

**THE TREATMENT OF PRIVATELY FINANCED PROCUREMENT IN
ECONOMIC APPRAISAL**

For the Department for Transport

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Final Report

as revised 23 October 2018

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1. Background

Recent decades have seen important international developments in public accounting conventions for privately financed public procurement. These are designed to make more transparent the liability incurred by a public sector commitment to private financing and to prevent public bodies from using private financing to evade their politically agreed budgets.

Current public expenditure accounting conventions in the UK now nearly always require that the value of capital assets procured by private financing is on the balance sheet of the procuring body. Capital expenditure by the privately financed supplier is immediately added to UK Public Sector Net Debt (PSND) and subtracted from the procuring bodies' capital budget. This has an important impact on the financial dimension of business cases for the investment, as the affordability of the investment has to be set against other immediate options for the use of the relevant capital and current budgets.

The handling of private financing costs in the economic dimension of the business case, which is the concern of this paper, is specified in the 2018 Treasury Green Book (paragraph A.4.12) as follows.

*“A PPP option will still register as part of total public sector debt, but in certain circumstances may make capital available at an earlier date than other options. Costs may be brought forward in time and will also impact on future spending. **The costs should be counted at the point at which they will accrue to the accounts of the organisation responsible.** To reflect the true cost of the PPP option, appropriate provision for the full cost of the additional capital should be included in Cost Benefit calculations. This involves including private finance charges as a cost to the public sector. Additional costs of privately financed options need to be fully offset by additional benefits before a PPP option demonstrates a favourable Benefit Cost Ratio comparable with a directly financed option.”* (emphasis added)

It has been proposed that this should be taken to mean that, where the investment is classified as on the public sector balance sheet, the privately financed capital should be counted as a social cost in CBA at the time that it accrues to PSND and is subtracted from the procuring body's capital budget. Subsequent repayments of this capital by the procuring body would then be ignored. This paper addresses this proposal, in three stages.

Section 2 reviews the welfare implications of bringing liabilities for private finance onto the procuring agency's balance sheet. It concludes that:

- 1) This accounting measure is important, effective and well justified, and strongly influences the financial dimension of the business case.
- 2) The implications of changes in accounting classifications for the economic dimension are however immaterial. Applying such an effect would be analytically unsound. But:
- 3) The accounting change draws attention to long standing features in appraisal practice that bias in favour of private financing, and which now merit revisiting.

Section 3 reviews the early years of private finance in the UK, when methodology was discussed and developed in the Treasury and tested in practice.

Section 4, drawing on Sections 2 and 3, turns to the question of bias in the current (historic) CBA convention, notes the NAO comments of 2013 on Treasury methodology, and considers the potential for retaining established conventions for defining costs in CBA but removing the historic bias in favour of private financing.

Section 5 concludes.

2. Welfare implications of including private finance liabilities in PSND and deducting them from the procuring body's capital budget

When private financing extends widely, as in UK government since the 1980s and especially since the late 1990s, counting the capital cost against national and spending body budgets as if it were publicly financed may be the only way to prevent public spending budgets being evaded by off balance sheet borrowing. This is “good government” and widely recognised as an important contribution to social welfare.

In the business case for a private financing proposal the accounting adjustments strongly influence the financial dimension. The affordability of the proposed project now has to be judged against the procuring body's short term Capital DEL, as well as its longer term Resource DEL. This maintains public expenditure financial discipline.

However public accounts adjustments do not affect the social, economic, or environmental impacts of a specific project. These effects are unchanged.

The financial constraints do prevent a marginal loosening in the aggregate fiscal balance, at least with respect to that spending body's programme, and the net welfare impact of this could no doubt be modelled in detail. However if the original budget is close to optimal, which seems the only reasonable general assumption, the net welfare impact of this marginal change will be trivially negative or trivially positive, depending upon the VFM of the excessive capital spending that the tighter budget has prevented.

