A CONCEPTUAL FRAMEWORK FOR CLIENT FINANCED CONSTRUCTION AND NON-TRADITIONAL APPROACHES FOR FINANCING CONSTRUCTION WORK

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ABSTRACT

The basic premise of the client-financed-construction philosophy is that those who commission service providers must not only pay for their services for the cost of their labour, materials, plant and equipment but do so in a manner that adds value to all parties. A new framework for proposing, evaluating and implementing such systems has been conceived which is used for evaluating three non-traditional approaches for financing construction work, and thereby validating the framework. The three approaches, namely, 'rolling advance payment', 'rolling material price advance', and 'direct financing' have been described and analysed with the 'rolling advance payment' approach being described as a revolutionary approach for solving problems connected with financing contractors and as an approach that has much potential to add value to all parties. The two systems are particularly useful as a crisis management system in projects saddled with cash flow problems bringing 'life' to almost 'dead' projects with potential benefits to all parties. The paper calls for good construction project management as an essential condition for implementing these schemes with particular attention given to risk management and local construction culture.

Keywords: *cash flow, construction contracts, contractor finance, risk management*

1.0 INTRODUCTION

Client financed construction is a philosophy adduced by the author (Abeysekera, 2002). The basic premise of this philosophy is that those who commission service providers must not only pay for their services for the cost of their labour, materials, plant and equipment but do so in a *manner* that adds *value* to all parties. The following supports this notion though falling short:

> "The payment term is something we [i.e. the ADB] consider very important again because we believe that it has an effect on the price and also on the efficiency of the contractor. The cardinal principal we have in this regard is that the contractors should not be required to fund the construction. There must be an appropriate flow of funds so that … [the contractor] doesn't have to commit his resources for the funding of the construction. At the same time, the flow of funds will not be such in which he would be tempted, having got more than enough, to slow down" (Institute for Construction Training and Development, 1992).

Despite such laudable comments, traditionally this is not how construction had been practiced by and large, and indeed, this is not how it seems to be practiced even today. Opportunities for adding greater value is available but for one reason or the other not explored. For example, clients who have access to cheap funds often expect contractors to source expensive funds to finance construction. They little realise that by doing so, they are indeed paying more than what they should. Often public organisations seem to fall into this category.

There is little consideration to payment terms. 'Get work done first and pay later' seems to be the motto hinting that some clients or their professional advisors seem to have little understanding of the challenges faced by contractors (and subcontractors) to manage their cash flow: It is not difficult to understand (only if an attempt is made) that contractors need to commit funds upfront as they get paid generally only after two months of commencing work during which time they need to find funds to purchase materials seeking credit facilities paying a premium when there isn't adequate cash, pay wages, settle dues for services rendered, and a host of other expenditure, and also deal with problems associated with getting paid less than they should as clients hold back 'retentions'. For contractors who are not cash rich, getting a good start to a project becomes a challenge and sometimes run into

cash flow difficulties with increased costs of borrowing, weakened bargaining powers when purchasing materials which in turn leads to enriching suppliers (who get favourable facilities from banks) and also commercial banks (Abeysekera, 2009). Not surprisingly these costs are passed over to clients, and it is clear why it costs more to build this way. Moreover, in some situations technically competent contractors sometimes fail to perform as they become cash strapped, not being able to pay their suppliers and subcontractors bringing construction to a halt.

Thus the aim of this study was to examine non-traditional (i.e. unusual) approaches for financing construction contractors which fits within the broad spectrum of client financed construction using author's experience of working in industry with some of the approaches suggested portrayed as radical ones with far reaching implications.

2.0 CLIENT FINANCED CONSTRUCTION (CFC) AND A FRAMEWORK FOR IMPLEMENTATION

The rationale for such a philosophy has been discussed in detail by the author elsewhere so no attempt is made herein to do so (Abeysekera, 2002a). Understanding how such a system could be designed or how a business case could be developed is discussed first vis-à-vis the factors that need to be taken into account as a basis for supporting the non-traditional approaches for financing discussed in this paper. Moreover, the three schemes described in Section 3.0 would also assist in validating the conceptual framework described below.

