



National Audit Office

Briefing

by the National Audit Office

HM Treasury

The choice of finance for capital investment

MARCH 2015

Our vision is to help the nation spend wisely.

Our public audit perspective helps Parliament hold government to account and improve public services.

The National Audit Office scrutinises public spending for Parliament and is independent of government. The Comptroller and Auditor General (C&AG), Sir Amyas Morse KCB, is an Officer of the House of Commons and leads the NAO, which employs some 820 employees. The C&AG certifies the accounts of all government departments and many other public sector bodies. He has statutory authority to examine and report to Parliament on whether departments and the bodies they fund have used their resources efficiently, effectively, and with economy. Our studies evaluate the value for money of public spending, nationally and locally. Our recommendations and reports on good practice help government improve public services, and our work led to audited savings of £1.1 billion in 2013.

Contents

Summary 4

Part One

Trends in public finance 11

Part Two

Trends in private finance 18

Part Three

Decision-making process and budgets 26

Part Four

Recent developments in infrastructure financing 35

Appendix One

Cost of private capital 41

Appendix Two

Special Purpose Vehicles 51

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Summary

1 This briefing paper considers capital investment and how government chooses to finance it.

2 **Figure 1** shows that over the past 50 years, public sector gross investment (PSGI) has decreased as a proportion of Gross Domestic Product.¹ Much of this reduction resulted from the transfer and sale of assets to the private sector because privatised industry capital investment is not scored in PSGI. Since the introduction of the Private Finance Initiative (PFI) in the 1990s, private finance has contributed to public sector capital investment. In the past 15 years government capital investment has increased, with a peak in 2010 which coincided with a fiscal stimulus and a decline in the past 5 years as the government has sought to put the public finances on a sustainable footing.

3 In the 2014 Autumn Statement the government reiterated the importance of infrastructure for economic growth. It stated that it has prioritised capital investment over day-to-day spending and was taking a long-term approach, tackling the historic problems of short-term decision-making.² The government has also published a National Infrastructure Plan each year since 2010: the 2014 plan contains a pipeline of £327 billion of public and private infrastructure investment planned to 2020-21.³

4 This briefing paper describes several factors affecting central government capital investment decisions, including budgeting, project appraisal, procurement, finance and accounting treatment. Based on these factors we make a number of observations about the relative flexibility, transparency and other attributes of different financing choices, including cost. We have not evaluated the decisions to invest in particular projects, but we note HM Treasury's guidance that the decision to use public or private capital to finance a particular investment should be supported by a value-for-money (VfM) assessment. The government's decision on the aggregate level of capital investment is also outside the scope of this briefing paper.

