Infrastructure Finance
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Lecture - 18
Project Finance Markets

Welcome back to this course on Infrastructure Finance, this is lecture 18. For the last few lectures, you been talking about various features project finance, the advantages and the motivations for which people use project finance. Now, we will move forward a bit and then talk about Project Finance Market. What are project finance market? Projects finance market, essentially we called them as various capitals that are used to fund projects finance investment. But, before we actually go on to talking water projects finance markets.

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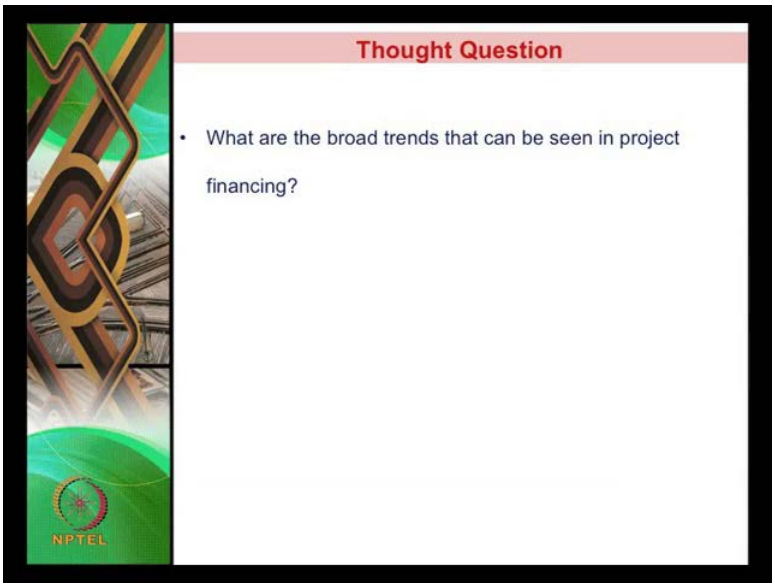

Let us try and spend some time discuss the thought questions that, we put forward the previous lecture. So, question number 1 is what are the broad trend trends that can be seen project financing, before we actually get onto let me actually show you some broad trends that has been captured in the literature.

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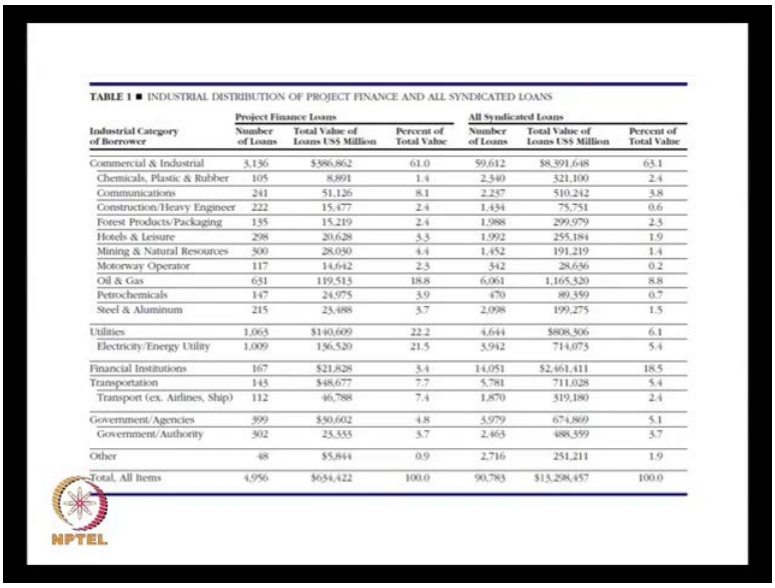

TABLE 1 ■ INDUSTRIAL DISTRIBUTION OF PROJECT FINANCE AND ALL SYNDICATED LOANS

Industrial Category of Borrower	Project Finance Loans: Number of Loans	Project Finance Loans: Total Value of Loans US$ Million	Project Finance Loans: Percent of Total Value	All Syndicated Loans: Number of Loans	All Syndicated Loans: Total Value of Loans US$ Million	All Syndicated Loans: Percent of Total Value
Commercial & Industrial	3,136	$386,862	61.0	59,612	$8,391,648	63.1
Chemicals, Plastic & Rubber	105	8,891	1.4	2,340	321,100	2.4
Communications	241	51,126	8.1	2,257	510,242	3.8
Construction/Heavy Engineer	222	15,477	2.4	1,434	75,751	0.6
Forest Products/Packaging	135	15,219	2.4	1,988	299,979	2.3
Hotels & Leisure	298	20,628	3.3	1,992	255,184	1.9
Mining & Natural Resources	500	28,030	4.4	1,452	191,219	1.4
Motorway Operator	117	14,642	2.3	542	28,636	0.2
Oil & Gas	631	119,513	18.8	6,061	1,165,320	8.8
Petrochemicals	147	24,975	3.9	470	89,359	0.7
Steel & Aluminum	215	23,488	3.7	2,098	199,275	1.5
Utilities	1,063	$140,609	22.2	4,644	$808,306	6.1
Electricity/Energy Utility	1,009	136,520	21.5	3,942	714,073	5.4
Financial Institutions	167	$21,828	3.4	14,051	$2,461,411	18.5
Transportation	143	$48,677	7.7	5,781	711,028	5.4
Transport (ex. Airlines, Ship)	112	46,788	7.4	1,870	319,180	2.4
Government/Agencies	399	$30,602	4.8	5,979	674,869	5.1
Government/Authority	302	25,333	3.7	2,463	488,359	3.7
Other	48	$5,844	0.9	2,716	251,211	1.9
Total, All Items	4,956	$634,422	100.0	90,783	$13,298,457	100.0

So, this table that I have been shown here, gives the distribution of project finance loans across various industries segments, so this table is from an article that appeared in general of applied finance, in 2000. So, in a essence it is little bit later, but nevertheless it helps us to understand the broad trends that are normally seen in a project finance transactions. So, what you have in this table is on the left hand side column, you have the different industry category and then subsequently the next three columns talk about the details regarding project finance loan.

