International Business Management 11 (3): 601-604, 2017
ISSN: 1993-5250

Factors Affecting Construction Project Financing in Malaysia

Byung Gyoo Kang and Soon Kim Koh
Department of Civil Engineering, University of Nottingham Ningbo China,
Taikang East Road 199, 315100 Ningbo, China

Abstract: As the size and complexity of infrastructure projects become larger and more complicated, the financing methods of the projects becomes a crucial aspects. Project financing is a fundamental requirement for the successful completion of PPP/PFI (Public-Private Partnership/Private Funding Initiative) projects in the construction industry. However, the Malaysia construction industry is still behind in the application of project financing technique to construction project, compared to Europe and USA. This research investigated the Critical Success Factors (CSF) for project financing in the Malaysia construction industry. A questionnaire survey was conducted to the public/financial sector and the private sector. The 44 replies were received. The outcome shows that both sectors perceive similar views for the top critical success factors such as "cost of product and raw material to be used by the project is assured", "the operator is experienced and reliable". However, they also showed different views on CSF. Further studies are required to align the differences to provide more successful financial arrangements for the construction projects in Malaysia.

Key words: Construction, project, financing, financial arrangements, construction projects, Malaysia

INTRODUCTION

Financing a project is an important aspect in a project especially for the construction industry. The original and simplest method is the corporate financing. However, due to expansion and demand from the market, construction projects from the infrastructure industry today would require huge amount of money, hence the capacity of only one party can no longer take the responsibility alone. Governments can no longer provide the required amount of funds for every project, thus attracting the private sector into the picture would be the only solution, leading to project financing. Project financing has developed over the centuries since the 19th century as the financing tools and regulations changes in parallel (Khan and Parra, 2003). These changes include bond financing, equities, security agreements and risk mitigation techniques which encourage the growth in project financing. The most prominent contractual arrangements emerged from project financing are PPP/PFI (Public-Private Partnership/Private Funding Initiative). Both of the method increases the involvement of the private sector in funding of the project as well as the expertise and technology advantages in equipment and construction methods. Project financing has been used in many projects especially in the Western countries in Europe and America where many successful cases have been recorded. Some of the examples are Euro disneyland project, the eurotunnel and the Trans Alaska Pipeline System Project (TAPS) (Finnerty, 2007). However, in Malaysia, project financing is not actively used and there are only a few noticeable projects such as the plus North South expressway project and the Kuala Lumpur Light-Rail Transit (LRT).

The objectives of the project are: to investigate the critical success factors of project financing in the Malaysia construction industry in the perspective of the public sector, private sector and financial sector.

Literature review

Corporate financing: There had been many financing method used in the construction industry to finance the project. One of the most obvious methods would be corporate financing. Corporate financing is the most traditional financing method and is still commonly used in the industry (Tan, 2007). It has a structure which consists of the lender, the client, the contractor, the designer and the project as shown in Fig. 1 along with their relationship. In corporate financing, the client would have direct control on the facility and is responsible for the operation and maintenance of the facility so as to gain revenue from the project. Some significant points can be identified from the corporate financing, the financial statement and the liability of the client. Firstly, debts incurred by the client would be recorded in the balance sheet which will influence the valuation of investors on the company. This results in a high leverage on the client thus preventing the client from further borrowing of additional funds and limits its capability to participate in

Corresponding Author: Byung Gyoo Kang, Department of Civil Engineering, University of Nottingham Ningbo China, Taikang East Road 199, 315100 Ningbo, China

multiple projects. Secondly, a full recourse of the client's assets can be done by the lender if repayment defaults occur. This shows that all the risk will be absorbed by the client.

Project financing: Project financing is a complex financing model where it encourages more involvement from the private sector in funding the project for very large projects where the amount of funds needed exceeds the capacity of only the government alone, especially industries such as the oil and gas industry and the infrastructure sector. Project financing is defined as an off-balance sheet fund raising to finance a capital investment project where a Special Project Vehicle (SPV) is formed which owns and operates the facility and responsible for financial acquisition and repayment of the debts incurred (Finnerty, 2007). The parties involved in the project financing are the lenders, suppliers, purchasers, equity investors and sponsors and their relationship as shown in Fig. 2.

