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BOT

Facilitating Economic Growth within the Jamaican Context

Focus on concession roads

By

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MSC CEM

This report is submitted as fulfilment of of the requirements for the degree of **Master of Science** in the Built Environment department of the University College of London in **Construction Economic and Management**.



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Alignment Map

Background

This report will focus on the use of the Public-private partnership (PPP) form of procurement, specifically the Build Own Operate Transfer (BOOT) method as an alternative method of procurement in developing countries. The report will qualify the use of BOOT procurement as a means of delivering services traditionally provided by the Public.

The problem identified and focus of this report is the need for improvement to Jamaican infrastructure. The report will address the correlation between infrastructure and productivity in industry. The benefits derived through improvements to the infrastructure will be illustrated through socio-economic benefits. Economic benefits will also be quantified by using cost function analysis. Through this method it is possible to trace the effects of infrastructure improvements through the private sector production structure and performance and assess the effects of technical change, scale economies and forecast induced demand for employment, material and private capital stock.

Research Objective

The report will propose enabling strategies for BOOT projects in order to facilitate private sector investment. The arguments for implementation of these strategies will focus on the benefits from foreign direct investment (FDI) in the form of improved productivity derived from technology transfer and spill-over benefits.

In order to propose realistic strategies this report will systematically analyse BOOT procurement practices and provide a contextual analysis of the Jamaican economy.

The report is to analyse current risk associated with the BOOT, with specific focus on finance. The analysis of contextual issues specific to Jamaica will yield methods of mitigating risk and addressing aspects of the BOOT procurement model which would require region specific modification. The value of the report will come in the form of methods to reduce risk (real or perceived) thus enabling increased FDI and thus projects by making them **bankable**.

The analysis of risk and suggestions for risk appropriation is of great importance to a possible increase in private sector involvement in capital asset delivery and will attempt to identify risk and the parties most capable of managing particular risk/s.

Assessment of, and methods to mitigate and / or appropriate risk associated with securing financing for private sector infrastructure project would ensure commonality in procurement. The (relatively long) life cycle of BOOT project (25 – 35 years) has resulted in projects being assigned the risk associated with the region in which revenue streams will be generated. Hence risk mitigation techniques identified in this report might be employed by local government and project initiators, and ultimately act as catalyst or an enabling factor for much needed (BOOT) infrastructure projects.

Scope

The report will reference the finance stages of the BOOT procurement process. The opinion of finance risk is the key enabling or disabling factor in BOOT projects will be qualified within the in Jamaican context. A key component of BOOT procurement is the integrated solution, hence a collective analysis of the design, build and operate phases of the project lifecycle will be provided to demonstrate the benefits of the whole contract life-cycle.

Methodology

Literature review and analysis of procurement finance and common practice for large scale projects will provide the core means of analysis for this report. This will provide a comprehensive understanding of the BOOT procurement process, potential benefits and the means by which value for money is achieved. In depth analysis of this form of procurement will expose the potential contextual and financial risk.

A review of an existing concession contract currently in operation in Jamaica, Highway 2000 (H2K) will provide further insight into public partnerships for large infrastructure projects. The H2K project was chosen because it is the most recent concession contract and the largest in the English speaking Caribbean. Minor reference will also be made on the design and build phases (see Appendix A). Analysis of material published on the Jamaican economy (see Appendix B and C), by the Government of Jamaica officials in the Ministry of Finance, Ministry of Works, responsible for construction, and the Ministry of Foreign Affairs, Bouygues Trauvex Publics, and Price Water House Coopers.

Outline

The problem identified is the need for improvement of the infrastructure of Jamaica. Chapters two, three and four will provide contextual information to demonstrate that the lack of resources, making private-public partnerships in the form of BOOT projects the most viable option. Chapter five will discuss how the use of BOOT procurement can deliver benefits at the design, build, finance and operate (DBFO) phases of the project. The correlation between infrastructure investment and productivity will qualify recommendations in Chapter six of private sector investment as opposed to the traditional approach of public sector expenditure acting as an enabler of investment and sustainable economic growth.

Introduction

Public-private partnerships (PPP), the procurement method in which the private sector enters long-term agreements (typically 25 – 35 years) with the public sector to deliver service or utility traditionally provided by the public sector / government through the process of design, build, finance, and operation (DBFO) of an asset. The financing of the asset, also from the private sector, is raised on the open market through a mixture of debt and equity. Payment to the asset operation company is dependent on the structure of service provision: privatisation; publicly funded by private financing as is common in developed countries where build own operate transfer (BOOT), is used extensively or marketisation; where the owner/operator also collects payment/tariffs from the end-users of the service, as is typical with transportation projects. This approach is believed to deliver value for money (VFM) to the public sector and economic efficiency. Benefits are derived through the opportunity to innovate, the transfer of risk, incentives to complete the design and build phase of the project on time and within the allocated budget, and employ new construction and facilities operation strategies. In short, the efficiency of the private sector is employed to deliver public sector service. Hence, economic efficiency is derived throughout all phases of the project life-cycle.

Infrastructure Projects

There has been significant activity surrounding infrastructure projects since the development of modern BOOT / DBFO models. This has been triggered by the exit of government from ownership in major community assets, the removal of subsidies and hands-on government services, improving product returns, greater skills and technology. The economic efficiency the public sector / end-user achieves from the project can be measured by comparing the economic and / or social benefit to the cost borne by the public sector / client. PPP offer long-term, sustainable benefit by improving infrastructure and employing public sector revenue (taxes) efficiently. The key public sector benefits provided by infrastructure development relate to a more efficient use of primary resources generating economic,

social and community activity for the region and the country. Previous studies have shown infrastructure projects such as roads, power, water health care, education can act as a catalyst to revitalize rural communities through the creation of new employment opportunities, increases in the productive population, and increases in disposable earnings from higher yielding land use (Akintoye, Beck & Hardcastle, 2003).

Integrated Solutions

In conventional procurement, projects are often broken into their component parts and managed separately due to budget and planning limitations. With PPP procurement, the scope for procurement is expanded to incorporate integrated solutions (Akintoye, Beck & Hardcastle, 2003).

Private sector investment is driven by two key factors – "risk" and "return". If the returns are adequate to match the level of investment risk (within reason) then there is likely to be interest from the private sector. Projects generally find it difficult to access private sector funding for the feasibility and construction phases, as investment risk is simply too high.

Infrastructure typically requires a monopoly to be efficient due to the size of the network required and thus legislation often restricts entry into the market by other suppliers of similar service. The infrastructure projects diminish once the start-up risks have been overcome. These schemes have specific characteristics that make them an attractive low risk option for private investors, which include:

- Schemes are likely to generate long-term (20 – 30+ years) stable investment returns.
- There is high certainty over future revenue streams given the monopoly structure.
- There is high certainty over future expenditure streams given that the majority of the schemes operating costs are fixed (assuming funding costs can be fixed over the life of the project).