And then the subsequent three columns talk about, the details of all the loan samples that are creating the database. So, if you look at the industry category, there are several industrial category, but they are broadly divided into four or five categories, the first category is, the commercial and industrial segment; that consist of various sectors like chemicals, plastics and rubber, communication that will also involve telecommunication. And then you have construction and engineering and then you have forest products and packaging, hotels and leasers, mining and natural resources, motor wave operators, oil and gas chemicals, steel and aluminum.

And then you have the utility sector, which essentially comprises of electricity and other energy utilities, then you have financial institutions, there is a category for transportation that includes transport, excluding airline and shipping. And then you have government agencies and then a category called other, so if you really look at this various industry

categories; and we also look at the number of project finance rules that are seen in each of the categories. So, you find some industries that clearly dominates in terms, of the loans that are taken and also the value this loans.

So, if look at the percent of total values loans taken in the project finance category, you actually find oil and gas accounts for the highest, 18.8 percent of the total value of project loans is actually seen in the oil and gas sector. Now, if you actually compare the value of loans for all syndicated loans, oil and gas sector accounts only for 8.8 percent, so in essence if you look at it, oil and gas accounts for larger percentage of a project finance loans.

So, similarly you look at other segment, let us say for an example communications, a communication accounts for 8.1 percent of the total project finance. Now, where else if you look at all indicated loans communication accounts for only 3.8 percent of the total loan value. So, what does this indicates, this indicates there are some industries that are more amenable for project finance transactions, and some industries may not be so amenable for project finance transactions.

Let us also look at the utilities, electricity accounts for 21.5 percent of all the project finance loans, so in essence the electricity is the largest in this table, in terms of accounting for the total loan value of project finance. But, if you look at all the syndicated loans electricity accounts for only 5.4 percent, and then if you moved on you find transportation and accounting for 7.7 percent, which also use recently higher as compared to the number that we see for all the syndicated loans.

So, is generally if you look at it, there are some industries segments which predominates the project finance loan transactions, indicating that this sector are project in the sectors or more capable of getting funded in a project finance more. So, an important thing that you have to look at is, this sectors largely infrastructure sectors. Now, which are the sectors are accounting for a substantial product of project finance loans.

So, there is communications, there is mining and natural resources, there is oil and gas, then you have electricity, then you have transportation, so put together this sectors accounts for substantial amount of project finance loan transaction. And all of this sectors are what we call as infrastructure sectors, so that is the reason why we normally

say project finance loans are more suited for infrastructure sectors, because we see a larger portions of project finance loans in the infrastructure sector.

But, nevertheless it may also interest you to know that the principle of project finance are now being applied in several other sectors as well. So, for example in the information technology sector, India is as you know is a very, very leading player as for a software services concern. So, today what happens is when several overseas plans, are planed set up software development centers, for developing software that are specifically related to their product source services.

Then this outsource development centers are being set up as special purpose vehicle, and these are being funded on a project finance more. So, the principles of projects of financing that we see in infrastructure sector, is also now being applied to some of the other newer sectors. Because, project finance is seen as a better way of allocating the risk to door parties that are best are to prove manage them, let us also look at the syndicated loan just to contrast.

So, if you look at this indicator loans, the differential institutions account for a large percentage of this syndicator at loans in our sample, 18.5 of the loan are being mailed for the financial institutions. And you also have oil and gas, which accounts for 8.8 percent accounting for significant percentage of the loan sample, but barring these two sectors, you do not normally find a couple of sectors that are dominating, the syndicated loan category. And we actually find that several sectors that account for a part of this syndicate loan category.

So, this is as far as trends in project finance, when we see from prospective of different industry sectors, now we can also look at the trends in project finance in terms geographic. Let us look at the next table ((Refer Time: 09:23)), so when you look at the geographic distribution of project finance, in terms of the countries that have actually used project finance borrow, again we look at the project finance loans, (()) all the other loans. So, in this table again taken from the same article that I talked about earlier, you have the left hand column all the geographical regions and specifically you also have a different countries.

And then we talk about the number of loans in each of the countries, and then the total value of the loan, so there are several interesting differences that you may actually see in

project finance loans as compared to all the other loans. So, let us see the first example is North America, and within North America we have United States, so if you look at project finance loan 16.8 percent of the project finance loans are actually for projects that are in United States.

But, if you actually look at all this syndicated loans, 61.1 percent loans all this syndicated loans are actually given to the borrowers the United States, so you see that disparity here. In the overall loan sample a large proportion close to 2 3rd of the borrowers, are actually located in United States. But, if you actually look at project finance loans it is less than 1 5th only 16.8 percent of the borrowers are based in United States.

