



PRACTICAL PROJECT FINANCE
An eLearning / Blended Learning Course

Module 1

The Basics

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PRACTICAL PROJECT FINANCE

Module 1

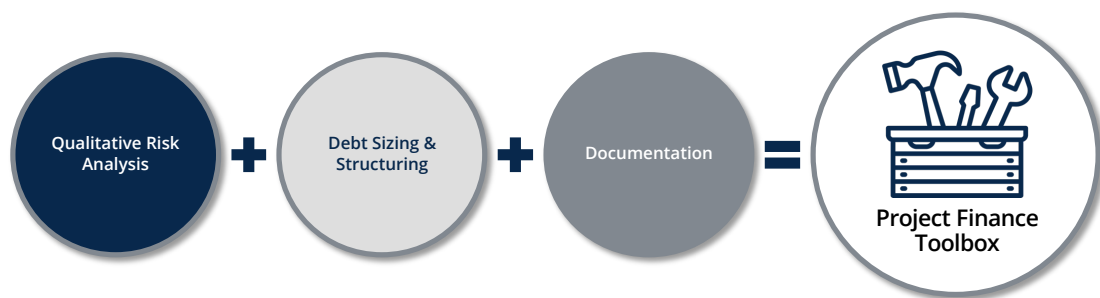
The Basics

1. Introduction

Welcome to Module 1 of Practical Project Finance from CCC Training Limited.

In this first module we shall be covering the basics of this field of financing, before we move on to examine how project financing works in practice.

This course is very practical in nature. Once we have dealt with the basics you will start to develop your own project financing “toolbox” which you will be able to apply to almost any project-based case which lands on your desk.



The toolbox has three parts. Modules 2-5 of the programme will give you a good working understanding of how project transactions should be analysed from a qualitative risk perspective. By “qualitative risk” we mean that we shall examine the key project risk areas one by one, looking at how they can be assessed and addressed – without considering for the moment the quantitative aspects of the process associated with the sizing of debt and the structuring of the repayment terms. That will come later. In Modules 2-5 you will be working through the risk categories which surface in almost all projects and developing an appreciation of what is “bankable” and what is not. You will also build skills in the area of risk mitigation and allocation, which will allow you to make otherwise unbankable risks more bankable. One of my former bosses – a fine project finance structurer – described project finance as the “art of bridging the disconnect”. Identifying risk is relatively easy. The magic comes when a risk is allocated or mitigated in a way which works for all parties and optimises the transaction structure.

In Modules 6 and 7 you will move on from qualitative risk analysis to look at the quantitative aspects of project loan structuring. You will learn how the needs of the lender and the borrower are balanced through the economic modelling process, in a way which optimises returns for the sponsor while providing a sufficient - but not excessive - protective cushion for the lenders.

Modules 8, 9 and 10 of the programme deal with documentation. Once a project financing transaction has been structured and commercial agreement has been reached, it is essential for the loan transaction to be formally documented by means of a loan agreement. It is usually also necessary for agreements to be drawn up covering all the different types of security to be given by the borrower to the lender(s) in support of the project loan – which, as you will see, typically include security over the shares of the borrower company, mortgages over the company's assets, charges in respect of project contracts and security in respect of the borrower company's insurance policies. Additional agreements may also be necessary to document commitments entered into by other contract counterparties. The full package of loan, security and other documentation frequently runs into many hundreds of pages. The last three modules of this course are designed to take you up above the detail and give you a clear and practical path through this potentially confusing area.

As early as the end of Module 2 you will start to put your new-found skills into practice by working on a realistic case study designed to reinforce and consolidate your skills.

At the end of the programme you will tackle additional cases, across a range of industry sectors. The aim is once more to ensure that the skills and techniques taught during the course have sunk in and become part of your own personal toolbox.

2. What is “Project Finance”?

We should begin with a definition of what is meant by “project finance”. It may be helpful, however, to begin by saying what project financing is *not*. It is not any form of financing which is used to pay for the construction of a project. Just because a financing is used for a project, that does not make it “project financing” as that term is understood by finance professionals.

Projects can be financed from a number of sources and in a range of different ways. Major companies with large balance sheets and a wide range of activities might use their existing cash resources to finance a project. They might raise the money from the issue of shares to investors. They might borrow from banks or bond investors in the name of the company or corporate group.

These forms of financing would not generally be seen as “project financing”, even if the funds raised are used to meet the cost of building a project.

Loan transactions which qualify for the term “project financings” typically have some or all of the following characteristics:

- 1) The borrower is a newly-established company, often called a “special-purpose vehicle” (SPV) or “single-purpose company” (SPC), which has been created for the sole purpose of owning, constructing and operating a project;
- 2) The SPV is owned by one or more companies – generally called the “sponsors” – each of which will inject an agreed share of the cost of the project’s construction into the special-purpose company;
- 3) The balance of the cost of building the project will be borrowed *by the SPV* (not the sponsors) from third parties – typically, but not always, banks;
- 4) The size and structure of the SPV’s borrowings will be based on the cashflow predicted to be generated by the project owned by the SPV;
- 5) The primary (if not the only) source of interest payments and loan repayments will be the cashflow generated by the project.

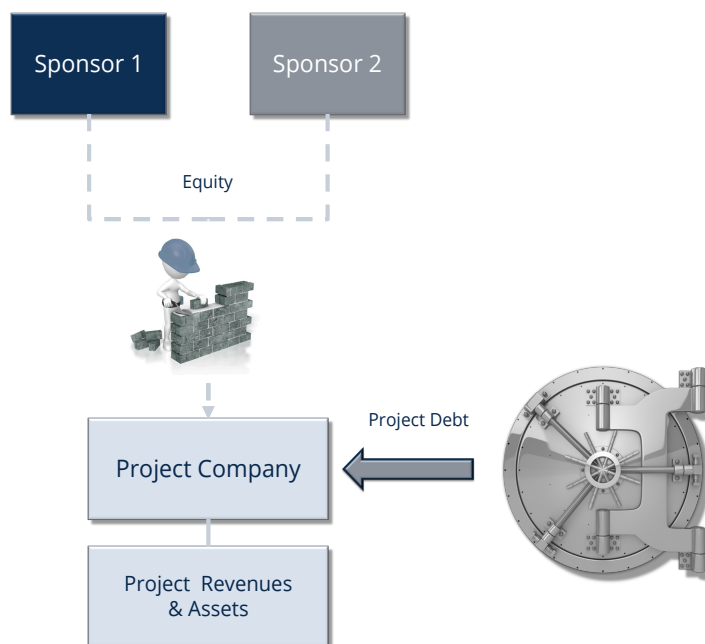
The diagram below illustrates the corporate structure described above.

Two sponsors are shown contributing their share of the cost of project construction to the project company. This contribution is referred to as the sponsors’ “equity”.

The project company – an SPV – owns the project’s assets (once they have been built) and the project’s revenues (when they start to flow).

A group of project lenders is providing the balance of the cost of constructing the project as project debt.

Please note that there might be only a single sponsor in a project financing case or there could be multiple sponsors. We shall consider what drives the number of sponsors below.



3. “Limited-Recourse” and “Non-Recourse”?

You may well be wondering why a wall is being constructed in the diagram between the sponsors and the SPV. This brings us to the question of “limited recourse”.

It is a key feature of project financing that the lenders to the project have very limited – if any - rights to call on the sponsors of a project to inject new funds into a project SPV in addition to their equity contribution. If there is a cost or time overrun during construction

for example, or if the project underperforms after it comes into operation, the sponsors cannot be obliged to contribute new money. In my experience sponsors are usually keen to stress this feature of the arrangement and are likely to use the term “non-recourse”, so as to emphasise the limitations on recourse.

In practice it is very common for lenders to have some limited, negotiated rights to call upon the sponsors – which is a key reason why lenders prefer “limited-recourse” as a description. It may make sense for a sponsor to agree to provide some form of additional support if a concession can be obtained in another area. Such compromises are very common. Although lenders and sponsors may use different terms – “limited-recourse” or “non-recourse” – the difference is really one of emphasis. Both parties understand that any recourse in addition to the basic equity contribution must be *limited and negotiated*.

From the above, it will be clear that lenders in a project financing are exposed to the performance of the project itself. This exposure is much greater than if they were making a loan to a major company group with multiple assets and sources of cashflow – what lenders tend to call a “corporate loan”. In such cases, even if the loans are unsecured, lenders will have full recourse in a liquidation to all the assets of the company. In a project financing the lenders are reliant on the project’s success for their interest payments and principal repayments. If the project fails or underperforms there is a strong chance that the project’s assets will be of little value. If a pipeline project has failed to attract any users, for example, would there be much to gain by digging up a pipeline and selling it for scrap?

4. Sponsors’ and Lenders’ Relationship With the Project

The concept of limited recourse, which we considered in the previous section, is a critically important aspect of the relationship between the lenders and the sponsors. It is important to consider too, however, the relationship of the sponsors and the lenders with the project itself. This is particularly true when it comes to considering the question of upside opportunity and downside risk.