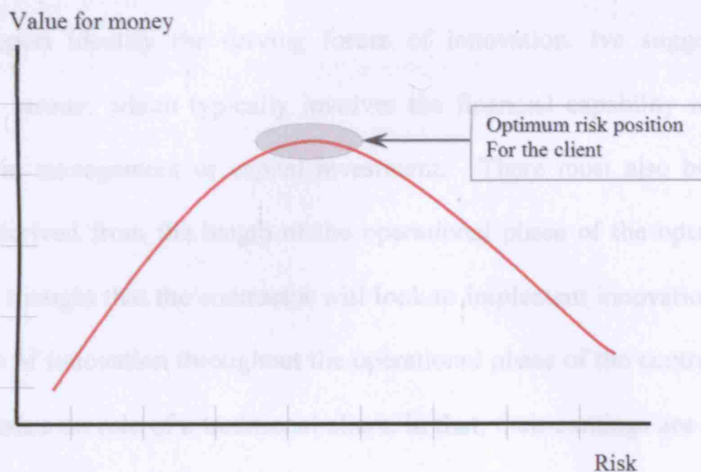
Value for Money

A key factor of BOOT procurement is the delivery of a service and not an asset. The financial implications are contrary to traditional procurement. Using BOOT procurement does not decrease government expenditure as payments are made over the entire lifecycle of the contract, typically 25 – 35 years, via government revenues (taxes) as opposed to debt, and may equate to a greater *total cost* than would be paid using a traditional procurement method. A key factor of BOOT is that it deliver greater *value for money* to the client than would a *traditional* procurement method. Assessment of value for money is conducted using the Public Sector Comparator (PSC). The PSC provides a ‘publicly financed’ benchmark, against which bids can be assessed in terms of overall functionality and value for money (Jeremy Coleman). This greater value is thought to be achieved through innovations, implemented by the contractor at the design, build and operation stages of the project life cycle which will deliver whole life cost savings and increased efficiency. One of the significant benefits from PFI procurement is *assurance* of the project being delivered on time. This is a significant factor as delays account for a approximately 40% of budget overruns on public projects (Ive2003).

BOT procurement has gained significant political momentum as a method of privatisation and ultimately marketisation of social services. The World Trade Organisation (WTO) is negotiating an extension of the General Agreement on Trade in Services (GATS) agreement which will extend marketisation and privatisation of public services globally. The scale of public private partnerships and other marketisation and privatisation policies equates to implementation of the GATS proposals in advance of a global agreement. Hence, there is a greater political objective making the initiative the single real option for new assets/facilities.

Risk

The construction and operating of public buildings entails a number of risks which have traditionally been accommodated by the public sector. Under PFI, risks are quantified and apportioned, with the majority of the risks transferred to the private sector. However the structure of financing for projects and the *off-take* type agreement (the contractual agreement to purchase the service from the PFI co.) and possible changes in the building use or demand are risks maintained by the government as they are contractually bound to purchase the service revert many of these risks to the government.



Risk v/s Value for money

Concession procurement is predicated on the provision of a service which is defined by the client's *output specification*, a definitive outline of the service comprised of the client's; objective, purpose and scope as well as the performance levels to be delivered during the operational phase of the project. In essence, the client states what it needs and *has* little or no concern with the asset used to deliver the specified requirements. Payment to the PFI company is based on *availability*; the provision of the services at the quantity and quality specified in the output specification. As can be expected, there have been difficulties in specifying quality where the service being provided is not a homogeneous product

and the inability to describe activities associated with tacit knowledge also equate to exposure to risk for the government.

Innovation

The thinking is to introduce the expertise of the private sector, where, through considerations of the entire project life cycle, *innovation* will be employed to ensure efficient and effective delivery of the service specified in the output specification, however, the current contractual (financially derived) structure erodes the likelihood of innovation. Statements made by Graham Ive (2000) in response to the Latham Report identify the driving forces of innovation. Ive suggests that innovation has three precursors: *means*; which typically involves the financial capability needed to implement increased supply chain management or capital investment. . There must also be *motive* to innovate; and this would be derived from the length of the operational phase of the operational phase, 25 to 30 years. Hence it is thought that the contractor will look to implement innovation in the asset as they will reap the benefits of innovation throughout the operational phase of the contract. In a matter of speaking the contractor takes on role of a traditional client, in that, their earnings are dependent of the ‘productivity’ of the building (during the operation stage of the contract). The *opportunity*; to innovate in this case is synonymous with the motivation as contractors typically look to innovate where there is the prospect of repeat usage of their innovation. In BOOT contracts this is two fold, not only would the private company be the recipients of the innovations as stated above, but due to the limited number of BOOT companies in the market, it is probable that these companies would be involved in more than one project. The client (the government) is the potential recipient of innovation as ownership of the asset is transferred to the government at the end of the contract (post operational phase). However, in practise the financial structure and fragmentation of the contract can limit the *means*, *motive* and *opportunity* to innovate.

BOOT Project catalysts - Seed capital

Seed capital funding are the monies required to complete the feasibility and resource consent phases of the development. This funding is considered seed capital as it is essentially funding research and development with a high chance that funds will not be recoverable.

The private sector, typically, will not provide seed funding for infrastructure development, as the absolute risk of the investment is too high. The granting of resource consent is a key milestone and essentially a prerequisite for attracting private sector funding. If a scheme is to proceed, this funding must be sourced from other providers i.e. Government. The providers of seed funding (including Government) to a scheme that ultimately proceeds, should expect to recover this investment including a return commensurate to the level of risk undertaken.

If Government is the provider of seed capital, the level and type of return generated from the investment will be dependant on the agreed funding instrument (debt or equity). Converting the seed capital to debt is the simplest and lowest risk method for Government to recover the investment and return i.e. fixed repayment terms and returns are set upfront. Where Government chose to convert the seed capital to equity the risk increases given that the timing of Government exit or the return on the investment is not fixed. There may also be complications with take or pay requirements fixed to some classes of equity.

Bid Cost

There are significant costs involved in bidding for a major BOOT contract. The process involves the development of detailed proposals in response to a public sector specification, complex contract and financing documentation and lengthy negotiation through the various phases to financial close. Bid costs can vary significantly between projects. However, with all projects, the expenditure increases significantly between the preferred bidder (PB) stage and financial close. This is due mostly to the high

legal costs associated with the detailed drawing up of final contracts, and the crystallisation of advisor success fees where relevant.

The costs will be often recovered at financial close in the case of successful bids, although when not successful, they represent a direct cost for the business. In order to mitigate these, Laing carefully targets and selects the projects for which it bids to ensure the highest chance of submitting a successful bid. Where possible, we use internal resources, which can also reduce costs. In addition, the group has a retained team of advisors who may be willing to work at risk prior to the PB stage. Post 2001, common BOOT accounting practice until preferred bidder status is achieved, all bidding expenses must be expensed as they are incurred, i.e. written off to the Profit & Loss account for are

During the preferred bidder (PB) stage all costs will be capitalised and an asset created on the sponsor's balance sheet. When financial close is reached, a recoupment of the bid costs and a development fee are charged to the project company by the sponsors. The element of deferred income is calculated, and is then released to the Profit & Loss account over the construction period of the asset

Accounting

Public sector involvement in PPP is not driven by accounting considerations. Each scheme is assessed individually on its own merit. Significant emphasis is placed on the projects delivering value through a transfer of risk to private investors.

Accounting policies which are compliant with International Financial Reporting Standards (IFRS.) are good practice as they have endorsed by EU member states, and therefore is compliant with Article 4 of the EU International Accounting Standards (IAS) regulations. This is particularly important and applicable to projects in developing countries as the funding will invariably originate in home country of the the DBFO company.

Although individual project companies (SPCs) under BOOT contracts may have different accounting policies depending on their investing partners, many companies have adopted consistent accounting policies across its portfolio of projects.

The accounting treatments are as follows:

Subsidiaries – ‘Business Combinations’ using the acquisition method, whereby 100% of the results, assets and liabilities of the Subsidiary are consolidated on a line by line basis in the Group accounts. Minority interest is shown to reflect the minority shareholders’ share of profit and net assets.