Public and private financing differ in that, with public financing, the government (or the taxpayer) is paying the supplier up front for the capital asset, while with private financing the government / taxpayer is paying over a long period. As for leased rather than owned property, it is the cash payment from public funds that is the social cost.¹

¹ Accrual accounting, providing information on financial assets and liabilities as well as cash stocks and flows, is essential for running a commercial enterprise and very important in public sector management. However the welfare impact on the taxpayer and the economy of government spending is the (marketed and non-marketed) impacts on consumption in real time.

3. Early UK history of private financing and its economic appraisal

Before the 1980s, the only substantial public vs private financing decisions in government were of ‘lease or buy’, notably for buildings. The Treasury guidance for such comparisons, described by the Treasury Management Accountants in the first Treasury Green Book in 1973, was that the cash costs should be compared using a discount rate equal to the cost of government borrowing. As noted in NAO (2013), and discussed later below, this convention has merit in some cases. It has also been recommended for many years by the US Office of Management and Budget.

“Private finance” in the sense now perceived in UK government emerged in the 1980s, following the election of the Margaret Thatcher Government. That Government was committed to private enterprise and sought a substantial transfer of the provision of utilities and publicly funded services to the private sector. This included private financing of capital assets, **not** at that time as a means of evading national or departmental budget constraints, but because of the freedom that this provided from conventional public procurement conventions in design and management.

Such private financing was resisted by Treasury officials, because of its higher financing costs, and because of the associated loss of central government control of year to year capital spending. For a while the then famous “Ryrie rules”, lasting from 1981 to 1989, helped to hold the line.² The Treasury also developed new guidance, as Supplementary Note 1 to the Green Book, issued in 1982, promoting a rigorous convention that both public and private (post tax) financing streams should be set out (normally assuming a real public borrowing cost of 2%) and compared at the social discount rate, to derive an extra cost of private financing.

This Supplementary Note was expanded in 1984, with two main changes. One change was to accept that the simple approach of discounting the cash flows (which implicitly assumes a cost of government borrowing equal to the social discount rate), while biased in favour of private financing, would be sufficient in many cases. The rigorous convention proposed in 1982 should be confined to major cases. The other main change was to allow for the taxation element in all financing costs.

One section in Supplementary Note 1 of 1984 addressed “Payments in advance and in arrears”. This explained that in principle (and in practice, where the magnitudes are material) payments in advance should be treated in CBA as social costs even though they produce no immediate goods or services, and payments in arrears should be treated, as in the rest of the note, as borrowing. This maintained the convention that public expenditures count in CBA when they fall as cash payments by the government / taxpayer (with provision in CBA also for the extra cost of private financing in major cases, as described above).

A policy breakthrough, against the Treasury, came in 1986 with the new Dartford crossing (now the Queen Elizabeth II Bridge). The main reason for the No 10 victory in this case, paradoxically from today’s viewpoint, was that, being an estuarial crossing, the project would

² The rules specified that such projects should not be provided with any “degree of security significantly greater than that available on private sector projects” and that they “should yield benefits in terms of improved efficiency and profit from the additional investment commensurate with the cost of raising risk capital from financial markets”. (As quoted in Heald, 2003, Note 6, p 364.)

be self-financing. (The cost to future taxpayers of losing the toll revenue never achieved any salience, in official or public debate.)

That project went well, with possibly better VFM than public financing. The lead financiers saw their task in terms of minimising financing costs and arranged a debt-only deal, with no equity. The bridge was opened on time in 1991. It was a 20 year concession, but with a stipulation that the concession could end when debts had been paid off. The crossing reverted to the public sector when this was achieved after only 11 years, in 2002.

The 1986 contract led however to its being accepted by ministers, officials and potential bidders as politically inevitable that all tolled estuarial crossings would be privately financed.³ It also encouraged private financing elsewhere, though to only a modest degree until the mid 1990s.