Then which of the geographical regions that actually dominates in project finance category, so if you actually go down you find Western Europe that accounts for close to 1 4th of all the project finance loans. And this is higher as compared to the proportion that the Western Europe accounts for, in the overall loan category, you can go down further what you actually find Southeast Asia accounts for a fairly substantial amount for project finance loan.

But, the overall loan category Southeast Asia does not account for such a large proportion, so for example, only 5.2 percent of the overall loan are from borrowers in Southeast Asia. But, if you look at project finance loan 23.8 percent of the borrowers are based in Southeast Asia. So, with in Southeast Asia there are several countries like China, Hong Kong, Indonesia, South Korea, Malaysia and Thailand, so on.

So, broadly what you look at it, there are a large domination by some countries, again if you look at Australia and specific, Australian and pacific are for higher proportion of project finance known as compared to the overall loan category. Similarly, Latin America, Latin America accounts for higher proportion of projects project finance loan to the overall loan category. So, what can we actually see from this front, point number 1 you can actually seen that, a large proportion of project finance loans are actually given to borrowers, that are based in developing countries.

So, when you look at Africa, look at Indian subcontinent look at Southeast Asia, so the proportion of project finance loans in this geographical regions are higher than the proportion of loans, in the overall loan sample that what we have. So, the project finance

loans are essentially seen in those countries, that are largely in the developing sectors. We also have Latin America, which are actually have your proportion project finance loans.

Incidentally we also find that a larger proportion of infrastructure, many of the developing countries are engaged in massive development of infrastructure to meet the existing shortfall in infrastructure capacity. And one influence that we can make from this trend a that a large part of project finance loans are being taken to fund, infrastructure development in this geographical regions. There are also some countries which are developed such as, Australia and the United Kingdom where we have substantial amount of a project finance loan.

So, of logically in this exponential for this trend is that, in this two geographical regions we actually find substantial private participation infrastructure development. So, when you actually have private participation infrastructure development, most of this private investment tend to happen on a project finance loans basis, that is probably the reason, why we actually have this geographical regions according for large portion of project finance loans.

So, to sum up the trend as far as geographical regions are concern is that, developing countries account for a large proportion of project finance loan. And this trend is very different from what we see in the overall loan sample, the overall loan sample is strongly dominated by the United States. But, we do not see that kind of strong domination as far as project finance loans sample is concerned.

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	Developed Countries		Developing Countries	
	Number of Projects (% of total)	Total Value of Projects (% of total) US$ Million	Number of Projects (% of total)	Total Value of Projects (% of total) US$ Million
Panel A: Classification based on the year of financing				
1991-1995	122 (06%)	62,016 (06%)	98 (08%)	48,575 (06%)
1996-2000	429 (20%)	243,322 (25%)	369 (30%)	196,727 (25%)
2001-2005	653 (30%)	280,600 (30%)	356 (29%)	264,709 (33%)
2006-2009	955 (44%)	369,223 (39%)	390 (32%)	283,795 (36%)
Total	**2159**	**955,161**	**1213**	**793,806**
Panel B: Classification based on region of financing				
Americas	519 (24%)	273,030 (29%)	365 (30%)	155,447 (20%)
Asia Pacific	396 (18%)	158,214 (17%)	468 (39%)	305,291 (38%)
EMEA	1244 (58%)	523917 (55%)	380 (31%)	333,068 (42%)
Total	**2159**	**955,161**	**1213**	**793,806**
Panel C: Classification based on project sector				
Oil & Gas	223 (10%)	112,413 (12%)	360 (30%)	346,330 (43%)
Power	1167 (54%)	352,498 (37%)	397 (33%)	246,313 (32%)
Telecommunications	149 (07%)	152,661 (16%)	143 (12%)	74,648 (10%)
Transportation	450 (21%)	307,619 (32%)	250 (21%)	89,855 (12%)
Water	164 (08%)	27,816 (03%)	57 (05%)	21,368 (03%)
Total	**2153**	**953,007**	**1207**	**778,514**

So, now let us look at some more analysis, so this is an analysis that was done at IIT, Madras part of research project, so this consists of project finance investment that happened over close to 20 years period, starting from 1991 to 2009. And we have categorized investment as those investments that happened in develop countries vis-a-vis a investment that happened in developing countries. So, if you really look at it, within the developed countries, the value of projects that I have actually been funded by the project finance have increased over time.

So, between 1991 to 95, out of the total sample only 6 percent of the project, what during this 1991 to 1995 period, and then subsequently between 96 to 2000 a large proportion about the 20 percent of the loans. And projects that are implemented in 2001 and 2005 accounted for 30 percent, and the most recent time period 2006 to 2009 accounted for 39 percent of the total loan value. But, if you look at the developing countries, the trend is more or less similar the first period 1991 to 95 accounts for only 6 percent of total value of projects, that have been funded during the 19 year period.

But, as we move to more recent times, we actually find the proportion of projects increasing, so this actually gives an indication that. The number of projects that are fitting funded on project finance basis is increasing with time, we find in recent years, more and more projects are founded by project finance, as compared to what it has been in the past. So, what could be the reason for this, the reason for this could be as we get

more and more experience, in terms of implementing project finance transactions, that is a greater amount of comfort in using these structures.