Joint Ventures - ‘Interest in Joint Ventures’ using the proportionate consolidation method, whereby assets and liabilities of the Joint Venture are consolidated on a line by line basis in the Group accounts.

Associates – ‘Investments in Associates’ using the equity method of accounting.

Design and Construction funding

Subsequent to accessing seed capital for the completion of feasibility studies and granting of resource consent there are broadly three options available to a scheme when accessing funding for the design and construction phases:

- Business Finance
- High equity requirement (50 percent+), security required, medium lending terms.
- Project finance
- Lower equity requirement (20 percent - 50 percent), security secondary, longer lending terms, secure long-term customer contracts required.
- Build Own Operate Transfer (BOOT)

- No equity requirement, external scheme ownership for a period, secure long-term customer contracts required.

Given the characteristics of concession contracts, project financing is the funding option most closely aligned with scheme needs. However, in-order to qualify for project financing there are stringent income certainty requirements that must be satisfied by the scheme. This potentially increases the cost and scope of the due diligence / feasibility study. The ability to secure 'project finance' funding is largely dependant upon the investors' assessment of the schemes revenue certainty and credibility. For example, the project studied in subsequent chapters, Highway 2000, qualifying the scheme for funding, required (at a minimum) securing long-term contracts and/or the availability of a credible external underwriter to guarantee revenue capacity; documented proof of the long term affordability of road users in the region to meet the required toll and volume usage; and the a contract which restricted development of competitive / alternate forms of infrastructure.

The BOOT concept has been used successfully in developed countries for funding the development of large-scale infrastructure projects, primarily related to development of core government infrastructure e.g. hospitals, prisons and roads. The application of Private Finance Initiative (PFI) models in which the revenue stream is collected directly from end-user is also being explored for projects outside the typical PFI model. Specific consideration will need to be given when defining the output specification for projects with output specifications which are difficult to quantify, such as health or education.

Funding

There are a number of potential providers of debt funding for BOOT projects. These include standard bank debt, institutional debt (e.g. superannuation funds, insurance companies, other managed funds), public debt (e.g. bonds and debentures issued to the public market), Government debt and off-shore/foreign debt. Banks, Government (Central or local) and institutional investors most appropriately

for the use of debt funding. Foreign and public debt investors generally require strong independent credit ratings and a recognisable company or brand name before they are prepared to commit funds. Schemes may access some non-participating private equity investment but as these investors require a return generated primarily from scheme operating profits, it is unlikely that the necessary return will be available if these investors provide a significant portion of funding.

Guarantees from a credible source will be required for security over debt provided under a business financing option. The party with the greatest credibility and capacity to provide this guarantee is typically the Government. These guarantees should be able to be limited to an initial scheme operating period of three to five years.

Where it is not viable for a scheme to stage the development in line with customer demand, there may be a role for a third party underwriter, most likely to be the local government to guarantee the revenue capacity of a scheme could be less than the scheme requires. There are significant risks in providing this underwriting role. It is critical that a detail risk assessment is completed and management strategies developed before this role is considered.

Funding Options

The funding structure options available for the development of projects fall into three broad categories:

- business finance;
- project finance;
- Build, Own, Operate, Transfer (BOOT).

The applicability of each funding structure differs depending on individual scheme objectives and circumstances. However, each funding structure has different requirements and in many cases a scheme will not meet the criteria for all of these structures.

Each of the above funding structures requires a combination of funding mechanisms: debt; equity; hybrid equity; other financial support: financial guarantees; revenue underwriting.

Business finance , where an entity borrows funds for a project based on projected cash flows, backed by strong security giving the lender comfort that the debt will be recovered in the event that the cash flow projections are not met. In most cases security needs to be provided from another credible source, most likely the government.

Project finance relies primarily on the strength of the project's cash flow for debt repayments with the underlying asset value held as secondary security or collateral. The equity requirements are significantly lower under a project finance structure. The strength of project cash flows provides the security for the debt. Security requirements in addition to this are secondary. If the lender does not consider the contract holders to be credit worthy then additional guarantees may be required to underwrite revenue capacity. Under this structure, the term of the loan is dependent on the term of the customer supply agreements. The loan term is likely to be extendable to within two to three years of the supply agreement term i.e. if a supply agreement is for 25 years, it is likely that the loan term could be extended for up to 22 - 23 years. Large-scale schemes are well suited to project financing criteria. There are clear advantages for schemes given the lower up-front equity contributions and extended repayment terms afforded under this structure.

Debt Financiers

Different legal structures can determine the level of risk for financiers. Under project financing and BOOT funding, long-term certainty of revenue is the critical element that debt providers will focus on. Therefore the legal structure of the scheme must support long-term certainty of revenue. A scheme will require a level of 'seed capital' to fund the preliminary feasibility study and make an application for resource consent. This funding is considered seed capital as it is essentially funding the research and

development stage of the project with a high chance that the funds will not be recoverable. This is high-risk research expenditure with no certainty of recovering costs incurred if the scheme is in fact not feasible for the area.

Where there is insufficient funding available from the private sector, financial support must come from Government if the preliminary investigations are to proceed. In reality Government is only likely to fund a portion of the seed capital requiring a contribution from land owners given that land owner commitment to the scheme, even at this early stage, is a key indicator of the future success of the development.

Where seed funding is converted to equity Government will carry more risk than it would converting the seed funding to debt, given that returns are dependant upon the success of the scheme and the amount that the market is prepared to pay.

Risk

A risk occurs where there is uncertainty over the outcome of a decision. The uncertain aspects which equate to risk on the project must be managed in order to achieve project objectives.

The risk perceived by financiers includes come under two main headings:

1. **Systematic** or market risk affect an entire market and are factors affective broad economic conditions. The risk can not be completely avoided and are considered to be undiversifiable.
2. **Non-systematic** risks are associated with particular assets or segments of the market. These risks are also know as 'specific risk' because they impact specific segments of the project and / or market being served.

BOOT risk check list

- Land / site acquisition
- Feasability study
- Planning approval and permits
- Design
- Construction
- Operating risk
- Occupation risk
- Obsolescence / Technological risk
- Economic risk
- Legislative / regulatory risk
- Taxation
- Bid & negotiation process
- Political

- Corruption
- Management
- Raw material
- Financing
- Force Majeure
- Market conditions
- Revenue / Tariff collection

There is a collective view by the authorities on concession contract that the greatest risk on BOOT project occurs in the latter stages of construction and early stages of operation. Risk should be considered in the context of the various phases of the project. Key risks encountered in BOOT contracts include:

1. **Design** – a high risk areas as the success of the operation phase of the contract is determined by the manner in which the asset functions and is able to deliver the output specification.
2. **Construction** – the construction of any physical assets required for the delivery of service / provision of the output specification, is typically sublet under a fixed price contract. This is thought to mitigate the cost and time over runs typically associated with construction projects.
3. **Availability** – the readiness of the facility as defined by the output specification
4. **Commissioning** – the transition from the construction to operational phase of the contract.
5. **Market** – this deals with the volume of usage of the service. This is particularly important in non-monopoly situations like transportation. Competition and or alternative source of the service to be provided by the SPV.
6. **Finance** – the risk of being able to make the project meet financial obligation, including but not limited to, debt service, operation and maintenance, and generate a profit.
7. **Legal** – the level of recourse and the intellectual framework in which the contract is set up.

