changes in corporate policy. The results also

demonstrated that retaining pre-bankruptcy management is strongly related to worse post bankruptcy performance and management changes provide useful information about future performance.

Fisher and Martel (1995) examined 338 reorganization plans filed in Canada during the period 1978 – 1987 year. They found that the rate of return offered to unsecured creditors in the firm's reorganization plan is an important inducement for creditors of favour the plan. Plans offering a high proportion of cash payments are more likely to be accepted (cash is a signal of financial viability). Unsecured creditors are more likely to favour reorganization in firms which have relatively high higher rates of secured debt.

Campbell (1996) presented a multivariate prediction model, estimating the probability of bankruptcy reorganization for closely held firms. He used a sample of 82 reorganized and 39 liquidated firms and identified correctly 78,5% of the firms. Significant for the differentiation were found to be firm's size, profitability (ROA), the unsecured assets, the number of secured creditors and the number of under-secured secured creditors.

Kim and Kim (1999) explicitly recognize the outcomes of the bankruptcy petitions and identify their determinants, using a sample of 22 reorganized and 23 liquidated companies, traded in the Korea Stock Exchange for the period from 1977 to 1994 year. The free assets, existing period, firm size, and goodwill were found to be positively related to the probability of reorganization, while the liquid assets and operating risk had negative influence on the probability of reorganization.

Routledge and Gadenne (2000) applied logistic regression analysis on a sample of 20 reorganized and 20 liquidated companies, matched by size and industry, to examine the discriminating power of variables representing liquidity, profitability and capital structure. The authors found that the companies are more likely to reorganize as the leverage increases, which does not seems to be logical and it possibly is due to multicolinearity and/or the limitations of the study – the small sample size and the missing data. Positively related to the

reorganization process was found to be the liquidity ratio. The higher levels of current assets would allow the reorganization plan to include an immediate pay-off to the creditors. Their model obtained 80% overall correct classification.

Barniv *et al*. (2002) used a sample of 237 publicly traded companies with complete accounting, price and court data. Logistic regression analysis was applied to classify and predict the final resolution for three groups – acquired, emerged and liquidated. Their results indicate that the size and the proportion of the secured debt are positively related to the reorganization. The model obtained 61,6% overall correct classification.

Helwedge and Packer (2003) investigated close bank-firm (keiretsu) relations among troubled Japanese firms by examining the type of bankruptcy in a pro-creditor insolvency system. Their sample was composed by 47 reorganized and 125 liquidated firms. The authors found no evidence that the greater likelihood of liquidation among keiretsu firms in this sample owes to excessive liquidation. Significant discriminators were found to be firm's size, the number of employees and bank affiliation.

## 3. Empirical results

**Chart 109: Descriptive statistics of the insolvent firms, by the resolution of the bankruptcy**

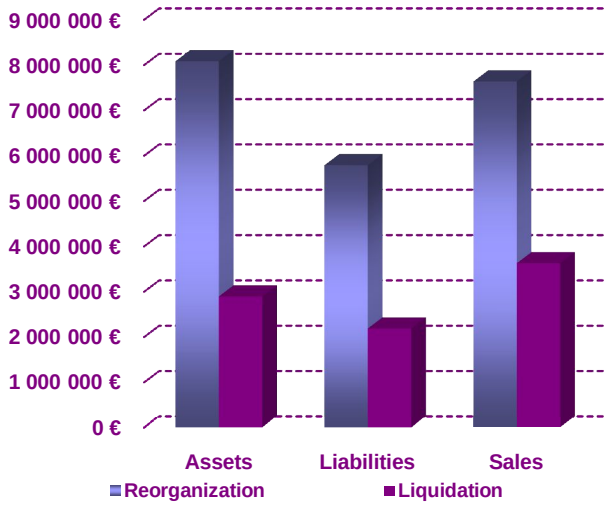
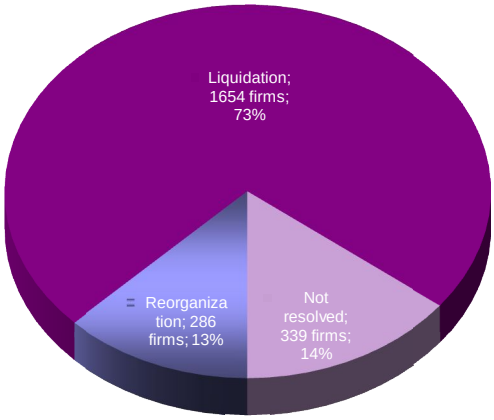