The SPV is responsible in contract negotiations with the host government, consultants, contractors and suppliers with additional monitoring of the progress of the project. More funds are then injected through parties such as equity investors, sponsors and lenders to provide cash flow of the project using various methods. Initially, the SPV would approach the lenders which provides debt financing. On the other hand, investors and sponsors would provide only equity funds to the SPV without any credit support. This is called a limited recourse or "non-recourse" financing. Another important feature of project financing is that assurances by insurers or host government are set up to deal with event of disruption in operation where necessary funds will be available to ensure the project can continue to progress. A comparison between corporate financing and project financing is to summarize in Table 1. Subsequently, the advantages and disadvantages of project financing can be identified together with the application of this method to the construction industry.

The main advantages of project financing are off-balance sheet treatment, expanded debt capacity of the sponsor, better risk sharing, release of free cash flow and tax treatment of the project company and the sponsor. (Finnerty, 2007; Khan and Parra, 2003; Ahmed, 1999). On the other hand, there are disadvantages of project financing such as complexity, time consuming in arrangements, detail financial management plan and high transaction costs (Fight, 2006).

Process of project financing: A normal project flow would be starting by feasibility studies and then, planning, design, bidding, construction and at last hand over of project. Feasibility studies would be conducted at the initial stage to examine the viability of the project and the size depending on the demands. Next planning would be done for procurement options and schedule of overall project is set up. Following planning is the design of the project from earthwork, infrastructure and also structural works. Next, bidding would be set up to engage

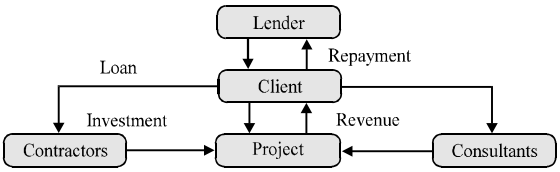

Fig. 1: Corporate financing relationship diagram

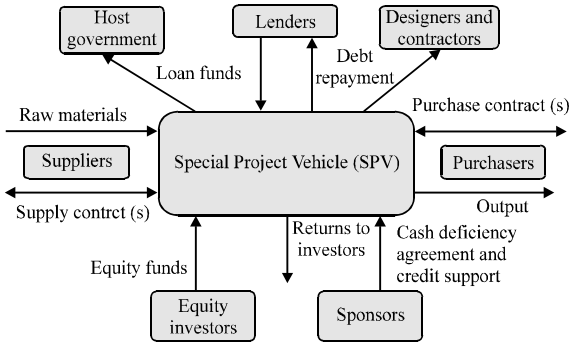

Fig. 2: Project financing relationship diagram

Table 1: Comparison between corporate financing and project financing

Comparisons	Corporate financing	Project financing
Financing vehicle	Multi-purpose organization	Specific purpose entity
Type of capital	Permanent as long as company exist	Finite capital matching project life time
Dividend policy and reinvestment decisions	Corporate management makes decisions	Fixed dividend policy
Capital investment decisions	Opaque to creditors	Highly transparent to creditors
Financial structures	Can be easily reproduced	Specific to one project only
Transaction costs for financing	Low costs due to competition from providers	Relatively high cost due to documentation and development period
Size of financings	Flexible	Requires critical mass to cover high transaction costs
Basis for credit evaluation	Overall financial health of corporate entity; focus on balance sheet and cash flow	Technical and economic feasibility; focus on project's assets
Cost of capital	Relatively lower	Relatively higher
Investor/lender base	Broader participation, deep secondary market	Narrower participation, limited secondary market

contractual agreement for contractors and suppliers to ensure the completion of the project. Subsequently, the construction would commence and upon completion a hand over would then finalise the whole process. A project financing flow would start with the establishment of special project vehicle where it would control and monitor the progress of the project. A feasibility study and planning would also be conducted. Additional elements such as designing of security agreement, fund raising, risk mitigation after the designs of the project would be carried out whereas repayment of debt and equity funds would occur after the construction complete and before handing over back to the government.