The sponsor is exposed both to upside opportunity and downside risk. If the project outperforms expectations then the sponsor will receive additional returns on his/her investment. If the project performs badly, then returns will suffer and - at the extreme - the investor’s entire equity injection could be lost. In pursuit of maximum returns it will make sense for the sponsor to reduce his/her equity investment to the lowest possible level and to maximise the debt component of the project’s funding. Debt is cheaper than equity (see below). The sponsor will want to inject equity as slowly as possible, because money has a time value. Conversely sponsors will want to extract surplus cash from the project as quickly as possible – again because of the time value of money. Sponsors will negotiate fiercely to prevent the lenders from tying up cash within the company – so-called “cash traps”. They will resist also any attempts by the lenders to breach the principle of non-recourse by requiring additional support from the sponsors beyond the basic core equity injection.

Now consider the position of the project lender, who typically has no exposure to upside potential. If the project outperforms expectations the lender will do no better. S/he will

continue to receive the agreed interest return and surplus earnings will flow to the equity. If the project performs very well there may be sufficient surplus cash to reduce or even repay the project loans. In that case the lenders will receive less interest – doing worse while the equity is doing better. On the downside, however, the lender is fully exposed to the risk of losing some or all of his/her loan if the project performs badly or even fails to be built. We do not tell you this in order to make you feel sorry for bankers. In our experience few shed a tear when bankers incur losses! We simply want to make clear that project lenders are seriously exposed to loss but can do very little to increase their return. Consider too that the complete loss of one project loan will probably be sufficient to wipe out a project finance team's whole income (not profit) for a year or two. Not exactly a career-enhancing outcome!

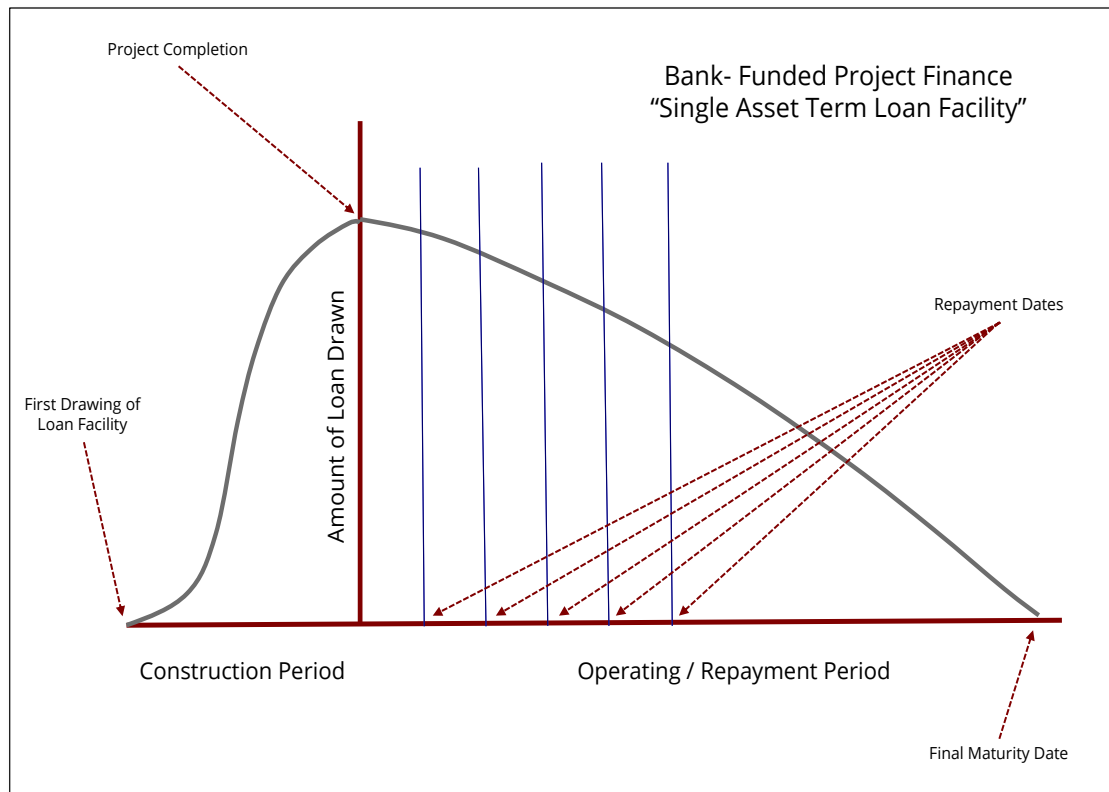
From the above it should be clear that *while sponsors will tend to prioritise return maximization, lenders will try to minimise risk*. Lenders will analyse risk very carefully to ensure that they – with their risk-reward profile and role as the largest providers of finance – are not accepting risks which are out of line with their limited interest-based return. Such risks will be regarded as “unbankable” and lenders will seek to have them mitigated as much as possible or carried by other stakeholders within the project.

5. Project Financing Loan Structure

Project financing loan structures are “term loans”. What this means to a professional lender is that they are put in place for a defined period of time and the lender must provide the agreed loan amounts if the borrower complies with a predefined set of conditions (known in the jargon as “conditions precedent”). The lender cannot refuse to lend because it does not suit him/her. Bankers would say that these loans are “committed” rather than “uncommitted”. Furthermore, the lender cannot decide to call for early repayment at will, as s/he might be able to do with short-term facilities such as overdrafts. Only if the borrower has committed one or more of a defined set of “Events of Default” can the lender call for early repayment. Then the loan facility may be made immediately repayable.

Project financings will typically also have a period during which the loan is used (or “drawn down” as project financiers say) in amounts matching the payments to be made to construction contractors. Because the project will be generating no cash during the construction period it will not be possible to pay interest and the interest due will simply be added to the drawings under the loan. Lenders refer to this as “interest during construction” or “IDC”. An alternative term which makes clear what happens to the interest payments (they are added to the amount of the loan capital drawings) is “capitalised interest”. The drawings and capitalised interest will build up within the overall envelope of agreed permitted borrowings until the project starts to operate. At this point the project will flip from drawing mode into repayment mode. Spare cash after the payment of operating costs will be used to pay interest (no longer capitalised) and to meet a series of repayments which has been formally written into the loan agreement. To give the arrangement a final end-date there will typically be a Final Maturity Date, beyond which no loans must remain outstanding.

In the diagram below you will see clearly the separation into the drawing period (sometimes also called the “Availability Period”) and the Repayment Period. The latter is typically subdivided into shorter periods – most often of 6 months – at the end of each of which is a Repayment Date.



6. The Cost of Project Financing

Large-scale lending to projects can range in amount from a few million to billions of dollars. It will generally be provided by banks working together in groups, or “syndicates”, working under the leadership of one or more lenders designated as “Mandated Lead Arrangers”. How large-scale project loans are syndicated is dealt with in detail in Module 8. Commercial banks are subject to limits on their exposure to a single company or venture and the scale of most projects makes it impossible for a single bank to provide all of the financing involved. Even where a project is small enough for a single bank to provide the necessary finance, lenders often prefer to form “clubs” of a few banks to allow them to spread risk across a portfolio of projects rather than concentrating their exposure too heavily on one or two transactions.

Where the lenders are commercial banks, it will be very unusual for such loans to be provided at a fixed rate for their whole duration. This is because such banks have very limited sources of fixed rate deposits. Their long-term loans are largely funded from short-term sources, such as the inter-bank money markets. In these markets banks lend to and borrow from each other for periods of up to twelve months – with periods of a few days,

a month, three months or six months being the most common. It would be an enormous risk for a bank to borrow on the basis of a rate which is rising and falling constantly, but then to lend long-term on a fixed rate. What happens therefore is that the lenders provide *short-term packets of funding within a long-term envelope*. Each short-term packet is at a fixed rate, with the rate being revised when the maturity of that packet is reached.

The rate charged to the borrower is made up of two parts:

- a) a benchmark (market) rate which the lenders are paying for their own funding;

plus

- b) a premium (referred to as the “margin” or “spread”) on top of the benchmark rate which reflects the riskiness of the transaction.

The benchmark rate will rise and fall in line with market rates over the life of the loan. Until recently the most common benchmark rate was the London Inter-Bank Offered Rate or “LIBOR”, which is gradually being replaced by a range of different, more regional, benchmark rates.

