

PROJECT FINANCE INFORMATION: WHAT THE BANKS NEED TO FEED ON

by

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INTRODUCTION

A minerals project today can, and very often must, be financed on the basis of 75-90 per cent debt. Hanna Mining (1971) cited 55 per cent debt as high for the original Iron Ore Company of Canada development in 1951. In 1973, a major North American bank (English, 1973) preferred 50 per cent debt although "we have stretched bank loans to 60/75 per cent of costs". The trend toward higher debt levels has become even more noticeable as banks continue to refine their lending techniques such as the specialised "project-finance" varieties.

The array of finance sources is first discussed to ascertain what types of bank financing are appropriate for mine development projects. The banks' own approval processes are then examined in detail to determine the banks' information requirements and timing of an approach. This is then related to the company's own analytical process prior to the investment decision itself.

BANK FINANCING

A distinction should be drawn between general financing (e.g. investors, bank loans/overdrafts, leases) for a company and financing for a particular development. A large company could finance a project based on its existing credit standing, essentially on the strength of its present balance sheet (corporate credit). However, most mining projects are capital intensive and the company often has to seek financing which will provide major funds for the investment and which will recognise the cashflows that will emerge from that new development (project finance).

The optimal capital structure of a company or a project requires a balance between debt and equity (Van Horne, 1977). A wise business strategy is to save some corporate borrowing capacity for future emergencies and to aim for maximum flexibility in a minerals

financing to accommodate downturns in economic activity (Tinsley, 1981). This pre-requisite of flexibility virtually precludes fixed-rate sources of debt which have

1. rigid repayment schedules
2. stiff penalties for prepayments or delays
3. awkward drawdown schedules during the construction period and
4. very often tight financial covenants.

Other financing facilities are more suited to the ongoing operations of the company or the project *after* it has been placed into production. These facilities are seldom sufficiently large or of sufficient length (maturity) to suit a project's development financing. The menu of financings in Appendix 1 is at once alluring and complex, yet very few of these are truly available for mine developments.

By reduction, the most common role for banks is in the provision of medium-term debt (5-12 years) purpose-built to the venture and advanced in parallel with the company's proportion of equity or corporate funds. Once the project is built and performing satisfactorily, the banks agree to rely on the future cashflows and assets of the project on their own to service the project debt and relinquish access to the company's other operating cashflows, assets, investment income, or equity raisings should the project's cashflows prove insufficient to retire the project financing.

The growing capabilities of some banks in assessing the risk sharing inherent in this variety of financing has led them towards structuring flexible financing packages wrapping together

1. a wider range of floating-rate funding sources — Elura, CRA, Newlands/Collinsville
2. tax-efficient vehicles such as leveraged leases — Agnew, Mt. Thorley, Fisherman's Island
3. co-financings with international financing agencies (such as IFC, the World Bank) — Mantos Blancos, Guinea diamonds

† This article is adapted, with additions thereto, from a presentation to the November 1983 Project Development Symposium of the Australasian Institute of Mining & Metallurgy in Sydney, at which 47 papers were presented.

4. integration with government export incentive financings (such as the various Export-Import banks, ECGD of the UK, Coface of France, KFW/Hermes of West Germany) — Warkworth, Ranger, Cerrejon, Tintaya
5. complimentary financings with local governments (for example, for infrastructure) — Ok Tedi
6. quasi-equity financings (such as commodity bonds, redeemable preference shares) — Sunshine Silver, Ashton Mining
7. interest-rate and currency swaps — Pioneer Concrete, Alcoa of Australia

Furthermore this has led to the involvement of the banks at progressively earlier stages in the project evaluation period to ensure that the evaluation process will provide the raw material which will satisfy the project lender yet retain the flexibility so necessary for minerals development financing.

THE LOAN APPROVAL PROCESS

One Australian development received visits from more than 200 banks. The company's treasury staff became quite adept at determining whether the visitor was a tourist, a scout, an officer, or a general. Not only does the level and authority of the individual bank's representative vary considerably but the bank's approval processes can be quite different. In order to assess each bank's needs, it is advisable early on to determine the approval process and final authority for loan approval.

The following list gives the main approval variations.

Progressive Authority

The bank will have established progressive loan size commitments that can be undertaken by individuals or committee. A large bank can usually commit up to \$10 million at a committee level, but experience with project commitments suggests that most require board approval.

Loan Committee

No matter what the size of the financing is, a presentation has to be made to a credit committee which usually meets once a week. Committee members, used to balance sheet analysis, either rubber stamp a project-finance presentation due to its complexity or send it back to the drawing board.

