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Distressed Companies: A Study of Considerations, Approaches and Methods of Valuation

Dr S.K. Gupta, Managing Director, Registered Valuers Organisation of the Institute of Cost Accountants of India, New Delhi, India, and **C.A. Vaibhav Pareek**, Student of the Graduate Insolvency Program, IICA, Manesar, India

Synopsis

A company is said to be in distress when the company is unable to meet, or has difficulty paying off, its financial obligations to its creditors typically due to business downturn, inability to manage the business in changing scenario, high fixed costs and/or illiquid assets. While the dominant valuation methods have proven to be very reliable for healthy companies with stable future growth prospects, they struggle to yield accurate results for companies that face extreme volatility, uncertainty and ambiguity such as firms in decline and distress. Distressed firm valuation is a complex topic in which many traditional assumptions and methodologies of value measurement do not work. Valuation in general is a combination of science and art, more so in the case of distressed companies. Hence, a right mix of assumptions, framework, approach, and methodology should be judiciously used to arrive at the appropriate valuation, which balances the theoretical and practical aspects of distressed firms.

> 'Valuing a business can be hard work. Valuing a distressed business even more so.'

When is a company said to be in distress

A distressed company has certain characteristics, some of them are inability to meet or difficulty in paying off its financial obligations to creditors. This is mainly due to high fixed costs, illiquid assets and sensitive revenues with respect to economic downturns. This may lead to operational distress as increase in the cost of borrowings also impacts the operations of the company also.

Distress can be broadly categorised into economic and financial distress. *Economic distress* is a wide phenomenon in which most of the companies operating in an economy are affected and same is due to the reasons which are outside the control of the company. Economic recession, wars and geo-political confrontations and cultural and technological shifts are some of the factors that may cause economic distress. Some of these factors are temporary, while others may be permanent. While the temporary factors have a short term impact, the permanent factors may alter the business landscape altogether. Economic distress often leads to financial distress.

The *financial distress* can be further classified into as a relative or absolute insolvency. When the value of liabilities exceeds the value of assets, such a situation gives rise to absolute insolvency. However, relative insolvency is the situation when the liabilities of the firm are not paid in due time, place and form. Emphasis is laid by some authors on the distinction between insolvency and reluctance to pay. Financially distressed firms have a difficulty in fulfilling the financial commitments to the creditors. Stagnant or declining revenue, shrinking or negative margin, high leverage, ballooning interest costs, working capital problem, high customer and employee attrition, Asset divestitures, Lack of confidence in the management are some of the characteristics of financially distressed companies.[1]

Usually, the distressed companies are in risk of, or already have defaulted on their debts. Creditors of a distressed company should know that, although a company may not be making payments on some, or all of its debt requirements, there still may be some value remaining on the instruments they hold. Inability to repay the debts or behold the financial commitments does not render the company worthless.[2] Value is typically tied to the company's assets.

While a mature company still derives a significant part of its value from growth investments, the declining company obtains almost no value from their new investments and basically lives off its existing assets. In many cases the company actually loses value from their growth investments due to investment return rates

Notes

1 Ahmad Khaliq, Basheer Hussein Motawe Altarturi, Hassanudin Mohd Thas Thaker, Md Yousuf Harun, Nurun Nahar, 'Identifying Financial Distress Firms: A Case Study of Malaysia's Government Linked Companies (GLC)', (2014) 3(3) *International Journal of Economics, Finance and Management* 141.

2 H. Almeida and T. Philippon, 'The Risk-Adjusted Cost of Financial Distress', (2006) 62(6) *The Journal of Finance*.

being even below the cost of capital of the company. In that case, the company's net present value as a going concern is less than the total value of its assets. This means that the business is no longer viable or, as the academic literature defines it, it has become economically distressed. In this situation, the assets are not in their highest value use and it would be more beneficial for the company to close down its operations and divest its assets.[3] This situation is not to be confused with financial distress. A firm may be able to earn the profits but at the same time it may be financially distressed also as the distress comes from insolvency, i.e. illiquidity. Difficulties in meeting liabilities such as interest payments or other contractual obligations when they arise is the correct definition of illiquidity. The company that is economically viable and its assets might be in their highest value use may also be financially distressed. Financial distress can have serious consequences, which are normally categorised as direct and indirect costs. The inability of the firms to make the payments of their debts normally force the firms to liquidate their assets at less prices, so as to make the payments of the debt. In this scenario it is very unlikely that there is any value left for the equity holders. A company in economic distress will eventually, if nothing changes, end up in financial distress. Distress may also be

a) *Potential distress*: All firms are subject to potential distress. Firms in declining industries, bad management decisions or simply bad luck will eventually end up in distress
b) *Realised distress*: Firms already in distress may be worth less than their outstanding debt Their equity still retains value, perhaps the firm will be brought out of distress, it will be turned around, or there will be an equity bail-out.

