

# Chapter 45

## BANKRUPTCY AND RESTRUCTURING

---

*Women and children first!*

Every economic system needs mechanisms to ensure the optimal utilisation of resources. Bankruptcy is the primary instrument for reallocating means of production from inefficient to efficient firms.

**Theoretically, bankruptcy shakes out the bad apples from sectors in difficulty and allows profitable groups to prosper. Without efficient bankruptcy procedures, financial crises are longer and deeper.**

A bankruptcy process can allow a company to reorganise, often requiring asset sales, a change in ownership and partial debt forgiveness on the part of creditors. In other cases, bankruptcy leads to liquidation – the death of the company.

Generally speaking, bankruptcy is triggered when a company can no longer meet its short-term commitments and thus faces a liquidity crisis. Nevertheless, the exact definition of the financial distress leading the company to file for bankruptcy may differ from one jurisdiction to another.

Bankruptcy is a critical juncture in the life of the firm. Not only does the bankruptcy require that each of the company's stakeholders make specific choices, but the very possibility of bankruptcy has an impact on the investment and financing strategies of healthy companies.

### Section 45.1

#### CAUSES OF BANKRUPTCY

---

**Companies do not encounter financial difficulties because they have too much debt, but because they are not profitable enough. A heavy debt burden does no more than hasten the onset of financial difficulties.**

The problems generally stem from an ill-conceived strategy, or because that strategy is not implemented properly for its sector (costs are too high, for example). As a result, profitability falls short of creditor expectations. If the company does not have a heavy debt burden, it can limp along for a certain period of time. Otherwise, financial difficulties rapidly start appearing.

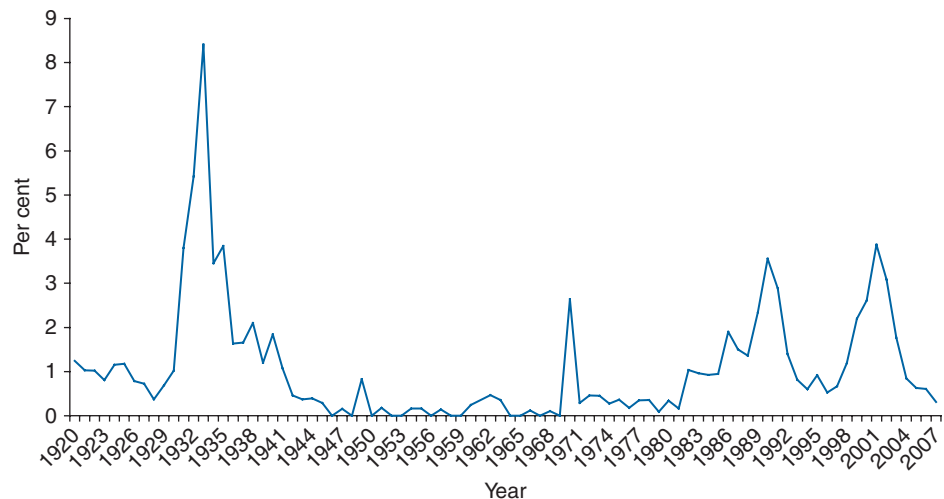
Generally speaking, financial difficulties result either from a market problem, a cost problem or a combination of the two. The company may have been caught unaware by market changes and its products might not suit market demands (e.g., Smoby, producer of wooden toys, Boo.com). Alternatively, the market may be too small for the number of companies competing in it (e.g., online book sales, satellite TV platforms in various countries). Ballooning costs compared with those of rivals can also lead to bankruptcy. Alitalia, for example, was uncompetitive against other airlines. Eurotunnel, meanwhile, spent twice the budgeted amount on digging the tunnel between France and the UK.

Nevertheless, a profitable company can encounter financial difficulties, too. For example, if a company's debt is primarily short term, it may have trouble rolling it over if liquidity is lacking on the financial markets. In this case, the most rational solution is to restructure the company's debt.