Benefits

Broadly, two types of benefits can be identified viz. economic and non-economic. Whilst economic benefits to a client include reduction of the overall costs, non-economic benefits include the completion of the project on time. To a contractor, benefits include a hassle free approach to finance, better bargaining positions with suppliers, and on the whole an ability to give a competitive price to a client.

Needs of contractors

If such a scheme is to make a beneficial impact on project costs and progress, it is necessary to make an attempt to understand the needs of contractors, giving consideration to issues such as project type, duration of project, and other project specific issues. For example, the financing needs of a short term project are different to a long term project; a 20% advance on a 3 month project is hardly sufficient to fund the flow of cash whereas it may well be adequate for a 12 month project. Similarly, the financing needs of a project where a major piece of plant or equipment has to be bought say for a dam or tunnel project, would clearly be different. Thus, it is necessary to consider the actual needs of contractors in general when designing a system where the client takes the role of the financier.

Types of expenditure to be funded

Funds can be advanced for all categories of expenditure, from materials to plant, and to expenditure connected with the running of site and head offices. Material purchase advances could be for specific materials (say those to be specially imported), or for non-perishable materials like (tiles, ceramic ware), or even for temporary materials like a special type of formwork. Needless to say in inflationary situations, benefits of advancing funds for financing such purchases are considerable particularly on medium to long term projects. Moreover, if cash purchases can be made as against credit purchases, the cost of construction could be brought down further (Abeysekera, 2009). The challenge would be to develop value-adding, risk-managed, contractual clauses as there are substantial benefits to be realised. The rolling mobilisation advance discussed later is a scheme that fits within this category.

Stage of project

Often the need for finance is felt during the initial stages of a project as explained earlier. However, the purchase of an expensive piece of equipment or a large quantity of materials that has to be imported may require large amounts of funds at a different stage of a large construction project. Thus there is a need to

take cognisance of such needs. A cash flow forecast would be helpful in identifying the timing of these needs (Edgerton and MacDermott, 1997).

Quantum of financing, timing of releases, and economic benefits

Once the decision has been made to finance, it is necessary to decide on the quantum of finance and the timing of releases. Some of the options available are:

i. Contractor bids the amount of advance required (unlimited).
ii. Contractor bids as above but with a ceiling specified by the client.
iii. Client pre-decides the amount and specifies it in bid documents.
iv. Client advances funds from time to time as and when necessary.

The advantage of options (i) and (ii) to a client is the ability to compute economic benefits. For example, interest can be charged for funds advanced or the bid price can be inflated by this amount when evaluating bids. Bid documents must describe the procedure that will be adopted including the rate of interest that will be used. Option (iii) is different in that the client does not charge interest for funds advanced and it is in effect an interest free loan. Therefore, benefits to a client are generally non-economic. The amount specified depends on the needs of contractors, types of expenditure for which funds are required, stage of project, and risks involved.

In all four approaches mentioned above, the release of funds may be triggered by (a) project commencement (b) in the passage of time (i.e. over the construction period, say in instalments) (c) based on expenditure, and (d) in the accomplishment of specific tasks (Edgerton and MacDermott, 1997). As most formal contracts require the submission of a performance bond, it is a good practice to await releases under options (a) and (b) until after the performance bond is received. (For some examples see Institute for Construction Training and Development, 1988). With regard to item (c), releases are made on providing details of expenditure incurred or by the presence of materials or plant on site. A typical example of the latter type is the payment for materials on site – a standard clause on many standard form contracts. The last of these items is (d) which is the 'accomplishment-of-tasks' method. As the terms imply, releases are triggered by completion of specific activities. Some examples are reaching a certain stage of a construction project, or providing proof of placing orders for an expensive item of construction plant. Edgerton and MacDermott (1997) have given some good examples of the latter.

The last of the approaches (i.e. option iv) is usually adopted in situations when contractors run into difficulties for one reason or the other. The 'direct finance scheme' and the 'rolling mobilisation advance' scheme fit within this category.