**Chart 110: Distribution of the insolvent firms, by the resolution of the bankruptcy**




Only 13% of the firms present viable restructuring plan, convincing their creditors to intiate reorganization. Those companies are characterized with an average assets and sales valued at about 8 million euro and liabilities of 5,8

million euro. Identic results describing a sample of about 500 companies were presented by Van Hemmen (2008). The author afirms that the reorganizing companies have less debt. The insolvent firms in our sample have a mean of 62 employess and 20 years presence on the market, while for the liquidating firms those figures are 30 and 17, respectively.

Chart 111: Descriptive statistics of the insolvent firms, by the resolution of the bankruptcy

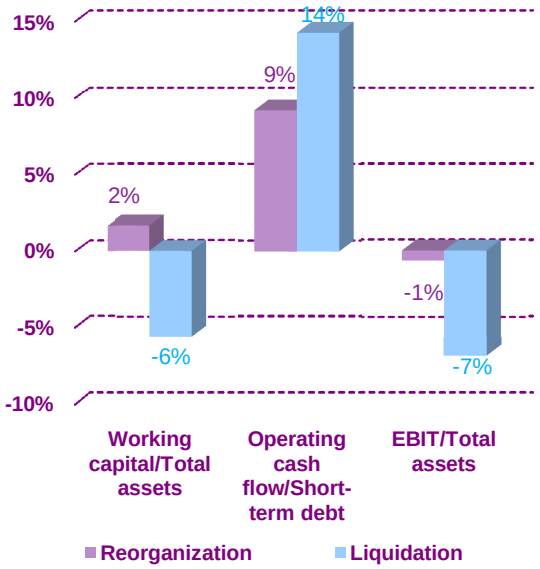
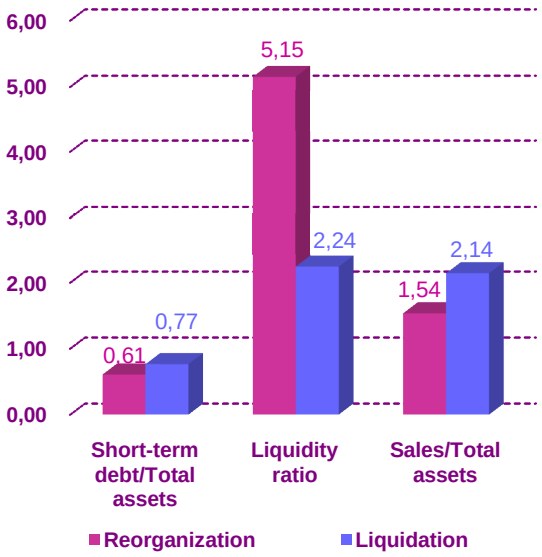



Chart 112: Descriptive statistics of the insolvent firms, by the resolution of the bankruptcy




The reorganizing firms have a positive working capital ratio and current assets exceeding five times their short-term obligations. They are less indebted and less unprofitable, compared to the liquidating firms.

## 4. Hypotheses development

Determining the differences between restructuring and liquidating firms is from primer interest for creditors, insolvency administrators, scholars, etc. Taking into account the variables employed in previous studies and incorporating some new and specific variables we propose the following hypothesis related to the bankruptcy resolution:

- **Profitability (EBIT/Total assets)** – Casey *et al.* (1986) and Campbell (1996) found that firm's profitability is significant factor for reorganization and it is logical to consider that the creditors will approve a plan of a viable and profitable firm.