One of the fundamental goals of financial analysis as it is practised in commercial banks, whose main business is making loans to companies, is to identify the companies most likely to go belly up in the near or medium term and not lend to them. Numerous standardised tools have been developed to help banks identify bankruptcy risks as early as possible. This is the goal of credit scoring, which we analysed in Chapter 8.

Rating agencies also estimate the probability that a company will go bankrupt in the short or long term (bankruptcies as a function of rating were presented in Chapter 25). When US energy giant Enron filed for bankruptcy at the end of 2001, rating agencies were criticised for not anticipating financial difficulties and warning creditors. In this case, the rating system did not work properly.

#### BANKRUPTCY RATE OF COMPANIES RATED BY MOODY'S



Source: Moody's 2008.

## 1/THE DIFFERENT BANKRUPTCY PROCEDURES

The bankruptcy process is one of the legal mechanisms that is the least standardised and homogenised around the world. Virtually all countries have different systems. In addition, legislation is generally recent and evolves rapidly.

Nevertheless, among the different procedures, some patterns can be found. In a nutshell, there are two different types of bankruptcy procedure. The process will be either “creditor (lender) friendly” or “debtor (company) friendly”. But all processes have the same ultimate goals although they may rank differently:

- pay-down the liabilities of the firm;
- minimise the disruptive impact on the industry;
- minimise the social impact.

A creditor-oriented process clearly sets the reimbursement of creditors as the main target of the bankruptcy process. In addition, the seniority of debt is of high importance and is therefore recognised in the procedure. In this type of procedure, creditors gain control, or at least retain substantial powers in the process. This type of process generally results in the liquidation of the firm. Bankruptcy procedure in the United Kingdom clearly falls into this category.

Such a regulation may seem unfair and too tough but it aims at preventing financial distress rather than solving it in the least disruptive way for the whole economy. In such countries firms exercise a kind of self-discipline and tend to keep their level of debt reasonable in order to avoid financial distress. As a counterpart, creditors are more confident when granting loans, and money is more readily available to companies. For those supporting this type of process, the smaller number of bankruptcies in countries with a stringent regulation (and an efficient judicial system) is evidence that this self-regulation works.

At the other end of the spectrum, some jurisdictions will give the maximum chance to the company to restructure. These procedures will generally allow management to stay in place and give sufficient time to come up with a restructuring plan. Countries with this approach include the USA (Chapter 11) and France.

To summarise, the following criteria help define a bankruptcy procedure:

- Does the procedure allow restructuring or does it systematically lead to liquidation (most jurisdictions design two distinct procedures)?
- Does management stay in place or not?
- Does the procedure include secured debts? In some countries, secured debts (i.e. debts that are guaranteed by specific assets) and related assets are excluded from the process and treated separately, allowing greater certainty in the repayment. In such countries, securing a debt by a pledge on an asset gives strong guarantees.
- Do creditors take the lead, or at least have a say in the outcome of the process? In most jurisdictions, creditors vote for the plan that is proposed to them as the outcome of the bankruptcy process. They sometimes have even greater power and are allowed to name a trustee who will liquidate the assets to pay down debt. But in some countries (e.g. France) they are not even consulted.

	France	Germany	India	Italy	UK	USA
Type	Debtor (borrower) friendly	Creditor (lender) friendly	Creditor (lender) friendly	Debtor (borrower) friendly	Creditor (lender) friendly	Debtor (borrower) friendly
Possible restructuring	Yes	Yes (rare)	Yes	Yes	Rare after opening of a proceeding	Yes
Management can stay in place	Yes*	Yes*	No	***	No	Yes
Lenders vote on restructuring/ liquidation plan	No	Yes	Yes	Yes**	Yes	Yes
Priority Rule	Salaries; tax, other social liabilities; part of secured debts; proceeding charges; other secured debts; other debts	Proceeding charges; secured debts; other debts	Secured debts and employees proceeding charges; tax and social liabilities; unsecured debts	Proceeding charges; preferential creditors (inc. tax and social) and secured creditors; unsecured creditors	Proceeding charges; secured debts on specific assets; tax and social security; other secured debts; other debts	Secured debts granted after filing; employee benefit and tax claims; unsecured debts

\* Assisted by court designated trustee.

