Perception of Financial Institutions toward Financing PFI Projects in Hong Kong

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Abstract: Private finance initiative (PFI) has emerged to be a viable strategy for governments to transfer financial risks in public projects to the private sector. It does not only help tap the efficiency and finances of the private sector but it also promises to deliver better public services to the community. Despite these obvious incentives, there is still a low PFI diffusion in Hong Kong. Based on this understanding, we have undertaken this exploratory study, which is probably the first of its kind, to investigate the PFI's financial issues from the perspective of financial suppliers. This study was intended to identify factors that may affect the perception of the supplier side and to explore ways to facilitate their participation in PFI projects. The findings suggest that respondents had low level of understanding and knowledge of the PFI and they perceived that PFI public projects had an average risk and performance. To increase their involvement, several enablers are provided in this paper.

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Introduction

The U.K. government introduced the policy of the private finance initiative (PFI) in 1992, permitting the private sector financing public projects to alleviate the financing role of the government in the provision of public services (Rintala 2004). It does not only tap the efficiency and finances of the private sector but it also promises to deliver better services since the policy encourages the concessionaire to mull over long-term issues including operation and maintenance (O and M) costs (Kwan 2005).

By definition, the PFI is a structure of project finance whereby the project company builds, owns, and operates the project for a certain period of time, at the end of which the project ownership is transferred to the host government. Therefore, the PFI is referred to as the build-own-operate-transfer (Ahadzi and Bowles 2004; Zhang and Kumaraswamy 2001). Moreover, it is also called the *designing, building, financing*, and *operating*, which is a procurement method in which the government plays the role of monitoring a private sector entity with a very long term contract in a public service asset (Efficiency Unit 2007; Zhang and Kumaraswamy 2001). The running of the PFI has led to the provision of the public/private partnership (PPP) (Bing et al. 2005). Chiu and Bosher (2005) classified PPP projects in terms of asset ownership, sources of finance, and rights to the sales operation and customer interface. According to their classification, the PFI is a Type II PPP, which involves private ownership and finance together with public sales operation. However, the PPP is actually the public sector equivalent of outsourcing used in the private sector and is referred to as the design-build-operate (Palmer 2000).

The Hong Kong SAR Government believes that the PFI can help encourage private spending and cut public expenditure. With the PFI procurement, the aggregate supply of work opportunities could be maintained while the aim of "small government" could be achieved (Legislative Council Panel on Home Affairs 2002; Legislative Council 2003). The banking industry within the financial sector in Hong Kong still remains as the major source of capital for contractors for the foreseeable future. Unfortunately, the Hong Kong stock market has been dominated by property developers with a few exceptions of contractors who managed to get listed. These few public contractors have low profitability and the costs of their equities are high (Chiang et al. 2002). Bank loans have been and probably will remain in the near future as the main source of construction finance. The banking sector's attitude toward the risk and return performance of contractors is thus crucial to contractors' successful penetration into the PFI market. Their usual demand of collaterals during the lending approval process may prove to be stringent to contractors considering investing in PFI projects. In improving the penetration rate of contractors, this study aims at exploring the perception of financial institutions on the PFI. Their perception is crucial to their decision in offering loans to privately financed public projects.

This exploratory study is probably the first of its kind in investigating into PFI's financial issues from the perspective of financial institutions. By having a better understanding of their lending intention for PFI projects, several parties would be beneficial: (1) private investors can better prepare for successful borrowing; (2) local government is able to provide an infrastructure that is more conducive to the PFI; and (3) financial institutions would be able to make more accurate decisions as this survey addresses some of their major concerns.

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Overview of the PFI in Hong Kong

Privately Financed Public Projects

It is arguable that local property developers may be too large to adopt the PFI while contractors may be too small. In the study by Chiang et al. (2001) who identified different market structures of the construction and property industry in Hong Kong, one major implication is about the various degrees of PFI participation perceived by property developers and building/civil engineering contractors. Indeed, major local developers are among the largest and the most profitable in the world while local contractors are generally small and are nearly not profitable (Chiang et al. 2002). Major local developers may not be interested in taking up PFI building projects because it would typically take a few decades for the benefits to be realized. Instead, they are used to generating quick revenues by selling as many residential and commercial units as possible even before the completion of development. On the other hand, the majority, if not all, of the local contractors may be too small to have the financial resources for undertaking PFI projects.