*$H_1$: The firms with more return on assets have higher probability to restructure.*

- **Interest rate** – the declining cost of borrowed capital shifts firms preferences from equity to lend financing and this in 'normal' economic development facilitates the access to credit. This should not be the case of the insolvent firms, which due to their precarious financial situation and lost credibility have little access to extra capital. The economic crisis nowadays provoked stagnation in the credit sector and even the 'healthy' firms face harsh requirements to be conceded with credit. The variable is used as a control variable.

- **Capital structure (Short-term liabilities/Total assets)** – the deteriorated short-term capital structure impedes firms to serve their current obligations and thus is an obstacle for a debtor to present an interim restructuring plan.

*$H_2$: The higher level of current debt, the lower probability of reorganization.*

- **Assets structure (Tangible fixed assets/Total assets)** – the more tangible fixed assets in firm's structure, the more guarantees for the creditors to recover their receivables, higher value as going-concern. Van Hemmen (2007, 2008 and 2009) found positive relationship between assets structure and probability of reorganization.

*$H_3$: The more tangible assets, the higher probability of reorganization.*

- **Age** – the longer firm's presence on the market, the larger is its social network and higher its reputation, factors that could influence positively on the creditors' decision to approve the restructuring plan.

*$H_4$: The higher reputation, the higher probability of reorganization.*

- **Suspension of competences (receivership)** – a binary variable which takes value 1 if the managerial competences have been suspended during the procedure. The transfer of managerial rights to the insolvency

administrators during the bankruptcy procedure leads to the loss of credibility in front of the creditors, suppliers, clients and institutions, thus predestinating firm's imminent liquidation.

*$H_5$: The loss of governmental rights during the procedure leads to liquidation.*

- **Size** (procedure type, a binary variable which takes value 0 for the ordinary cases and 1 for the abbreviated) – the most used from the previous researchers variable. The larger companies have and generate more resources, are more prominent and prestigious for the banks, thus have higher possibilities to restructure.

*$H_6$: The larger firms have higher probability to restructure.*

- **Voluntary entry mode and maintained managerial competences** – a binary variable which takes value 1 for the firms that initiate the procedure voluntarily and with maintained governmental competences; and 0 – otherwise. Those firms preserve and exercise control over their own assets, thus avoid the introversion of insolvency administration and sustain the confidence of creditors.
-

*$H_7$: The firms that initiate the bankruptcy procedure voluntarily and with maintained managerial competences have higher probability to restructure.*

- **Industry and regional variables** – binary variables for industry sector and regional belonging, used as control variables.

**5. Empirical results**

The results of panel data logit analysis (see table 15) reveal that firm's profitability is not a significant factor for the approval of a reorganizational plan. This finding does not confirm the results of Casey *et al.* (1986) and Campbell (1996) and emphasizes on the fact the creditors are less concerned about debtor's historical ability to explore the assets employed. Thus, the hypothesis one is rejected.

The interest rate has not been found to be significant for the bankruptcy resolution, either. Ultimately, as a response to the decreasing consumption some central banks reduced the level of interest, but the local banks have restricted the access to credit, making it more rigorous. This augmented the number of insolvent firms, but did not affect the probability of reorganization.

**Table 15: Determinants of bankruptcy resolution**

| Variables | Dependent variable: Liquidation=0; Reorganization=1 | | | |
|---|---|---|---|---|
| | **Coefficient** | **Std. Error** | **z-value** | **P>\|z\|** |
| EBIT/Total assets | -.0507372 | .2692553 | -0.19 | 0.851 |
| Interest rate | -1.755976 | 8.748155 | -0.20 | 0.841 |
| Short-term liabilities/Total assets | -1.300443 | .6391232 | -2.03 | 0.042 |
| Tangible fixed assets/Total assets | 2.091421 | .8683482 | 2.41 | 0.016 |
| Age | .0448106 | .01579 | 2.84 | 0.005 |
| Suspension of competences | -7.210416 | 1.1365 | -6.34 | 0.000 |
| Procedure type (size of the firm) | -6.811992 | .4691027 | -14.52 | 0.000 |
| Voluntary & Maintained | 5.069813 | .7127034 | 7.11 | 0.000 |
| Retail industry | -3.485385 | 1.155377 | -3.02 | 0.003 |
| Valencia | -2.253251 | .6665677 | -3.38 | 0.001 |
| Balearic Islands | 4.378382 | .9560248 | 4.58 | 0.000 |
| Constant | -33.29693 | 1.009898 | -32.97 | 0.000 |

Wald $Chi^2$= 273.92; Probability>=$Chi^2$ =0.000; Log likelihood: -735.01116; 1940 firms; 13 683 observations.