How is valuation of distressed companies different from financially sound companies?

The definition of value and its proper application has long been debated. "Value is a word of many meanings…It gathers its meaning in a particular situation from the purpose for which a valuation is being carried out. Valuation is not merely a mathematical formula. Both quantitative and qualitative factors, inputs and adjustments may be used in the valuation process.

Furthermore, value may change based on the Premise of Value and the Standard of Value on which the valuation is based. For situations in distress, the Standard of Value and the Premise of Value may shift with the situation and the purpose of the valuation. Valuation of financially sound companies is based on the premise of going concern i.e. the company is expected to continue its operations in the foreseeable future. The conventional valuation methods used may lead to an overestimation of values of distressed companies, since such companies seldom exhibit characteristics of a going concern entity. Distressed companies are more prone to being liquidated and shut down.

The valuer shall give the appropriate consideration to the relevant valuation Approaches. The approaches of Valuation are based on economic principles of price equilibrium, anticipation of benefits or substitution. The main valuation approaches are:

1. Market approach
2. Income approach
3. Cost approach

Usually, the single approach is used when the valuer has high degree of confidence in the reliability and accuracy of valuation approach but if these ingredients are missing then the valuer should resort to multiple approaches.

1. Market approach

The market approach provides an indication of value by comparing the asset with identical or comparable (that is similar) assets for which price information is available. The market approach shall be used in the following cases:

a) The subject asset has recently been sold in a transaction appropriate for consideration under the basis of value.
b) There are assets which are identical of substantially similar to the asset to be valued.
c) Similar assets are frequently transacted and there are recent observable transactions in the same.

The various methods of valuation in Market Approach are as follows:

i) *Comparable Transaction Method.* This method is used when information regarding the several transactions of similar nature is available, and those transactions shall be carried near the valuation date.
ii) *Guideline Publicly Traded Comparable Method.* When the asset similar to the asset subject to valuation is publicly traded and the comparables allow meaningful comparison then this method can be used.

Notes

3 M. Crystal and R.J. Mokal, 'The Valuation of Distressed Companies – A Conceptual Framework', (2006) 3(2) *International Corporate Rescue* 63; A. Damodaran, *The Dark Side of Valuation: Valuing Young, Distressed, and Complex Businesses*, volume 2 (FT Press, 2009).

2. Income approach

The income approach provides an indication of value by converting future cash flow to a single current value. Under the income approach, the value of an asset is determined by reference to the value of income, cash flow or cost savings generated by the asset. The Income Approach shall be used in following cases:

a) When the value of the asset is affected by the ability of asset to produce income.

b) There is sufficient information to project the amount and timing of future income reasonably for the asset which is to be valued.

c) There are few relevant market comparables.

The various methods of valuation in income approach are:

i) *Discounted Cash Flow (DCF) Method.* DCF method envisages discounting of forecasted cash flows to the valuation date, this yields the present value of the asset. This method is commonly used when the forecast of cash flow is available.

ii) *Explicit Forecast Method.* The selection of this method is dependent upon the bases of value, purpose of valuation, nature of asset and availability of information. If the asset has a short life span then it becomes possible and relevant to project the cash flow over the entire life of the asset.

3. Cost approach

The cost approach devises the value of an asset on the mechanism that a buyer of an asset will not be able or willing to pay more than the amount which is incurred to acquire the asset of equal utility. The current replacement cost or reproduction cost is calculated and deductions are made in respect of physical wear and tear and other obsolescence. The cost approach shall be used in following cases:

a) If the participants will be able to recreate an asset quickly enough that a premium needs not to be paid to use the asset immediately and also there are no regulatory or legal restrictions on the same with no change in the utility.

b) The asset is of such a unique nature that it renders the income approach or market approach unfeasible and also the subject asset is not directly income generating.

c) Replacement cost (e.g. replacement value) is fundamentally used as the basis of value.

The methods used in the cost approach are:

i) *Replacement Cost Method.* This method offers an equivalent utility indicating value by calculating cost of similar asset.

ii) *Reproduction Cost Method.* In this method value is calculated by estimating the cost to recreate a replica of an asset.

iii) *Summation Method.* This is a two-step method in which firstly the value of separate component parts is calculated and then the same are added to arrive to value of asset.