In fact, there is no shortage of experience in Hong Kong with regard to public and private partnerships. There is still a sizable presence of local and international contractors who have participated in the provision of subsidized housing through the Public Sector Participation Scheme and other build-operate-transfer (BOT) projects. For example, the first BOT project in Hong Kong (perhaps in Asia) was the Cross Harbor Tunnel completed in 1972. Promoting such a partnership-driven policy as the PFI in Hong Kong should therefore be faced with fewer barriers. Moreover, since smaller local developers are still financially resourceful, local building contractors may choose to team up with these smaller developers to form consortia in PFI projects.

Despite the availability of potentially experienced and capable investors, there are added financial risks in PFI schemes. For example, one major constraint is about cash flow. According to Ip (2001), tendering costs of PFI projects are about 0.54% of the total project cost, being six times more than that of traditional projects (0.09%) and more than double that of the design and build projects (0.22%). Furthermore, instead of lump sums obtained by developers and contractors from property sales and interim/final payments respectively, PFI expenditures could be recouped only from a stream of rentals payable over a lengthy period (maybe more than 20 years).

Another constraint is about the accessibility and cost of capital. Cost of capital is expected to be higher in the private sector as compared to the public sector. It was found that the cost of private sector capital on PFI projects was 1–3% more than that of the public sector borrowing measured by gilt rates (The Treasury Taskforce 2000). Hence, the private sector must yield extra benefits and efficiency to make the PFI viable in the long run.

Chiang and Tang (2003), when addressing the issue of building quality, argued that the roots of many construction problems could be better understood if they are examined within a broader institutional framework that includes not only the construction and property industries but also the cluster of its related and supporting industries including banking and institutional investment sectors. In an earlier study, Ganesan et al. (1996) also examined the issue of how the productivity and performance of the construction industry were linked to its related and supporting sectors. In another financial related research, Chiang et al. (2000) investigated into the asset allocation of institutional investors in Hong Kong and their perceptions of the risks and returns of property and financial assets and suggested that one major research direction is to study the bankers' and institutional investors' attitude toward the PFI (and hence the receptivity of the PFI).

PFI as a New Procurement Method

Recently, the Hong Kong SAR Government has started promoting the concept of private sector involvement (PSI), which aims to enhance the public projects' cooperation between the government and the private sector (Efficiency Unit 2003, 2007). The government believes that with this flexible and vigorous alternative, the private sector is able to inject new ideas and initiatives to improve the quality as well as the efficiency of public services or projects that would be otherwise provided directly by the government. As a result, the government can focus more on their core operations.

The PSI has two major forms—the PPP and outsourcing. The PPPs are arrangements where the public and private sectors both bring their complementary skills and contributions to a project. Under this form, the two parties have varying levels of involvement and responsibility to provide public services or projects. Outsourcing, on the other hand, is an arrangement where a governmental department makes a contract with an external service provider for a continuous period for the provision of services specified and paid for by the department. As stated clearly in the governmental documents, the PFI is one form of the PPP. Other forms of the PPP include joint ventures, partnership investments, and franchises. The PFI is a public sector contract that purchases quality services with defined outputs on a long-term basis. This includes constructing and/or maintaining infrastructural projects by the private sector. The term also covers financially freestanding projects where the private sector engager designs, finances, builds, and then operates the assets to recuperate the costs through direct charges to the end users. Public sector involvement is limited to merely assistance in planning, licensing, and other statutory procedures.

Certainly, not all the projects are suitable to be undertaken by means of the PFI. Other than the "payback" to the private party's investment, the potentiality of PSI relies on the benefits of the PFI. These benefits can be classified based on such beneficiaries as the government, the private sector, and the project itself. Moreover, a PFI project has to undergo a set of procedures due to statutory requirements. A major procedural element is the proposal evaluation process (Efficiency Unit 2003). In simple terms, the process includes two main screening steps: (1) initial screening assessment of proposals based on basic requirements, and (2) identifying preferred bidders based on the best combined evaluation of the two-envelope (technical and financial proposals) or three-envelope (core facilities, noncore facilities, and financial proposals) method. Preferred bidders will be negotiated on specific terms where necessary checks are conducted to reduce corruption risks. Before the contract is awarded, due diligence checks should be in place to substantiate the bidder's claim in the proposals.