Bankers are more comfortable in lending to a project finance investments, the sponsors are more comfortable in implementing project on a project finance basis. All the other stakeholders could be suppliers, customers, the government all of them have achieved a certain amount of understanding, obtained certain amount of comfort in implementing project finance. So, that is the reason why we actually find larger number of projects in recent years, using project finance transactions.

At an overall level you still find, the number of project that are using project finances, higher in developed countries as compared to developing countries. The total project that we are founded by project finance basis is more than 2100 whereas, in developing countries it is 1200. Now, it is possible that the database might not have captured all the projects in developing countries, but nevertheless it illustrates the fact that a lot of projects developed countries are also using project finance.

Next we will look at ((Refer Time: 19:19)) classifying based on the region of financing, so we have broadly classified the whole world into three broad regions, so we have Americas. So, the Americas comprise both the South America and the South American regions, and then Asia pacific actually comprises the very, very wast entire Asia, Australia, Middle east, the middle East comes in next segment.

The entire Asia and Australia comes under the Asia pacific, and then you have the EMIA which have actually comprise the whole of Europe, middle East and Africa. So, between these three regions if you actually look at it, EMIA accounts for the largest proportion, both in terms of projects and in terms of the value of project finance transactions in the developed countries. 58 percent of the project countries, and 55 percent in terms of loan value, these are the projects which are based in the EMIA region. So, America and Asia pacific do not dominate, Americas occupy the second position and Asia pacific the third position.

But, if you look at developing countries, there is a slight change in the ranking Asia pacific accounts for the largest number of projects that are using projects finance transactions, though in terms of value EMIA occupies the number on slot. But, more importantly what we see is, the distribution of project finance among the three regions in

developing countries is more or less in a very close range, as compared to what we are see in the case of developing countries.

Each for these three countries roughly account for a about 1 3rd in terms of number of projects, and in terms of total value of projects Asia pacific, EMIA reasonably close, whereas Americas do not actually account for a large number, Americas actually accounts for only 20 percent of the project finance loan value. Next we actually look at classifying based on the project sectors, so the entire sample was classified, a restricted only to infrastructure. And this infrastructure was largely on five different sector, we have oil and gas, we have the power sectors, then there is telecommunication, there is transport and then water supply and sanitation.

So, again we have actually split the project, and the total loan value by developed countries and developing countries across the sectors. So, you actually find some interesting trends here, power sector accounts for the largest number of in developed countries. And also, so in terms of the total value of the projects, but if you look at developing countries oil and gas accounts for the largest proportion of loan, and it also accounts for a significant proportion of the number of projects that are have implemented on a project finance bases.

Wherein this slight difference, a trend is more or less same in other sector, transportation as a slightly higher proportion in developed countries, whereas in developing countries the proportion on telecommunication, and transportation is more or less same, at least in terms of total value of projects. So, what you actually fine in this trend line is such, the tendency is to increase the use of project finance more of funding project infrastructure in recent years as compared to what we see in early 90's.

You actually find Asia pacific and EMIA dominating project finance transactions, as far as the developing countries are concerned and as far as sectors are concerned. If you leave aside oil and gas, the trend in the other infrastructures sector is more or less the same; between developed countries and developing countries, as far as using project finance mechanism is consider. ((Refer Time: 24:56)) Let us look at two important parameters, normally see in project finance transaction, one is the project cost and second is a gearing ratio.

So, project cost is the total investment that is being made in this project and then the gearing ratio is the ratio of the depth to total capital that is being used for the projects. So, as we know project finance investments have a substantial amount of Dutch, and what we will tried in do is, we will try and compare the cost of project that is used project finance between developed and developing countries.

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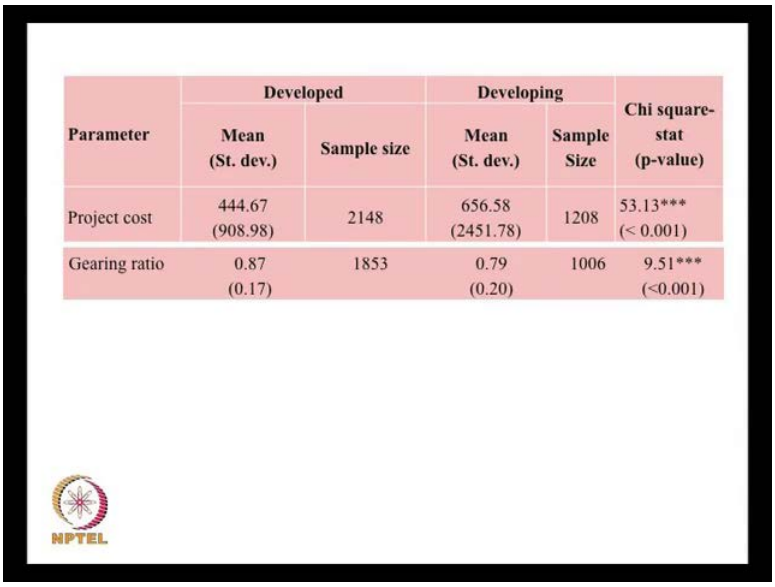

So, when you look at developed countries is the mean project cost was 444.67 this is in dollar million, but if you look at developing countries, the average project cost is 665.5 million dollars. So, there is substantial difference and this difference when it is tested first statistical significance, was significant at the 99 percent level. So, this indicates that projects that used at non resource or the project finance transactions or of a higher value, in the developing countries as compared to developed countries. Developing countries, borrowers in developing countries if they use project finance more, they are able to implement projects of a larger scale.