Mechanisms for channelling of advances and recovery

Funds may be channelled directly to the contractor or directly to those providing services to a contractor. In the same token, the client could open up letters of credit in favour of such organisations and deduct these from progress payments. Whilst the latter ensures that funds are not misused, it would however create more administrative work for the client. All funds advanced must be recovered and one of the simplest ways of doing so would be to recover from progress payments, ideally in instalments. But this decision will depend on many factors. Consider a scheme (described later) where a contractor works only up to the extent of funds advanced in which case there is no recovery! It must be pointed out that whatever procedures are adopted, these must be written into the contract but will not be able to replace the trust, and the spirit in which such financing relationships are sought.

Risk mitigation

Risks of failure to perform having received advances

Advancing funds before they are due, i.e. before work is performed, is no doubt risky. However, this mind set could be overcome by carefully thought out measure. Some of the options available are:

i. Obtain stocks, property, plant and equipment as security.
ii. Obtain and/or increase the amount of the performance bond.
iii. Obtain a bond/guarantee (even on an unconditional basis) for the amount loaned.
iv. Assigning all items financed to the client until they are released.

With regard to item (iii) acceptance of insurance bonds would be a relief to contractors. So, would be the case, if a client can accept a combined bond for advances and performance. In fairness to the contractor, it must be noted that value of the bonds need to be reduced with reducing risks but this may not be acceptable to clients. The task of getting a bond/guarantee is however proof that the contractor has a good image in industry and as such that itself should be good enough to overcome this mind set.

Risks of misuse of funds advanced

The approaches mentioned above do not prevent a contractor from utilising such funds to finance other projects thereby abusing the facility afforded. Additionally, such funds could be completely misused for personal enrichment through the purchase of non-liquid assets or even on non-construction related investments (Kenley, 1999). However, if payments are made directly to a beneficiary (say to a supplier, or to a subcontractor) on invoices submitted, such malpractices could be minimised. Another approach would be to insist on an 'application of funds' statement as a precondition for release. For this approach to work meaningfully, a contractor must provide documentary evidence from time to time that funds advanced are utilised accordingly which may involve additional costs to administer.

3.0 NON-TRADITIONAL APPROACHES FOR FINANCING CONSTRUCTION WORK

Three non-traditional approaches are described herein with the first being the most radical with author's personal involvement in all schemes described herein.

3.1 ROLLING ADVANCE PAYMENT METHOD

It was mentioned earlier that the traditional method of paying for work done after work has been completed is unsatisfactory as it falls short in making construction hassle free and value adding. The method herein has the power to transform the construction industry completely making it more competitive, efficient, an indeed an industry that many would wish to be involved with.

The method is simple: If payments can be made in advance, then problems such as those described earlier would almost be non-existent. Indeed, on the face of it, this looks almost impossible, but there is a way forward! On further reflection this is not a practice that is totally alien in nature as this is not uncommon in other industries although not to the same scale. For example, house rent is always paid in advance in Australia and New Zealand (i.e. before the service is provided). So is the case with payments for internet and television services! The difference is that such services are guaranteed and is almost sure of receiving the promised services although in construction this may not appear to be so. Yet, most construction contractors are there for the long term and backed by professional organisations such as Master Builders in countries like New Zealand and Australia, with these organisations stepping into complete projects of a defaulting member. Even otherwise, if this mind set could be brought to the table with good project management, implementing this method would be easy.

The scheme described herein was implemented in Sri Lanka by the author in order to overcome potential risks of non-payment and/or payment delays on projects undertaken for clients residing

overseas. Such clients were asked to provide funds in advance with the guarantee that work will be carried up to the extent of funds advanced based on a priced bill of quantities which was submitted to the client and accepted. Any variations would be dealt as usual. The client's risk of advancing funds could be eliminated by an 'on-demand' advance guarantee bond for the amount advanced or a multiple of it which needs to be negotiated. Thus on a million dollar contract, with five stage payments of (say) 200,000 each, a 400,000 advance guarantee bond would permit the second stage payment to be released without any measurement of the work done. The third stage payment could also be released similarly provided the work done was more than 200,000 and so on. The payment at the fifth stage (i.e. at completion) would be released only on actual measurements. If necessary, the validity of the bond may be extended to cover part of the maintenance period as well. Clearly, many variations of this model could be implemented as required and contractor's price may reflect the advantages offered. The following analysis would be useful in this regard.

