

Development in Financial Ratios in Corporate Borrowing Documentation A Borrower's Perspective

Keith Barry

Manager – Treasury
Rio Tinto
Melbourne

Introduction

In theory the primary difference between sovereign debt and corporate debt is that a corporate has the option to default whereas government debt is considered to be a "risk free" benchmark. In fact there are many examples of countries defaulting on, or rescheduling sovereign debt obligations (Argentina, Mexico, Chile and Columbia in 1982/3 and Russia in 1998 are some high profile examples). However, we would not expect Australia or any other country with a superior credit rating (AAA credit rating from an international ratings agency) to default on its debt obligations.

Corporate borrowers (even AAA credit rated corporate borrowers) pay lenders a margin over the "risk free" rate of interest in proportion to the probability of default. It follows that the market value of a loan would fall if the credit quality of the borrower deteriorates and the probability of default increases.

Lenders seek to avoid financial loss with restrictive financial covenants that would preserve the value of a loan or accelerate the loan if there is a material deterioration in the credit quality of the borrower. In addition to a negative pledge and material adverse change clauses, restrictive financial covenants may include financial ratios that measure a borrower's level of gearing and the sufficiency of cash flows to fund operations and meet debt payment obligations.

This paper comments on financial ratios typically imposed by banks on Australasian corporate borrowers as practical indicators of the probability of default.

Measuring Financial Risk

The traditional bank credit valuation of a corporate borrower relies heavily on an accounting based assessment of gearing and cash flow and a subjective assessment of future economic conditions and the borrower's ability to manage its operations. The problem with relying on financial statements to determine the value of a company is that financial statements are an historical record of the financial performance of the company, whereas lenders and equity providers are more interested in the future financial performance of the company.

Not surprisingly banks are now considering valuation models that take a more mathematical approach to predicting probable future cash flows. These models are based on a market value of a company. In theory the market value of a company is the investors' expectation of the present value of future net cash flows (dividends) of the company. Unfortunately market values are not always available or may be distorted by misinformation or temporary market conditions or an illiquid market for the particular shares.

The book value of equity may be substantially lower than the market value of equity (market capitalisation of the company). The difference between the book value and the market value of equity is "goodwill", which supposedly represents the intangible value of capable management, training, advertising and so on. Banks often exclude, or heavily discount the value of goodwill and other intangible assets in their valuation of a company. The argument is that intangible assets may have little or no value in adverse economic conditions.

The value, or credit quality, of a borrower naturally influences debt capacity of the borrower and the price and terms and conditions of a debt facility. The ratio of debt to equity should vary with the nature of the business and the volatility of future cash flows. The greater the volatility of cash flows the lower the debt capacity of the company.

A borrower might argue that the book value of its assets is substantially lower than the actual value of its assets and that its debt capacity should therefore be based on the market value of its equity. However:

- banks offer finance on terms that give them a reasonable expectation that their loans will be repaid with interest that reflects the probability of default;
- there seems to be no concrete evidence to suggest valuation models based on market prices are better indicators of the probability of default than valuation models based on financial statements; and
- it is unwise to agree to a financial ratio covenant based on a volatile market variable over which the borrower has no direct control

Financial Ratio Covenants

Banks do not generally impose financial ratio covenants on corporate borrowers rated AA or higher by international credit ratings agencies.

A bank's first defence against a material deterioration in the value of its loan is likely to be a gearing ratio; which restricts further issues of debt or a reduction of equity. Loan agreements may also include provisions that adjust the interest margin (and the price or value of the loan) with a change in the borrower's credit rating provided by an independent rating agency such as Moody's or Standard & Poor's. Where a borrower is unrated lenders may resort to a coverage ratio to adjust the interest margin.

Coverage ratios will be designed to ensure the borrower maintains a cash reserve in proportion to its cash flow volatility. Coverage ratios are typical in limited recourse project finance agreements and loan agreements with borrowers that are considered to be below investment grade credit quality. Banks will also often impose debt service coverage ratios on companies at the lower end of the investment grade credit spectrum (companies rated BBB by international credit ratings agencies).