\*\* Yes in the case of restructuring (pre-emptive arrangement) but only consultative committee in case of liquidation (fallimento).

\*\*\* No in the case of liquidation (fallimento).

## 2/ POTENTIAL INEFFICIENCIES IN THE BANKRUPTCY PROCEDURE

Depending on the severity of the bankruptcy process and in particular whether or not it allows and promotes restructurings, two opposite inefficiencies may arise. The process may:

- allow restructuring of an inefficient firm that destroys value. This could be an issue as such restructuring may destabilise the whole industry;
- lead to liquidation of efficient companies. A firm can be caught in a bankruptcy procedure because of a liquidity problem. In this case, liquidation could be value destroying.

## 3/ RESTRUCTURING PLANS

It is important to understand that not all financial difficulties lead to voluntary or court-mandated reorganisation or liquidation, which is often costly, lengthy and

sometimes ineffective. The first step is usually private negotiation between the company (shareholders and/or managers) and its creditors. The more numerous the company's sources of funding – common shareholders, preferred shareholders, convertible bond holders, creditors, etc. – the more complex the negotiations.

Barring private negotiation, the potential conflicts between the various parties necessitate the intervention of a judge.

The business plan submitted by the company in financial distress is a key element in estimating its ability to generate the cash flows needed to pay off creditors.

A restructuring plan requires sacrifices from all of the company's stakeholders. It generally includes a recapitalisation, often funded primarily by the company's existing shareholders, and renegotiation of the company's debt. Creditors are often asked to give up some of their claims, accept a moratorium on interest payments and/or reschedule principal payments.

Creditors and shareholders are naturally at odds with each other in a restructuring. To bring them all on board, the renegotiated debt agreements sometimes include claw-back provisions, whereby the principal initially foregone will be repaid if the company's future profits exceed a certain level. Alternatively, creditors might be granted share warrants. If the restructuring is successful, warrants enable the creditors to reap part of the benefits.

To succeed, financial restructuring must be accompanied by operational restructuring. Only financial restructuring will enable the company to return to profitability. As part of the effort to improve productivity, operational restructuring is very likely to involve head count reductions. Certain businesses might be sold or discontinued. Note that restructuring a company in difficulty can sometimes be a vicious circle. Faced with a liquidity crisis, the company must sell off its most profitable operations. But as it must do so quickly, it sells them for less than their fair value. The profitability of the remaining assets is therefore impaired, paving the way to new financial difficulties.

## Section 45.2

### BANKRUPTCY AND FINANCIAL THEORY

#### 1/THE EFFICIENT MARKETS HYPOTHESIS

In the efficient markets hypothesis, bankruptcy is nothing more than a reallocation of assets and liabilities to more efficient companies. It should not have an impact on investor wealth, because investors all hold perfectly diversified portfolios. Bankruptcy, therefore, is simply a recomposition of the portfolio.

The reality of bankruptcy is, however, much more complicated than a simple redistribution. Bankruptcy costs amount to a significant percentage of the total value of the company. By bankruptcy costs, we mean not only the direct costs, such as the cost of court proceedings, but also the indirect costs. These include loss of credibility *vis-à-vis* customers and suppliers, loss of certain business opportunities, etc. Economists have tried to measure these costs, but because of the complexity of the task, their results have been applicable only in isolated cases and are not statistically meaningful. According to these researchers (Warner, 1977; Stanley and Girth, 1977; Weiss, 1990; Andrade and Kaplan, 1998), bankruptcy costs range from 3% to 20% of the enterprise value of the company.

Bankruptcy costs have an impact on a company's choice of financial structure. A company that takes on a lot of debt increases its risk of going bankrupt, and investors will discount the value of its assets by the present value of the bankruptcy costs. Potential bankruptcy costs thus reduce the tax advantage of borrowing that stems from the deductibility of interest expense.