In view of the above arrangements initiated and facilitated by the government, it seems that all the groundwork has been done to launch the PFI to the "market." However, even if the above procedures are put into place, there is no guarantee that the private sector would jump at the chance to take part into PFI public projects. Perhaps, Lodge (2005), the representative of the Construction Industry Group of British Chamber of Commerce, gave us some indication in the symposium on PSI. He cautioned that by June 2004, only one of the 79 project proposals submitted by the Works Bureau to the Public Works Subcommittee of Legisla-

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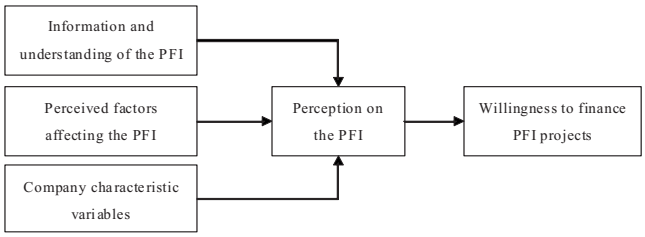

Fig. 1. Model of studying the perception of financial institution on PFI

tive Council could be identified as potential candidates for the PPP. He further contended that to encourage the submission of more PPP project proposals, a number of fundamental issues had to be addressed. Apparently, the lack of sponsors is one of these issues.

Banks and nonbank financial institutions have the right to authorize loans to both commercial and individual customers. Ho (2005), a member of Legislative Council, argued that the Hong Kong SAR Government, who had been facing the growing fiscal deficits for many years after the Asian Financial Crisis in 1997, had slowly come to realize the importance of capitalizing on over HK$ 3.6 trillion of private capital sitting in local banks to finance public infrastructure and building works.

Fok et al. (2004), when studying the relationship between banks and firms, suggested several reasons that bank loans would strengthen firm performance. First, bank loans avoid high information costs for public debt offerings (Fama 1985). Second, private debts help reduce the risk that information may be disclosed to competitors and thus help keep disclosure cost low (Oved 1995). Third, bank loans allow banks to monitor the borrowers regarding such activities as asset substitution and underinvestment problems (Fok et al. 2004). Banks with prominent reputation would increase the credibility of borrowers, play a more effective certification role, reduce the inefficient allocation of capital, and provide borrowers with valuable flexibility in loan renegotiation (Fok et al. 2004; Sharpe 1990).

The research questions that guided this research study were derived from the above sections indicating that the financial institutions, as important loan providers, may lack interests on the PFI, which hampers their involvement on public projects. Given their important role as the supplier of capital, knowing their perceptions or attitudes on PFI may help break the iceberg. In considering this, a problem model is developed for this study (see Fig. 1). Four research questions are shown below:

1. Do financial institutions have the information and understanding of PFI projects? Certainly, having full availability of information and understanding does not necessarily guarantee that financiers will have positive perception on the PFI. However, the lack of information and understanding may lead to negative attitudes and apprehension toward the PFI.
2. What are the key factors that affect the institutions' decision on financing PFI projects? The key decision factors may be barriers or stimulators when promoting the PFI.
3. Will the institutions' background govern their perception of the PFI? This question entails exploring the effect of company characteristics and supplementing our understanding of their perception of the PFI.
4. Will their perception of the PFI affect their willingness to be involved in financing the PFI project? This question makes explicit a connection between all of the above variables to the willingness variable. By knowing all of the relevant variables, it is able to derive useful recommendations for expediting the capitalization process.

Research Method

Data Collection

To elicit useful data, a questionnaire was designed based on a review of existing literature (e.g., Heinke and Wei 2000; Zhu et al. 2004; Lien et al. 2005). The questionnaire consisted of two sections asking questions relating to the background of the responded institutions, their perception of the PFI, their understanding of PFI projects, and so forth. Due to the exploratory nature of this research, the questionnaire instrument was pilot tested by several members of faculty and industry respondents. Consideration and further discussions with regard to the design and content of the instrument were based on the pilot reviewers' comments. As a result, the content and face validity (including readability, clarity, content, and structure) of the questionnaire were improved.

In Hong Kong, a three-tier banking system that categorizes the deposit-taking nature—namely banks, restricted license banks, and deposit-taking companies—is adopted. They are collectively known as authorized institutions under the banking ordinance. Based on this three-tier banking system, the research has identified a total of 202 banks as potential participants. Nonbank financial institutions were excluded in the present study because many of them were leasing companies and loans provided by these institutions were usually financed through related banks. Participation in the research was voluntary. Out of the 27 returned questionnaires, seven were received after sending out a reminder letter. Among them, six responses were deleted due to the lack of sufficient data. Finally, 21 responses provided useful data for analysis, representing a 10.4% response rate. This relatively low response rate is a reflection that PFI finance is still at its infancy in Hong Kong. As noted by some potential respondents, they did not fully understand the topic and therefore did not feel comfortable to respond. A few managers of the loan departments even contacted us to seek clarification on PFI/PPP. Nevertheless, this response rate is comparable with other PFI/PPP studies (e.g., Hardcastle et al. 2005).