Next will look at the gearing ratio, the gearing ratio for developed country is 0.87 where as for developing country is 0.79, so these are the average values that you see for developed and developing country. Again the difference between the developed and developing countries is significant at the 1 percent level, so that means, on an average project based in developed countries are able to achieve a much higher leverage, as compared to project in developing countries.

Now, this is but natural why because the risk level in developing countries are expected to be much lower, the markets are considerably lot more robust in developed countries as compared to developing countries. In developing countries there is a certain amount of a country risk, which is literally absent when you look at developed countries. So, therefore, the lenders are prepared to invest a higher proportion of the project cost in developed countries, as compared to developing countries.

Now, this trend is going to be very similar in all the other borrowing as well, this is not very peculiar to project finance loans, because the system make risk that you actually see in a developing countries larger, higher as compared to what to see in the developed countries. And consequently we actually find borrowers are able to borrow a higher proportion of project cost in developed countries as compared to developing countries. Now, we kind of understand the brought trends as far as project finance is concerned.

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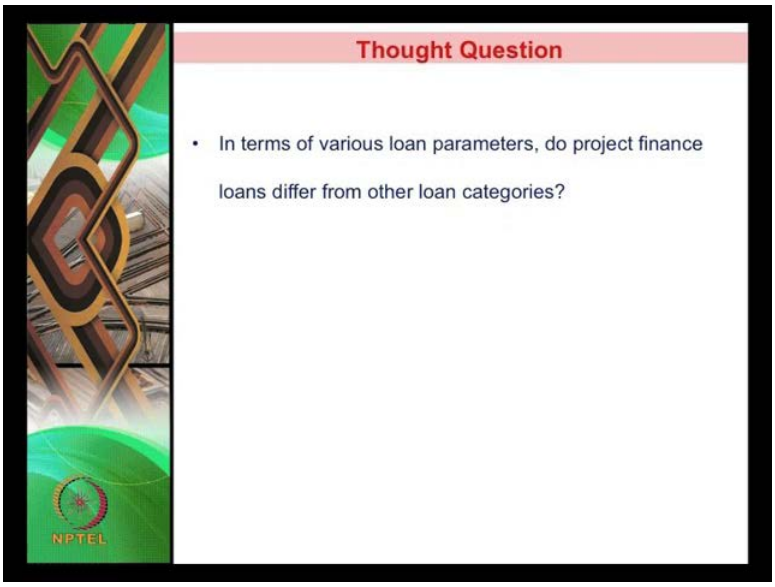

Now, let us go to the second thought question, so the question was in terms of loan parameters do project finance loans differ from other loan categories. So, the first thing is we have to understand what are loan parameters?

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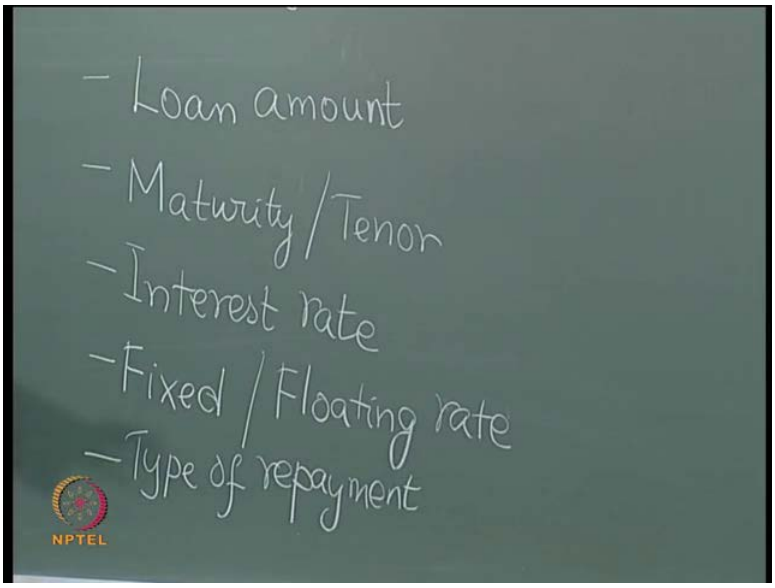

So, if you look at a loan structures, so you have different parameters associated with the loan, the first characteristic of a loan is what is call as your loan amount? So, loan amount indicates what is the total amount of borrowing, in a particular project or particular investment. The second is called the maturity or tenor, so how long is this loan far, the loans has a maturity period by which time the loan has to be repaid to the investors. So, is it 5 years, is it 6 years, is it 10 years, so that is the maturity or the tenor.

And then you have what is called as your interest rate, what is interest rate that is being charged by the lenders is it 5 percent, is it 6 percent, is it 8 percent, so that is an important parameter associated with the loan. And then we also have what is called as your, a fixed or a floating interest rate, so many times you actually have what is called as, your fixed interest rate is interest rate does not change to the loan tenor. But, in many cases we also have what is call as the floating rate, so in floating rate the interest on the loan is bench mark, to certain bench mark rate.

And if there is a change in organization in the bench mark rate, then the interest rate on the loan also changes, so there is what is called as your fixed or of floating rate. And then you also have type of repayment does the repayment, so when we you talk about repayment is specifically mentioned about principle repayment. So, interest whatever is accused is has to be paid whenever the interest is reduced, but when you talk about principle repayment is a principle repayment one shot at the end. So, loans of that type is

called as a bullet repayment and then you have certain loans were the principle is repaid through out loan tenor.