## 2/ SIGNAL THEORY AND AGENCY THEORY

The possibility of bankruptcy is a key element of signalling theory. An aggressive borrowing strategy sends a positive signal to the market, because company managers are showing their belief that future cash flows will be sufficient to meet the company's commitments. But this signal is credible only because there is also the threat of sanctions: if managers are wrong, the company goes bankrupt and incurs the related costs.

Moreover, conflicts between shareholders and creditors, as predicted by agency theory, appear only when the company is close to the financial precipice. When the company is in good health, creditors are indifferent to shareholder decisions. But any decision that makes bankruptcy more likely, even if this decision is highly likely to create value overall for the company, will be perceived negatively by the creditors.

Let's look at an example. Rainbow Ltd. manufactures umbrellas and is expected to generate just one cash flow. To avoid having to calculate present values, we assume the company will receive the cash flow tomorrow. Tomorrow's cash flow will be one of two values, depending on the weather. Rainbow has borrowings and will have to pay 50 to its creditors tomorrow (principal and interest).

Weather	Rain	Shine
Cash flow	100	50
Payment of principal and interest	-50	-50
Shareholders' portion of cash flow (equity)	50	0

Rainbow now has an investment opportunity requiring an outlay of 40 and returning cash flow of 100 in case of rainy weather and -10 in case of sunny weather. The investment project appears to have a positive net present value. Let's see what happens if the investment is financed with additional borrowings.

Weather	Rain	Shine
Cash flow	200	40
Payment of principal and interest	-90	-40 (whereas 90 was due)
Shareholders' portion of cash flow (equity)	110	0

Even though the investment project has a positive net present value, Rainbow's creditors will oppose the project because it endangers the repayment of part of their loans. Shareholders will of course try to undertake risky projects as it will more than double the value of the equity.

It can be demonstrated that when a company is close to bankruptcy, all financial decisions constitute a potential transfer of value between shareholders and creditors. Any decision that increases the company's overall risk profile (risky investment project, increase in debt coupled with a share buyback) will transfer value from creditors to shareholders. Decisions that lower the risk of the company (e.g., capital increase) will transfer value from shareholders to creditors. As we showed in Chapter 35, these value transfers can be modelled using options theory.

Conflicts between shareholders and creditors and between senior and junior creditors also influence the decisions taken when the company is already in bankruptcy. On the one hand, creditors want to accelerate the procedure and liquidate assets quickly, because the value of assets rapidly decreases when the company is "in the tank". On the other hand, shareholders and managers want to avoid liquidation as long as possible because it signifies the end of all hope of turning the company around, without any financial reward. For managers, it means they will lose their jobs and their reputations will suffer. At the same time, managers, shareholders and creditors would all like to avoid the inefficiencies linked with liquidation. This common objective can make their disparate interests converge.

The table below shows what is the average hope for repayment in case of bankruptcy depending on the ranking of the debt.

	Average recovery (%)			
	1982–2002	1982–2000	2001	2002
Secured bank loans	61.6	67.3	64.0	51.0
Equipment trust	40.2	65.9	na	38.2
Senior secured	53.1	52.1	57.5	48.7
Senior unsecured	37.4	43.8	35.5	30.0
Senior subordinated	32.0	34.6	20.5	26.6
Subordinated	30.4	31.9	15.8	24.4
Junior subordinated	23.6	22.5	na	na
All bonds	37.2	39.1	34.7	34.3

Source: Moody's.

Whereas senior creditors get on average 60% of their money back, most junior creditors will receive less than 25% of their initial lending.

### 3/ FREE RIDERS

Lastly, a company in financial difficulties gives rise to the free rider problem (see Chapter 31). For example, a small bank participating in a large syndicated loan may prefer to see the other banks renegotiate their loans, while keeping the terms of its loan remain unchanged.

Free rider problems will often arise when creditors are in different situations in terms of commitment or of ranking of their debt.