The consequence of breaching a financial ratio covenant may be lockup of cash (in excess of any cash reserve) that might otherwise be available for distribution to shareholders or default and possible acceleration of the debt. A borrower may be willing to suffer cash lockup during adverse economic conditions but retain access to debt at a time when it most needs finance.

Considering the dire consequences of breaching a financial ratio covenant, borrowers would naturally prefer predictable, stable ratio tests, over which they have some control. Unrealised gains and losses arising from movements in volatile market determined exchange rates, interest rates, commodity prices and electricity prices add unwelcome volatility to financial ratio tests.

A borrower would argue that it is practical to have financial ratio covenants apply only at each financial year end, based on audited financial statements, and each half year end or quarter end, based on unaudited management reports. Obviously it is easier to monitor and satisfy a financial ratio covenant that applies only on two or four financial reporting days in each year rather than on each day in the year.

Gearing Ratios

The most common gearing ratios imposed by banks on Australian corporate borrowers are:

$$\frac{\text{Total External Liabilities}}{\text{Total Tangible Assets}}$$

and

$$\frac{\text{Total Financial Liabilities}}{\text{Total Tangible Assets}}$$

Total Financial Liabilities is normally defined as Total Debt excluding subordinated debt and external liabilities such as provisions (eg. mine site rehabilitation, uninsured personal liability claims or the cost of native title litigation) and all unrealised losses on financial derivatives.

Banks are likely to prefer a ratio based on Total External Liabilities if provisions are material or likely to be material. The creation and writing back of provisions is governed by accounting standards and banks may require independent audit advice to approve any write back of provisions for the purpose of calculating the gearing ratio.

Unrealised gains or losses on financial derivatives classified as "hedging transactions" would not be included in the numerator or the denominator of either of these ratios. Banks' experience with

reported hedging losses in Pasminco might encourage them to include unrealised hedging losses in financial ratio covenants. Unrealised gains or losses on financial derivatives classified as "trading transactions" would be included in Total Tangible Assets and in Total External Liabilities.

A borrower is normally better served by a ratio where the variables are defined in the agreement. It is possible that future accounting standards will require a borrower to record unrealised hedging losses or certain lease obligations in its balance sheet, which may result in a breach of a financial ratio if that ratio relies on the accounting definition of Total External Liabilities. An alternative is to include a provision in a loan agreement to review a financial ratio covenant if accounting standards change; such provisions may not be particularly effective as they normally rely on mutual agreement to an amendment to the ratio covenant.

Revaluation of tangible assets is normally subject to acceptance by an external auditor, but banks may exclude all or part of an asset revaluation for the purpose of calculating a gearing ratio. Banks generally permit changes in the borrower's depreciation policy as long as the new policy is within the guidelines of the relevant accounting standards.

Gearing ratios based on Total Net Worth or Equity include the value of intangible assets recorded in the balance sheet:

$$\text{and } \frac{\text{Total Debt}}{\text{Total Debt plus Equity}}$$

$$\frac{\text{Total Financial Liabilities}}{\text{Total Net Worth}}$$

(Total Net Worth is equal to Equity (shareholders funds))

These ratios may appear in loan agreements with media companies, consumer product companies and pharmaceutical companies, which may have substantial intangible assets. The ratio limit is likely to be set at a low level so as to discount the value of mastheads, brand names, patents and other intangible assets.

As in the case of gearing ratios based on tangible assets, unrealised gains or losses on financial derivatives classified as "hedging transactions" would not be included in the numerator or the denominator of either of these ratios and similar rules would apply to the revaluation of assets.

Gearing ratios are sometimes accompanied by a minimum net worth or minimum shareholders' funds covenant and a maximum contingent liabilities covenant. If the minimum net worth or minimum shareholders' funds is set higher than Share Capital, the covenant can restrict distribution of retained earnings and may place a value on intangible assets that is ignored in a gearing ratio based on Total Tangible Assets.