Generally, risk is perceived in terms of:

- Exposure to risk
- Requirements of the project
- Cost / price associated with the risk
- Output specifications and delivery of the output specification
- How the contract affects end users
- Contraction negotiation

Conclusion

The restrictions/limitations placed on DBFO projects by the risk aversion financiers erodes the requisites for innovations, (*means, motive and opportunity*) which might yield greater efficiency. The motive and opportunity; the incentive and ability to invest in productivity enhancing (product enhancing and cost reducing) measures are removed by the *means*; finance. The length of the operational phase of the contract, typically 25 to 40 years, accommodates investment in innovation as the constructor, in theory, will operate the facility and thus recoup investment costs over the operational phase of the contract (Ive, 2001). With private banks providing approximately 95% of the financing for DBFO projects, the banks adopt proactive position, similar to that of the client in traditional procurement, as their risk-averse nature causes them to become overly involved in the early stages of the project.

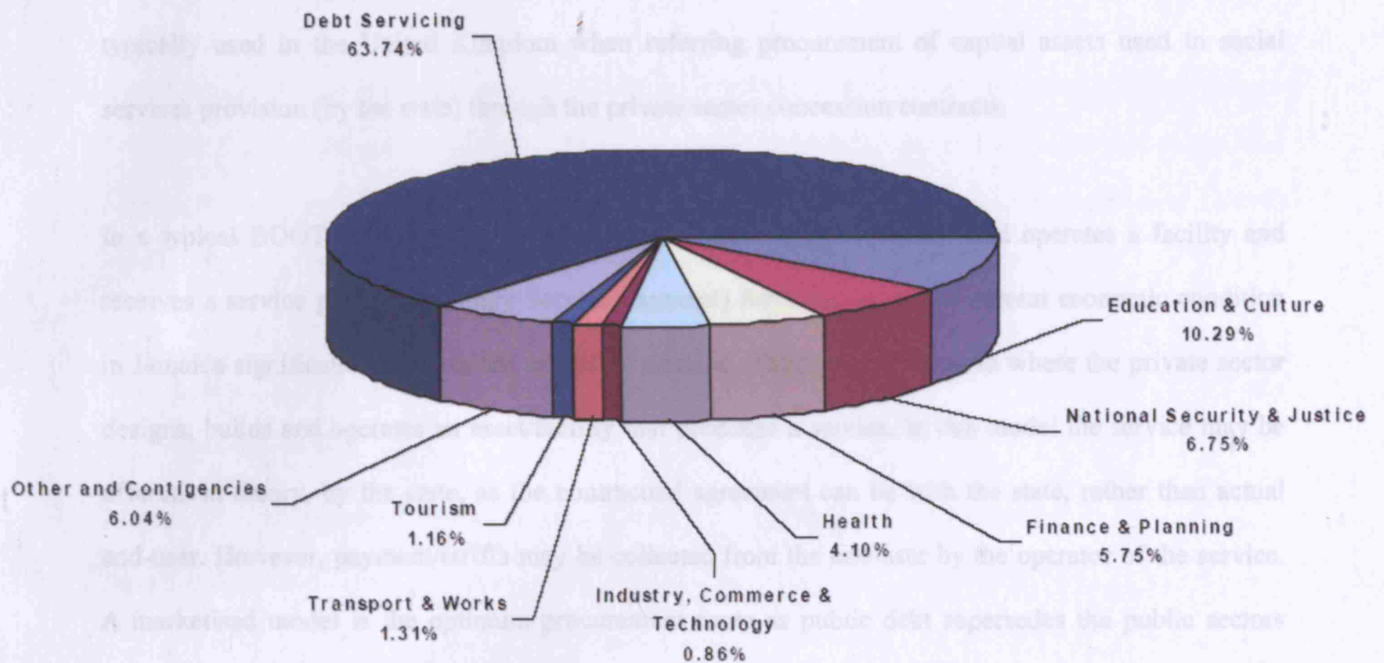
This has led to limits being placed on innovations as seen previously in the construction industry with insurance companies increasing premiums when new materials and/or methods have been employed.

The Jamaican Economy

The policies undertaken by the Jamaican government after independence to embark upon industrialisation brought about rural-to-urban migration. However, the oil crisis of 1973 created a downturn in the global economy and increased the gap between developed and developing (in particular non-oil producing) countries as their primary export, agricultural produce, commanded ever decreasing revenues relative to capital goods. This stalled industrialisation and urbanisation, with the increase in capital stock production and (planned) subsequent increased labour productivity never being realised. This slowed the economic development of Jamaica and surplus labour (unemployment) was absorbed by a low value added service sector (particularly street vending). The gap in capital goods and commodities prices brought on the need for substantial borrowing by the Jamaican government. The devaluation of the Jamaican currency (J\$), decreasing value of exports on the world market, and decline in the output of the agriculture sector due to lack of investment resulted in a sharp decline in economic growth and a rapid increase in inflation (Manley, 1983). High levels of consumption, escalating inflation, and unemployment resulted in social instability. During the late 1970s, Jamaica's GDP fell 20 %, a third of Jamaica's professional and managerial class emigrated (Boyd 1988). Jamaica, like several other developing countries is realising the benefits of private sector investment and delivery of utilities.

Concession contracting through Privatisation, direct marketisation.

With debt consuming an ever increasing portion of GDP, currently nearing 70%, the public sector does not have the resources to procure or maintain infrastructure in Jamaica. The corruption which exists with public sector often also causes maintenance funds to be misappropriated and/or awarded to less than competent contractors (IMF Test reports).



The deficiency of skilled labour resources has placed infrastructure problems in Jamaica beyond the capacity of local resources. The migratory brain drain of the past three decades has spawned the need to import construction services from AIE's. Coupled with the lack of funds, there is a need for non-traditional procurement methods of capital assets which employ private sector expertise and experience achieved from work on projects of similar scale and scope. Imported (AIE) service providers are able to deliver operational assurance, particularly on repair and maintenance, in order to mitigate the shortcomings of the public sector maintenance records in Jamaica thus far (Ministry of Works). However, this limits the development of the local construction industry as profits are repatriated to parent companies in the AIE's. The nature of construction makes the issue of imported services somewhat vague in relation to other industries as the production and administrative functions are carried out at the point of sale (Ive and Gruneberg, 2000).

The current economic conditions do not facilitate the use of Private Finance Initiative (PFI), the term typically used in the United Kingdom when referring procurement of capital assets used in social services provision (by the state) through the private sector concession contracts.

In a typical BOOT scenario; the private sector secures financing, builds and operates a facility and receives a service payment (Unitary Service Payment) from the state. The current economic condition in Jamaica significantly restricts the use of concession contracts to a scenario where the private sector designs, builds and operates an asset/facility that produces a service. In this model the service may be offered, in theory, by the state, as the contractual agreement can be with the state, rather than actual end-user. However, payment/tariffs may be collected from the end-user by the operator of the service. A marketised model is the optimum procurement route as public debt supersedes the public sectors inability to efficiently construct, operate and maintain public assets.

Private Sector Investments to Drive Economy in 2001/2002

Capital projects in infrastructure dominated investment in 2001. Infrastructure accounts for 95 %, and Tourism 5% of the US\$1.4 billion (J\$63 billion) of investment value of the “top five” investment projects planned and ongoing for the current year. Based on the phasing of the investment expenditure however, only about US\$100 million (J\$4.5 billion) of this amount is expected to be spent in 2001.