Descriptive Findings

Of the 21 financial institution respondents, 16 were licensed banks while two were restricted licensed banks and three were deposit-taking companies. When classified in terms of asset size, 13 of them were large-sized companies (more than HK$1 billion) while eight others were small to medium-sized companies (less than HK$1 billion). Regarding their primary business of lending, all of them were lending for more than one type of business including mortgage lending (11), commercial (7), property (9), manufacturing (10), agriculture (3), industrial (11), construction (5), and others (6). Note that the respondents could select more than one item, which explains why the total responses exceeded 21. When we used 2% as the criterion for partitioning low and high yields [return of assets (ROAs) as in 2005], ten were regarded as low while four were high (and seven other respondents had no provision of relevant data).

The respondents' breakdown by corporate governance categorized that there were twelve foreign-controlled companies, four

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China's state controlled, and only one domestic family controlled. Moreover, the respondents were interested in public utility projects in such areas as power (33.3%), telecommunications (33.3%), piped water supply/treatment (23.8%), solid waste collection/disposal (23.8%), piped gas lines (19%), sewage treatment (19%), and others (9.5%). In public work projects, they were more interested in housing (47.6%), followed by dam/reservoir (14.3%), culture and entertainment (14.3%), hospitals (14.3%), irrigation and drainage (9.5%), and urban streets (9.5%). In transport projects, they were more interested in expressways/highways (38.1%), ports and waterways (28.6%), followed by airports (19%), rapid transit/subways (14.3%), and urban and interurban railways (9.5%).

We also received answers from the questions about their willingness to finance PFI projects. Seven of them replied that they were "not at all" interested in the PFI while five replied "very little" and "little" and nine replied "some," "much," and "very much." When asked whether they would consider financing PFI projects, eight said "yes" while thirteen said "no." For those who would consider financing, six of them said their lending would be less than 50% (in terms of total project investment) and two said their lending would be between 50 and 100%. For those who would not consider financing, one had given the reason of "too risky" while ten expressed that this was not the institution's financing policy. This is consistent with the findings where 19 said they have no such a financing policy and only 2 said yes. Referring to the size of the loan they preferred to make, four answered "less than HK$5 million," another four answered "HK$5–50 million," and six others answered "more than HK$100 million." Of the 14 respondents who expressed their expectation for PFI's payback period, six selected "less than 5 years," three selected "5–10 years," and five selected "11–20 years."

Description of Variables

To obtain more meaningful analysis about the data set, we statistically tested the model (see Fig. 1). Our purpose of doing this was to explore ways to improve PFI involvement by knowing what variables affect the intention of financing PFI projects. This is consistent with what Rintala (2004) contended that methods that have been used for studying the PFI were simply case studies or surveys with descriptive statistical analyses. To increase the confidence level of what have been examined, more stringent methodologies or analyses (e.g., inferential statistics) have to be employed. Referring back to Fig. 1, there were three sets of independent variables—knowledge and understanding of the PFI, perceived factors affecting the PFI, and company characteristics of the institution—which were posited to be related to the perception of the PFI, which was in turn related to the willingness of financing PFI projects.

In assessing respondents' understanding level of the PFI, five options (from "do not know" to "successfully experienced") were offered. In knowing the extent of the availability of PFI information, five options were made available, being from "no useful information" to "overwhelmed by information."

In studying the perceived factors that affected the decision on financing the PFI, this research had adopted eleven factors, which were adapted from previous studies (e.g., Heinke and Wei 2000). The factors were "economic progress of the economy," "social progress of the economy," "environmental viability of the project," "social acceptability of the project," "economic viability of the project," "payback period of the project," "national priority," "business relation with borrowers," "government's guarantee," "collateral pledged by borrowers," and "political reason." They were all measured using a seven-point scale from "strongly unrelated" to "strongly related."