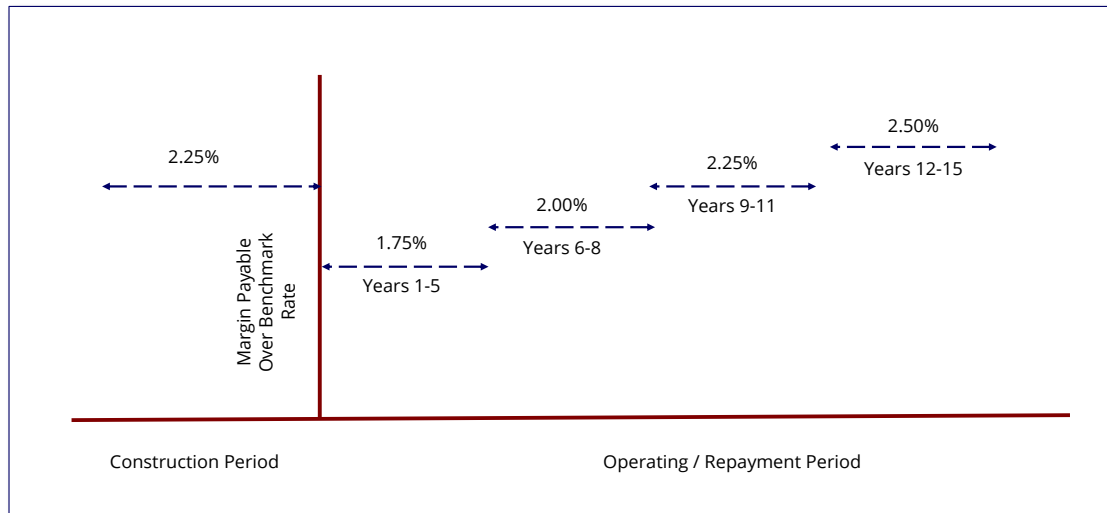
The margin will be specified in the loan agreement and will not move as the benchmark rate moves. Project financing margins tend to be significantly higher than those charged to established corporate borrowers – especially corporate borrowers with strong financials. A strong corporate group might pay significantly less than 1% over the benchmark rate, especially if borrowing for less than one year. Project margins are more likely to be in the range 1.5-4.0%, reflecting the greater risk and longer maturity of project transactions.

It is common also for the margin to be at its highest level during a project’s construction phase and then to fall when the project comes into operation. This reflects the fact that the construction period is the time of greatest risk for a project lender. During that phase the project is, after all, consuming cash rather than generating it and interest is being capitalised (added to the loan) rather than being paid. The risk of cost overrun and delay are ever-present. Thus it would be quite normal, for example, for a renewable energy project with a construction phase margin of 2.25% to see its margin fall to say 1.75% when construction is completed and cash starts to flow.

Please note also that lenders will frequently express margins in “basis points” – hundredths of a percentage point (0.01%). Basis points are often abbreviated to “bips” in conversation. So when a lender talks about a “50 bip spread” s/he is referring to a 0.5% margin. This jargon can be confusing at first, but it quickly becomes second nature.

A further point worth making about margins in the operating period is that they frequently increase over time, especially when project financing loans are of long maturity. The evolution of the margin in a project financing over time could well look like the diagram overleaf. During the construction phase the margin is set at 2.25% over the benchmark rate (such as LIBOR) reflecting the higher risk attributable to that period. When the project comes into operation the margin falls by 50 basis points (0.5%), reflecting the de-risking

which occurs when construction is complete. For the first five years of the project's operating life the margin is set at 1.75% (175 basis points), but it then steps up in increments of 25 basis points every 3-4 years.



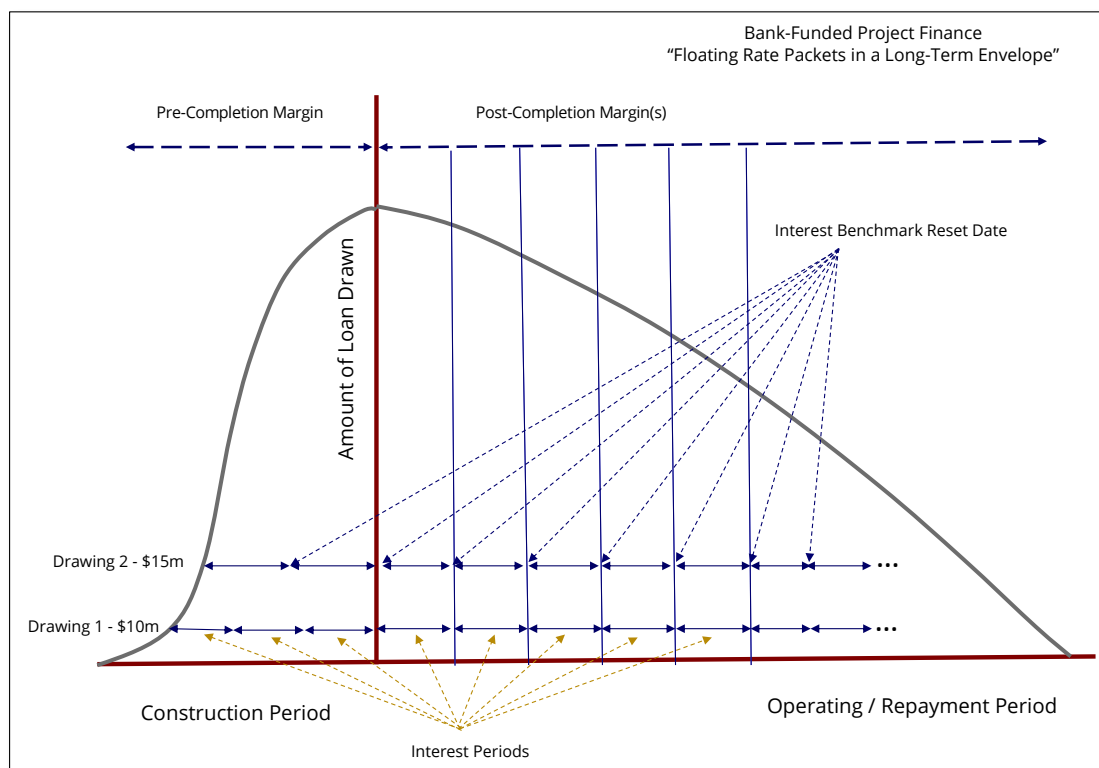
Sponsors frequently comment that they cannot see why the margin should increase as the lenders' risk decreases. The loan is, after all, being progressively reduced by repayment. It is important here to distinguish between the lenders' *risk* and their *exposure*. The lenders' exposure – the amount of debt outstanding – certainly is decreasing. But the level of risk associated with that exposure increases over time. As noted above, banks are in the business of "borrowing short and lending long". There is always the possibility that their depositors will ask for their money back. Having funds tied up in 15-year project financings is therefore potentially dangerous. The national and international regulators responsible for ensuring the safety of the banking network recognise this, by insisting that banks set aside a larger amount of their capital for long-term loans than is stipulated for short-term loans. This makes it more expensive for banks to lend as the maturity of loans increases.

There is another reason for this practice of stepping up margins over time – which is also referred to as "margin ratcheting". Raising the margin over time will act as incentive for a borrower to re-enter the market and refinance the original loan package with a new loan, in order to take advantage of lower margins for a shorter loan maturity. This will be especially true if the general level of margins within the market has fallen in the meantime. But why, you may ask, would a lender *want* a borrower to refinance if the project is performing well and the debt is being repaid in an orderly way? Why not simply collect the interest payments and allow the debt to run to final maturity? The main reason for this is that bank lenders aim to maximise their fee receipts as well as their interest income. A refinancing means a new set of fees!

The diagram overleaf draws together the comments made about loan structure and pricing in this and the previous section. When a project SPV needs to make the first use of its project financing loan facility – normally to make a payment to its construction contractor(s) – it will contact the bank within the lending syndicate which has been designated as the Agent Bank. The Agent is responsible for all aspects of loan

administration. Let us say that the borrower wishes to draw US\$10 million to make a stage payment to a contractor. The duration of the drawing will be fixed – say for 6 months – at the prevailing benchmark rate plus the construction period margin. At the end of the 6 month interest period the interest due will be added to the loan (“capitalised”) and the sum of capital plus interest will be extended (“rolled over”) for a further short-term period (say another 6 months) - at the benchmark rate on the date of rollover plus the construction period margin. In the meantime of course the borrower may well have requested a further drawing of US\$15 million, which will be made available in the same way – over a fixed short-term period at the benchmark rate on the day of drawing plus the construction period margin. This process will continue until the loan facility has been fully utilized, at which time the loan will be made up of a number of “packets” of financing, each with its own fixed interest period, within a longer term financing envelope.

When the project is operational and cash begins to flow, the margin applied to the packets will of course be the operational period margin (or margins if there is a series of margins rising in steps), but the fixing of the benchmark rate over shorter periods will continue in the same way. Instead of being added to the loan, interest will now of course be paid in each interest period and only the loan principal will be rolled over. As amounts become due for repayment it will be important to ensure that care is taken to synchronize the interest period dates for each drawing with the principal repayment dates. Lenders charge “breakage costs” if borrowers repay a drawing before its fixed maturity date and the lenders incur a loss as a result.