Matrix

The bank may have established matrix management whereby the financing must be simultaneously approved, for example, by the mining department, the multinational accounts department (depending on the company involved) and the international banking department (depending on the country involved). In these circumstances, a project loan approval may have more to do with the bank's relationship with the company than with the merits of the project.

Sequential

The project must first be approved by the mining department. Then it is presented elsewhere (for example to a regional headquarters in Manila or Hong Kong for an offshore bank) before it even gets to head office.

The potential for blockage en route is very high unless the various parts of the bank have been well prepared and the loan originator is given the time and opportunity to develop a first-class presentation. In this respect, a project loan application can sink or swim on the professionalism and credibility within the bank of the individual concerned. If the loan originator does not properly understand the minerals industry, an endeavour should be made to have the loan originated further up the approval process or with the active involvement of the bank's mining staff. A good way to accomplish this is to arrange for a site visit for the bank's mining engineer prior to the final loan application being presented.

No self-respecting bank in this area operates without its own engineers although some European banks are fond of using the engineering talents either of outside consultants or the mining organisations in which they or their governments have investments (Sarmet, 1980). Most banks use their engineers purely as consultants and, however knowledgeable and personable the engineer may be, one must ascertain whether the engineer has any authority in the credit structuring or approval process other than a technical veto. The engineer's input is, of course, a vital part of the approval process and only a well-organised feasibility study permits evaluation in the relatively short time-frame the engineer may have for any given project evaluation.

There should be no mystery surrounding the banks' loan evaluation process. The banks look at the same information as the company, often in the same order

1. reserves
2. mine design
3. process testwork
4. project sequencing/optimisation
5. capital costs
6. operating costs
7. cashflow projections

The sole numerical difference is the overlay of various loan amounts and structures on the cashflow projections usually directed at measuring the relationship of projected surplus cashflows to the debt service requirements in each year. Banks seldom use net present value ("NPV"), rate of return, or payback criteria in minerals finance evaluations. Tax optimisation cases are run once the percentage debt has been established.

Sensitivity analysis is an area for wide divergence of opinion as each bank may make a different judgement on the importance of a particular variable. A knowledge of these criteria may only be derived from experience as most banks are reluctant to open up their many rules of thumb or internal threshold levels for fear of introducing further matters of negotiation into an already complex area of risk judgement and trade-off.

The provision of cashflow projections in the format actually used by the bank not only saves time for the banker/engineer but can allow the divining of some of these cashflow criteria. An offer to run sensitivity analyses (assuming a good loan routine is built into the computer model may also reveal the sensitive areas being examined by the bank, an aspect which may be useful in subsequent negotiations (Tinsley, 1982a). Since most project finance applications have only one opportunity for review per bank, these time-savings for the reviewer can also reflect well in the company's financial professionalism.

THE PROJECT EVALUATION PROCESS

Exploration is usually funded by tax-shelter money. Once a discovery is made, the situation usually requires venture/corporate funds (Arne, 1981) through to the feasibility study and the investment decision itself. Banks very rarely finance feasibility studies or exploration expenses although many governments, through their export-credit or aid agencies, do finance feasibility studies in *other countries* (generally-lesser developed nations).

However, one should inform the banks directly or through the mining press whenever a feasibility study is commissioned so that they can begin to anticipate the development and discuss it when visiting with the executive or treasury staffs. Experienced banks recognise that the lead time is long for a minerals development and can thus gather information relevant to the market, regional, or competitive positions of the expected development.

When a banker visits a company, the minutes of the meeting are usually written up for internal communication purposes and some "priming" about a new project is certain to be noted and will maintain the bank's attention to both the project and the company. Some companies use the project as "bait" or as a "reward" to banks who do them favours in the corporate debt or banking service arena. This practice can lead to difficulties since the project loan can become too tightly identified with the corporate debt exposure of the bank in question which can effectively defeat the stand-alone objective of project finance. There should be "horses for courses" (Wightmen, 1983), with the project-finance banks best able to provide the most flexible finance structure. The community of banks with sound project finance capability is actually very small — at most 30 banks for a

fairly simple financing and perhaps 15 banks for a complex package. The number has recently declined as banks reassess their project exposure and their problems with massive debt reschedulings worldwide.

Some companies decide to have a bank as an advisor during feasibility study stage to ensure early input from the majority source of funds. The feasibility study cost and duration can often be substantially reduced, for example by tailoring the scope of studies to include coverage of areas of concern for the banks. A bank's assistance at this early stage can also focus attention on the competitive position of the project in world terms, a discipline often difficult for a project finance team of purely technical staff wrestling with sieve sizes and pump diameters. It is also not readily admitted that the experienced banker may be able to make contributions in the following areas.