Four company characteristic variables were employed, which were "type of the institution," "size of the institution (in terms of the asset size)," "governance of the institution," and "ROAs." Among these variables, three of them were quite straightforward in developing their objective measures (i.e., type, size, and the ROA) and the remaining one (i.e., governance) required more elaboration. To divulge their corporate governance structure, this study used the corporate control variable acting as a proxy for the governance structure. As adapted from Lien et al. (2005), there were four corporate control types—domestic family controlled, China's state controlled, foreign controlled, and others. These various cultural groups represent various forms of management practices because different cultures operate with their own value system that helps devise organizational policies and make decisions (Licht et al. 2005). Although researchers attempted to distinguish between governance and management, they are somewhat hard to separate especially when viewing corporate culture as a management tool (Welch and Welch 2006).

We measured the perception of the PFI on two important aspects—perceived risks of the PFI and the perceived performance of the PFI. Risks and performance are commonly known as important variables in evaluating a project. Perceived risks consist of four types—construction, revenue, market, and political—which were measured on a seven-point scale from "very low" to "very high." Both individual and composite scores (=combined risks) were computed for statistical analysis. We chose the four types of risks based on Chiu and Bosher (2005) who classified various kinds of risks for different types of the PPP for water and wastewater projects. These different types of risks include design and construction (D and C), O and M, compliance, market, tariff, financial, transaction, legal and regulatory, and political. Except for tariff risks, other risks are also associated with other types of PPP projects. They further identified different kinds of risks that are taken by either public or private partner or shared by both. Since the PFI is regarded as a Type II PPP, D and C, O and M, financial, transaction, and legal risks are taken by the private partner, market risks are taken by the host government and compliance risks are shared by both (Chiu and Bosher 2005). With respect to financial institutions, revenue (financial), market, and political risks may be more relevant to them. We also included construction risk as it is regarded as a major risk in a privatized infrastructure project (Ho and Liu 2002; Zhang 2005). On the other hand, we measured the perceived project and financial performance. The perceived project performance was measured based on four common project criteria—time, cost, quality, and scope—and the overall performance on a seven-point scale from "very poor" to "very good." We employed the payback period as the financial performance indicator because the net present value and the internal rate of return were difficult to estimate in PFI projects. The payback period is more plausible as it simply measured the period of recovering the investment without considering the discount rate. We measured the expected payback period with four options from less than 5 years to "more than 20 years."

To work out the respondents' willingness of financing PFI projects, we used two observed variables. The logic behind this is that one must first express his or her interest in the PFI before considering financing a PFI project. Therefore, we used the "interest" variable, which is defined as the cognitive process of selectively paying attention to one thing while ignoring other things. Such an attention will increase one's curiosity toward that

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Table 1. Impacts of Information and Understanding of Risk and Performance Variables

	Mean	Information	Understanding
Information	2.190	—	0.648[a]
Understanding	2.000	0.648[a]	—
Construction risk	4.105	0.180	0.214
Revenue risk	4.842	0.084	0.304
Market risk	4.842	0.296	0.605[a]
Political risk	4.211	0.295	0.566[b]
Combined risks[c]	4.632	0.268	0.533[b]
Time	4.412	0.404	0.336
Cost	4.588	0.545[b]	0.327
Quality	4.824	0.653[a]	0.643[a]
Scope	4.563	0.409	0.447
Overall performance	4.467	0.441	0.447
Payback period	1.929	0.376	0.035

Note: $n=11-21$ and all values are Spearman's correlation coefficients except for the mean values.

[a] $p<0.01$.

[b] $p<0.05$.

[c] Combined risks excluded construction risk.

thing (Wright 1973). Here, we asked the extent to which the institution was interested in PFI projects, with a six-point scale from "not at all" to "very much." However, even if a bank is interested in financing a PFI project, this does not necessarily lead to the situation that the bank will consider financing the PFI project. This raises the concern over what constitutes the behavior to finance. Taylor and Schneider (1989) noted that mental simulation, serving many functions including helping set expectations, leads to behavioral confirmation. Harris et al. (1997), in a retail study, suggested that during the process of purchase consideration, greater perceived satisfaction through social and informational exchanges would increase the purchase intention. In a financing behavior, the "consideration" process will transform a bank's curiosity to its expectations toward the finance of a PFI project. We, on the other hand, went one step further to measure whether the institution considered financing a PFI project simply by selecting either yes or no (a dichotomous variable).