The level of current liabilities has been found to be significantly and negatively related to the probability of reorganization. For the liquidating firms its mean is 77% of all assets (see chart 98), while for the restructuring – 61%. The diminished shareholder's funds result to be primer concern for the creditors, as there are few assets that can be used as warranties and the elevated level of short-term debt require the repayment of several high-valued instalments, unfeasible to be met by the debtor. An alternative explanation is that the high

level of current liabilities is related to the existence of more creditors and there is a conflict of interests among them, which affects the approval of the restructuring plan. Thus, the second hypothesis is accepted.

The existence of tangible assets serves as a guarantee for the concession of credit. Its elevated proportion in firm's assets structure gives additional viability to the reorganizational proposal from one side, and credibility from the other. The variable has been found to be significantly and positively related to the possibility of restructuring and the third hypothesis is accepted. The results obtained are consistent with the findings of Van Hemmen (2007, 2008 and 2009).

Firm's age, representing the entrepreneurial reputation, has been found to be significant, too. The period of existence on the market is associated with constant interrelationships with financial and commercial organizations, providers of bank and trade credit. The higher reputation allows the debtors' administrators to persuade their creditors in the viability of the reorganizational plan, thus we accept the fourth hypothesis.

The loss of control capabilities in the beginning or during the procedure has been found to be a prerequisite for debtor's piecemeal liquidation. The empowerment of insolvency administration cannot replace the entrepreneurial personality and that results insufficient to convince creditors; does not motivate employees and impedes the ordinary process. The fifth and the seventh hypothesis have been accepted, too.

Firm's size has been found to be a significant factor for the acceptance of the restructuring plan. The larger companies are more influential due to the worthiness of their continuation and provide more guarantees (assets). The results are in concordance with the findings of almost all preceding investigations. Thus, we accept the sixth hypothesis. The debt restructuring results to be frustrated for the firms from the retail industry and for those in Valencia community, while firm's belonging to Balearic islands is a factor of 'second chance'.

## 6. Successful reorganization

Chart 113: Descriptive statistics of the insolvent firms, by the resolution of the reorganization


Chart 114: Mean of the time to accomplish/non-accomplish an agreement (in days), by the resolution of the reorganization


From all 284 reorganizing firms 30 manage to fulfil their contractual obligations to restructure their debt and redeem creditors, while 62 firms fail and respectively initiate liquidation. On contrary to the expectations the descriptive statistics reveal that the firms that do not achieve have better liquidity, profitability and operating ratios, which suggests that the historical financial data is not a prerequisite for successful restructuring. The average time to complete reorganization is one year, while the mean time of the reformation intention, followed by liquidation is superior with three months.

Chart 115: Descriptive statistics of the insolvent firms, by the resolution of the reorganization