Government projects in highway construction, ports and airport development amount to US\$1.34 billion (J\$60.3 billion) while private investment in new hotel capacity estimated at US\$60 million (J\$2.7 billion).

Major Projects- 2001

Sector	Project	Funding Source	Cost	Startup date	Completion date
Infrastructure	North Coast	IDB--- EU----- OECF---- GOJ-----	US\$59.5M US\$76M US\$30.4M US\$67M	March 1997	March 2002
Infrastructure	Highway 2000	Private--- Infrastructure Bonds--- Bilateral Bonds--- Multilateral-- -	US\$230M US\$200M US\$262M US\$160M	Nov 2001	Dec 2005
Infrastructure	Kingston Container Port Expansion	GOJ----	US\$120M	Jan 1994	Dec 2001
Infrastructure	Sangster International	GOJ----	US\$140M	Jan 2000	Dec 2006
Tourism	Beaches Whitehouse	NIBJ--- UDC---- Sandals--- Debt (to be borrowed)----	US\$15M US\$10M US\$5M US\$33M	July 2001	Dec 2002

Highway construction

The North Coast Highway Improvement Project, which started in March 1997, is designed to improve 270 kilometers of main road along the north coast from Negril to Port Antonio at a cost of US\$232.45 million (J\$ 1,046 million). Expected completion date is March 2002, but phase one of the project, the Negril to Montego Bay

highway, is scheduled for completion by year end, at a cost of US\$ 30.4 million (J\$ 1,368 million).

The project is being funded jointly by the Inter-American Development Bank (IDB), the European Union (EU) and the Overseas Economic Cooperative Fund (OECF-Japan).

Highway 2000 is one of the Government of Jamaica's "Millennium" projects, designed to link Kingston to Montego Bay, through the parishes of Kingston and St. Andrew, St. Catherine, Clarendon, Manchester, St. Elizabeth, Westmoreland and St. James. The project has been described as "the largest and most significant infrastructure project ever undertaken in Jamaica".

The five-year project is estimated to cost US \$850 million (J\$ 38.2 billion). Construction is scheduled to commence towards year-end, the contract for construction having been awarded to the French firm Bouygues. It is expected that some US\$ 170 –300 million will be spent in 2002 on the first leg of the highway, linking Kingston to Mandeville.



Ports and Airports

The divestment of Sangster International Airport seeks to secure the US\$140 million (J\$ 6.3 billion) required to complete an urgently needed development and expansion programme. Government is currently evaluating the bids of four groups representing consortia made up of firms based in the United States, United Kingdom, Spain, Chile, Canada and Germany, in association with local firms.

The development programme will involve investment expenditures of US\$ 30 million (J\$ 1.3 billion) during the current year, and will primarily involve the rehabilitation of Aircraft Parking Apron, and the expansion of the immigration hall and underground fuel hydrant systems.

Expansion at the Kingston Container Port has been ongoing since 1994, and when completed in 2002, will increase capacity of the container terminal by 50 per cent, from 800,000 to 1,200,000 TEU (Twenty-foot Equivalent Units).

The current phase of the expansion programme, scheduled for completion in December 2001, involves the provision of 542 metres of berthing space, four new cranes, the paving of twelve hectares and dredging of the access channel to accommodate larger vessels. Sixty per cent of the new capacity was scheduled to be in use by June 2001.

The Port Authority is looking ahead to further expansion beyond 2002. An additional 507 hectares of harbour lands have been identified with a view to the anticipated fourth phase slated for completion in 2005.

Tourism

Sandals Resorts International is planning the development of Beaches Whitehouse to offer expanded facilities to families, singles and couples. The new resort will comprise 360 rooms as well as spa, watersports, tennis, horseback riding and other recreational activities. During construction, the US\$ 60-million project is expected to employ over 600 workers, while the number of permanent employees on completion is expected to amount to 400.

Other major projects scheduled to commence this year include the US\$ 11.5 million (J\$ 517.5 million) Port Antonio Marina, which is expected to have a major impact on North Coast tourism. The improvement of the Norman Manley International Airport, under the Airport Reform and Improvement Programme (ARIP) – estimated to cost US\$59.6 million (J\$2.68 billion) – is still underway.

Conclusion

The policies undertaken by the Jamaican government after independence to embark upon industrialisation brought about rural-to-urban migration. However, the oil crisis of 1973 created a downturn in the global economy and increased the gap between developed and developing (in particular non-oil producing) countries as their primary export, agricultural produce, commanded ever decreasing revenues relative to capital goods (for a detail analysis see *The Behaviour of Non-oil commodity Prices*, Borensztein et al, 1994). This stalled industrialisation and urbanisation, with the increase in capital stock production and subsequent increased labour productivity never being realised. This slowed the economic development of Jamaica and surplus labour (unemployment) was absorbed by a low value added service sector (particularly street vending). The gap in capital goods and commodities prices brought on the need for substantial borrowing by the Jamaican government. The devaluation of the JAS, decreasing value of exports on the world market, and decline in the output of the agriculture sector due to lack of investment resulted in a sharp decline in economic growth and a rapid increase in inflation.

The current economic conditions in Jamaica have made BOT procurement of infrastructure through market-seeking FDI the optimum (only) route for development/improvement of the network of assets needed to bring about sustainable economic growth and deliver value for money to the ultimate owner of infrastructure problems in Jamaica, the local population.

High levels of consumption, escalating inflation, and unemployment resulted in social instability. During the late 1970s, Jamaica's GDP fell 20 %, a third of Jamaica's professional and managerial class emigrated, and Kingston, the capital city, was starting to resemble Berlin in the 1920s-with daily gun battles in the streets between different political gangs.

Highway 2000 – H2K

Introduction

The most recent and largest concession project in Jamaica (and the English speaking Caribbean), in terms of budget, visibility and possibly impact, is the Highway 2000 (H2K) undertaken by Bouygues Travaux Publics, one of the worlds largest contracting companies and market leader in transportation infrastructure. The project, award to Bouygues in 2001; an 84 km four lane motorway, with a budget of US\$390 million of which the Government of Jamaica (GoJ) provided US\$117 million (PricewaterhouseCoopers). The GoJ paid an initial consulting fee of US\$18.5 million to Halcrow UK and additional sums to USB Warburg and PriceWaterhouseCoopers.