So, such loans are called as your amortization loans and then you have another category of loan, were the principle repayment increases with maturity that is in the initial years of the loan, the principle repayment is lowered. But, as the repayment period nears, then the level of principle repaid is higher, so that is called as your balloon repayment. So, we also have different types of principle repayment that is normally associated with the loan. So, if you look at loan parameters these are the major parameters that we have to be aware of. So, now, the question is in terms of this different loan parameters, do project finance loan differ from other loan categories; now what are the other loan categories, let us also talk about that.

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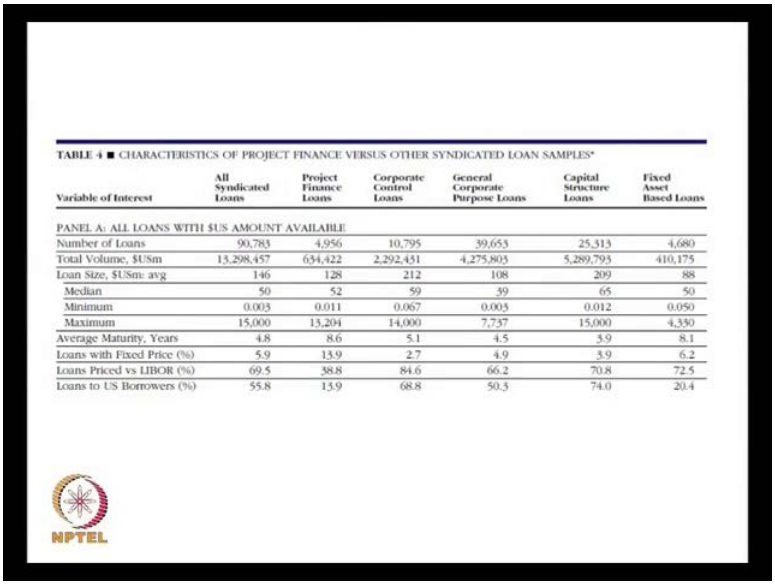

So, this table talks about five different loan categories, so you have project finance loan, you have corporate control loan, what are corporate control loans, corporate control loans are those loans that are actually taken to found merger or acquisition transaction. Then you have general purpose corporate loan, general purpose corporate loan are loans that are taken for routine corporate expenditure and investment needs. Then you have capital structure loans, so capital structure loans are taken with respect to any changes or restructuring in the capital structure.

So, for example, if a company wants to buy back equity and if it is borrowing to buy back certain amount of equity that will be called as a capital structure loan. Then you have fixed assets based loans, if the companies actually borrowing to finance purchase of an equipment, to finance development of an construction, which results in creation of a certain amount of fixed assets, these are called as your fixed assets based loans.

So, this table which is again obtain from the earlier mentioned journal of applied corporations article, and talks about five loan categories. Project finance loan, corporate control loan, general corporate purpose loan, capital structure loans and fixed assets based loans. And then it provides values of certain loan parameters across these five loan categories, so now, let us look at the loan size, loan size is nothing but the loan amount.

So, if you look at the loan size, the average loan size in project finance loan is on the higher side, it is only second, it is about 128 million, it might be lower as compared to corporate control loans or capital structure loans. But, it is definitely higher when you compared with fixed asset based loan or a general corporate purpose loan. So, normally you find a project finance loan, not small it is definitely not the highest amount, but it is definitely not small.

Now, let us look at the average maturity for loan tenure in terms of years, so if you look at the average maturity, project finance loans have the highest maturity as compared to all the other loan categories. So, the average maturity is 8.6 years and as compared to either a corporate control loan, or a capital structure loan that is substantially higher the fixed asset based loan comes closer; the average maturity is 8.1 for the fixed asset -based loan.

So, in a very fundamental way a project finance loan are very similar to fixed asset based loan, in the sense that if both of them results in the creation of certain amount of fixed assets. And because of that, they are able to actually get a loan for a higher tenure, if the life of a fixed asset is of long duration, then it is also possible to borrow for a longer period in line with the life of the asset. So, that is why you actually find the maturity period in project finance loans are higher.

Then you actually find proportion of loans that are having a fixed price or a fixed interest, so you actually find the proportion of loans with the fixed price is a highest, as for as project finance loans are concerned. So, 13.9 percent of all the project finance loan

have fixed interest whereas, this proportion is very less for all the other loan categories. Then you actually look at loans to us borrowers, at the overall level you find that 55.8 percent of all the loans are made to the US borrowers, but as far as project finance loan concerned only 13.9 percent of the project finance loan are made to US borrowers.

So, a small proportion of borrowers who actually take project finance loan are in the US. So, this is again kind of indicates that, there are other markets which accounts for a large proportion of project finance loan. And the US, which is the leader in several other segments of founding activity, does not have the same level of dominance in project finance market.