The Treasury remained concerned about the weakening of public expenditure control presented by private financing. It welcomed moves in Accounting Standards towards bringing such assets onto the public sector balance sheet and counting against agency capital budgets. The concern about expenditure control also helped to prevent the public service discount rate from being raised from 5% to 8%, as was sought in the mid 1980s by Treasury officials responsible for the nationalised industries.⁴

This early history is largely forgotten. The NAO for example wrote nine years ago that *“The Conservative Government started to promote the use of private finance from the beginning of the 1990s. It [John Major] launched the PFI in 1992 with the aim of promoting public-private partnerships at a national and local level. Yet it took time for PFI to gain momentum, and less than a billion of capital investment had been agreed with private companies by the end of 1995.”* (NAO, 2009)

One incidental and currently low profile issue raised with the Treasury by No 10 in the 1980s was the social cost of public debt. It is widely held among economists with a financial economics background that private financing in a competitive market costs no more than public financing: that it appears to cost more only because it excludes costs of risk that otherwise fall on the taxpayer. Brian (now Lord) Griffiths headed the No 10 Policy Unit from 1985 to 1990 and was inclined to this view. However after a meeting with the Treasury and courteous correspondence the matter was left, seemingly on the basis that the issue was complex and differing views could be respected. The issue continues to appear frequently in the literature and elsewhere, but seems not to have any current salience within UK government or Parliament. It is still accepted in the Treasury that the social cost of private finance is more than that of public finance.

Supplementary Note 1 to the Green Book was not formally withdrawn, but explicitly setting out both public and private financing costs, and then discounting these at a social discount rate, was never applied even for major projects. The broad approach for exceptionally large projects remained formally alive, but muted, in subsequent issues of the Green Book up to

³ A major example was the Second Severn Crossing contract, awarded 1990. The Treasury was less involved and the financing now included a very large equity component. The bridge was opened on time in 1996, but did not revert to the public sector until 22 years later, in 2018.

⁴ The public service rate was raised from 5% to the upper end of the range of 4 to 6% that was seen at that time as a tolerable range for social time preference.

and including that of 1997, which said that:

*“In practice nearly all [private finance] cases can be considered in terms of costs gross of tax, using the discount rate of 6 per cent to compare the costs of the alternative options. In a very few cases it may be considered worthwhile to compare financing costs, more precisely, on a net of tax basis. **In this case public financing costs, at the cost of government borrowing, are compared with private financing costs net of the additional taxation incurred with private financing** (instead of allowance for this additional taxation being included in the use of a 6 per cent cost of public financing); **both public and private finance costs then being discounted at the 6 per cent time preference rate.** However, such cases are rare, and complicated, and will always need to be discussed in detail with HM Treasury.”* (1997 Green Book Annex D, paragraph 32) (emphasis added)

Ironically this was issued just as the Treasury itself, under Chancellor Gordon Brown, was about to promote a massive, extended expansion of private financing. It had however already become widely accepted that, where a private finance option was proposed, it was the politically preferred choice whatever the arithmetic. Regardless of some official concerns, government as a whole had yielded to the temptations to ‘spend now, pay later’, offered by the accounting conventions at that time. One prominent case in the early 2000s, strongly pushed by the Government’s consultant advisers against much contrary academic and other advice, was the ill-fated London Underground privatisation.

The 2003 Green Book dropped any reference to earlier guidance on private finance. It did however introduce the much lower discount rate of 3.5%. For the public borrowing costs then prevailing this may often have led to fairly unbiased comparisons of public and private financing. But it left a significant bias in favour of private financing after government borrowing rates collapsed in 2008.⁵

4. Improving economic appraisal methodology for financing options

For many years public and private financing have been compared in UK government by discounting the procuring agency’s cash flows for both options at the 3.5% social discount rate. This would be broadly satisfactory if 3.5% were close to the real cost of relevant government borrowing (plus an upward adjustment for the typical tax elements of public and private financing). But since 2008 3.5% has been much higher than the real cost of public borrowing, producing a bias in favour of private financing. Historically some bias in that direction has been politically favoured by both Conservative and Labour Party governments. But given the accounting changes and perhaps the experience of paying for past private financing, the political climate today seems more favourable for an unbiased procedure.