It has been observed that the number of bankruptcies is greater in countries with mature financial markets. The proposed explanation is that, in those countries, the companies are more likely to have public or syndicated debt and therefore a large number

of creditors. In addition, with sophisticated markets, firms are more likely to have several types of debt: secured loans, senior debt, convertibles, subordinated, etc. In this context it may appear to be very difficult to restructure the firm privately (i.e. to find an agreement with a large number of parties with often conflicting interests such as hedge funds, vulture funds, trade suppliers, commercial banks, etc.), hence a bankruptcy process is the favoured route.

This is especially true when a lender has already hedged itself through a Credit Default Swap<sup>1</sup> and will earn more from bankruptcy (recover 100% of its claims thanks to the CDS) than in a reorganisation (will get less than 100%).

<sup>1</sup> For more, see p. 980.

In bank financing-based countries, firms have a strong relationships with banks. In the case of financial distress, banks are likely to organise the restructuring privately. This is often the case in Germany or in France where bilateral relationships between banks and corporates are stronger than in the Anglo-Saxon world.

#### 4/ THE LIMITS OF LIMITED LIABILITY

Modern economies are based largely on the concept of limited liability, under which a shareholder's commitment can never exceed the amount invested in the company. It is this rule that gives rise to the conflicts between creditors and shareholders and all other theoretical ramifications on this theme (agency theory).

In bankruptcy, managers can be required to cover liabilities in the event of gross negligence. In such cases, they can be forced to pay back creditors out of their own pockets, once the value of the company's assets is exhausted. So when majority shareholders are also the managers of the company, their responsibility is no longer limited to their investment. Such cases are outside the framework of the pure financial decision situations we have studied here.

### Section 45.3

#### AN ILLUSTRATIVE EXAMPLE OF FINANCIAL RESTRUCTURING

We have chosen to illustrate the process of financial restructuring using as an example Eurotunnel, the company that owns and operates the Channel tunnel between France and the UK, and the financial distress it experienced in 2006 and 2007. The case and figures have been intentionally simplified and could therefore appear to have altered.

Back in 1986, Eurotunnel decided to take on debt rather than equity: it raised 4.7 times more debt (€7.6bn) than equity (€1.6bn) to finance the construction of the tunnel. The construction cost 80% more than expected (€16.7bn) and opened 1 year behind schedule. As a consequence, even after several equity issues, Eurotunnel had to bear a monumental debt (around €10bn) resulting in an unbearable amount of interest, which always exceeded its free cash flows.

A new CEO, appointed in 2005, started to improve the operating structure, reducing the number of employees, optimising the tunnel's capacity and changing the marketing strategy. He then started negotiations with creditors knowing that Eurotunnel would be unable to meet its financial commitments by early 2007.

The CEO stated repeatedly that he would not hesitate to declare Eurotunnel bankrupt, highlighting the fact that creditors, generally the most junior, would lose their entire investment in the process. Very basically, creditors were either senior (€3.7bn of debt)



or junior (€5.4bn such as bond holder). The CEO first had to convince creditors that, given the cash flow projections, a reasonable amount of debt could not exceed €4bn. His next task was to persuade the creditors to share the effort that had to be made by playing one category off against the other, always bearing in mind that shareholders, whose approval was compulsory, could veto a deal that would be too harsh on them, pushing the company into liquidation. He was helped by French bankruptcy law which does not allow creditors to automatically seize assets in the event of bankruptcy. After having spent the whole of 2006 in negotiations, an agreement was reached and approved by shareholders and creditors alike. But to reach this deal, the CEO had to seek the protection of the Paris Court, allowing Eurotunnel to suspend the payment of debts during the negotiation phase and a receiver was appointed to help him.