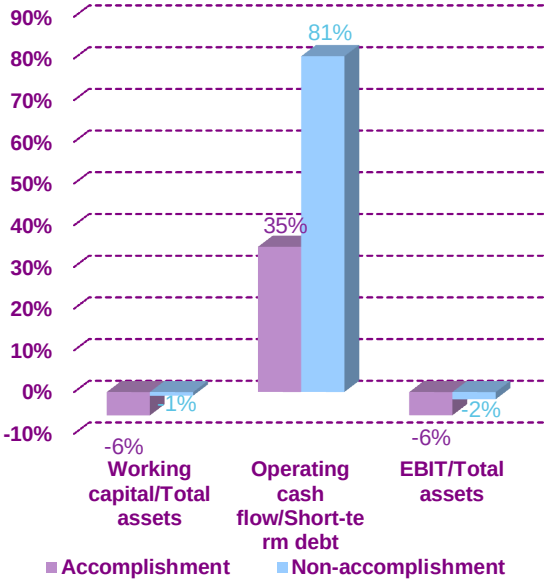
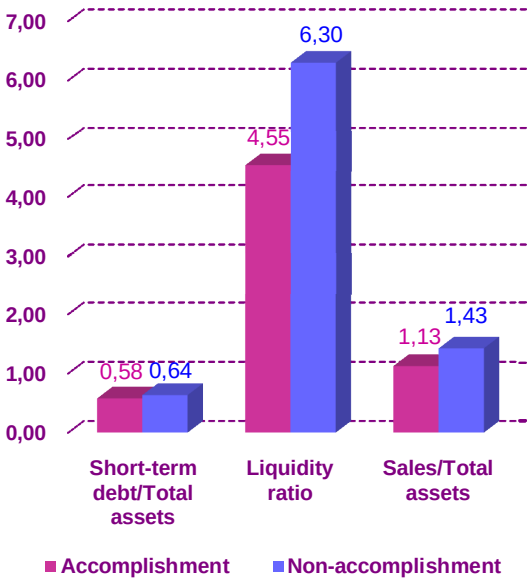



Chart 116: Descriptive statistics of the insolvent firms, by the resolution of the reorganization



Although that the sample of 92 firms is quite small, compared to the 2270, it is of great interest to establish the variables that distinguish the successful form failed reorganization. The results of the panel data logit analysis reveal that the both groups, according to their financial and structural characteristics, are identical.

**Table 16: Determinants of the successful reorganization - panel data logit analysis**

| Variables | Reorganization followed by liquidation = 0; Reorganization followed by accomplishment = 1 | | | |
|---|---|---|---|---|
| | **Coefficient** | **Std. Error** | **z-value** | **P>\|z\|** |
| EBIT/Total assets | -1.317233 | 3.381763 | -0.39 | 0.697 |
| Total liabilities/Total assets | .2170095 | 1.994961 | 0.11 | 0.913 |
| Reserves/Total assets | 3.942036 | 3.982063 | 0.99 | 0.322 |
| Age | .0064611 | .0626449 | 0.10 | 0.918 |
| Working capital/Total assets | .8591512 | 2.230557 | 0.39 | 0.700 |
| Receivables/Total assets | -2.355332 | 4.011593 | -0.59 | 0.557 |
| Operating expenses/Total assets | -.9664041 | 1.38241 | -0.70 | 0.485 |
| Procedure type | 2.886019 | 2.195264 | 1.31 | 0.189 |
| Voluntary & Maintained | -3.849679 | 3.117672 | -1.23 | 0.217 |
| Suspension of competences | .8645474 | 4.123479 | 0.21 | 0.834 |
| Construction | 8.318014 | 5.292412 | 1.57 | 0.116 |
| Manufacturing | -.9408238 | 4.882632 | -0.19 | 0.847 |
| Retail | 20.3363 | 6.799 | 2.99 | 0.003 |
| Service | 10.72741 | 4.883455 | 2.20 | 0.028 |
| Wholesale | -.3994639 | 5.079096 | -0.08 | 0.937 |
| Interest rate | .8998313 | 40.78498 | 0.02 | 0.982 |
| Constant | -6.12579 | 6.815934 | -0.90 | 0.369 |

Wald $Chi^2$= 69.00; Probability>=$Chi^2$ =0.000; Log likelihood: -59.438178; 92 firms; 636 observations.

## 7. Conclusions

In this chapter were described the evolution and the particularity of the insolvency procedure in Spain. In resume, ¾ of the firms conclude in liquidation, although that one of the main features of the procedure is to encourage reorganization. But at the rear of this encouraging there should be first firm's motivation and resources to accomplish restructuring and on the second place is the institutional groundwork. Entering the procedure, should not necessarily mean firms' extinction. On contrary, it should be their 'second chance' option. Other explanation of the higher rate of liquidations is that it is probably the 'natural selection' of the economy, as a result of the firms' competitive position – the inefficient extinct and their assets are incorporated into efficient units.