NAO (2013) notes the appraisal bias and suggests in particular that a sound comparison of public with private financing should have regard to the cost of *public* finance. It reports (paras 12 and 13) that the Treasury at the time said that the cost of government borrowing was not relevant. But in the comparison of public and private financing costs, as recognised

⁵ A very primitive, but easily accessible summary of the UK base rate and inflation rate is at <https://www.economicshelp.org/blog/1485/interest-rates/historical-real-interest-rate/>

historically in the Treasury as in finance ministries worldwide, the government financing cost cannot be excluded without some significant approximation.⁶

In most appraisal, of course, the government borrowing cost is not included. Public spending in developed economies is generally funded mainly via some form of consolidated fund, funded in turn mainly by taxes and the sale of government debt. Distribution at the margin between tax and borrowing is generally handled as an issue of macroeconomic and general fiscal policy. If this handling can be assumed to be competent, the social costs of marginal taxation and marginal borrowing in *microeconomic* analysis are for practical purposes the same.⁷

Related to this is the distinction between capital and current public spending. The distinction is central to public expenditure planning and management. But this is separate from the question of whether the social cost of funding £1m of public capital spending (or overspending) differs from that of funding £1m of public current spending (or overspending). In the literature today there is usually no difference.⁸

NAO (2013) recalculates some private financing cases in three ways, broadly equivalent to a) the then current Treasury approach, b) the use instead of a discount rate similar to a government borrowing rate, and c) the use of the Treasury discount rate but with the *publicly* financed capital represent as a cash flow of financing costs at the government borrowing rate. The calculations illustrate how private financing is favoured by (a) and disadvantaged by (b), with (c) lying in between.

The current Treasury proposal is to depart from the normal discounting of cash costs to the taxpayer by extracting the capital repayment element of privately financed options and placing it at the time that the physical capital is constructed. This procedure would switch the bias towards favouring public financing. But it would be less than satisfactory in several respects, some more serious than others.

- Most fundamentally, it would be introducing a change that had no analytical foundation. Changes in accounting classification may change the choice and number of projects. But as discussed in Section 3 they do not change the economic impact of a specific project.
- It would embed an implicit assumption of zero real public financing cost. This may be not unreasonable in 2018, but is not appealing as a permanent assumption.
- By counting a public sector liability in CBA as if it were an immediate cash cost to the taxpayer, it would set a confusing precedent.
- It would ignore the tax element of financing costs.
- It would imply a different economic net benefit for a given project, depending on whether it was on or off budget. This would be confusing, not least because some projects change in their balance sheet status as they are developed.

⁶ Maybe the NAO record arose from a miscommunication around the fact that the cost of government borrowing is nearly always irrelevant to option appraisal. The comparison of financing options, where government borrowing costs do matter, is a rare exception.

⁷ Some governments may, to prevent excessive borrowing, set rules to ensure that over the long term net borrowing does not exceed net public capital spending. But such rules do not negate the concern to equate the marginal social costs of tax and borrowing.

⁸ Early CBA literature focused on the comparison of public capital spending with later consumption benefits, with little attention to public operating costs. This may have led to some impression within economics, now fading, that marginal capital and current public spending are funded in radically different ways.

- It would impose an arbitrary assumption about how the capital and interest elements fall within the financing element of privately financing costs.

There are better, analytically defensible ways of avoiding bias in favour of private financing.

One such way would be to return to the rigorous approach developed by the Treasury in the 1980s. This approach is illustrated in an Appendix to this note. With its three annual percentage rates, it might still be confusing for some procuring agencies and their advisers and suppliers. On the other hand, with the political climate now more favourable to the objective analysis of private financing, and relatively few private financing proposals, it may well now be workable, certainly in a body such as DfT.

Another way would be to return to the Treasury practice from the 1970s, still applied today by the US Office of Management and Budget of using, for comparisons of public with private financing, a discount rate equal to the relevant cost of government debt. But this approach is obviously crude and poorly suited to many circumstances. HM Treasury has the authority to require something better.