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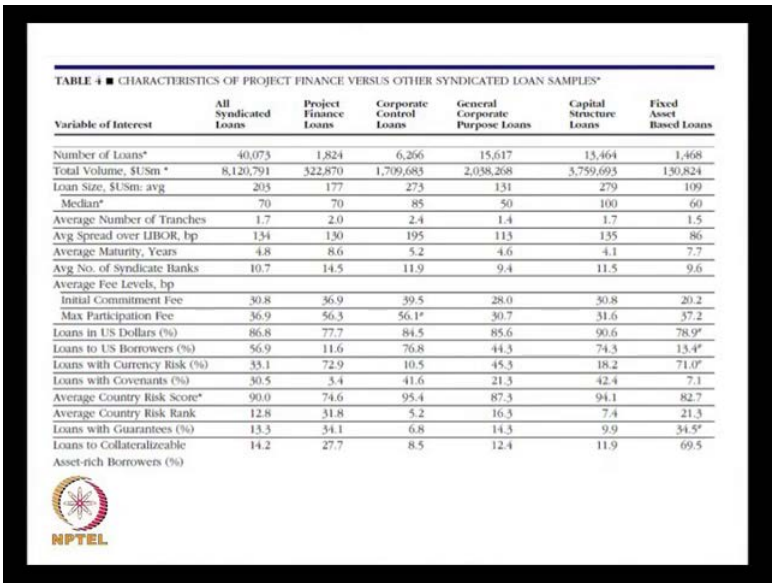

TABLE 4 ■ CHARACTERISTICS OF PROJECT FINANCE VERSUS OTHER SYNDICATED LOAN SAMPLES*

Variable of Interest	All Syndicated Loans	Project Finance Loans	Corporate Control Loans	General Corporate Purpose Loans	Capital Structure Loans	Fixed Asset Based Loans
Number of Loans*	40,073	1,824	6,266	15,617	13,464	1,468
Total Volume, $USm *	8,120,791	322,870	1,709,683	2,038,268	3,759,693	130,824
Loan Size, $USm: avg	203	177	273	131	279	109
Median*	70	70	85	50	100	60
Average Number of Tranches	1.7	2.0	2.4	1.4	1.7	1.5
Avg Spread over LIBOR, bp	134	130	195	113	135	86
Average Maturity, Years	4.8	8.6	5.2	4.6	4.1	7.7
Avg No. of Syndicate Banks	10.7	14.5	11.9	9.4	11.5	9.6
Average Fee Levels, bp						
Initial Commitment Fee	30.8	36.9	39.5	28.0	30.8	20.2
Max Participation Fee	36.9	56.3	56.1*	30.7	31.6	37.2
Loans in US Dollars (%)	86.8	77.7	84.5	85.6	90.6	78.9*
Loans to US Borrowers (%)	56.9	11.6	76.8	44.3	74.3	13.4*
Loans with Currency Risk (%)	33.1	72.9	10.5	45.3	18.2	71.0*
Loans with Covenants (%)	30.5	3.4	41.6	21.3	42.4	7.1
Average Country Risk Score*	90.0	74.6	95.4	87.3	94.1	82.7
Average Country Risk Rank	12.8	31.8	5.2	16.3	7.4	21.3
Loans with Guarantees (%)	13.3	34.1	6.8	14.3	9.9	34.5*
Loans to Collateralizeable Asset-rich Borrowers (%)	14.2	27.7	8.5	12.4	11.9	69.5

Next, we look at some of the other characteristics of project finance loan as compared to the different loan categories. If you look at the average number of syndicate banks, the average number of syndicate banks in project finance loan is 14.5 and the overall level is only 10.7. So, the average number of syndicate bank in project finance transactions is highly as compared to what you actually see in the other loan categories.

Now, let me also mention what is this syndicate, what is the number of syndicate banks mean. So, whenever you have a large amount of loan to be financed, it is not financed by a single bank, the group of banks joined together to fund the entire loan amount. And the number of banks in the group is called the number of syndicate banks, so the group is referred to as the syndicate and very offend banks joined together with other banks. So,

that the risk is diversify across different banks, and each bank invest only a small amount of the loan which is manageable from a risk prospective.

So, in a project finance transaction, the loan amount is divided among a higher number of syndicate banks as compared to what you see in a traditional loan transaction. Now, the reasons could be different, it is just that banks wants to minimize the risk that they assume in the project finance loan transaction. Or second having the highest number of banks also results in obtaining political supports, with more and more financial institutions, it is possible to have a higher degree political support with more number of banks being involved in the project.

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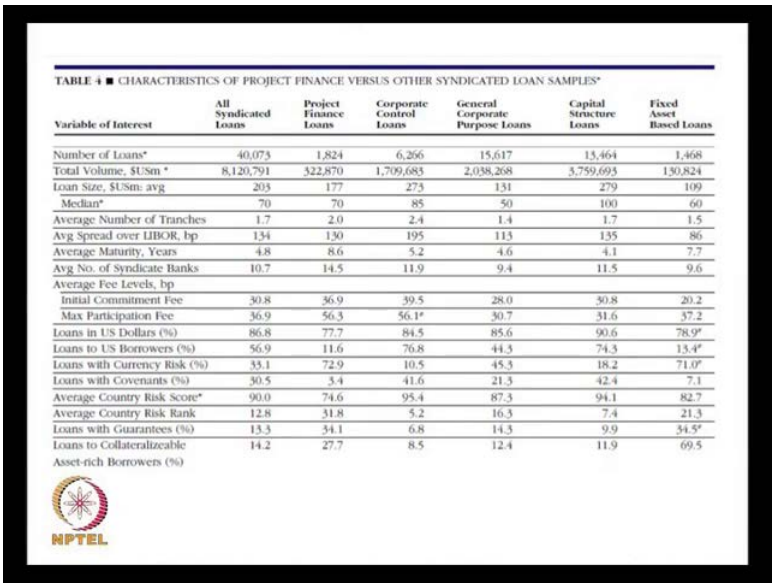