On a project where payments are to be made monthly with a payment delay of 'D' months from the date of submitting a progress payment (with no advance payments) and an interest rate of 'R%' per year (i.e. cost of funds), with value of work done varying linearly with time, it can be shown that the loss of interest to the client is {(1+D)/12} x R% x contract sum. The relationship between the monies lost by the client (as a result of advancing funds) with respect to varying rates of interest (for different periods of payment delays) is shown in Fig.1 (The impact of retention has been neglected for simplicity). For example, with an interest rate of 5%, and with a payment delay of 1 week, the loss to a client would be about 0.05% of the contract sum. If contractors were to take a lead, then it would be prudent for them to provide an incentive to the client by offering a discount of such a magnitude. This is an interesting scheme that will almost eliminate cash flow difficulties faced by contractors and is bound to have a positive impact on price and productivity. However, contractors must assess their risks of providing advance payment guarantees to clients and make a decision on the terms and conditions of the guarantee they would provide.

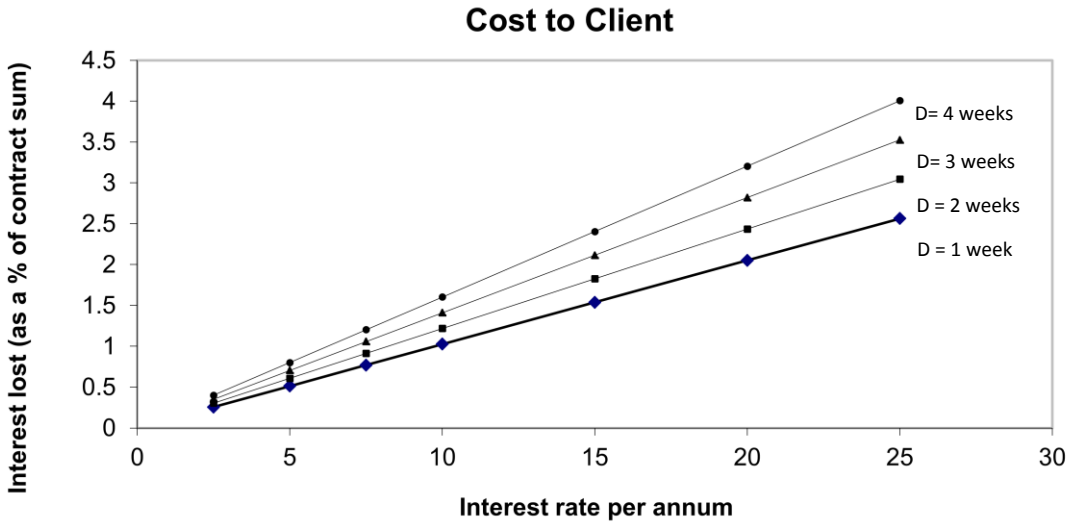

Fig. 1: Cost to Client: Re-engineered Payment Procedures
(Source: Abeysekera, 2002a)

The benefits of this scheme are clear with economic and non-economic benefits to all. In this regard, comments made in 'Section 2: Quantum of Financing, Timing of Releases, and Economic Benefits' is particularly noteworthy to get greater value for the client. However, if this approach is to be used in

formal construction, it needs to be properly project managed as there is opportunity for misuse despite the many value-addition options it presents. Thus risk mitigation strategies described as part of the conceptual framework has much relevance. For example, contractors with a good track record would minimise any risks. Organisations with good performance management databases would be in a better position to manage risks. Thus organisation culture and construction culture (Abeysekera, 2002b) are two issues that need to be considered when developing contractual and other mechanisms for managing risk. In general, it should be possible to use existing standard form contracts with a set of special conditions which the author is currently working on using the CFC framework proposed in Section 2.