Planning and Logistics

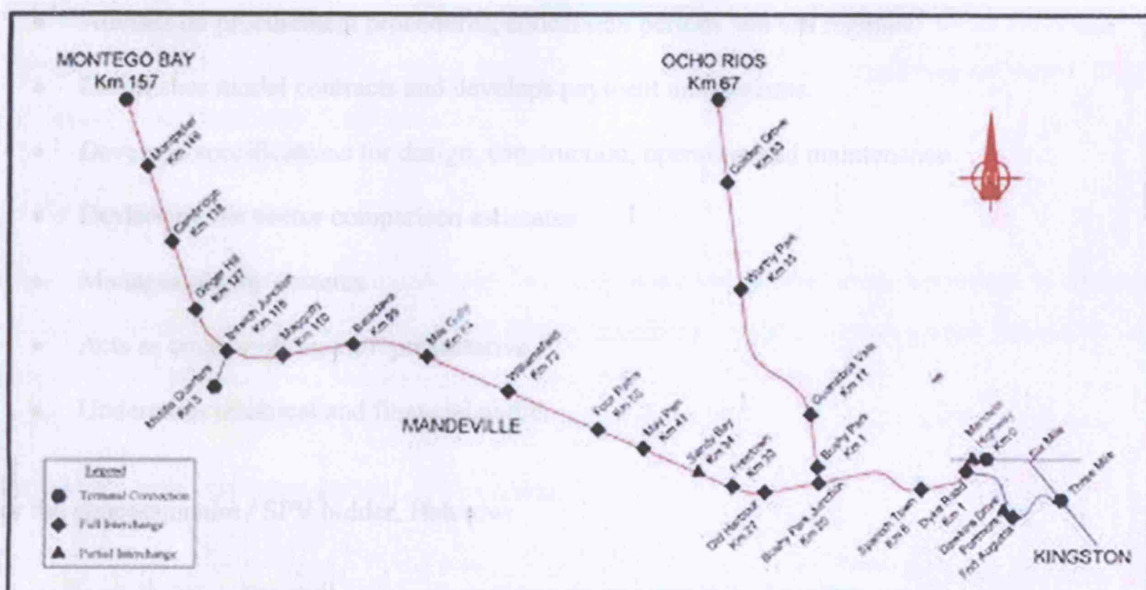
The preliminary mapping of Highway 2000 (Highlighted in red), was done by the French Canadian company, Dessau Soprin International with the assistance of 120 Jamaican professionals. Subsequent to a pre-feasibility study conducted in 1996, a functional planning exercise was undertaken to identify and select the preferred alignment for Highway 2000. Based on the recommendation of the pre-feasibility study, a one kilometer-wide corridor connecting the major cities of Kingston, Montego Bay and Ocho Rios was identified, using the least constraining methodology.



Alignment Map

This methodology fundamentally sought to minimize a) adverse environmental impacts, b) properties to be acquired and c) construction costs. This corridor was further reduced to two (200) hundred metres in order to conduct specific and detailed soil drainage, environmental and geo-technical analyses.

This alignment will undergo further assessment and possible changes by the Contractor/ Developer who will be awarded a concession franchise to build, operate and maintain the 230 km toll highway. Additional details on Highway 2000 corridors will be made available to the public and the relevant maps posted in parishes and communities to be affected by construction.



Highway 2000

Highway 2000 is designed to meet the needs of Jamaica for fast, efficient and safe movement between its major cities and for future development projects.

All interchanges are grade- separated and located based on local traffic requirements and on both existing and future development objectives.

The above drawing illustrates the proposed interchange locations.

Highway 2K – Feasibility

The procurement of infrastructure is increasingly involving internationally the private sector in the funding of projects through Public Private Partnerships (PPP). Halcrow has extensive experience in providing quality services to promoters, concessionaires /SPV and bank lenders.

For the promoter, Halcrow:

- Evaluates suitability for PPP
- Advises on the balance of private sector/government participation
- Advises on procurement procedures, concession periods and toll regimes
- Establishes model contracts and develops payment mechanisms
- Develops specifications for design, construction, operation and maintenance
- Devises public sector comparison estimates
- Manages quality systems
- Acts as employer's agent/representative
- Undertakes technical and financial audits

For the concessionaire / SPV bidder, Halcrow:

- Leads and advises consortia in bidding for PPP projects
- Undertakes revenue forecasting
- Designs and advises contractors
- Advises on operation and maintenance

For the bank lender, Halcrow evaluated the bids and advice on technical and contractual issues as primary support to the negotiating team of advisors. Auditing and monitoring construction and operation of this 84 km divided toll road comprising six interchanges, three river bridges, a saltwater causeway with navigable bridge, fourteen overbridges, thirty two underbridges, seven railway overpasses, nine field connectors (box culverts), three toll plazas and six ramp plazas.

Client Name: National Road Operating and Constructing Company Limited (NROCC), a company wholly owned by the Government of Jamaica (the "Grantor")

Country: Jamaica

Service Value: US\$20 million

Capital Cost: Phase 1 US\$390 million

Service Period: 2001 - 2005

Scope: Technical and contractual advice and support for bid evaluation and negotiations with bidders as well as audit and monitoring of construction and operation activities

Financed By: Local Bond issue, guaranteed by the Government of Jamaica, equity and commercial banks.

Associated UBS Warburg, Financial

Firms: Allen & Overy, Legal
Steer Davies Gleave, Traffic
CFAS Ltd, Economic/Financial
Hue Lyew Chin Engineering, local associate

- Key Factors:
- Largest infrastructure project in Jamaica and the English speaking Caribbean
 - Minister for Transport declares "the road to development calls for the development of roads"
 - Bouygues Travaux Publics awarded concession on 21 November 2001 as Trans Jamaican Highway Company
 - BOT design, finance, construction, operation and maintenance of greenfield tolled motorway network in Jamaica under a 35 year concession agreement
 - Phase 1A - 22.7km from Kingston to Sandy Bay
 - Phase 1B - 40.7km from Sandy Bay to Williamsfield including 11.8km upgrading of existing Portmore Causeway/Dyke Road and construction of a new bridge over Hunt's Bay
 - Phase 2 - 86km from Williamsfield to Montego Bay and 67km spur from Bushy

Operation & Management

The maintenance organization consisting of Patrol Teams have been established under the direction of a Maintenance Manager. Each Patrol Team includes a Road Superintendent, an Assistant Superintendent and a minimum of 4 permanent staff who conduct daily patrols and perform routine maintenance activities. Local contractors will be retained to provide scheduled and emergency maintenance services related to specialty items. A Marketing Manager established a marketing strategy in consultation with external consultants and Jamaican stakeholders to maximize the revenue potential of the highway. The toll collection and management system was developed by the software and hardware supplier. Vehicle weights will be monitored in conjunction with the selected tolling system. Toll supplements are

assessed for overweight vehicles. Collection of toll supplements is enforced in accordance with Jamaican law. Automatic vehicle detectors monitor traffic between all interchanges in both directions. Hourly updates of traffic will be posted on the Internet. Software will be provided to analyze data and alert the operators of potential incidents. A computer based facilities management system operated from the central operations monitors the operations and maintenance history of all assets not otherwise managed. Capital works including addition of lanes, upgrading of interchange capacity and safety. Improvements and rehabilitation of highway infrastructure and related works will be undertaken as dictated by contractual specifications (Core Requirements).

Highway 2000 Bond

In February 2002, National Road Operating and Constructing Company Limited (NROCC) successfully raised US\$74 Million (J\$3,552 Million) through the private placement of a 4.5% Real Return Convertible Bond issue to local long-term investors. The funds will be used in the construction and development of Phase 1 of Highway 2000, Jamaica's first tolled highway using a Build, Operate and Transfer model and a 35-year Concession Agreement awarded to TransJamaican Highway (owned by Bouygues Travaux Publics of France).

As lead local professional advisors to NROCC on the Highway 2000 project, an experienced Financial Advisory Services team, led by John Lee, worked with other professional advisors for more than two years to structure the bond issue. This process included the design of a bond that included the following features:

* Long term - 30 years to redemption

- * Good real rate of return - Coupon rate of 4.5% paid semi-annually throughout the tenor and exempted from income tax
- * Inflation proofing - Bond Principal indexed to inflation
- * Guaranteed income - Interest and Principal payments guaranteed by the Government of Jamaica
- * Liquidity - Bonds fully tradable and transferable
- * Option kicker - To convert the Bonds into equity shares in NROCC at maturity at the discretion of the Bondholder

The Bonds are Jamaica's first 30 year long term debt instruments in modern times. They provide the long-term investors with the opportunity to match long-term liabilities with long-term assets. The coupon rate of 4.5 per cent provides an attractive real rate of return, with principal amount indexed to inflation and interest payments being tax-free. These features assist investors to manage the effects of inflation; traditionally one of the main factors responsible for eroding pensioners fixed income and also allows professionals to better price annuities.