Coverage Ratios

The objective of a coverage ratio is to:

- ensure the borrower maintains a cash reserve in proportion to its cash flow volatility;
- prevent payment of dividends to shareholders if the borrower fails the ratio test; and
- to trigger default and possible acceleration of the debt if the borrower fails the ratio test.

The traditional coverage ratio does not adequately account for capital expenditure and ignores the probability of the borrower defaulting on a principal payment:

$$\frac{\text{Earnings Before Interest and Tax}}{\text{Total Interest Expense}}$$

Earnings Before Interest and Tax ("EBIT") is net operating cash flow after Depreciation and Amortisation. Depreciation and Amortisation ("D" and "A") are assumed to equal current capital expenditure; a reasonable assumption only if the company incurs relatively small amounts of ongoing capital expenditure.

Where the borrower plans to incur substantial expansion and ongoing maintenance capital expenditure and the bank is reluctant to accept a refinancing risk, the loan facility will amortise and the bank is more likely to impose the following ratio:

$$\frac{\text{EBITDA} - \text{capital expenditure}}{\text{Total Interest Expense} + \text{Principal payments}[1/(1-\text{tax rate})]}$$

The ratio might subtract only ongoing maintenance capital expenditure from EBITDA but in that case there would usually be a separate covenant restricting expansion capital expenditure. Banks might argue that principal payments are paid out of after tax earnings and should be adjusted up by $[1/(1-\text{tax rate})]$ to be consistent with EBITDA.

Neither of the above coverage ratios take account of cash at the start of the relevant accounting period, which if added to EBIT or EBITDA would assist the borrower to satisfy a ratio test.

These coverage ratios assume a borrower's earnings record is a reasonable indicator of future cash flow available to pay debt interest and principal obligations. Obviously this assumption will be questionable if the borrower's cash flow is cyclical or particularly volatile. Banks normally resolve this problem by imposing a relatively high ratio test to increase the amount of the cash reserve.

A borrower's preference would be to hold a lower cash reserve and base the coverage ratio on its own estimate of future cash flows. Banks might accept a forward looking coverage ratio, but only where they can call on an independent expert to approve forecast assumptions in an operating plan.

Forward looking coverage ratios are more likely to be found in limited recourse project financings than in corporate financings.

Where banks provide limited recourse debt to fund a single resource mining project they might impose a loan life ratio to test the sufficiency of future cash flows to cover principal and interest payments on their loans.

$$\frac{\text{Discounted Project Cash Flow}}{\text{Total Principal Outstanding}}$$

Project Cash Flow would be based on an operating plan produced annually and discounted at the cost of debt (implies a 1:1 coverage of interest). Banks would normally require coverage of principal of at least 1.25:1.

The ore reserve estimates that underpin the operating plan would need to comply with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves. While reserves is a term that refers to a well defined body of ore, material changes in the commodity price and the mine plan could result in a material change in recoverable reserves and marketable reserves. Any change in marketable reserves would be picked up in Discounted Project Cash Flow. Nevertheless banks have been known to impose a mine life cover ratio designed to advance default under a loan life cover ratio:

$$\frac{\text{Marketable Reserves (expressed in tonnes)}}{\text{Total Principal Outstanding}}$$

Marketable Reserves to be mined prior to the Final Repayment Date (expressed in tonnes)

Concluding Remarks

The objective of a corporate borrower is to manage its business without interference from its lenders and to deliver maximum returns to its shareholders. Financial investment theory suggests that a corporate will maximise returns to shareholders by increasing its gearing to a level where the cost of incremental debt is equal to the cost of equity.

Considering conventional financial investment theory encourages corporates to borrow more and their capacity to service debt obligations depends on their ability to continue to operate successfully in a dynamic commercial environment, payment default is a surprisingly rare event. The probability of a borrower with an investment grade credit rating defaulting on its debt service obligations is something less than 5%.

Financial ratio covenants, together with other restrictive covenants, seem to be a reasonably effective defence against corporate borrowers exercising their option to default. **OR** Financial ratio covenants, together with other restrictive covenants, seem to be unreasonably restricting the right of corporates to increase their level of gearing (increase the value of their option to default) and maximise returns to shareholders.