The Commodity Outlook

This can be important for the metals, some of which cannot be financed today e.g. nickel and molybdenum. Banks may also have long-standing experience with competitive analysis to rank projects.

Joint Venture Agreement

No amount of drafting expertise in the loan documentation can overcome deficiencies in the joint venture structure or state agreements. For example, cross charging can prohibit certain advantageous lending mechanisms.

Completion

The obligations of the company to build the development on time and at budget may influence plant design toward reliability, proven technology, modularisation, and even standby circuit/stopes/benches. The choice of the engineer-design-construct ("EDC") company can also influence the bank's views on the need for resource to the corporate balance sheet rather than project on its own.

Sales Contracts

In some coal and industrial minerals sales contracts, the minimum sales contract criteria was specified by the bank which, in some instances, required a new sales practice for that industry (Tinsley, 1982b).

The Bankable Documents

The bank can advise which reports are required and in what manner to present and summarise them. No matter how these are presented, the loan initiators within the bank will have to do a new writeup to summarise the project and the proposed financing/risk absorption, partly as an exercise to display internally that the project has been thoroughly reviewed.

The fabled Bankable Document, a single volume, has faded into the annals of history as the banks refine their loan structures and must therefore closely assess not only the project analysis itself but the process of

analysis, the experience of the people and the strength of the project management team to be involved. The banks should be presented with supporting documentation. Emerson (1981) gives a good guide to the outside, independent consulting reports commonly expected

Market Outlook

- Industry Comparative Costs
- Price/Supply/Demand Forecasts
- By-product Markets

Metallurgical Lab

- Bulk Sampling
- Mineralogical Analysis
- Pilot-plant Testing

Mine Design

- Slope-stability/Rock Mechanics
- Hydrological Report
- Engineering Study
- Environmental Impact

Infrastructure

- Oceanographic Reports
- Transportation Studies

Ore Reserves

- Verification Report

Experience has shown that up to 85 per cent of the loan application material initially submitted for bank financing do not fully satisfy the banks' review process (Tinsley, 1982). This highlights the fact that many companies and EDC firms do not fully understand what the banks require. A new cover sheet on the feasibility report is seldom adequate. For example, less than 2 per cent of studies sighted by the author had a risk-by-risk discussion — a very low percentage when the objective is to have the banks share some of the risks in the first place.

Large mining companies such as BHP (Flew, 1983), CRA (Wightman, 1983), CSR (Willis, 1983), and Western Mining Corporation (Crook, 1982) all state that they approach the banks either late in the project evaluation cycle or indeed after the feasibility study has been agreed by the board as a basis for investment.

For specific projects or joint-venture situations, it has become the fashion in Australia to appoint a financial adviser to fine tune the financing amount, sourcing, and costs, and even to bargain with the banks. This often reduces the financing process to a call for tenders and selecting either a

1. lead managing bank (partially underwritten finance)
2. lead management group (usually fully underwritten finance)
3. club of banks (where the best parts of the various tenders are massaged into a package accepted by a fairly large number of banks)

The merits of each technique needs to be carefully considered. For example, the club approach may require iterative internal presentations within a bank often trying to overcome risk elements that were unacceptable on the previous run. The practitioners of these approaches not surprisingly caution against the timetable delays caused by the extended finance negotiations. A 1/8 per cent shaving of margin can never be compensated by the, say 12 per cent p.a., increase in capital costs irreversibly caused by "delay escalation". Mental arithmetic points to a \$1-million-a-month increase in a \$100-million project's costs compared with a \$500,000 saving of margin over the total finance life. Some companies like Placer Development in Canada and Exxon for Colombian coal have apparently decided not to arrange the finance prior to completion, thereby avoiding any delay from finance negotiations. Few mining companies have the strength to adopt this policy.

THE BANKABLE PRESENTATION

The organisation of the material presented to the banks depends on which stage the banks are entering into the company's evaluation process and on which level the company is entering into the bank's approval process. A number of listings have been prepared for the contents of the information memorandum prepared for the banks (Gibbs and Sroka, 1978; Arne, 1981; Bispham, 1981) in addition to the feasibility study and outside consulting reports listed above. These can be categorised as follows:

1. Summary of Basic Proposition
2. Land Status, Access
3. Geology
4. Ore Reserves
5. Mining Method and Equipment; Production Schedules
6. Process Testwork; Flowsheet Analysis
7. Capital Cost Estimate(s)
8. Operating Cost Estimate(s)
9. Market Forecasts
10. Cashflow Projections
11. Permits and Statutory/Regulatory Position
12. Sponsoring Company Financial Review

Although checklists are a useful drill for airline pilots and feasibility study engineers, the presentation to the banks should not follow that format. A better approach is to ensure that the risk areas assessed by the banks are fully and succinctly addressed. The bank can devote a maximum of 10 days to two weeks for a complex project credit review which will include the time allotted for any site visit. The early dialogue recommended above and cashflow formatting can double the effective analysis period. Simply providing

three copies of all material to each bank can encourage the bank to divide the analytical workload or to conduct concurrent reviews e.g. in a sequential approval process. Extra copies of background studies expeditiously despatched upon request reflects well on the perception of the sponsor's planning and preparedness.