Statistical Findings

Information and Understanding of the PFI

As shown in Table 1, there is a significant relationship between the information and understanding variables, implying that an institution with more PFI information might have a better understanding of the PFI. Table 1 also indicates that all risk variables were rated on average a bit higher than "neutral" and somewhat lower than "slightly high" (4.105 to 4.842). In other words, they did not see these risks to be towering hurdles for PFI projects. However, correlation test results indicate that the construction risk was not significantly related to other risk variables. We subsequently excluded the construction risk in our later analysis.

It is rather surprising that the scores on project performance (time, cost, quality, and scope) were on average somewhat lower than slightly high (4.412–4.824). Respondents' low expectation on PFI's project performance may explain why they did not intend to finance PFI projects. As expected, Table 2 lists strong correlations among all performance criteria and the overall performance. The overall performance variable thus represents a valid general indicator.

Furthermore, the findings indicate that the information variable had no significant relationship with the risk variables. This explains that the availability of information does not necessarily lead to either negative or positive attitude toward risks. In contrast, the understanding level was related significantly to market risk, political risk, and combined risks. Interestingly, the respondents perceived higher market and political risks once they understood more. This may then be a source of suppressing their intention to financing PFI projects.

Table 1 also indicates that both the information and understanding variables were not significantly associated with the perceived overall project performance. Although respondents with access to more information perceived higher on the cost and quality performance while those who had a better understanding perceived higher on the quality performance. The inconsistent results from other performance indicators suggest that their low level of understanding and less availability of information led them to somewhat differing views on PFI performance. Finally, the payback period—the financial performance indicator—had no relationship with both the information and understanding variables.

Table 2. Correlations for Risk and Performance Variables

	1	2	3	4	5	6	7	8	9	10
Construction risk	—									
Revenue risk	0.106									
Market risk	0.119	0.576								
Political risk	0.218	0.566[a]	0.807[b]							
Combined risk	0.375	0.793[b]	0.863[b]	0.921[b]						
Time	0.150	0.455	0.229	0.467	0.538[a]					
Cost	0.096	0.635[b]	0.605[a]	0.725[b]	0.803[b]	0.704[b]				
Quality	0.304	0.343	0.473	0.719[b]	0.623[a]	0.786[b]	0.739[b]			
Scope	0.170	0.246	0.650[b]	0.569[a]	0.605[a]	0.537[a]	0.599[a]	0.619[a]		
Overall performance	0.010	0.554[a]	0.649[a]	0.731[a]	0.727[a]	0.842[a]	0.938[b]	0.864[b]	0.655[b]	
Payback period	−0.025	0.098	0.074	0.036	0.071	0.404	0.381	0.338	0.157	0.343

Note: $n=14-16$ and all values are Spearman's correlation coefficients except for the mean values.

[a] $p<0.05$.

[b] $p<0.01$.

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Table 3. Effects of Decision Factors on Risk and Performance Variables

	Mean	Revenue risk	Market risk	Political risk	Combined risk	Time	Cost	Quality	Scope	Overall	Payback
Economic viability	6.17	0.127	0.288	0.339	0.237	0.068	0.162	0.278	0.163	0.196	0.469
Government guarantee	6.17	−0.081	−0.017	0.087	−0.006	0.239	0.063	0.283	0.160	0.023	0.712[a]
Economic progress	6.00	−0.280	0.066	0.168	−0.064	−0.149	0.013	0.145	0.109	0.044	0.650[b]
Payback period	6.00	0.112	0.091	0.009	0.112	0.083	−0.047	−0.112	0.183	−0.136	0.421
Collateral pledge	5.79	0.264	0.212	0.271	0.298	−0.022	0.006	−0.136	0.184	−0.106	0.311
National priority	5.61	−0.369	−0.298	−0.355	−0.355	−0.109	−0.176	−0.117	0.113	−0.269	0.249
Social progress	5.56	−0.193	−0.306	−0.392	−0.380	0.017	−0.289	−0.090	0.059	−0.340	0.495
Environmental viability	5.44	−0.034	−0.088	0.025	−0.040	0.135	−0.153	0.028	−0.108	−0.056	0.740[a]
Business relations	5.42	−0.004	−0.391	−0.287	−0.271	−0.051	−0.315	−0.100	−0.232	−0.289	0.262
Social acceptability	5.35	−0.333	−0.060	0.112	−0.168	0.061	0.079	0.298	0.172	0.061	0.413
Political reasons	4.50	−0.320	−0.257	−0.197	−0.282	−0.171	−0.064	−0.281	−0.156	−0.209	0.298

Note: $n=17-19$ for mean values; $n=14-17$ for correlation tests; and all values are Spearman's correlation coefficients except for the mean values.
[a]$p<0.01$.
[b]$p<0.05$.