The Government Guarantee insulates the investor from the project risks and improves the attractiveness of the Bonds by essentially providing the same level of security as that for Government instruments. This guarantee will only be invoked if the project revenues are insufficient to allow for payments to the Bondholders as they fall due.

In recognition of the potential cashflow constraints that may be faced by investors from time to time, the Bonds are fully tradable and it is anticipated that there will be a secondary market similar to that of the Government Eurobonds.

Conclusion

The project described in this chapter is the Highway 2000. A BOOT transportation project developed based on the Government of Jamaica's (GoJ) plan to improve the linkage between the country's two main cities. The use of the BOOT model was employed to achieve economic efficiency and offset public sector debt.

The procurement process followed standard concession contract practices with modification to Jamaica law. The contractual agreement with the GoJ included specific language on the restrictions on the development or introduction of alternate means of transportation which may compete with the project, thus creating a monopoly in order to ensure volume usage and the revenue stream from toll collection. Under the guidance of UK consultants, the GoJ and the project company collective created the output specification for the project.

This chapter also provides an overview of the project's planning and logistics, including the feasibility and funding route, as well as the latter operation and management phases of the project.

Introduction

This chapter will review the components of BOOT projects and demonstrate the potential for projects to delivered value for money in Jamaica. The context will be provided through examination of the Jamaican economy and the Highway 2000 project. Discussion on BOOT procurement, funding options, and risk in previous chapters will provide the framework for the arguments that follow.

Infrastructure as an enabler

Infrastructure facilitates an increase in the scale and scope of activities of existing firms, Garrison (1994) argues that transportation investments stimulates *companion innovation* in non-transport sectors, which in turn leads to social and economic advances. The thesis is that transportation serves as an enabler for growth and productivity change by not only creating opportunities to do things better but also do different things.

Garrison and Gillen (1998) in a study of the linkages between transportation investments and economic output make the point that U.S. industry has been undergoing significant change in the use of transportation services and logistics operations since 1980. Just-in-time manufacturing strategies, for example, require transportation partnerships. Improvement in highway infrastructure has been an enabling agent for the significant improvement in transportation, without which such strategies would not have been feasible. This stimulates economic growth in remote regions and facilitates integration and specialisation within industry.

The development of Highway 2000 (H2K) has provided a corridor to otherwise underutilized real estate. In keeping with the findings of previous studies, H2K has acted as a catalyst for the redevelopment of an area which had become less and less productive as out dated farming practices rendered the economic core function outdated.

Innovation

The employment of contemporary design and construction methodology has increased the efficiency and the value exploited from the resources employed by the project, relative to a project which employed traditional procurement methods in Jamaica. In delivering a service, the contractual agreement defined the output specification. As a result of the output specification of the expertise of service provider sought to deliver the means to move a specified volume, at a defined speed over a certain distance within a framework of design, environmental, safety and operational criteria.

Private sector experts, specialized in project BOOT projects played an important role in eliminating bottlenecks in the process. The BOOT method employed on the H2K project extends the parameters of whole life cycle as the output specification facilitated specification to drive the project from feasibility through design and construction into the operational phase. The design and construction phase realized innovation through use of the cost saving, contemporary construction methods with greater life-cycle and thus lower facilities management / operation costs. In traditional procurement / public sector infrastructure provision, there is no penalty, other than disgruntled citizens, when the asset is not available in the allotted construction time or within budget. Within the output specification H2K, there are limits to the number of hours per month segments of the roadway can be closed without penalty. There are other specification which include speed, signage requirements and accidents limitations which must be met by the operator. Observation of the road surface quality of roads in Jamaica would indicate that innovative means have been employed in the design and construction phase in order to

minimize the maintenance works, the benefits of which are repeated during the operation phase of the project life-cycle.

Risk

The innovation mentioned above equates to traditional procurement (operation) risk mitigation. The whole life-cycle risk mitigating methods are built-in into the project. In traditional / public sector asset provision, maintenance and operating cost are often not factored into the project at the front end. Design and construction risks pertaining to the operational phase of the project have been appropriated to the private sector designer, constructor and operator, the party best equipped to manage these risks. Design and construction risk associated with construction budget and time have also appropriated to the concession company. This has allowed for a synergy which is not possible in traditional public sector infrastructure provision.

Value for Money

The consolidation of the design, build, finance and the operation phases of the project under single umbrella facilitates the employment of a single strategy, focused on delivering the output specification in the most efficient manner possible. This blurs the differences between public sector risk mitigation and value for money. In order to illustrate how the BOOT form of procurement of H2K delivered VFM, some of the negatives typically associated with public sector / large scale projects have been listed and a brief explanation of the positive outcome identified. A disjointed understanding of the ultimate goal of large scale projects often results in: a design not in keeping with the function or service being provided. Designers are often guilty of focusing their efforts on making a statement rather than on functionality. Government officials are also often guilty of this, as large scale project are often used to garner public attention / approval and act as symbols of a person or regime. In instances where government official influence the award of construction contracts, design and construction quality may be compromised. This often has a knock-on effect on operation. Inferior design and construction often results in the asset

performing at less than optimum levels in the operational phase of the project life-cycle. Contractual agreements for availability and performance specifications further mitigate the facility management and maintenance risks which are typical of large scale projects in developing countries.

Conclusion

In conclusion, it has been established that there is an incentive to employ integrated solutions and employ scarce resources to deliver value for money to the public sector end-users. This integration facilitates innovation which evolves into economic efficiency in the operational phase of the project. Risks at all stages of the project life-cycle are allocated to the party best equipped to manage them. Feasibility and efficient operation ensure that the BOOT procurement out performs traditional procurement and facilitates economic growth. Direct payment for service from the end-user provides an added incentive to deliver quality. Limitation on the up-take agreement for the financiers, provides even further incentive to deliver an efficient service.

Sustainability

The involvement of private sector experts, specialized in project finance transactions and BOT-type investments, can play an important role in eliminating potential bottlenecks in the process. This assistance is especially important in the phases of project selection, preparation, and evaluation. The roles of the numerous government agencies involved in the process typically poorly coordinated. While public sector officials are familiar with conducting technical feasibility studies, they typically have no expertise in determining the viability of specific projects for private sector involvement, or how to conduct appropriate legal and financial feasibility studies. Similarly, the preparation of tender documents and negotiations with individual investors tend to be relatively unknown territory for government officials. Private sector specialists can assist in developing an appropriate evaluation methodology to make sure that individual project proposals are assessed accurately by developing *Benchmarking* to measure the efficiency of infrastructure against that of advanced industrialised countries (AIC), typically using the US performance to develop *key performance indicators* (KPI).

The most recent and largest concession project in Jamaica (and the English speaking Caribbean), in terms of budget, visibility and possibly impact, is the Highway 2000 (H2K) undertaken by Bouygues Travaux Publics, one of the world's largest contracting companies and market leader in transportation infrastructure. The project, awarded to Bouygues in 2001; an 84 km four lane motorway, with a budget of US\$390 million of which the Government of Jamaica (GoJ) provided US\$117 million (PricewaterhouseCoopers). The GoJ paid an initial consulting fee of US\$18.5 million to Halcrow UK and additional sums to USB Warburg and PricewaterhouseCoopers. It is the understanding of the author that these are not unheard-of consultancy fees in BOT projects, **However**, it is imperative that GoJ be conscious of the likelihood that BOT projects are the *only* feasible route for infrastructure projects of this scale which will deliver economic benefit, and take steps to ensure that such consulting fees

contribute to local GDP and not foreign expenditure. Hence, it is imperative that the GoJ invest in *human resources* to ensure that local construction and facilities management firms are able to become active in future projects.