Critical success factors in project financing: Critical success factors are defined as "those few key areas of activity in which favourable results are absolutely necessary for a manager to reach his/her goal" (Rockart, 1982). Hence, this research is intended to find the important factors that govern the application of project financing. There are a total of 18 critical success factors for project financing that are demonstrated and complied by Li *et al*. (2005) from many different researchers explaining each of the factors involved. Besides, Nevitt and Fabozzi (2000) also provided a checklist for project financing which mentioned additional factors that are important. By combining both lists and some from other researcher, a total of 35 factors are compiled for the survey.

MATERIALS AND METHODS

A questionnaire survey has been designed and conducted within the Malaysia construction industry, focusing on the critical success factors in project financing and identify the different perceptions between financial institutions/the public sector and the private sector. The 15 replies from the public/financial sector and 29 replies from the private sector were received. Considering the roles and responsibilities, the public sector and financial institutions are combined as one group and the private sector as the other group. For the purpose of identifying the importance of each factor, a Likert-type rating scale is used where the Likert scale is defined as "a psychometric response scale primarily used in questionnaires to obtain participant's preferences or degree of agreement with a statement or set of statements". In this case, the factors are measure in order of importance by modifying the Likert scale to accommodate a point scale with the range of not important to extremely important with addition of 1 point provided for factors that are not applicable to specific party.

RESULTS AND DISCUSSION

Comparative analysis on critical success factors of project financing: A comparative study has been conducted on the perceptions of critical success factors between the public/financial sector and the private sector. This is a direct comparison on the data and the best way to compare these two groups is to use the rank of the factors. The most important factor can be identified between the two parties by calculating the mean of each rank and obtain the highest score. The summarised data is shown in Table 2.

It is observed the there is a slight difference in ranking of critical success factors from the public/financial

Table 2: Differences in ranks between public/financial sector and private sector for CSFs

	Public/Financial sector			Private sector			
Critical success factors	Mean	SD	Rank (A)	Mean	SD	Rank (B)	Difference in rank (C) = |(A)-(B)|
Competitive procurement process	3.828	0.848	11	3.333	0.488	28	17
Fair and transparent procurement process	4.069	0.923	5	3.733	0.704	15	10
Good governance	3.828	1.037	11	3.867	0.743	7	4
A satisfactory feasibility study	4.138	0.743	3	4.267	0.704	3	0
Thorough and realistic cost/benefits assessment	4.241	0.786	2	4.400	0.632	2	0
Multi-benefit objectives	3.379	0.942	30	3.400	0.828	27	3
Clear definition of responsibility of all parties	3.759	0.872	16	3.467	0.834	24	8
Suitable length of project financing preparation	3.724	0.797	19	3.800	0.941	11	8
Reasonable time frame structured for for the project financial transaction	3.759	0.830	16	4.000	0.655	6	10
Mutual trust between stakeholders the project financial transaction	3.793	0.940	14	3.800	0.676	11	3
Social support and community participation	2.966	1.052	33	3.333	0.816	28	5
Political support	2.828	1.256	34	3.333	0.816	28	6
Sound economic policy	3.448	0.985	28	3.667	0.724	18	10
Available financial market	3.862	1.026	8	3.667	0.488	18	10
Stable macro-economic conditions	3.690	0.967	21	3.867	0.516	7	14
Inflation rate projections are realistic	3.586	0.780	26	3.800	0.676	11	15
Interest rate projections are realistic	3.724	0.702	19	3.867	0.516	7	12
Currency and foreign exchange risks have been addressed	3.310	1.004	31	3.067	0.799	34	3