Discounted Cash Flow (DCF) method is widely used in both research and practice as it has been generally accepted as the most academically sound method for valuation.[4] The major inputs of the DCF method are Future cash flow projections, Cost of Capital of company and terminal growth rate. The information used in this model makes it vulnerable to errors as even slight changes in inputs affects the valuation drastically.

There are some problems associated with the valuation of distressed companies by discounted cash flow method. Let us understand the same:

– *Earning of existing assets can be less than cost of capital.* If the earning of the existing assets is less than the cost of capital then cash flow are discounted at present will yield the value less than the capital invested in the company. In such a situation, it will be prudent to divest the assets.

– *Discounting rate or cost of capital.* There will be a dual effect on the discount rate, firstly the debt equity ratio will be dismantled due to the distress situation as the shareholders will be repaid huge cash resulting in decline in value of equity and increase in value of debt as a substantial portion will remain unpaid. Secondly, the cost of debt will increase for the company due to the presence of the distress situation and thus, effecting the cost of capital adversary. Cost of equity will also increase as debt to equity ratio goes higher because equity investors will see more volatility in the earnings.[5] For companies in distress, the normal regression beta is usually out dated and doesn't take into account the state and leverage of the company. Distressed companies stock prices usually fall and as a consequence levered market betas will be significantly higher than normal regression betas.[6]

– *Projection of cash flows.* Distress Company have to go through the restructuring exercise before getting into the game and that's why they are valued at the going concern basis under the assumption

Notes

4 Aswath Damodaran, *Valuation Approaches and Metrics: A Survey of the Theory and Evidence* (Stern School of Business, November 2006).

5 Fabio Buttignon, 'Terminal Value, Growth, and Inflation: Some Practical Solutions', (2015) 34(4) *Business Valuation Review* 158-172

6 Aswath Damodaran, *The Dark Side of Valuation: Firms with no Earnings, no History and no Comparables* (Stern School of Business, March 2000).

that company will be able to manage to turn its operations and pick up a path of profitability and growth. Although the assumptions are good for the company but the real on ground problem faced is that such companies might have declining revenues in the past years making the projections a tedious task.

– *Reinvestment rate.* It is also difficult to assume the reinvestment rate of such companies, as the reinvestment rate is always different for different companies and industries. Sometimes, the reasons of the distress position of the company is also capital expenditure cycle which results into competitive disadvantage to the company.

While the other dominant valuation methods have proven to be very reliable for healthy companies with stable future growth prospects, they struggle to yield accurate results for companies that face extreme volatility and uncertainty, such as firms in decline and distress. Several research studies found major deviations in the results from traditional valuation techniques for these kind of firms.[7] The limited applicability of the traditional methods for firms in decline and distress is caused by the fact that the characteristics of these firms violate some of the fundamental assumptions of these methods. Consequently, these methods have shown poor results for firms that operate in uncertain environments and/or violate some of the main underlying assumptions of the methods. The use of traditional valuation methods in volatile and uncertain scenarios is therefore questionable.

Sources of Valuation Uncertainty for distressed companies arise on account of 'strategic' and 'structural factors'. The strategic factors leading to valuation uncertainty arise because those holding senior claims have an incentive to undervalue the company's business, whereas junior claimants have an incentive to overvalue it. Structural factors leading to uncertainty include exposing the company's business to the market which might result in its undervaluation if the market is going through a down turn or recession as potential buyers may not be looking to expand, or because it is difficult to get together a group of investors, because of reputational reasons, etc. [8]

Approach to valuation of distressed companies

One of the most frequently debated yet least understood issues in business and law is the value of a firm. When the firm is financially distressed then the process of valuing such firm becomes complex and at the same time it also becomes vague. First and foremost thing that is to be addressed is that the firm shall be valued as liquidation value or a going concern value. Generally, the facts of the case also plays an important role in determining the appropriate method of valuation. For example, The valuations based on the liquidation assumption and going-concern assumption needs to be derived when the creditor of the firm wants to value the firm for the purpose of deciding whether to support the firm for reorganisation or to give consent for the liquidation of the firm. It is important to understand the concept of Fair value and Liquidation value:

– *Liquidation value:* As per International Valuation Standards 2017 (IVS 104 bases of value) is the amount that would be realised when an asset or group of assets are sold on a piecemeal basis. Liquidation Value should take into account the costs of getting the assets into saleable condition as well as those of the disposal activity. Liquidation Value can be determined under different premises of value:

  a. An orderly transaction with a typical marketing period, or

  b. A forced transaction with a shortened marketing period

  A valuer must disclose which premise of value is assumed.