Infrastructure as an enabler

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Garrison and Gillen (1998) in a study of the linkages between transportation investments and economic output make the point that U.S. industry has been undergoing significant change in the use of transportation services and logistics operations since 1980. Just-in-time manufacturing strategies, for example, require transportation partnerships. Improvement in highway infrastructure has been an enabling agent for the significant improvement in truck transportation, without which such strategies would not have been feasible.

Research Overview

This report illustrated the economic benefits of the BOOT form of procurement. This view was qualified through demonstration of the correlation between the development of infrastructure and how the BOOT method is best equipped to deliver value for money through; risk appropriation; whole life-cycle integration and efficiency; and investment. The sum total of which facilitates economic growth.

The report provided an overview of the BOOT concession method and demonstrated how aspects of this form of procurement equate to economic growth. A review of the Jamaican economy and a concession contract, Highway 2000 (H2K), provided a contextual framework. Analysis and discussion of specific aspects of H2K within the Jamaican context illustrated the economic benefits which facilitate efficient employment of resources.

The analysis of the Jamaican economy, synonymous with the economy of many developing countries, provided evidence of the benefits and explains why this form of procurement is proving to be the only option for infrastructure development. The need for foreign investment and efficient management of resources coupled with the finance and accounting practices, favorable to a countries debt, also make BOOT an attractive option.

Research Findings

The research findings reveal the beneficial aspect throughout the BOOT concession life-cycle. This is imperative to the development of large projects. The research explores the expertise of the private sector and how efficiency has resulted in financial gain and greater interest in infrastructure investment. The reports explains the correlation between risk mitigation at the operational phase and investment which have in turn lead to increased use of the BOOT form of procurement in the provision of traditionally public services. These projects include: transportation; health care; power; water; and correctional services (prisons). This perspective is qualified by demonstrating (foreign direct)

investment trends and the importance of infrastructure projects relative to the Jamaican economy. The trend is also evident through the scale of the project reviewed, H2K, the largest to date in the English speaking Caribbean, an 84 km dual carriage way with two phases of similar scale to be undertaken subsequent to the completion of the first phase by Bouygues Travaux Publics, one of the worlds largest contracting companies and a market leader in transportation infrastructure.

The contextual and literature review provided critically analysis of the relationship between private infrastructure provision through FDI in the form of BOOT procurement and economic growth within the Jamaican context. There are several arguments which seek to rationalise/explain the flows of capital to developing countries over the last 10 to 15 years. Many of these arguments emphasize the push, factors; those existing outside the country where the investment is made, as the capital flows have been primarily external to the developing countries and particularly related to the economic environment in developed countries. This has been further facilitated by pull factors, those internal to the country where capital flows are directed, which include, but are not limited to, financial adjustment and privatisation of public enterprise. These factors, which in some instances are stipulations of the IMF and/or World Bank and perceived to be inline with macroeconomic reforms, have yield improved credit rating on the global financial market.

The report acknowledged the pull factors attracting investment through assessment of the intellectual infrastructure requirements necessary to stimulate foreign investment. The author is cognisant of interest rates and global (push) factors which have acted as a catalyst for increased private sector involvement in the provision of services previously undertaken by the public sector, however this is subject matter for future research.

Recommendations for future research

There are however, negatives derived from the employment of BOOT procurement in developing countries. These include the monopolistic conditions to which the public sector is contractually bound. This limits a further development and innovation. The restriction of alternate form of transportation, such as rail, in the contractual agreement with the Government of Jamaica and the Highway 2000 operating company, restrict the introduction for the life-cycle of the project. These issues fall outside of the scope of this report and are subject for valuable future research. It will be important to develop the intellectual infrastructure of developing countries to enable strategies which do not act as a deterrent to investment or technological development.

Other related subjects, worthy of review include a comparative analysis of similar projects in developed countries. Review of the practices and outcomes at all stages of the project life-cycle would reveal where there may have been shortcomings or exceptional benefits derived from methods employed on H2K. Future planning might also be guided by the findings of a study of the likely outcome if a similar transportation corridor were developed at no direct cost to the end-user (no toll). Would this have stimulated greater economic development? Such analysis would guide the Government of Jamaica and other developing countries on how best to structure future concession contracts.

Conclusion

The Government of Jamaica has acknowledged the benefits of private sector investment and involvement in infrastructure provision through the employment of BOOT procurement. Developing countries must recognize that in many instances the finance and expertise required for large-scale projects, are the only feasible route for infrastructure projects are the only vehicle which can deliver sustained economic efficiency. The GoJ should acknowledge the potential benefits and likelihood of frequency of concession contracts and invest in intellectual infrastructure in order to ensure that local construction and facilities management firms are able to become active in future projects.

Development of the level of sophistication of legal skill is imperative for an effective contractual framework on BOOT projects, particularly regarding the payments for service (unitary service payment) to mitigating the risk of market failure condition through monopolistic price structuring. Measures to decrease risk based premiums attached to project in Jamaica by overseas financiers will increase inward flows private investment, which reduces government expenditure and / or debt.

Developing countries must make efforts to further stimulate the capital flows, necessary private sector investment by addressing those factors which impact the countries credit rating. Proactive steps to stabilise currency exchange rates and inflation improve a countries investment credit rating. The premium placed on risk for foreign investment and infrastructure projects are determined by the country and the parameters of the project.

The current economic conditions in Jamaica have made BOOT procurement of infrastructure the optimum (only) route for development/improvement of the network of assets needed to bring about sustainable economic growth and deliver value for money to the ultimate owner of infrastructure problems in Jamaica, the local population.

Conclusion

Based on discussions with private sector investors (both debt and equity providers) the absolute risk of financial loss is simply too high for them to consider and therefore there is simply no interest in providing seed capital to these schemes. There are many examples of proposed schemes which have incurred significant expenditure but subsequently have not proceeded for any number of reasons e.g. the scheme is too expensive, lack of farmer commitment, can't raise required funds, issues with resource consent, returns are too low etc.

Providing seed funding to a proposed scheme is a high-risk investment, and Government must be prepared to provide funds on this basis. However, there is no need for Government to provide funds without an expectation of a repayment and return if the scheme does proceed, particularly given the risk of the investment. It is therefore important for Government to structure the provision of seed funding with repayment and return in mind.

There are two options available for Government when contributing seed capital:

- Provide the funding by way of debt – Returns are fixed and funds repaid under agreed terms if the scheme proceeds.
- Provide the funding by way of equity – Government owns shares in the scheme that have some value on a tradable market if the scheme proceeds.

If the scheme proceeds there are several advantages for Government in providing seed funding by way of debt:

- Debt carries a lower risk for Government than equity given that the return on the funds is fixed regardless of the performance of the scheme;
- Debt gives Government a clear exit from the scheme i.e. Debt is to be repaid from proceeds raised from the construction phase.

○

Equity will give Government the ability to share in the success of a scheme and potentially generate super normal profits from the sale of this equity. Government holding equity will not impact on the scheme's ability to raise funds from the private sector, and depending on the terms of the arrangement, allows the scheme flexibility to pay returns when cash flow permits.

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