5. Conclusion

The comparison in CBA of public and private financing of public procurement could in principle be handled rigorously. This has in the past proved too difficult to apply widely. Nonetheless it may now be feasible and in any case current circumstances make it timely to review and improve UK procedures.

The themes developed in this paper have been as follows.

- Public accounting conventions for private financing now seem to serve well their intended purpose of transparency and discipline. Bringing private finance capital onto PSND and spending agencies' balance sheets strong influences the financial dimension of the business case. This is a good use of accrual accounting in place of cash accounting.
- But changes to accounting classifications do not affect the economic costs and benefits of a given project. Such classification changes maintain fiscal discipline by changing the choice and number projects. This is very important. But the marginal economic impact of these changes is immaterial.
- To apply such accrual accounting within CBA, counting government financial liabilities as immediate costs, would be inconsistent with established CBA principles, long embedded in good Green Book practice, that CBA is about real time impacts on consumption (including externalities) and on public spending.
- However there is a good case for amending the current (historic) CBA conventions for comparing public and private financing options. These are biased in favour of private financing and no longer align with political preferences.
- Setting aside problems of contract design and supervision, the main reason that privately financed options are more costly is that their finance is designed to achieve a higher financial return to the supplier than the cost of public financing. Any

comparison of publicly and privately financed options needs therefore to include some assumption, implicit or preferably explicit, about the cost of public financing.

- A rigorous procedure might be, as was found many years ago, difficult for some departments, their advisers and suppliers to understand and apply reliably. But in today's circumstances it may well be feasible.
- There is a case for empirical research, which might be done wholly within government, on actual tax inclusive costs of capital with public and private financing of a typical range of capital projects; including the effective tax rates paid.

References

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NAO (2009) 'Private Finance Projects', A Paper for the Lords Economic Affairs Committee, National Audit Office

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Appendix: A rigorous methodology

Tables 1, 2 and 3 below illustrate how the extra cost of private finance may be calculated, to provide a figure to add to the conventional PV costs of private financing in a CBA.

The tables are based on simple, stylised assumptions, not based on empirical data on private financing costs of capital, or effective tax rates on government debt or private financing. They assume, for public and private financing options, a capital cost, in year 0, of £100m and a 20 year, constant annual amortisation period for privately financed capital. All costs and discount rates are in real terms.

Table 1 shows PVs for a range of public sector costs of capital. The capital and interest is assumed to be paid over the same time profile as the private financing charges that would be paid by the procuring body. The assumed interest cost of the relevant cost of government debt should include a (downward) adjustment for the tax paid by holders of government debt and an (upward) adjustment for the tax paid on average on private finance for public service investment. These adjustments should reflect tax rates actually paid, which, because of exemptions and allowances, may be much less than standard rates.

Table 1: PV of amortised public finance

Cost of public debt, plus tax adjustment	PV at 3.5% of constant annual amortisation over 20 years
1%	£78.76m
2%	£86.92m
3%	£95.53m

Table 2 shows PVs for a range of pre-tax private financing costs of capital.

Table 2: PV of amortised private finance

Cost of private finance (pre-tax)	PV at 3.5% of constant annual amortisation over 20 years
3%	£95.53m
5%	£114.04m
7%	£134.16m

Table 3 shows the difference between the pre-tax private financing costs in Table 2 and the tax adjusted public financing costs in Table 1.

**Table 3: Extra cost of private finance
(Table 2 minus Table 1)**

		Cost of private finance (pre-tax)		
		3%	5%	7%
Cost of public debt, plus tax adjustment	1%	£16.77m	£35.29m	£55.40m
	2%	£8.61m	£27.13m	£47.24m
	3%	£0m	£18.51m	£38.63m

The PVs of the publicly financed option should then be calculated in the normal way. While the PV of the privately financed option should be taken as the sum of a) the PV of all its non capital elements, b) the PV of its capital spending and c) the extra cost of private finance calculated as in Table 3.

The BCRs in both cases should be taken, as usual, as the ratio of the PV of net (non-public spending) benefits to the PV of net public spending, including the extra cost of public finance.