We do not want to over-burden you with details of loan operations at this point, but it is worth saying here that:

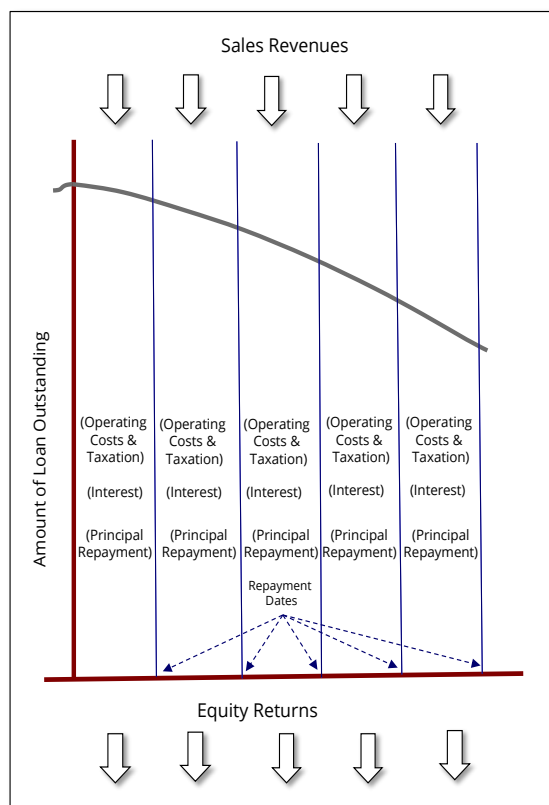
- a) Some lenders fix the duration of interest periods – typically 6 months – in order to make loan administration easier. Others allow the borrower to choose periods – typically one, three or six months;
- b) While bank project loan facilities are invariably made on a floating rate basis, it is possible for the borrower to fix the effective interest rate by purchasing an “interest rate swap”.

7. Project Financing is Cashflow-Based

As noted in sections 1 and 2 above, lenders in a project financing case are heavily reliant on the success of the project. Interest payments and repayments of principal will be dependent upon the generation of project cashflow. At the outset the borrower is a completely new company with no history and a great deal of debt and there is likely to be a wait of perhaps two years while the project is constructed before any cash is generated.

Project revenue can be predicted, of course. Experts in the relevant sector can be asked to generate predicted sales values. These can be inputted into powerful spreadsheet models along with estimates for costs, interest and inflation rates, exchange rates and other macroeconomic variables. Common sense tells us, however, that these projections will not

predict with perfect accuracy the actual performance of the project. History has shown too that the business of predicting project sales is an imperfect one – in some cases very imperfect indeed. So project lenders are reliant on a source of repayment which is potentially unpredictable.



When the project does start to generate revenue, the lenders will not be able simply to channel that revenue into debt service (payment of interest and repayment of principal). In each repayment period (see the diagram left) cashflow will have to be used first of all to meet operating costs. If it is not, the project will be closed down by the creditors to whom it owes money. Among those creditors will be the tax authorities, who – although we have shown them separately in the diagram above - must be regarded by the lenders in the same way as the project's other

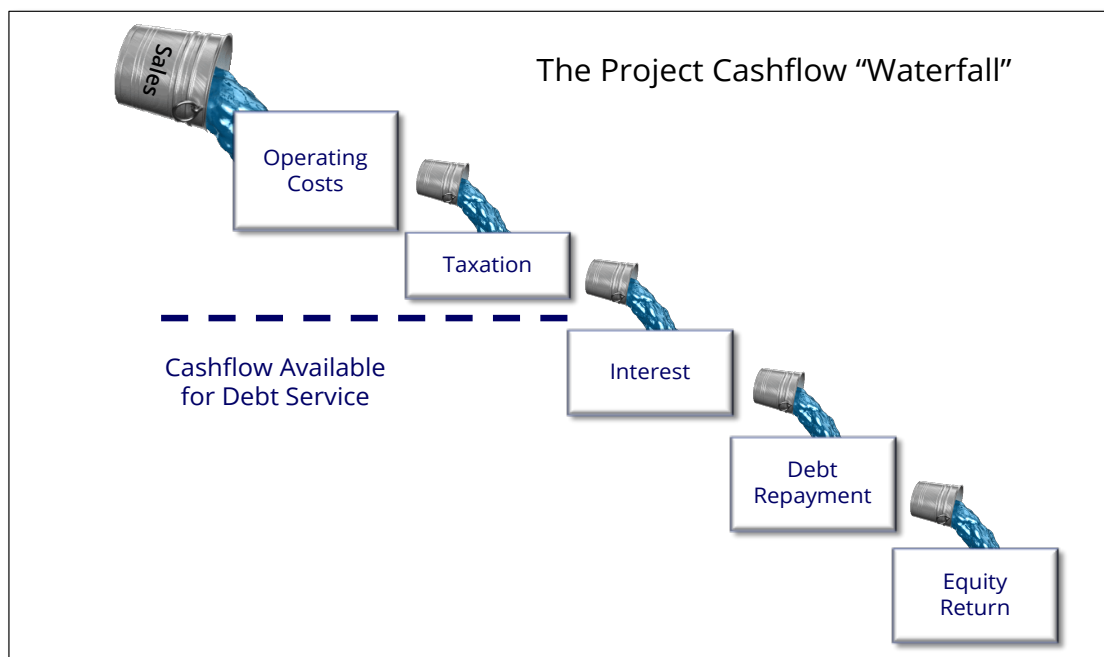
creditors. Stop paying your taxes and the tax authorities will close you down!

Only once the project's operating costs and taxes have been paid will it be possible for the lenders to take their interest payments.

The next priority for the use of cash will be principal repayments. These will be taken on a Repayment Date.

Payments to the sponsors, as returns on their equity investments, will only be possible once debt service payments have been made in full – again usually on a Repayment Date. Speaking from experience we can assure you that sponsors rarely leave surplus cash sitting in the SPV. These funds will be withdrawn on or soon after the repayment date, because money has a time value. The sponsors will be keen to realise their returns by withdrawing cash just as quickly as they can.

The hierarchy of payments just described is central to project finance practice and it is often described as the Cashflow Waterfall.



Cashflow generated must be used first for operating expenses and taxes. What remains is usually referred to as "Cashflow Available For Debt Service" or "CFADS".

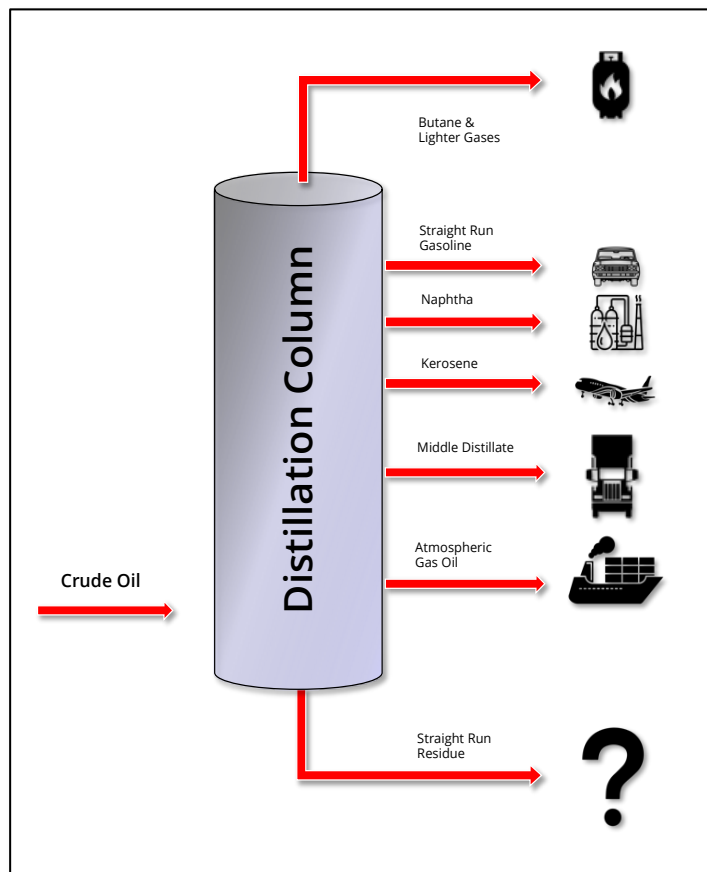
You will by now appreciate that *this is all the lender has* on which to base a loan facility and from which to receive debt service payments. All the costs which come before CFADS in the cashflow waterfall have priority over the lender. Lenders express this by saying they are "structurally subordinated to operating costs and taxes". Although a lender will need to build a cashflow model for the whole project, it is CFADS which is of most importance from his/her point of view. The size of the project loan, its term and its repayment schedule will be driven by the profile of the project's CFADS.

8. The Predictability of Cashflow is Critical

The predictability of cashflow is as important as its volume – if not more so. Indeed, we would argue that it is the predictability of CFADS which has the greatest impact on the amount of debt which a project will be able to attract. The ratio of borrowed funds to sponsors' equity within a project is referred to as its debt-to-equity (D:E) or its “leverage” or “gearing” (in project financing the terms are used interchangeably). The D:E relationship is stated as a ratio, with the debt being quoted first, while leverage or gearing usually expresses the debt percentage in the funding mix. Thus a “D:E of 70:30” means the same as “70% gearing”.