Receivership, no matter in the beginning or during the procedure, proved to lead the companies to liquidation. Replacing or sharply curtailing the powers of management creates a disincentive for incumbent management to seek rehabilitation when necessary, which would be counter-productive. The judicial decision to maintain or suspend the competences of the managers is determined by the availability of preliminary reorganizational proposal and/or liquidation petition. The larger and more experienced companies have more possibilities to sustain on charge their administration members.

The level of short-term debt creates collective action problems among the creditors, which prevent reaching a consensus about debtor's restructuring. Creditors' evaluation about debtor's financial situation is principally based on liquidity and balance-sheet tests. The fact that the firm is insolvent is sufficient argument for lack of liquidity. That is why creditors refer to the second test, which demonstrates debtor's capital and assets structure. The more tangible fixed assets (guarantees) and less current liabilities, in combination with other factors, are good prerequisites for the approval of the restructuring plan.

## Conclusions, limitations and research perspectives

The purpose of the study was to determine the influence of short-term liabilities on debtor's earnings management and bankruptcy resolution and to explore the evolution and the efficiency of the insolvency procedure. Tirole (2002) allege that "over-borrowing" or "over-lending" leads to common agency problems and that the contractual externalities related to it guide to inefficient lending. This result in excessively short-term debt that affects firm's liquidity and jeopardizes its long-term projects, and in bankruptcy situation prevent efficient roll-over and restructuring. In consistency with theses affirmations are our results and even more – adding nuance that this short-term "over-crediting" is the principal motive for the manipulation of financial statements. One of the reasons for the markedly concession of credit some years ago could be found in the conjuncture of the Spanish economy – about 10 consecutive years of blossoming wealth, headed by construction and real-estate services, rising gross domestic product and consumption. These factors were facilitated by easy and low-priced access to credit. The firms were financed more than they could guarantee with their assets, the most important was their liquidity. At the moment of upcoming economic recession and the banks bursting with unpaid mortgages, the private credit institutions have restrained their policies towards credit allowance. The crises, from one side, and the unavailability of short-term financing, from other, have as consequence the multiplication of bankruptcies.

Djankov *et al*. (2008) found that debt enforcement around the world is highly inefficient, due to high administrative costs and long delays, but also from excessive piecemeal sales of viable businesses, poorly structured appeals, business interruptions during bankruptcy, and inefficient voting among creditors. The authors conclude that such inefficiency discourage lending. In our case the high administrative costs are heavy burden and in most of the cases impossible to bear, which explains the high percentage of liquidations. One of the measures taken to resolve such inefficiency was the reduction of number of insolvency administrators (from 3 to 1 for companies with up to 10 million euro debt). The long delays, as explained previously, are result of the augmentation

of the bankruptcy cases and this led to the establishment of new mercantile courts.

The insolvent firms proved to have negative discretionary accruals for various accounting periods, which taken into account their high leverage means they use earnings management techniques to convince creditors in their solvency situation. The discretionary accruals have been found to be significant determinants of creditors' decision to approve the proposed restructuring plan – those firms that initiate reorganization provide evidence that employ less earnings management techniques.

The sample of firms used in the study was composed by the financial statements of 2270 insolvent firms, filed in the period 01.09.2004 – 31.12.2007, or just before the commencement of the crisis. This means that their distressed situation was not provoked by macroeconomic or industry turbulences. From certain interest would be the comparison of the results obtained with the outcome of a sample of insolvent firms from the crisis period.

One of the limitations of the study is the impossibility to breakdown the balance sheet item "current liabilities" into trade accounts payable and short-term bank liabilities. The information provided by SABI database in almost all of the cases is united and integrated, thus impeding the implementation of thorough analysis to distinguish between trade and bank creditors.

Another limitation closely related to the previous is the lack of information about the number and nature of the creditors, which could be useful to analyse the possible conflict of interests between them.

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