Factors Affecting the Institutions' Decision on Financing PFI Projects

In Table 3, economic viability of the PFI (6.17) and government guarantee (6.17) were perceived as mostly related to the institutions' decision on financing PFI projects, followed by economic progress of an economy (6.00), payback period (6.00), collateral pledge by borrowers (5.79), national priority (5.61), social progress of an economy (5.56), environmental viability of the PFI (5.44), business relations (5.42), social acceptability of the PFI (5.35), and political reasons (4.50). Yet, these decision factors had no significant association with perceived risks and perceived project performance of the PFI (as shown in Table 3). It is found that the payback period was positively associated with government guarantee, economic progress of an economy, and environmental viability.

Company Characteristic Variables

As shown in Table 4, most of the proposed relationships were not significant, except for market, political, and combined risks which were related to the types of institutions at $p<0.05$. The findings, in general, suggest that the company characteristic variables were not associated with the PFI perception.

Table 4. Effects of Company Characteristics on Risk and Performance Variables

	Institution types (F-value)	Governance types (F-value)	Size of banks (t-value)	ROA (t-value)
Revenue risk	1.130	1.402	−0.685	−0.679
Market risk	4.068[a]	0.206	−1.527	0.852
Political risk	4.316[a]	1.302	−1.639	1.491
Combined risk	3.717[a]	1.115	−1.494	0.650
Time	0.247	0.229	−0.302	0.388
Cost	0.594	0.516	0.321	0.592
Quality	1.729	0.809	0.329	0.959
Scope	1.122	0.359	−1.007	0.788
Overall performance	0.550	0.514	0.000	0.565
Payback	1.254	2.439	−0.650	0.543

Note: $n=13-19$; F-value by one-way ANOVA; and t-value by t-test.
[a]$p<0.05$.

Perceptions of PFI Projects

For testing the relationship between the perception and willingness variables, we used two observed variables in measuring the willingness variable. As in Table 5, the findings indicate that these two variables were significantly related to each other, substantiating that they are valid in measuring the respondents' willingness. The findings further indicate that the interest variable was significantly affected by both the consideration variable and the project performance variable (but not the financial performance variable) while the consideration variable was not.

Discussion

This study tested the perception of financial institutions on the PFI. It used a model that specified the variables believed to be associated with perceived risks and performance of the PFI, which in turn might be associated with the respondents' interest in and consideration of financing PFI projects. In general, the respondents did not have sufficient PFI information. They also

Table 5. Effects of Risk and Performance Variables on the Interest and Consideration Variables

	Interest[a]	Consideration[b]
Interest	—	0.539[c]
Revenue risk	0.582[d]	4.334
Market risk	0.484[c]	2.005
Political risk	0.498[c]	2.317
Combined risk	0.600[d]	7.240
Time	0.580[c]	2.378
Cost	0.563[c]	4.172
Quality	0.586[c]	5.956
Scope	0.509[c]	0.965
Overall performance	0.705[d]	6.964
Payback period	−0.126	5.697

Note: $n=11-21$.
[a]Spearman's correlation.
[b]Chi-square value.
[c]$p<0.05$.
[d]$p<0.01$.

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lacked good understanding of the PFI. This clearly led to some unexpected findings. For example, the understanding and availability of information were not significantly related to the perceived project performance. When they did not expect the PFI would lead to a high level of project performance, the respondents were not willing to finance these projects. The return from PFI projects would not play well with the balance sheet, and hence, the provision of other investment alternatives, such as bond issues, would be a good catalyst (Chiu 2005).

Additionally, our findings indicate that the more the respondents understand about the PFI, the higher would be the level of the perceived PFI risks (market, political, and combined risks). This suggests that PFI projects have been regarded as chancy projects. In essence, there are lots of contributing factors for these risks. Hardcastle et al. (2005), in the study of critical success factors (CSFs) for PPP/PFI projects in the U.K. construction industry, found that the availability of financial market is one of the CSFs of the PFI. Unfortunately, it is understood that there was almost no PFI financial market in Hong Kong (i.e., high financial market risk). Indeed, we found that only two institution respondents had a PFI policy. This barrier needs to be overcome if we expect more financial institutions to take part in PFI loan business. In addition, political risk is considered to be high in Hong Kong due to incoherent policies of the local government, which may result in her low credibility. To reduce the risks, governmental involvement should be enhanced. Government should initiate engagement policies to induce good strategies including assurance of project completion, suitable risk reduction, achievable performance, reasonable relief events, and refinancing plans over the long leased period (Black 2005).