Gearing levels vary enormously across the project finance field. We have seen D:E ratios as low as 50:50 and as high as 96:4. High predictability of cashflow is the key to achieving high gearing. A good way of illustrating this is to take examples from the opposite ends of the gearing spectrum.

Let us first consider the case of an oil refinery. At the heart of all refineries lies the distillation column. This tall cylindrical vessel receives heated crude oil into its base. The crude oil is essentially a “soup” of lighter and heavier hydrocarbons (molecules containing hydrogen and carbon in differing ratios). Many of these compounds will vaporise at the temperature which prevails down at the base of the column. As the vapours rise through the column, however, they will cool. The different hydrocarbons will condense back into liquids as they reach that part of the column where the temperature is below their boiling point, allowing them to be drained off from the column in liquid form. The process is called “fractional distillation”.

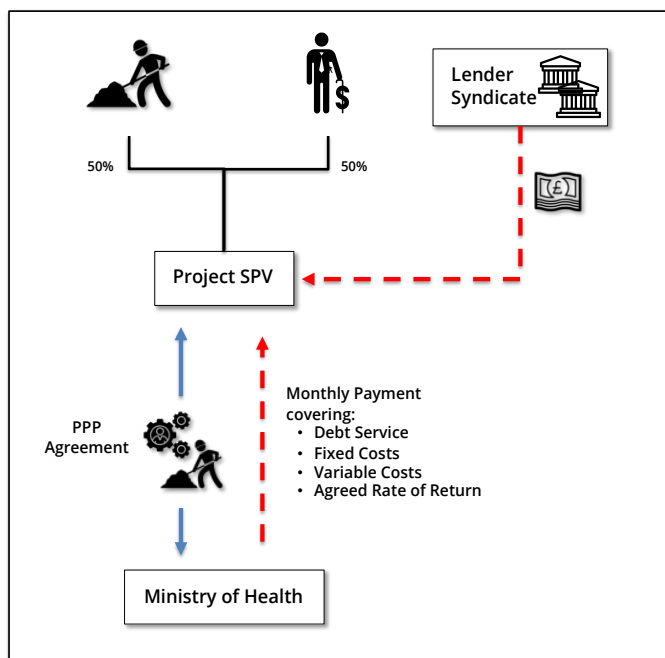


That is fundamentally all that a simple refinery does. It separates out the main marketable components using heat. At the end of that process a simple refinery is left with a heavy residue, which is essentially that part of the barrel of petroleum which will not vaporize in the distillation column. A simple refinery cannot use this residue. Typically it will dispose of it to a more complex refinery which is able to use more sophisticated processes (so-

called “cracking”) to break down the heavy residues into marketable products like gasoline, diesel and naphtha. The residue problem tends to give a simple refinery a very thin operating margin.

But that is not the end of a simple refinery’s problems. The inputs to a refinery – supplies of crude oil – are subject to very wide fluctuations in price. The prices of the products it produces tend to swing up and down also – but (crucially) *not necessarily exactly at the same time as the variations in crude oil prices*. It may not be possible to pass on increases in crude oil price immediately to product consumers and that will squeeze the margin. When crude oil prices fall it may be possible to delay reductions in product prices and benefit from a temporary increase in the refining margin.

Now this is all very interesting, but what is its relevance for project gearing? Well, what we have been describing is a margin-driven business and one whose margin is prone to wide fluctuation. This does not make for predictable CFADS and therefore it reduces enormously the attractiveness of refineries as candidates for project financing. We rarely see a project financing of a refinery with a D:E ratio greater than 60:40 and 50:50 would often be the starting point for discussions. Project lenders have typically been very cautious indeed about financing simple refineries which have little more in the way of refining capability than a simple distillation column – mainly because of the likely volatility of the refining margin. Refinery project financings have much more frequently been arranged for the construction of complex refineries (with cracking capacity), or the conversion of simple refineries to more complex plants (by the addition of cracking technology).



Now let us go to the opposite end of the spectrum and consider a social infrastructure project built under the style of public-private partnership (PPP) known in the UK as the “Private Finance Initiative”, or PFI. This model is no longer used in the UK but it has been transplanted to a very large number of jurisdictions where it is still employed. Let us examine the underlying structure of a PPP hospital project using this approach. The diagram (left) provides a “boxes and arrows” overview of the financing model.

In cases such as these, the project’s sponsors will typically be a combination of a construction company and a financial institution such as a pension fund or insurance company. Of course the construction partner wishes to win the contract to build the hospital and may well also be in the business of providing operational and maintenance

services. The financial partner is attracted by the prospect of receiving long-term, predictable revenues to match the maturity of its long-term liabilities.

The project SPV enters into a PPP agreement for a duration of 20 years or more and takes on obligations for the construction and operation of the hospital over that period. It subcontracts these obligations to its contractor parent company. The State, in the person of the Ministry of Health, commits to make a monthly payment to the SPV to cover its fixed and variable operating costs. The payment is sized so as to cover the SPV's fixed and variable costs – *including its debt service payments to its lenders* – and to provide an agreed rate of return.

The State will, of course, monitor the construction and operation very carefully. There will be deductions in particular if the operation of the hospital fails to meet pre-agreed standards. It will be clear, however, that this structure promises a very much more stable and predictable CFADS than the refinery case we reviewed above.

It is important to understand too that the *payments are not linked to the number of patients using the hospital*. Essentially the State is buying capacity and is not attempting to transfer the risk of how many patients use the hospital to the private sector. Even if the hospital were to run at a capacity utilisation of only 50% the SPV would be confident, so long as the operating standards were met, of being able to meet its debt service.

Add to this the fact that the credit risk for the monthly payments may well be a government department of a highly-creditworthy state such as the UK, France or the Netherlands and it will be clear that such projects are likely to be able to support large amounts of debt. Their CFADS is highly predictable. We have known capacity-based PPP projects of this type to be leveraged as highly as 94% (D:E of 94:6).

If you study project financing more deeply you will encounter a wide range of project gearing in transactions such as renewable power, roads, bridges, hospitals, oil & gas projects and social infrastructure. Invariably you will see a close link between the predictability of CFADS and the level of gearing the project is able to achieve.

9. Project Finance is Complex, Time-Consuming & Expensive

We have already addressed the higher interest margins payable on project financing transactions when compared with conventional corporate lending. But that is not the end of the story - by any means.

Project finance lenders charge a one-off arrangement fee which will be payable by the borrower to the Agent Bank leading the lending syndicate. Arranging project finance transactions is intricate, detail-orientated work which is very time- and resource-intensive. Even a very experienced and busy lending team would not expect to complete more than a project transaction or two in a month and the failure rate can be quite high. The gestation period of a project financing transaction can vary from a few months to several years. The level of arrangement fees will vary significantly from time to time also depending upon the amount of capacity and competition within the marketplace, but an amount between 1%

and 2% of the total amount of the loan facility would be a reasonable range. The lead banks within the syndicate will take a larger share of the arrangement fee to reflect their structuring activity, with other banks receiving a smaller and smaller percentage depending on the amount they are contributing to the loan. All lenders will, of course, receive the same interest return, since they are accepting the same risk.

Certain banks within the lender group will also receive annual fees in respect of specific roles which they perform. Thus the Agent Bank will be paid an annual agency fee which will reflect the number of participant lenders and the amount of administration to be carried out. One lender will be designated as the Modelling Bank, responsible for maintaining and running the approved economic model of the project, for which an annual fee will also be payable. There may also be a Technical Bank, responsible for liaising with technical advisers to the lenders, although it is often efficient to combine the technical and modelling roles.

Project lenders reviewing a potential transaction routinely require detailed reports – often referred to as “due diligence” reports – from advisers and consultants in disciplines relevant to a particular project. Although their teams may be very experienced in working on projects in a particular field and may even include technically-qualified members of staff, lenders will insist on appointing independent technical advisers to report to them on matters of design, engineering and construction. Projects with a traffic risk, such as road or rail transactions, may require the input of traffic consultants to provide traffic projections to be used in economic analysis. Where a project has a significant sales price and / or sales volume risk, market consultants may be required. All these advisers’ costs will be borne by the SPV / sponsors, in addition to any consultants’ costs they may have incurred themselves. The lenders will not absorb these costs “whether or not”, as the standard clauses tend to say, “the transaction is consummated”.

The same is true of legal costs, which can amount to hundreds of thousands – or in large transactions even millions – of dollars. Project finance loan agreements are lengthy and require considerable “tailoring” to the features of a particular case. Lenders will wish to control the flow of cash through the project company very carefully. For this they will insist on the creation of certain “Control Accounts”. Payments to the construction contractors will typically be handled by the lenders, against documents certifying the stage reached under the construction contracts. Once revenue begins to flow in the lenders will insist on it passing through a designated Revenue (or Proceeds) Account maintained with the Agent Bank and carefully monitored by that bank on behalf of the lending syndicate. Separate Maintenance Reserve and Debt Service Reserve Accounts are very common, on which amounts are built up to cover anticipated debt service payments and maintenance expenses.