– *Fair value*: IFRS 13 defines Fair Value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Usually, while estimating the liquidation value of a financially distressed enterprise a valuer is more precise rather than the same enterprise valued as going concern. The relative importance of the discounted cash flow (DCF) methodology is increased in lieu of each distressed company has its own unique characteristics and the potential of other valuation methodologies is limited. The cost of capital and its components i.e. the cost of equity and cost of debt and the nature of projected cash flows are some of the issues that are to be addressed while using this methodology. The projected cash flows are clearly crucial for the valuation. Generally the projected cash flows estimated by the management are assessed by the valuation experts after assessing their reasonableness and henceforth, the same are adjusted appropriately. The cash flows of a

Notes

7 G. Andrade and S. Kaplan, 'How Costly is Financial (not Economic) Distress? Evidence from Highly Leveraged Transactions that Become Distressed', (1998) 53 *Journal of Finance* 1443–1493.

8 A. Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* (John Wiley and Sons, Inc., 1998).

financially distressed or a bankrupt company may be biased which makes the situation more complicated.[9]

During a crisis, the value shall be derived from all feasible options and after that same shall be compared with the value derived from going concern keeping in consideration the plan proposed by the management and current owners, Such as – The going-concern value with new owners (through a change of control) while maintaining the current firm's asset base. By focusing on a distressed company's going-concern value, the assumptions and outputs of the reorganisation plan critically support the estimation of capital value, conceived as the current value of expected future economic flow. To this end, the valuation process can be structured as follows:

a) To study the strategy and business model implemented by management through the analysis of balance sheet at the valuation date and other financial records of the company.
b) The reorganisation plan must envisage the projections and such Projections shall be examined and reviewed.
c) Estimation of the firm's enterprise value (EV) and its variability in light of the scenario analysis, which are essential for a plan that is unavoidably affected by elements of uncertainty.
d) Calculation of the debt value (D), based on the plan's cash flow for the remuneration and reimbursement of creditors and their volatility (closely linked to that of EV).
e) Computation of the equity value (E)—equal to EV minus D—which, in the event the plan is approved by creditors, benefits from the possibility of realising EV (in terms of financial feasibility) and could profit from the debt value reduction (compared to the nominal value of debt). The value of E encompasses the equity components devoted to creditors, provided they were activated in the financial manoeuvres under the reorganisation plan.

Methods of valuation of distressed companies

Even though the fundamentals underlying the valuation of distressed companies remain the same. However, the methods are amended or suitably tweaked and modified to address the practical issues that may arise in the valuation of the distressed company.

– *Simulations:* Probability distributions for the inputs into DCF valuation, simulations and and considering the possibility that a string of negative outcomes can push the firm into distress should be considered
– *Going concern DCF value with adjustment for distress:* The distressed firm on the can also be valued on the assumption that the firm will remain as a going concern, and then adjustment can be made for the probability of distress and its consequences. The Present Value may be adjusted by valuing the firm as an unlevered firm and then both the benefits (tax) and costs (bankruptcy) of debt may be considered.

Modified DCF valuation

This method is based on the underlying principles of the discounted cash flow method but adjustment for the risk of default needs to be carried out for cash flows as well as discount rate The same can be done as follows:

– *Estimating the cash flows*: Cash flows under each scenario (from most optimistic to most pessimistic) have to be estimated with the respective probabilities of each scenario. It is important to note that the adjustment for distress is a cumulative one and will have a greater impact on the cash flows in the later years. For example, if the probability of distress is 10% each in year 1 and year 2, there is now only an 81% chance that the firm will generate cash flows in year 3
– *Estimating the discount rate:* The following approaches may be used for addressing the risk of distress in the discount rate: i.) The bottom up unlevered beta should be used and Re levered using the subject company's current debt to equity ratio and the effective tax rate. Since distress companies usually have high debt to equity ratios and have negligible effective tax rates (since they are loss making), the re levered beta which will be higher will take into account the risk of distress. ii.) Another choice is to estimate a distressed premium which is to be added to the cost of equity calculated using standard measures. One of the ways of computing the distress premium is to compare the company's pre-tax cost of debt to the industry's cost of debt. If the company has a pre-tax cost of debt of 16% and the same for the industry is 8%, the distress premium is 8%.