TABLE 4 ■ CHARACTERISTICS OF PROJECT FINANCE VERSUS OTHER SYNDICATED LOAN SAMPLES*

Variable of Interest	All Syndicated Loans	Project Finance Loans	Corporate Control Loans	General Corporate Purpose Loans	Capital Structure Loans	Fixed Asset Based Loans
Number of Loans*	40,073	1,824	6,266	15,617	13,464	1,468
Total Volume, $USm *	8,120,791	322,870	1,709,683	2,038,268	3,759,693	130,824
Loan Size, $USm: avg	203	177	273	131	279	109
Median*	70	70	85	50	100	60
Average Number of Tranches	1.7	2.0	2.4	1.4	1.7	1.5
Avg Spread over LIBOR, bp	134	130	195	113	135	86
Average Maturity, Years	4.8	8.6	5.2	4.6	4.1	7.7
Avg No. of Syndicate Banks	10.7	14.5	11.9	9.4	11.5	9.6
Average Fee Levels, bp						
Initial Commitment Fee	30.8	36.9	39.5	28.0	30.8	20.2
Max Participation Fee	36.9	56.3	56.1*	30.7	31.6	37.2
Loans in US Dollars (%)	86.8	77.7	84.5	85.6	90.6	78.9*
Loans to US Borrowers (%)	56.9	11.6	76.8	44.3	74.3	13.4*
Loans with Currency Risk (%)	33.1	72.9	10.5	45.5	18.2	71.0*
Loans with Covenants (%)	30.5	3.4	41.6	21.3	42.4	7.1
Average Country Risk Score*	90.0	74.6	95.4	87.3	94.1	82.7
Average Country Risk Rank	12.8	31.8	5.2	16.3	7.4	21.3
Loans with Guarantees (%)	13.3	34.1	6.8	14.3	9.9	34.5*
Loans to Collateralizeable Asset-rich Borrowers (%)	14.2	27.7	8.5	12.4	11.9	69.5

Next will look at loans with currency risk, so what do we actually means by currency risk, so when we say currency risk that means, the loan is actually made in a currency, that is different from the currency of the borrowing country. So, let us say if loan is for a project in India, and if the loan is obtained in US dollars, then this loan currency risk why because the home currency of India is in rupees, but the borrowers are lending in currency that is different from the home currency of the borrower.

So, whenever you have this kind of situation, there is what is call as currency risk, so when you look at the loans with currency risk, 72.9 percent of the project finance loans have currency risk. So, that means, a large number of project finance loan have foreign investment in the projects, so this kinds of gives an indication that structuring a project

on a project finance bases, facilitates attracting for an investment. And in a majority of developing countries, the capital markets are not developed completely the requirements of the local needs.

So, therefore, we need to have foreign investment and when we actually have project finance, then you are able to attract foreign investment in developing countries as well. So, this actually gives a very positive feature of project finance transactions, and you do not find loans with such a high amount of currency risk, in any of the other transactions, except in the case of the fixed asset base loan. Fixed asset base loan is very close, but still not higher than proportion of loans with currency risk that we see in a project finance loan.

Next we also look at average country risk rank, when you look at average country risk rank project fiancé loans have a higher rank, so when you actually have a higher rank, so that indicates a higher level of risks. Countries that are least riskier, have a lower current risk rank as compared to countries with a higher risk, so when you actually see projects finance loans, the average risk rank of project fiancé loans are higher. So, that indicates that, a large number of project finance loan are being made in developing countries.

Because, the developing countries have a higher risk, the average country risk rank of project finance loans are also higher. So, this second gives a very positive feature of a project finance in the sense that, when projects are structured the project finance basis, it is possible to get lenders, investors in those projects. And particularly it is possible to get lenders from developed countries, invest in projects in developing countries. So, discussion we have seen in these tables, largely indicates that use of project finance facilitates to attract funding for projects in developing countries. It facilitates to attract investment from corporative investors, it helps to have a larger number of banks in the syndicate and so on.

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So, next we move to the main topic that we wanted to discuss today, but unfortunately trying to look at the trends, and various features of project finance has taken away most of our time. So, we will quickly touch up on the various sources of project finance, and get in to details of these different sources probably in the coming lectures. So, what are the different sources of project finance. So, first is equity, which is naturally the capital that needs to be contributed by the owners, or the sponsors of the projects.

And then you have different sources of debt, you have the long term debt market and then you have commercial bank market and then you have institutional investors, such as insurance companies and pension funds. Who actually contribute to substantial amount of a project finance capital, and then you have supplier credits, then you also have government investments being made in projects. And then finally and most importantly you also have multilateral and bilateral agency funding, so these are institutions such as the World Bank, Asia development bank, Inter American development bank.

So, which actually makes investments in projects in developing countries, there are bilateral agencies such as, the US agencies for international development. And then you have the DFID, Department of International Development of the UK, the Australian agency for international development. So, these all are bilateral agencies, which invests in development of projects in developing countries.

So, this multi lateral and bilateral agencies is also contribute to the requirements of projects that are founded by project finance bases. So, in the next lecture we will try and look at, the characteristics of these different sources, and what are the common trends that we also see in these different sources.