The restructuring involved:

- the issue of a long-term loan of €4.2bn of which €3.7bn was used to reimburse the senior debt. This new loan was at a lower interest rate and over a longer period of time than the old senior debt and it was compatible with the cash flow projections of Eurotunnel. The first debt repayment was postponed from 2007 to 2013 with the main repayments between 2018 and 2043;
- the transformation of the junior debt in mandatory convertible bonds into Eurotunnel shares. In addition, junior debt holders received some cash (€0.4bn) and warrants to subscribe in the future to new Eurotunnel shares at a price of €0.01 per share;
- of the €4.2bn loan €0.1bn was left as a financial reserve;
- the issue of free warrants to shareholders parallel to those distributed to junior debt holders (55% for the former and 45% for the latter).

Eurotunnel shareholders will receive 28% of the equity of the restructured group after conversion of the mandatory convertible bonds into new shares and warrants exercise.

Basically bondholders and other junior debt holders give up all their claims to become owners of the group and receive some cash. Prior to the plan, the debt (senior and junior) was trading at c. 44% of face value. The new loan is trading close to 100% of face value. Before restructuring, the market capitalisation of Eurotunnel was €0.7bn; after restructuring it increased by the exercise of warrants to c. €1.3bn.

For the shareholders and creditors the financial impact of the plan was the following:

	Before restructuring (December 2005)	After restructuring (June 2007)
Senior creditors	Nominal value: €3.7bn Market value: below nominal	€3.7bn
Junior creditors	Nominal value: €5.4bn Market value: below 40% (ie €2.2bn)	€2.6bn, of which mandatory convertible bonds for €1.7bn, warrants for €0.5bn, and cash for €0.4bn
Shareholders	€0.7bn	€1.3bn of which value of the shares for €0.7bn + value of warrants: €0.6bn

The CEO should be complimented on the good job he did for his shareholders. Junior creditors were in a weak negotiating position as, in the event of liquidation, senior creditors would be allocated most of the assets as the face value of their claims was close to the value of the assets. However, we should not forget that before restructuring, the Eurotunnel share was trading at 97% below the IPO price!

## SUMMARY

@  
download

Bankruptcy is triggered when a company can no longer meet its short-term commitments and thus faces a liquidity crisis. This situation does not arise because the company has too much debt, but because it is not profitable enough. A heavy debt burden does no more than hasten the onset of financial difficulties.

The bankruptcy process is one of the legal mechanisms that is the least standardised and homogenised around the world. Virtually all countries have a different system. Depending on the country, the process will be either “creditor (lender) friendly” or “debtor (company) friendly”. But all processes have the same goals although they might rank differently:

- pay-down the liabilities of the firm;
- minimise the disruptive impact on the industry;
- minimise the social impact.

The bankruptcy process can generate two types of inefficiencies:

- allow restructuring of an inefficient firm that destroys value;
- lead to liquidation of efficient companies.

Prior to court proceedings, a company experiencing financial difficulties can try to implement a restructuring plan. The plan generally includes a recapitalisation and renegotiation of the company’s debt.

Bankruptcy generates both direct (court proceedings, lawyers, fees, etc.) and indirect costs (loss of credibility *vis-à-vis* customers and suppliers, loss of certain business opportunities, etc.). These costs have an impact on a company’s choice of financial structure.

Financial distress will generate conflict between shareholders and creditors (agency theory), and conflict among creditors (free riders issues).

## QUESTIONS

@  
quiz

1/Why do companies go bankrupt?

2/What risks do you take if you buy a subsidiary of a group that you know is in financial distress?

- 3/Do the same types of conflict arise in the event of the bankruptcy of a partnership and that of a limited company? Why?
- 4/How in some countries can bankruptcy play a role in the survival of the company?
- 5/How do bankruptcy costs impact on the tax breaks available on debt?
- 6/Why are companies that are emerging from bankruptcy proceedings often strong competitors?
- 7/Why are companies in France that are emerging from bankruptcy proceedings rarely strong competitors?
- 8/Can a company with no debts go bankrupt? Can it destroy value?
- 9/Why is a company able to get back on its feet financially during the bankruptcy period?
- 10/Why do creditors agree to grant loans to companies during the bankruptcy period?
- 11/What are the pros of a creditor-friendly bankruptcy procedure for shareholders?
- 12/Name countries which have creditor-friendly bankruptcy procedures.