3.2 ROLLING MATERIAL PRICE ADVANCE METHOD

Mobilisation advances are not common in developed countries such as New Zealand and Australia. However, it is common in Sri Lanka to the extent that construction work is rarely carried without an advance (Abeysekera, 2002b). The scheme described herein is different in that mobilisation advance is used on a rolling basis.

This scheme was used on a large building project in Sri Lanka where the author was acting in the capacity of Client's Representative. Progress was slow and it was clear that it would come to a halt unless the client intervened to alleviate acute cash flow difficulties of this technically competent contractor. A summary of the original proposal that was approved by the client is given in Fig. 2.

It is useful to examine the features of this scheme with respect to the 'framework for client financing' described in section 2. The main benefit to the client in this case was the timely completion of the project that could have easily been delayed if not for this scheme. Despite the slight increase in costs arising out of the extra administrative duties such as record keeping, it could be argued that the net cost to the client would be more in the event of having to terminate the contract. Clearly, it was a case where the needs of the contractor were met though initiated by the project consultants. The funding was limited to material purchases and the scheme was operated in the latter part of the project successfully. Nevertheless, such a scheme could have been operated at any stage of a project. The quantum of financing was based on a percentage assessment of the cost of material based on anticipated monthly turnover. The timing of the releases was not fixed but flexible and was based on a perpetual assessment of the value of the guarantee. Advances were channelled directly to beneficiaries. Hence the potential for any misuse of funds were minimised. Contractor's technical competency to complete the work was assessed too. Funds so advanced were recovered by deducting from progress payments. All in all, there was hardly any risk to the client.

1. Payment to the contractor for purchase of essential materials issued in favour of manufacturers or suppliers against a rolling materials purchase bank guarantee for US$ 12,500 – 25,000 from a reputed bank (1US $ = Rs. 40/= approx, 1990).
2. Deduction of the cost of materials delivered upon the site from the advance payment at 100% of invoice value.
3. Payment to be made to the contractor for unutilised materials on site at 90% of the invoice value (as per existing contract conditions).
4. Deduction so effected which would bring about a reduction in the advance, to be re-utilised for purchase of additional material and the process repeated.
5. The cost of the material on order and not delivered to site at any given time should not exceed the amount of the bank guarantee.

Fig 2: Operational details of a rolling advance scheme

As shown in Fig. 2, funds released under this scheme were only for the purchase of materials. However, funds could have been released for all types of expenditure if the need arose.

Clearly, the scheme proposed was beneficial as it was possible to complete the project without delay and at more or less planned costs but for the loss of interest on moneys advanced though the actual savings were much greater than terminating the contractor and seeking a new contractor. It also met the needs of a technically qualified contractor to overcome cash flow difficulties. The type of expenditure to be funded and the quantum of funding were clearly stated. Mechanisms for channelling the advances were also spelt out and risk management strategies were built in through bank guarantees. In this sense, the scheme was well designed. This also goes to show the conceptual framework is valid.

3.3 A DIRECT FINANCING SCHEME

This scheme was used on a large construction project for a government client in Nigeria which involved the construction of a number of single story, two story and four story buildings on a secure compound with internal roads, recreation facilities, and a large communication centre with expensive telecommunication and electronic equipment in addition to a separate building for two 1000kVA generators. The project was undertaken on a design and built at a fixed price by a reputed international organisation (TELECS) who subcontracted all building and civil works to an international contractor (GC).

Halfway during the construction, there was a management changeover with a change of senior management roles from overseas to local. The project slowed down significantly and came almost to a halt with serious concerns expressed by the client and TELECS at which point of time TELECS could have terminated the contract and sought the services of another construction contractor. However, they decided not to having identified the problem of poor progress to be due to an acute liquidity problem. As construction slowed down, suppliers were reluctant to extend credit to the contractor. Moreover, commercial banks were not keen on augmenting the lines of credit made available to GC, the civil contractor (GC) requested TELECS for an on-account payment which TELECS declined.