Project finance loan agreements contain extensive lists of “Covenants” – otherwise known as “Undertakings” – which are commitments by the borrower (and possibly also by the sponsors) to take certain actions and to refrain from others. It is not the role of this module to cover these provisions in detail. We shall consider covenants in much more detail in Module 9.

It is enough here to say that these commitments by the borrower include promises:

- to supply extensive reports during the construction and operating period;
- to cooperate with the lenders in the preparation of regular cashflow projections throughout the life of the project;
- not to take on new debt without the approval of the project lenders;
- not to engage in new projects without the lenders' approval;
- not to pay distributions to the sponsors unless certain ratio tests are met;
- not to engage in transactions with affiliated companies;
- not to amend documents related to the project without the lenders' approval.

In Section 3 above we referred to “Events of Default” – trigger events which will permit the lenders to call for immediate repayment of the debt. The first of these in a project loan agreement will almost certainly be failure to meet a scheduled interest payment or principal repayment, but the list will definitely not stop there. It is not unusual for the list of such events in a project financing agreement to amount to twenty or thirty separate items. Breach of a covenant will constitute an event of default. Breach of another project agreement may trigger default under the financing agreement. Termination of a concession or sales agreement may have the same effect. Changes in the shareholding structure of the SPV may be enough to give the lenders the right to call default. So may breach of pre-agreed financial ratios or material damage to the project.

You may be wondering what the benefit for the lenders would be of calling an Event of Default. If they were to do this during the construction period the SPV would not be able to repay its project debt and the lenders would, if they enforced their security, be left with a half-built project. Even during the operating phase the borrower would not be able to repay its debt immediately. Repayment typically requires a large slice of the project's cashflow over a long period of time. We can assure you from personal experience that lenders are deeply reluctant actually to call an event of default. It is the *threat* of calling in the loan and of taking control of the project through the exercise of security rights which allows lenders to bring the borrowers and the sponsors to the negotiating table. To call the default is something of a “nuclear button” and therefore generally a last resort.

We referred above to security. Project loans are almost without exception heavily secured, with lenders taking security interests over physical assets and project contracts – potentially in several legal jurisdictions, so that more than one set of lawyers is often required to act for the lenders. The security agreements for a project financing will often run to hundreds of pages and may well be longer than the loan agreement itself. Some jurisdictions – the UK is a good example – have security procedures which are clear, quite straightforward, (relatively) inexpensive and quite creditor-friendly. This is far from being the case in all jurisdictions. Some countries' legal systems favour creditors significantly less than is the case in the UK. Emerging markets' law structures can be in a state of flux (e.g. the countries of former Soviet satellite countries as they abandoned state socialism for market structures) - making security provisions challenging or even unworkable for project finance. While lenders should never forget that they are lending against cashflow and not against security, they will typically want to secure as all-embracing a package of security agreements as possible. The scope for lengthy, and expensive, negotiations is substantial.

10. So Why Use Project Finance At All?

Given that project finance is so expensive, complex, time-consuming and labour-intensive, you may be wondering why it is used at all! The fact of the matter is that many companies actively avoid limited-recourse project finance – especially those which are large and financially sound. If a major company is working in its core area of activity – e.g. a large integrated oil company is constructing a refinery or developing a gas field, or a power utility is building a new power station – it will almost certainly borrow on a corporate basis rather than a project basis. It will be happy to give its lenders full recourse to its balance sheet, because to do so will be much cheaper than to request that the lenders accept the risk of the project itself.

So in what circumstances does project finance make good commercial sense? The diagram below shows some of the most common drivers for the use of limited-recourse financing. We shall examine them one by one.



First of all, however, let us address the question of “off-balance-sheet” financing. It used to be the case that corporate groups could decide not to bring certain of their subsidiaries fully into their consolidated balance sheets where the subsidiaries were engaged in non-core activities or where to consolidate them would result in a distorted picture of the group’s operations. Instead those companies were recorded as a single-line entry on the balance sheet and any debt they had would only appear in the notes to the accounts, if at all. A number of corporate scandals have demonstrated that unconsolidated subsidiaries can be used to hide debt and give a misleading picture of a group’s financial health. Sponsors still occasionally use “off-balance-sheet” as a form of shorthand for “limited-recourse”, but it is most unlikely that they would wish to use project finance as a means of “massaging” their balance sheets or making their group debt appear smaller than is really the case. Regulations on what can and cannot be separated out from the corporate accounts and shown as “investments in associates at cost” have become tighter and tighter. The requirement for full disclosure in notes to the accounts makes concealment

even more difficult. Credit rating agencies and other analysts are also much more likely today to look through any corporate “window-dressing” operations to examine the true nature of a group’s indebtedness. Thus the desire to move activities “off-balance-sheet” is rarely a real motivator for project finance.

We would suggest that the motivations shown in the diagram on the previous page tend to be the most common motivators for the employment of limited-recourse debt.

A. No Choice

Some sponsors of projects simply are not able to raise the amounts of debt which they require on a corporate basis. They do not have the balance-sheet “substance” to allow them to approach a bank for balance-sheet-based loans. They are too small and / or lacking in track-record and performance to be credible as corporate borrowers. Their only option, therefore, is to persuade lenders to advance funds against the cashflow which their projects will produce in the future. Small renewable energy developers are often in this position, as are independent oil & gas companies in the early stages of their development. The sponsors are dwarfed by the size of their projects.

B. “Ring-Fencing” Particular Businesses

Some larger companies may decide to use project finance if they plan to engage in a new area of business and wish to protect their existing, core business by placing the new activities in an SPV whose loans are on a limited-recourse basis. If the new business fails then the sponsor can walk away, with only the loss of the equity invested in the new activity and minimal damage to the core business. We are aware of corporate finance directors or treasurers who refuse as a matter of policy to use project financing – because they do not believe that such loans would ever really be non-recourse in nature. In their view banks will always find a way of bringing pressure to bear on them to provide new equity in the event that a project was in real danger. They view project finance as a form of (expensive) insurance on which they could never really rely. Although theoretically they could abandon a failing project and only lose their equity, they believe that lenders - through their multiple connections with a corporate group - would never really permit them to “walk away”. So ring-fencing core businesses is rarely the sole reason for a large company to engage in project finance.

Large power developers, however, certainly have ring-fencing in mind when they systematically finance each of their projects using project-based funding. Rather than borrowing as a corporate – as they could potentially do – and acting as a banker to their projects themselves, large developers will often set up each project as a free-standing entity. The parent company of the group will inject a limited amount of equity and then have the project company raise its own limited-recourse debt. There is certainly also an element of maximizing gearing here (see E. below), but the isolation of each project inside its own “silo” means that the failure of one project will have little or no impact on the other projects within the group’s portfolio.

C. Joint Ventures

As noted above, large corporate groups rarely make a deliberate choice to use project finance. Perhaps one of the key reasons they might decide to do so is where they are working in partnership with a much smaller entity or one which insists on using project-based loans.

Take the case of an international oil company (IOC) which is in joint venture with the national oil company (NOC) of an emerging market country to develop a liquefied natural gas (LNG) plant. The NOC has abundant gas resources which far exceed the requirements of local or even regional gas markets. The IOC suggests a 50:50 partnership to build an LNG plant so that gas can be liquefied and transported to distant markets where it can be marketed, with healthy returns for both the IOC and the NOC. The problem is that the construction of an LNG liquefaction plant is a highly-capital intensive business. While the IOC may be able and willing to raise its share of the billions of dollars required for the project corporately, the NOC may be quite unable to do so. The NOC may be able to borrow on a corporate basis but may wish to manage its borrowing programme very carefully because it has a large pipeline of projects to be developed in the future. In circumstances like these the IOC may agree – rather reluctantly because of the cost and effort involved – to join the NOC in raising project-based funding for the LNG plant.

Or consider a large power company with a strong base in one European country which wishes to break into the renewable power sector of another European country in order to diversify its power-generation activities away from fossil fuels. It identifies an attractive project, the sponsor of which is willing to sell a significant stake. The existing sponsor, however, is not a major company but a small developer of the type described in A. above. The only way that sponsor can raise its share of the required funding is on a project basis. While the large power company would not normally consider project financing because of its cost, it agrees to participate in a project-based transaction as an entry ticket to the transaction.

D. Risk Sharing

Let us now put ourselves in the position of a power transmission grid operator in Europe, which has been offered the opportunity to acquire and expand the transmission grid in an emerging market country. We would most certainly not use project-based loans to fund capital expenditure in our own country. Corporate funding would be a much cheaper option - especially as our scale, role and financial condition provide us with a strong credit rating. We are concerned, however, that a change of government or even of regime in the country where we are considering investment might result in pressure on our activities and returns - or even full-scale nationalisation. Would it not make sense to minimise the amount we have at risk by injecting a small amount of equity into the acquisition and expansion of the new transmission grid and raising the rest by means of project-based debt? Might the involvement of multiple lenders not also provide a form of political risk insurance too? A new government might hesitate to re-nationalise the grid if doing so would have negative results for a large number of banks of whom the country might have need in the years to come.