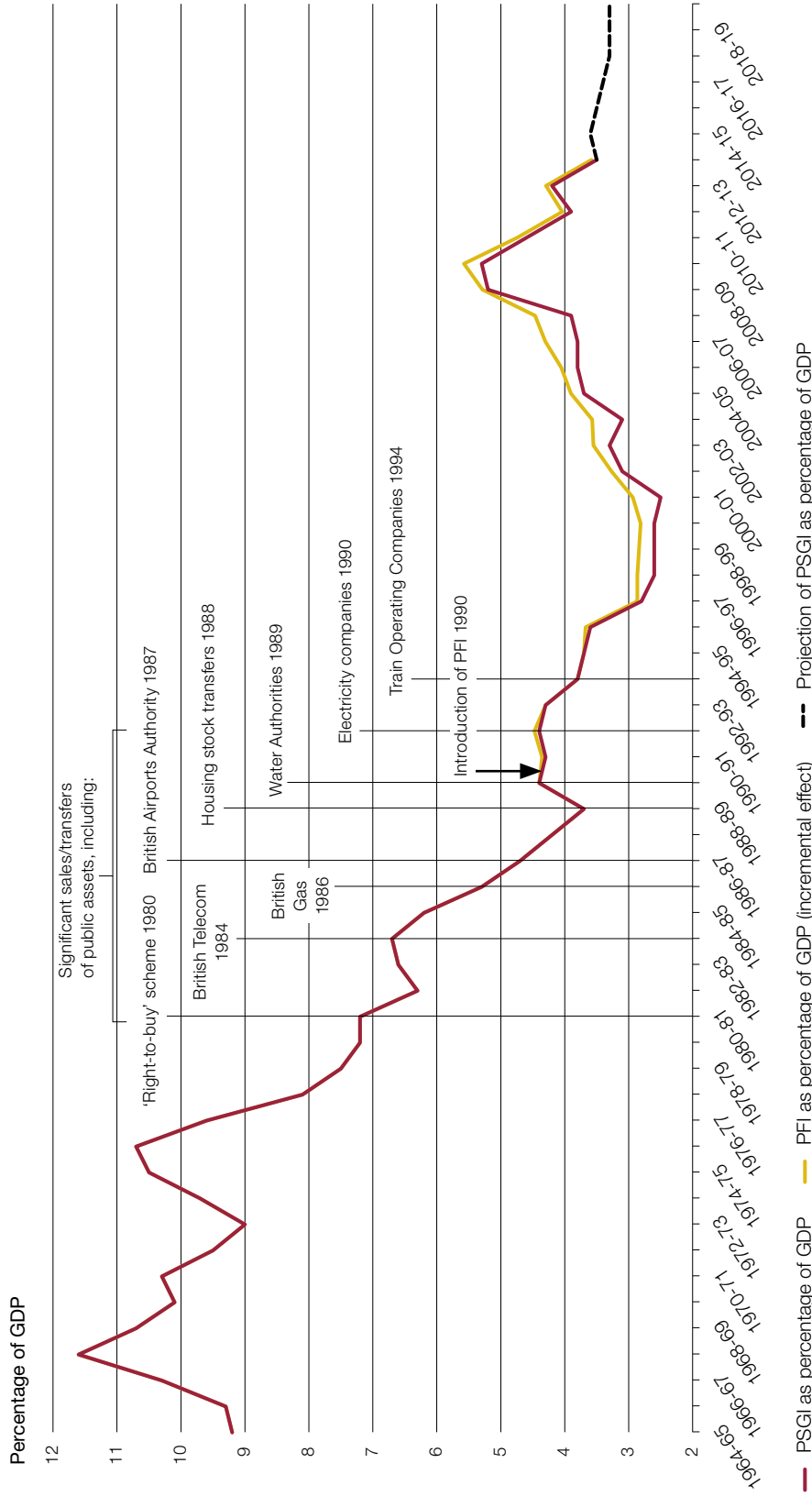
¹ PSGI is a measure of capital expenditure. A detailed glossary of terms is available in HM Treasury, *Public Expenditure Statistical Analyses 2014*, Annex G: Glossary of terms.

² HM Treasury, *Autumn Statement 2014*, December 2014.

³ HM Treasury, *National Infrastructure Plan 2014*, December 2014. The NIP includes transport, energy, flood defences, water, waste, communications and science. It does not include social infrastructure (eg housing).

Figure 1
Public Sector Gross Investment (PSGI) and PFI investment – past 50 years

PFI has added to Public Sector Gross Investment



Notes

- 1 PSGI includes investment of local government and state-owned enterprises so these figures are not directly comparable to other data in this report on central government capital spending.
- 2 The capital investment through PFI has been added to the PSGI figure. A small amount (approximately 10%) of PFI investment is on balance sheet for national accounts purposes so is also included in PSGI spending figures.

Sources: Office for Budget Responsibility, Public Finances Databank, 25 January 2015; HM Treasury PFI database (updated 15 December 2014)

5 We have previously reported on the role of the centre of government, in which we noted that the move towards greater central coordination in strategic areas was given impetus by the climate of austerity.⁴ An important part of the government's response to this challenge was the HM Treasury-led review of financial management, which recognised that government needs to develop a more strategic finance function, particularly in light of the constraints on public expenditure. We intend this briefing paper to complement that review by providing more information on capital investment and financing decisions.

6 This briefing is structured as follows:

- **Parts One and Two** examine trends in capital investment, including the annual investment expenditure by several departments, using public and private finance respectively.
- **Part Three** explains how the government's budget process affects the decisions to use public and private finance for capital investment.
- **Part Four** summarises recent developments including refinancing projects, introduction of PF2 and government interventions.