- 1/ The Landmark Park Lot will be shutting down tomorrow after having generated a final cash flow. It has debts of 500 used to finance its activities. Depending on whether the economic situation is good or bad (there is an equal probability of either), the flows are as follows:

Economic situation	–	+
Operating cash flow	500	1000
Payment of debt	–500	–500
Shareholders' portion of cash flow	0	500

The company is offered an investment yielding 0 if things go badly (–) and 300 if things go well (+).

- (a) What is the initial value of the debt? And of shareholders' equity?
- (b) What is the objective value of the investment project? At what price would investors be prepared to invest? Does your answer depend on the way this investment is financed?
- (c) What conditions would new creditors set for financing this new investment?
- (d) Are conflicts that arise between shareholders and creditors a result of the way in which the company finances investments?

## EXERCISES

2/ Alok Malpani and Sons is a high-tech group in financial distress. Its key financials are as follows:

(in €m)	2006	2007	2008
Sales	8026	5208	3018
Operating income	130	(168)	(100)
Financial expense	(330)	(144)	(62)
Restructuring costs	(1020)	(314)	
Net income	(1220)	(626)	(162)
Fixed assets		122	72
Working capital		614	330
Shareholders' equity		(620)	(784)
Subordinated debt		616	616
Senior debt		740	570

The Alok Malpani and Sons share is trading at €24. The company's share capital is divided into 8,910,000 shares. The value of the senior debt can be estimated at half of its face value and the value of the subordinated debt at 21% of its face value.

The following rescue plan has been submitted to all of the investors in the company:

- Shareholder subscription to a capital increase of 15,500,000 new shares at a price of €20 per share, totalling €310m.
- Partial repayment and conversion of the subordinated debt into capital: issue of 3,850,000 new shares and repayment of €36.96m.
- Waiver of €160m of debts by senior creditors. In exchange, 1,250,000 warrants entitling holders to subscribe after 3 years to 1 share per warrant at a price of €25 per share. The value of these warrants is estimated at €4 per warrant. The proceeds of the capital increase that are left over after partial repayment of the subordinated debt will be used to repay the senior creditors.

- (a) What is your view of the financial health of this company?
- (b) Calculate the value of the different securities used to finance the capital employed.
- (c) Calculate how much the various lenders will have before and after the rescue plan. Assume the negotiated amount of the face value of the senior debt will be 80% after the plan.
- (d) Who is the key beneficiary of this plan?

## ANSWERS

## Questions

- 1/ Because their return on capital employed is too low and they do not generate enough free cash flow.
- 2/ The risk that the sale may be declared invalid as it took place during the period immediately preceding the bankruptcy.
- 3/ No, because in partnerships, partners' liability is not limited to their contributions.
- 4/ It puts the counter back to zero for all contracts.
- 5/ The present value of the cost of bankruptcy is deducted from the enterprise value. The more debts a company has, the higher the bankruptcy costs.
- 6/ Because a portion of their charges may have been renegotiated and revised downwards (rent, personnel expense, miscellaneous charges).
- 7/ Because in France, public policy is weighted heavily in favour of job preservation, and the recovery plan that saves the largest number of jobs is likely to be the one selected by the bankruptcy courts, even if in the long term it leads to the demise of the company.
- 8/ No, since it doesn't owe anything (or practically nothing). Yes, if it invests at a rate of return below that required by shareholders.
- 9/ Because in most jurisdictions, repayments on old debts are frozen, and customers continue to pay their debts.
- 10/ Because their new debts will be paid off before the old debts if the company is liquidated.
- 11/ Managers will try to postpone bankruptcy as much as possible.
- 12/ USA, France.