Among all decision factors, only four (i.e., economic viability, government guarantee, economic progress, and payback period) were related to the decision on financing PFI projects while others were only slightly related except for political reasons which were neither "related" nor "unrelated" (i.e., neutral). The four relevant decision factors imply that financial institutions are more concerned in economic conditions of the economy and the project, governmental support (which is consistent with the premise that a supportive governmental policy is expected to be a catalyst for PFI finance), and payback period. The findings do make sense. For example, Rintala (2004) argued that PFI procurement aims at improved value for money for public sector clients and increased profits for private sector actors as a result of improvements in economic efficiency. It is clear that economic inefficiency of the project is a source of financial risks to financial providers. Getting the private sector to be involved in the project is to make use of its efficiency in management (Kwan 2005).

Nevertheless, the insignificant associations between the decision factors and both perceived project risks and perceived project performance imply that the respondents responded disjointedly in coupled questions. Their inconsistent views may be due to their inadequate knowledge of the PFI. Prior to future research, immediate actions have to be undertaken to improve the public's PFI knowledge. Organizing workshops for different the parties (including loan suppliers, investors, governmental departments, etc.) will be a good strategy for introducing the PFI in Hong Kong. Moreover, those who rated higher in such decision factors as government guarantee, economic progress of the economy, and environmental viability perceived a longer payback period in PFI projects. This finding is reasonable as more stable environment, economy, and governmental policies are needed to make a longer payback period less financially risky to recover the investment.

The significant relationships between the interest variable and the two perception variables (perceived risks and performance measures) and the insignificant relationships between the consideration variable and the two perception variables imply that the involvement of financial institutions on PFI projects is still in its very early stage. Institutions, in general, are only interested in but are not prepared to commit to financing PFI projects. It is clear that without the contributions from banks and other financial institutions, there will be lack of capital injection for PFI projects. To change their perceptions on their lending strategy, there is a need for a paradigm shift to accommodate a long-term lending policy which needs the emergence of a long-term investment culture. To succeed in the new paradigm that expands their lending options, financial institutions need to appreciate the benefits of PFI projects, especially their value for money.

This study is subject to some limitations. Since the participants' knowledge of the PFI is largely insufficient, this may suppress the findings of this study to a certain extent. Future research should focus on studying the real, rather than perceived, understanding by the use of case study. Another limitation is about the small sample size. Only 21 questionnaires were used in this research. As the first study of financial institutions, our results nonetheless provide useful feedback to different parties, including government, investors, loan providers, researchers, etc. In the future, a larger sample is needed for a more representative study. A final limitation is about the PFI risks investigated in this study. Respondents rated high on all types of PFI risks. As shown earlier, some of these risks are actually shared between different parties of a PFI project. For example, revenue risk should be shared between loan providers and private investors while market risk should be shared between loan providers and the local government. More research can be conducted on how to minimize or eliminate these risks so that financial institutions would be more willing to offer loans to PFI projects.

Conclusions

This exploratory study has revealed the current perception level of the supply side—financial institutions—on financing PFI projects. A problem model was established and examined. In general, both the information and understanding variables were not related to the perceived risk and project performance. The decision factors were not associated with the perceived PFI performance, except that the payback period was positively related to government guarantee, economic progress of an economy, and environmental viability. Moreover, most of the company characteristics were not associated with PFI perception, except for the significant relationships of market, political, and combined risks to the types of institutions. Finally, the interest variable was significantly affected by both the consideration variable and the project performance variable (but not the financial performance variable) while the consideration variable was not.

The challenge of this research comes from the respondents' low level of understanding and knowledge of the PFI, which may account for their perceived risks and performance of PFI projects. If they are not confident that this is a viable procurement method, their involvement in financing would be limited. The indeterminacy of local governmental policies further turns down feasible collaborations. To foster a stronger relationship among the local government, loan providers, and private investors, all involved parties need to have a better understanding about the risk and performance aspects of the PFI. Other enablers to improve their involvement include the provision of successful business ex-

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amples, the establishment of a long-term investment culture, more promotion activities, and a set of well defined PFI policies.

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