A similar case could be made for the financing of a transnational pipeline for oil or gas on a limited-recourse basis. Pipeline owners engage in lengthy and detailed discussions with national governments along a pipeline's route in order to ensure a fair allocation of the pipeline's returns among the various private and public stakeholders. International treaty-status agreements are often contracted in order to lock these allocations into place. Once the pipeline is built, however, it is not too difficult for one country along the pipeline's route to extract a higher share of returns by threatening to block the flow through the pipeline unless its demands are met. It may be a little more difficult to make that strategy work if the pipeline has been financed by twenty or thirty of the world's largest commercial banks as well as nationally-owned lenders from third countries and multilateral agencies like the African Development Bank or the World Bank. The potential rebel government may just need those organisations in the future, if not in the present. Considerations like these might make a pipeline owner opt for project-based funding rather than borrowing on a corporate basis. What the higher loan margins will pay for is *a form of political risk insurance*.

E. Maximising Gearing

Project sponsors share a basic desire for debt with all other commercial businesses. Debt is cheaper than equity. Of course there are some forms of debt which are extremely expensive and which share some of the characteristics of equity. They are therefore referred to as "mezzanine" finance because they sit between the equity and debt floors in the funding structure having some features of debt and some of equity. Debt provided by venture capital lenders is frequently convertible into equity at a pre-agreed price.

Leaving aside these hybrid instruments, plain-vanilla interest-bearing debt – even project-based debt – will be cheaper than equity. Debt providers receive a pre-agreed interest rate or margin and do not share in a project's upside. If the project performs better than expected the lenders will do no better. They will continue to receive their agreed interest amounts and surplus returns will flow through to the equity holders.

In most economies – at least for the present – debt also benefits from a subsidy through the tax system. When a company calculates its taxable profit it is allowed to deduct interest charges before arriving at its pre-tax profit, in the same way as it deducts salaries and raw materials costs. The tax-deductibility of interest is a further reason to replace equity with debt in the funding mix of a project financing.

Some types of business – notably banks and finance institutions – operate with high levels of corporate gearing. Trading companies, which turn over very large amounts of business with small returns on each transaction, also carry very heavy amounts of debt. There is an effective cap, however, on the levels of debt which industrial and commercial business because lenders will become extremely nervous once their debt levels rise to too many multiples of their equity base.

In project financing cases, however, lenders are willing to accept much higher levels of gearing than they would do in a corporate lending situation. This is particularly so where the cashflows appear very predictable. When funding projects, lenders are much closer to

day-to-day operations than they could ever be in the case of a large and diversified corporate group. They have relatively tight control over the movement of cash and should – if they do their job properly – have early indications of looming trouble. Their agreements provide a number of levers to allow them to bring the stakeholders to the table before the project runs out of cash.

This willingness of lenders to “gear up” is a powerful incentive for investors whose main driver is the maximization of return on the amount invested to use project financing and to drive the gearing level as high as they possibly can.

11. The Project Finance Market – Recent Trends

Project financing is of course just one element of the wider financial markets and it cannot therefore escape the impact of developments in those markets. In order to understand trends in the project financing sector it is essential to examine limited-recourse lending against the background of what has happened in the financial sector as a whole.

What we shall see is that changes in the wider markets over the last twenty years have had a significant impact on the level of liquidity (capacity to lend) available for project lending – in particular from commercial banks. There has been something of a “boom and bust” cycle.

11.1 *Before the Crisis of 2008-9*

Up until the advent of the financial crisis in 2008 the financing markets had consistently been remarkably liquid for a longer period of time than many market participants could remember. Banks and other financial intermediaries had been the beneficiaries of a regular flow of liquidity - if “beneficiary” is the right word to use of a process which steadily eroded bank returns. The 1990s was a period of strong economic growth and corporate profitability. There was robust job growth in the US and technology companies boomed as the internet took off. This produced a powerful bull market in shares which overheated before collapsing in early 2000. Following the shocks of the dotcom bubble and the September 11 attacks, sentiment and growth recovered. A further bull market developed, lasting from October 2002 to October 2007. Interest rates were low and access to credit was easy, leading to a rapid rise in personal and corporate debt levels.

The project finance market reflected the general situation and a “borrower’s market” prevailed. The wave of liquidity meant that a great deal of lending capacity was chasing a limited number of transactions – with the inevitable result that loan pricing (interest margins and fees) fell sharply.

In these conditions of fierce lender competition it was possible for the strongest and most sophisticated sponsors to achieve extremely fine pricing by the standards of limited-recourse financing. Through the astute use of skilled financial advisers, sponsors were also able to achieve more borrower/sponsor-friendly deal structures than lenders would have preferred. For big-ticket, multi-sourced projects with the highest visibility in the markets the “financing competition” increasingly became the norm, with potential lenders being

required to bid – almost exclusively on price and in conditions of tight confidentiality – on structures developed by advisers to the sponsors.

So fierce was the competition among banks up until 2007 that risk margins over LIBOR fell to levels which many lenders felt did not reflect the risks they were being asked to accept, the more so since under competition the level of risk assumed by lenders was increasing. Risk margins for major Middle Eastern transactions fell considerably below 1%, while spreads for very long-term infrastructure or PPP projects (25-30 year maturities) in OECD countries often struggled to rise above 70 bps.

Arrangement fees for project finance transactions also came under severe pressure during this period. It has always been the case that the amount of work involved to structure and arrange a transaction is by no means proportionate to its size. Small transactions often require just as much work as much larger ones. Across the board however fees were cut sharply as banks competed for the available transactions. The “rule of thumb” that an arrangement fee of 1% for a transaction of reasonable size was a good starting point for negotiation came under very substantial pressure.

11.2 The Crisis Breaks

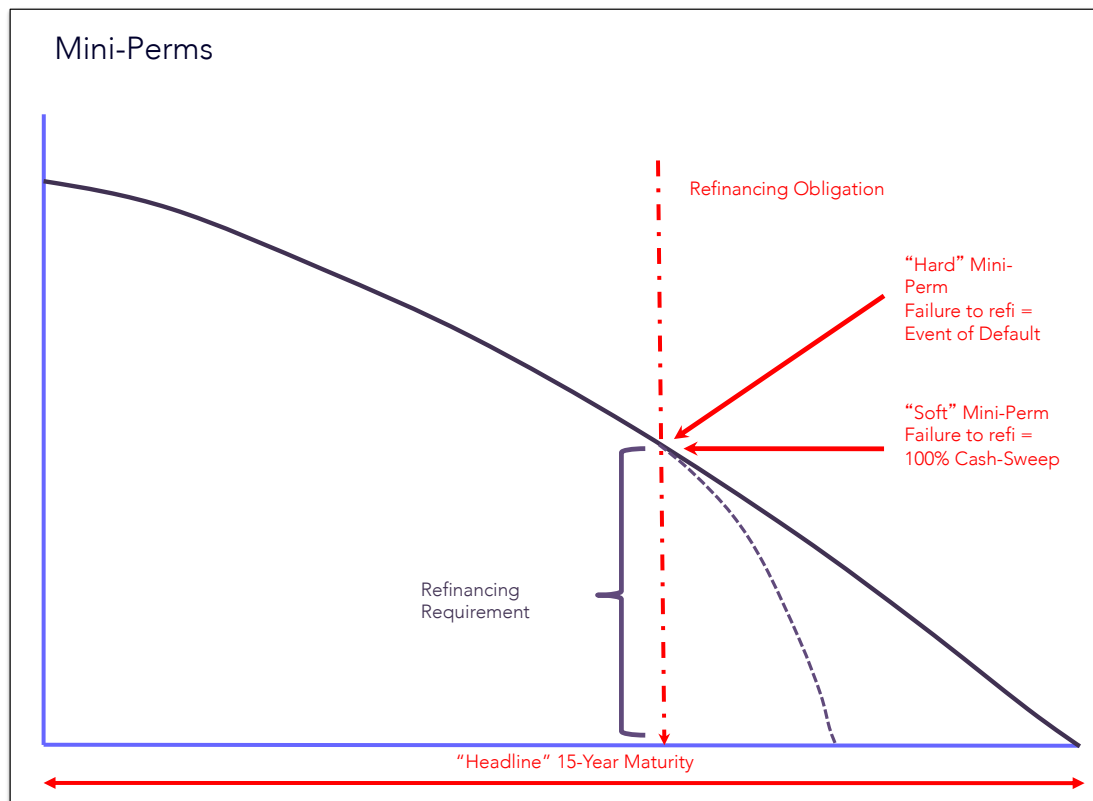
The 2008-9 credit crisis was in many ways a “perfect storm”. The initial trigger for the crisis – major credit losses taken by many banks as a result of the collapse of the sub-prime mortgage market in the US – in turn caused massive disruption to the interbank markets. The interbank market chaos made the pricing of credit extremely difficult and caused the virtual closure of the syndicated credit markets for a significant period from the Autumn of 2008.