## Exercises

- 1/ (a)  $V_d = 500$ ,  $V_e = 250$ .  
 (b) 150, nearly 300 if it is debt-financed, 150 if it is equity-financed.  
 (c) If they are certain that they will be reimbursed first (if their credit is ranked higher than that of existing creditors).  
 (d) Yes, but only because the company was close to bankruptcy at the outset.
- 2/ (a) The group is in very poor shape financially, and its returns are far too low. The disposal of the most attractive assets that became necessary to meet cash needs merely served to accelerate the group's plunge into bankruptcy. The business is shrinking away.  
 (b) Value of shareholders' equity = €213.84m.  
 Value of subordinated debt = €129.36m.  
 Value of senior debt = €285m.  
 Value of capital employed = €628.2m.  
 (c) Value of senior creditors' assets =  $(310 - 36.94) + (570 - 160 - 310 + 36.94) \times 80\% + 1.25 \times 4 = €387.61m$ .  
 Value of shareholders' equity =  $628.2 - (570 - 160 - 310 + 36.94) \times 80\% - 1.25 \times 4 = 513.65$ . Value of a share =  $513.65 / (8.91 + 15.5 + 3.85) = €18.2$   
 Shareholders' wealth without capital increase = €162.2m (compared with €213.83m before plan).  
 Subordinated creditors' assets =  $36.94 + 3.85 \times 18.2 = €107m$  (compared with €129.36m before).  
 Wealth of shareholders who subscribed to the capital increase =  $15.5 \times 18.2 = €282.1m$  (for €310m invested).  
 (d) The creditors.

## BIBLIOGRAPHY

- E. Altman, Financial ratios, discriminant analysis and the prediction of corporation bankruptcy, *Journal of Finance*, **23**, 589–609, September 1968.
- E. Altman, *Corporate Financial Distress and Bankruptcy: A Complete Guide to Predicting and Avoiding Distress and Profiting from Bankruptcy*, John Wiley & Sons, Inc., 1993.
- E. Altman, *Bankruptcy, Credit Risk and High Yield Junk Bonds*, Blackwell, 2001.
- G. Andrade, S. Kaplan, How costly is financial (not economic) distress? Evidence from highly leveraged transactions that became distressed, *Journal of Finance*, **53**(5), 1443–1493, October 1998.
- E. Berkovitch, R. Israel, Optimal bankruptcy laws across different economic systems, *Review of Financial Studies*, **12**(2), 347–377, Summer 1999.
- A. Bris, I. Welch, N. Zhu, The costs of bankruptcy: Chapter 7 liquidation versus Chapter 11 reorganization, *Journal of Finance*, **61**(3), 1253–1306, June 2006.
- S. Claessens, L. Klapper, *Bankruptcy Around the World – Explanation of its Relative Use*, World Bank Development Research Group, July 2002.
- S. Davydenko, J. Franks, Do bankruptcy codes matter? A study of defaults in France, Germany, and the UK, *Journal of Finance*, **63**(2), 565–608, April 2008.
- S. Djankov, O. Hart, C. McLiesh, A. Shleifer, *Debt Enforcement Around the World*, ECGI Working Paper, 147/2007, December 2006.
- I. Hashi, The economics of bankruptcy, reorganization, and liquidation – Lessons for East European transition economies, *Russian and East European Finance and Trade*, **33**(4), 6–34, July/August 1999.
- U. Hege, Workouts, court-supervised reorganization and the choice between private and public debt, *Journal of Corporate Finance*, **9**, 233–269, 2003.
- J. McConnell, D. Denis, *Corporate Restructuring*, Edward Elgar Publishing, 2005.
- Moody's, *Bankruptcy & Ratings: A Leveraged Finance Approach for Europe – UK versus France and Germany*, Moody's Global Credit Research, March 2000.
- J. Warner, Bankruptcy costs: Some evidence, *Journal of Finance*, **32**, 337–347, May 1977.
- L. Weiss, Bankruptcy resolution, direct costs and violation of priority of claims, *Journal of Financial Economics*, **27**, 285–314, October 1990.
- M. White, The corporate bankruptcy decision, *Journal of Economic Perspectives*, **3**(2), 129–151, October 1989.