It is helpful if the reviewer is given a list of contact names should questions arise in particular areas. Banks appreciate openness and any attempt to hide information will be spotted immediately by the experienced reviewer with an immediate loss of credibility in the data being provided.

Also the qualifications and track record of consultants and key management staff can inspire confidence in an organisation's analytical competence and management

experience to avoid/handle the difficulties that inevitably occur in the minerals business.

An understanding of the people and their professional and managerial strengths and weaknesses is the most difficult part of the assessment of a project development's viability. Professionals would like to rely on the reduction of the project to numbers as proof positive of competitive strength and economic viability. It is not numbers that develop a project. It is people.

An early understanding of what information the banks' personnel require has the potential for substantial savings in time and money both during and after the feasibility study stage. Early dialogue can improve the acceptance of a project as a "bankable" proposition which can be readily approved.

APPENDIX 1 SOURCES OF FINANCE

TYPE	SOURCES	Fixed ("Fx") or Floating ("Ft") Rates	TYPE	SOURCES	Fixed ("Fx") or Floating ("Ft") Rates
<i>EQUITY</i>					
Stocks (Common; Preferred; Redeemable)	Public, others	—	Medium-Term Secured Term Loans (Overdrafts) Revolving Loans (Convertible to Term) Equipment Finance (Conditional Sale) Leasing (Capital, Operating) Export Credits Project Finance Revenue Bonds Commodity — Linked Bonds	Banks, Merchant Banks	Ft
Retained Earnings	Internal	—		Banks, Merchant Banks	Ft
Subordinated Debt	Companies, Investors	Fx		Banks, Finance Cos. Finance Cos., Banks	Fx/Ft
<i>DEBT</i>				Governments	Ft
Short-Term Unsecured	Other companies	Fx		Banks	Ft
Trade Credit	Companies, others	Ft		Investors	Fx
Commercial Paper	Banks	Ft		Investors	Ft
Line of Credit (Revolver)	Banks, Finance Cos.	Ft			
Transaction Loan (Bridging)					
Short-Term Secured				Long-Term Unsecured	
Accounts Receivable	Banks, Finance Cos.	Ft	Debentures	Banks, Investors	Fx
Overdrafts	Banks	Ft	Private Placements	Insurance Cos.	Fx
Inventory Loans	Banks, Finance Cos.	Ft	Eurobonds	Investors, Banks	Fx
Leasing	Various	Fx	Long-Term Secured		
Equipment Loans	Finance Companies	Ft	Export Credits	Governments	Fx
Medium-Term Unsecured			Project Finance	Insurance Cos., Special agencies (e.g. AIDC, ADB, IFC)	Fx/Ft
Negative Pledge Facilities	Banks	Ft	Aid	World Bank, IMF	Fx/Ft
Supplier Credits	Gov't, Cos., Banks	Fx	Bonds (Convertible)	Investors, Banks	Fx
Floating — Rate Notes	Banks, Investors	Ft	Leveraged Lease	Insurance Cos., Banks	Fx
Private Placements (Euro; U.S.)	Institutions, Investors	Fx			

Note: Project finance usually incorporates a Term Loan element during the repayment period. Interest is often capitalised to form part of the loan during the construction period usually until the project has complied with a run-in test period. Grace on principal repayments is normally granted during this startup phase. In some instances, long-term lenders get repaid later than the bank's medium-term project financings.

APPENDIX 2

Set out hereunder are characteristic comments offered through the course of consideration of typical project financing submissions.

1. "Here's what's in the files. You figure it out."
2. "The historical novel."
 - a. "The old operators missed a lot."
 - i. "Therefore the tailings/gob pile is high grade."
 - b. "My grandfather worked here in 1919 and he always said that they missed the best ore."
 - c. "The price was only 5c per lb. when this old drilling was done. They never developed it."
 - i. "They abandoned these old workings when the price dropped to 5c per lb."
3. "A little bit of this and a little bit of that."
 - a. "The back of the envelope." (Usually by operating companies).
4. "An equipment list"
5. "The bare minimum."
 - a. "You mean there are alternatives that should be considered?"
- ii. "They had to resort to high grading when the price dropped to 5c per lb. The ore they left is now economic."