Table 2: Continue

Critical success factors	Public/Financial sector			Private sector			Difference in rank
	Mean	SD	Rank (A)	Mean	SD	Rank (B)	(C) = |(A)-(B)|
Cost of product and raw material to be used by the project is assured	4.276	0.834	1	4.200	0.834	5	4
Well-organized and committed public agency	3.276	1.032	32	3.267	0.884	32	0
Guarantees provided by the government	3.655	1.111	23	3.200	1.082	33	10
Favourable tax treatment, stamp and duties exemption	3.483	0.911	27	3.467	0.915	24	3
There is no risk of expropriation	3.862	1.026	8	3.533	0.834	23	15
Strong private capital (land to be reclaimed by the government)	3.862	0.875	8	3.867	0.834	7	1
Strong and good private consortium	3.793	0.861	14	3.733	0.961	15	1
Private sector having a good track record	4.034	0.731	6	4.267	0.594	3	3
Shared authority between public and private sector	2.655	1.078	35	3.000	0.845	35	0
Appropriate risk allocation and risk sharing between all parties	3.621	0.862	24	3.467	0.834	24	0
The operator is experienced and reliable	4.103	0.817	4	4.667	0.488	1	3
Force majeure risk has been addressed (risk of natural disaster)	3.621	1.015	24	3.333	1.291	28	4
Environmental risks are manageable	3.448	0.827	28	3.600	0.910	21	7
Adequate insurance coverage is contemplated	3.828	0.848	11	3.800	0.862	11	0
Stable legal framework	3.897	0.900	7	3.600	0.632	21	14
A commercial legal system protecting property and contractual rights	3.759	0.988	16	3.733	0.704	15	1
Compliance with corruption practice	3.690	1.285	21	3.667	0.900	18	3

sector and the private sector. On the top rank, the public/financial sector is more concern on the assurance of the cost of product and raw materials for construction (mean = 4.276) while the private sector give their attention on the reliability and experience of the operator (mean = 4.667). At the 2nd rank, both sector displayed agreement on thorough and realistic cost/benefit assessment (mean = 4.241, 4.400). Subsequently on 3rd rank, both sectors also confirmed on the importance of a satisfactory feasibility study (mean = 4.138, 4.267). Lastly, great difference is observed in competitive procurement process (difference = 17) followed by realistic inflation rate projects (difference = 15) and risk of expropriation (difference = 15).

CONCLUSION

Critical success factors for construction project financing have been investigated between the public/financial sector and the private sector in Malaysia. The outcome of the survey shows that both sectors perceive similar views for the top critical success factors such as “cost of product and raw material to be used by the project is assured”, “the operator is experienced and reliable”, “thorough and realistic cost/benefits assessment” and “a satisfactory feasibility study”. However, both sectors shows differences in some CSF such as “competitive procurement process”, “inflation rate projections are realistic” and “there is no risk of expropriation (land to be reclaimed by the government)”. The similarities and differences need to be well reflected in the project financing arrangements to enhance the execution of construction projects in Malaysia more efficiently and effectively.

REFERENCES

Ahmed, P.A., 1999. Lesson of Experience: Project Financing in Developing Countries. International Finance Corporation, Washington DC., USA.,.

Fight, A., 2006. Introduction to Project Finance. Butterworth-Heinemann, Oxford, England, ISBN:9780131016347, Pages: 639.

Finnerty, J.D., 2007. Project Financing: Asset Based Financial Engineering. 2nd Edn., John Wiley & Sons, New Jersey, USA., ISBN-13:978-0-470-08624-7, Pages: 476.

Khan, M.F. and R.J. Parra, 2003. Financing Large Projects: Using Project Finance Techniques and Practices. Prentice Hall, Singapore, Asia,.

Li, B., A. Akintoye, P.J. Edwards and C. Hardcastle, 2005. Critical success factors for PPP-PFI projects in the UK construction industry. Constr. Manage. Econ., 23: 459-471.

Nevitt, P.K. and F.J. Fabozzi, 2000. Project Financing. 7th Edn., Euromoney Books, London, UK., ISBN-13: 9781855647916, Pages: 498.

Rockart, J., 1982. The Changing role of the information systems executive: A critical success factors perspective. Massachusetts Institute of Technology, Cambridge, Massachusetts. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1003.4864&rep = rep1&type = pdf.

Tan, W., 2007. Principles of Project and Infrastructure Finance. Taylor & Francis, New York, USA., ISBN13:978-0-203-96250-3, Pages: 281.