Having done so, TELECS, nevertheless, decided to fund purchases of materials, plant hire charges, payment for subcontractors, and also to pay wages of on-site staff and other on-site expenses to ensure that funds were not misused and the project benefitted. Abeysekera (1987) provides a detailed explanation of how this scheme was operated, discussing potential problems and solutions including pitfalls and precautions to be taken when operating such a scheme to increase productivity particularly in a crisis situation though not only limited to such situations. Some of the main features of this system were the development of appointment of TELECS's representative (with a technical background) who was to a large extent resident on this (large) site, preparation of an inventory of items on site, frequent preparation of cash flow statements and also fund-flow statements, direct payment to service providers and subcontractors, tight control of payment for cost-significant materials and monitoring of deliveries (vis-à-vis paid-for and delivered), recovery of funds so advanced from monthly valuations of work done using rates available in the bill of quantities, all of which need to be agreed upon (in writing) before such a scheme is to commence in what may be referred to as a 'procedures manual' for the operation of this direct-financing-scheme. Of course, it would be necessary to make a due-diligent check whether sufficient funds were available (as per tendered rates) for balance work as against actual cost of construction. These activities would necessitate the involvement of a project manager/quantity surveyor and this would be an additional cost.

Time and time again, industry has witnessed situations where clients have taken the path of terminating a contract and incurring a substantially higher cost to complete the works, sometimes incurring as much as twice or thrice the cost of the balance work! However, in making such decisions, it would be

necessary to assess whether the contractor was not only technically capable but also managerially capable to continue construction. As noted before an assessment will need to be made whether it would be possible to complete the balance work using existing unit rates.

Although the idea embodied in this scheme is a simple one, it involves careful planning to ensure that funds advanced are used effectively. It involves the development of a management system where the client (in this case TELECS) plays a role similar to that of contractor's head office. Whilst the decision to operate such a system can be initiated by either party, there are some broad issues to be considered as noted below with the operation of such a system are detailed above.

One thing clear is that not all aspects described in the conceptual framework were considered before implementing this case. A sound business case was not developed in a transparent manner. In hindsight, if a conceptual framework as described in this paper was available, it would have been easier to address issues that could have impacted negatively on the success of this initiative.

It must be said that a direct financing scheme such as what was described herein may be applied in a wide variety of situations and in a wide variety of ways. For example, it can be applied to a specific section of a project that is critical to completion, or a similar section of work that has to be completed by another contractor. Such a scheme could also be used by a main contractor saddled with a subcontractor who is technically capable but is constrained by the lack of cash. The scheme presented is ideal as a 'crisis management', having the power to give 'life' to an almost 'dead' project with potential cost benefits to a client. A good rapport between parties including trust is essential for implementation of such a system. Additionally, it would be necessary to put up a business case using the client financed construction framework proposed above as noted earlier.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Clients financed construction is a philosophy that is worthy of further consideration as it has much promise. A framework was proposed for further investigation which was used to evaluate the schemes proposed and in the process validating the suitability of the framework.

Of the three methods proposed the 'rolling advance method' has the greatest promise to the extent that it could revolutionise how construction projects are managed making the industry more competitive, efficient, and cheaper to build. However, this method calls for good project management with particular attention to risk management without which the system could be abused. It would be also necessary to take into consideration issues related to the local construction culture as bonds and guarantees may not be in common usage and also quite restrictive impacting on lines of credit provided by banks. This could be overcome by the use of insurance bonds which are relatively easier to secure though costlier. There will be a need to develop special conditions of contract to supplement existing standard form contracts.

The 'rolling mobilisation advance' scheme is not as resourceful as the 'rolling advance scheme'. Yet, it provides many benefits particularly in troubled projects particularly with cash flow difficulties. The scheme is relatively risk-free. The same is true for the 'direct financing scheme' too. Both these methods calls for greater control in relation to the use of funds advanced (and thereby prevent misuse). Successful implementation calls for good 'construction project management' without which there is opportunity for abuse. The client-financed-construction framework described in this paper would be a useful aide for designing and implementing such schemes.

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