Discounted cash flow valuation plus distress value[10]

Per this method, Value of equity = DCF value of equity on going concern basis (1 – Probability of distress) +

Notes

9 D.T. Brown, C.M. James and R.M. Mooradian, 'Asset Sales by Financially Distressed Firms', (1994) 1 *Journal of Finance* 233–257.
10 P. Crosbie and J. Bohn, *Modeling Default Risk. Technical Report* (Moody's KMV, 2003).

Distress sale value of equity (Probability of distress). The mechanics of this approach is as under:

– *Step 1:* Value the business on the basis of going concern assumption using conventional valuation methods
– *Step 2*: Determine the probability of distress.
– *Step 3:* Estimate the distress sale value of equity • Using bond ratings: The historical data of bond defaults can be used as a benchmark to determine the probability of default of the subject company based on the corporate rating applicable to the company. • As a percentage of book value • As a percentage of DCF value of equity on a going concern

However, the valuation of distressed companies includes numerous additional elements of uncertainty as well. Examples include: The ability to retain employees, the ability to reorganise, the structure of the reorganised entity, the ability to divest underperforming assets, Litigation risk resulting from the company's distress, access to capital markets post-reorganisation, cost of funds post-reorganisation, the possibility that the company may be liquidated. When considering the valuation of distressed companies, the valuer needs a innovative thinking so as to combine the subjective and analytical modifications to traditional valuation methodologies.[11]

Discount rate

The following points should be considered when estimating a discount rate to arrive at enterprise value:

– *Beta*: The bottom-up beta should be used, bottom-up beta means beta which is based on same industry peer group and re-levered based on financial and operating risks suitability. Usage of historically regressed Beta shall be avoided.
– *Cost of debt*: Synthetic rating shall be used for estimation of cost of debt, This shall be used because of the higher current borrowing rate due to the distress situation prevailing in company. One more advantage of using synthetic rating is that it can be estimated based on the financial characteristics of the company.
– *Tax rate*: Considering that the distressed firm is currently suffering losses, the tax rate would gradually increased, hence, it is suggested that the effect of this be included while estimating post tax cost of debt at different points of time during the projected period.
– *Capital structure/leverage:* Leverage can be considered based on industry average and sustainable debt balance on servicing capacity of the business.

Relative valuation

The following approaches are available for relative valuation:

1. Compare the distressed company's valuation to that of other distressed companies – the problem may be that there may not always be available enough distressed companies at any given time to be able to make comparisons
2. Compare with healthy companies, but adjust for the distress – it may be assumed the distressed company would probably become healthy in the future. Accordingly, an estimate is developed based on its future value which is then discounted back to arrive at a going-concern value to which the probability of distress and distress sale proceeds are added to arrive at the final value
3. Adjust the multiple for distress, using some objective criteria.
4. Consider the possibility of distress explicitly • Distress-adjusted value = Relative value based upon healthy firms (1 – Probability of distress) + Distress sale proceeds (Probability of distress)

Conclusion

Distress is not restricted to a few small firms. The larger firm are also equally prone to default and bankruptcy risk. The proceeds received on the sale of a going concern firm is much higher than the proceeds received on a distress sale. The drawback of the conventional models i.e. the ignorance of the likelihood of distress or usage of ad-hoc adjustments for distress leads to understatement of the impact of distress on the value of the company. In order to incorporate the effect of distress, both the valuation models i.e. DCF and relative valuation needs to be adapted.

Distressed firm valuation is a complex topic in which many traditional assumptions and methodologies of value measurement do not work. Valuation in general is a combination of science and art, more so in the case of distressed companies. Hence, a right mix of assumptions, framework, approach, and methodology should be judiciously used to arrive at the appropriate valuation, which balances the theoretical and practical aspects.

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11 Damodaran, *supra* note 8.

International Corporate Rescue

International Corporate Rescue addresses the most relevant issues in the topical area of insolvency and corporate rescue law and practice. The journal encompasses within its scope banking and financial services, company and insolvency law from an international perspective. It is broad enough to cover industry perspectives, yet specialised enough to provide in-depth analysis to practitioners facing these issues on a day-to-day basis. The coverage and analysis published in the journal is truly international and reaches the key jurisdictions where there is corporate rescue activity within core regions of North and South America, UK, Europe Austral Asia and Asia.

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International Corporate Rescue has been relied on by practitioners and lawyers throughout the world and is designed to help:

- Better understanding of the practical implications of insolvency and business failure – and the risk of operating in certain markets.
- Keeping the reader up to date with relevant developments in international business and trade, legislation, regulation and litigation.
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