The crisis in the sub-prime mortgage market in the US ultimately triggered a systemic crisis in global banking. Wildly imprudent borrowings – in certain cases involving fraud – had been taken on by US mortgage borrowers who in many cases had not the faintest prospect of being able to service their borrowings. This very risky lending was the platform on which was built a large but – as it proved - extremely fragile tower of debt instruments and derivative products. These instruments ultimately turned into “toxic” irrecoverable assets.

The crisis of 2008-9 triggered not so much a swing of the pendulum as a violent lurch! In all bank lending sectors the power of the borrower diminished as the issue became one of raising sufficient credit capacity to finance a transaction rather than negotiating the last few basis points on the margin. Transactions with very long maturities like project finance came under particular pressure. Banks had just been reminded very forcibly of the fact that their business was one of “borrowing short and lending long”. The spectre of depositors queuing to require the return of their funds caused an understandable reassessment of whether it was really “banking business” to lend over periods of 25 or even 30 years. Some banks withdrew completely from the project finance market. Other names disappeared as a result of mergers with other project finance market players (RBS and ABN-Amro, BNP Paribas and Fortis).

Margins over LIBOR increased sharply – doubling or even trebling in some market sectors. Arrangement fees also leapt – moving closer to 2% than 1% - as those banks which were

able and willing to lend extracted a higher price for their support. It was noticeable too that those banks which received significant state support tended to concentrate more strongly on projects in their own home markets. Indeed there was a sharp pull-back by commercial banks from the financing of projects in emerging markets. This caused a re-emergence of export credit agencies as key players in the project finance market.



Even the lenders who remained most active became for a time at least extremely cautious about longer-term maturities. For a time the "mini-perm" was a common tool for the structural control of maturities. Under mini-perm arrangements (see diagram above) a lender might offer a loan with a repayment schedule of 15 years but with a requirement for the borrower to refinance the loan facility within eight years. Failure to arrange a new loan to repay the old one by the end of eight years would result in an event of default if the transaction was a so-called "hard" mini-perm. That would allow the lenders to make the loan immediately repayable and to enforce their security if repayment was not forthcoming. This is of course a rather drastic measure and hard mini-perms were quite rare. Much more common was the "soft" mini-perm where failure to refinance would give the lenders the right to use 100% of cashflow after operating expenses and taxes (CFADS) to repay the loan as quickly as possible (a so-called "cash sweep").

Even soft mini-perms were not especially attractive to borrowers / sponsors, who were:

- in the position of having to pay a second set of arrangement fees for the refinancing;

- b) left uncertain as to what their interest margins might be beyond the refinancing date.

Project lenders did not particularly enjoy trying to sell mini-perms to borrowers either, but for a time they were the only structures many banks would consider. Bank credit committees became generally much more cautious than prior to the crisis and the time taken for the bank approval process lengthened appreciably. Lenders also became more selective with regard to the companies and transactions they would support. In the more structured debt areas, such as project lending and leveraged finance, it was noticeable that banks were seeking to “de-risk” transactions to a noticeable degree, reducing debt-to-equity levels and insisting on higher debt-servicing cushions.

11.3 After the Crisis...

11.3.1 Tighter Bank Regulation – Basel III

On 12th September 2010, the Basel Committee on Banking Supervision agreed on detailed measures to strengthen the regulation, supervision and risk management of the banking sector. This package of measures is generally known as “Basel III”. Of course it would not be unreasonable to wonder whether the fact that we needed a Basel III implied that there had been Basel II and that it had not worked. There had indeed been a Basel II - more fully known as the International Convergence of Capital Measurement Document (Basel II) - which had come into effect across the European Union, and many other jurisdictions, in 2008. Basel II had clearly not prevented the onset of the financial crisis.

Basel III introduced a number of measures – all of which were designed to make banks more resistant to the types of stress they experienced during the financial crisis:

- increased capital requirements as a percentage of a bank's balance sheet;
- a tighter control on the maximum leverage permitted for bank lenders;
- increased liquidity requirements to allow banks to withstand periods of funding stress and to avoid the funding of long-term loans almost exclusively from short-term funding sources.

Of course, any measure which increases the amount of capital and / or liquid resources a bank must hold will tend to reduce its returns. Many expected the implementation of Basel III to increase the cost of bank debt – especially that of long-term facilities such as project finance. This would probably have happened, had not the policy of “Quantitative Easing” flooded the markets with cheap funding for banks.

11.3.2 “QE” – A Flood of New Liquidity

Governments, working through central banks, aim to keep inflation low and stable. They conventionally use interest rate policy as a means of doing this, raising rates as inflation goes up above their desired ceiling. In the aftermath of the crisis governments were faced with the opposite problem – potential recession / deflation – and they quickly lowered

interest rates in a bid to support economic recovery. The Bank of England brought Bank Rate down very quickly from 5% to 0.5%.

If interest rates are at these low levels and recovery is still very sluggish then other less conventional tools are required. The main such tool which has been employed – first in the US and then in the UK and continental Europe – is quantitative easing or “QE”.

In a QE programme the central bank buys financial assets – government and other securities - from the banking sector and pays for them by crediting the sellers’ accounts at the central bank. In effect the central bank creates money by doing this, with a view to the surpluses on the banks’ accounts at the central bank being on-lent for economically useful purposes. The aim is to kick-start the economy by feeding new money into the system via the banks.

The first country to use QE was Japan – in 2001-06 prior to the financial crisis. The first country to use QE in an attempt to counter the effects of the crisis was the US, which went on to run three separate QE programmes up until 2014, by which time the US central bank had accumulated some US\$4.5 trillion in assets. The UK created £375bn of new money in its QE programme between 2009 and 2012. Then in August 2016, the Bank of England said it would buy £60bn of UK government bonds and £10bn of corporate bonds, amid uncertainty over the Brexit process and worries about productivity and economic growth.

On 22 January 2015 Mario Draghi, President of the European Central Bank, announced an “expanded asset purchase programme”, where €60 billion per month of euro-area bonds from central governments, agencies and European institutions would be bought. Beginning in March 2015, the stimulus was planned to last until September 2016 at the earliest with a total QE of at least €1.1 trillion. Mario Draghi announced the programme would continue: “until we see a continued adjustment in the path of inflation”, referring to the ECB’s need to combat the growing threat of deflation across the eurozone in early 2015.

On 10 March 2016, the ECB increased its monthly bond purchases to €80 billion from €60 billion and started to include corporate bonds under the asset purchasing programme and announced new ultra-cheap four-year loans to banks.

On top of the QE programmes introduced to counteract the impact of the financial crisis and (in the UK) around the time of Brexit, some governments reached for the quantitative easing tool again at the time of the Covid pandemic. The stock of assets held by the Bank of England — mostly government bonds — amounted to £445bn at the start of the pandemic. They had doubled to £895bn by the end of 2021 following three successive rounds of QE announced in 2020.

11.3.3 A Borrower’s Market Once Again

The combination of interest rate policy and QE has had the effect of recreating lending market conditions not unlike those in the run-up to the financial crisis. In addition to the low prevailing rates of interest, the implementation of QE has flooded the banks with new

liquidity. As large volumes of lending capacity have chased limited amounts of new borrowing requirements there has been an inevitable downward pressure on pricing (margins and fees).

Pressure on loan returns tends to bite first in the shorter-term markets and lenders respond by moving into longer-term transactions (such as project financing) to try and rebuild their returns. Basel III required more capital to be set aside by banks for longer-term transactions, which would imply an effective floor below which pricing should not go. These floor levels have been severely tested if not broken. It must be remembered that lenders have earnings targets, which make them very anxious to close a deal even if their returns are being severely eroded.

But lender returns are not the only aspect of transactions which were eroded in the period from the first quantitative easing until the onset of the Covid-19 pandemic in March 2020. Structures definitely became weaker too when viewed from the lender's perspective. A lender bidding for a potential loan transaction will certainly be tempted to economise on control features and covenants if by insisting on them s/he runs the risk of not winning the deal. This appears to have happened on a significant scale, to the point where commentary in the specialist project finance press has suggested that by the start of the current decade structures were weaker than they were in 2006-07.

12. Conclusion

You have reached the end of Module 1 of Practical Project Finance.

You have now learned what project finance is (and is not), how project finance loans are structured and what tends to drive the debt:equity ratio. You now appreciate the cashflow-based nature of limited-recourse financing and have a better understanding of the risk-reward relationships which the lenders and sponsors have with a project. You appreciate better also why borrowers might choose to use project financing – despite the cost, complexity and time implications of doing so. You have a good working knowledge of how the project financing markets have developed over the last 15-20 years. You appreciate too that lenders are in the business of understanding and limiting risk because they have little ability to improve their returns if projects do well, but full exposure to downside risk.

In Module 2 we shall begin to look at how lenders assess the risks associated with projects and also how these risks may be mitigated and/or allocated to particular players within the project finance structure. The first risks we shall examine will be those associated with the sponsors of a project and those which arise from the country in which the project is located.

Thank you.

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