Our approach

7 We interviewed HM Treasury and 4 other spending departments within central government (Transport, Health, Education and Defence) to understand how the budgeting process operates. We also analysed the capital investment and financing choices made by these departments, some of their sponsor bodies and the fifth largest capital spending department (the Department for Communities and Local Government) using a range of public sources.⁵

4 Comptroller and Auditor General, *The centre of government*, Session 2014-15, HC 171, National Audit Office, June 2014.

5 These sources include the National Infrastructure Plan, HM Treasury PFI database, HM Treasury Public Expenditure Statistical Analysis (PESA), *Whole of Government Accounts*, annual accounts of departments and other public bodies.

Findings

Recent trends in capital investment

8 The vast majority of capital spending is publicly funded. A short-term fiscal stimulus contributed to a peak of capital investment in 2009-10. In subsequent years, the government's annual capital spending has reduced by around one-third.

Publicly financed capital investment was reduced by one third in real terms from a peak of £57 billion in 2009-10 to £42 billion in 2013-14. Departments' use of private finance for capital investment has also declined in this period. In the 5 years to 2013-14 it averaged £2.3 billion a year compared with £4.6 billion a year in the previous 5 years, representing a real-terms fall of more than half. Spending on the servicing of existing private finance (maintenance and other services plus interest charges and debt repayment) has increased from £7 billion in 2009-10 to £10 billion in 2013-14 in line with contractual commitments (paragraphs 1.2 and 2.3 to 2.4).

9 Publicly financed capital spending of the 5 largest capital spending departments reduced from £39 billion in 2009-10 to £28 billion in 2013-14, in part because the government had brought capital spending forward from future years into 2009-10.⁶

The largest reductions were in Education, and Communities and Local Government. Spending on schools fell from more than £7 billion to less than £4 billion (a 55% real-terms reduction). Communities and Local Government's capital spending, which is primarily for housing, reduced from more than £9 billion to less than £4 billion (a 62% real-terms reduction). Health and Defence reduced capital spending by around one-quarter in real terms (paragraphs 1.2 to 1.7).

10 When departments record capital expenditure there is no distinction between that used to build new assets and that to repair or renew existing assets. This means that it is difficult for the government to know how much capital expenditure departments require simply to maintain assets in their current condition for business-as-usual maintenance, or to observe how changes in capital expenditure affect different sectors. We estimate that under half of departmental capital spending is for constructing new assets. By contrast, nearly all private finance investment is used to construct new assets (paragraph 1.11).

⁶ Departmental capital spending (CDEL, capital departmental expenditure limit). Capital spending is money that is spent on investment in assets. Capital spending will result in an asset in the department's accounts.

11 Data from the *Whole of Government Accounts (WGA)* shows that the cost of servicing private finance debt is approximately double that of government debt, but information about private finance costs for individual projects is limited.

The WGA shows that the average cost of all government borrowing is 3% to 4%, compared with an estimated financing cost of 7% to 8% for all private finance projects. Although private finance is more expensive than public finance it can represent value for money if the benefits, for example risk transfer, outweigh the higher cost. Around £3 billion a year is spent servicing private finance debt. HM Treasury's PFI database contains details of 728 projects, but financial close data for individual projects is not readily accessible in a comprehensive and verified format. It is also difficult to quantify government's use of private finance because some significant deals are not included in the PFI database (paragraph 2.8, Figure 27, Appendix One, Appendix Two).⁷

Decision-making and budget process for capital investment

12 If departments have insufficient budget to fund the construction of an asset, private finance may sometimes be the only option for investment.

Publicly financed investment requires a large upfront capital and cash budget to fund an asset's construction. Private finance requires a commitment to make regular payments from the resource budget over a longer period (25 to 30 years) once the asset is built.⁸ Health and Education have used private finance to increase their capital investment more, in percentage terms, than other departments. The resource budgets for both departments have risen consistently, whereas their capital budgets have been more volatile and cut significantly in recent years. Some large projects in other departments were only possible through private finance (paragraphs 3.11, 3.12, 3.15, Figure 15, Figure 16).

13 Departments must decide how to finance large capital projects many years before funding is required for construction. This can create uncertainty about budgets and pricing, and limits the opportunity to use the government's collective advantage in financing.

If a department wants to use public finance for a new project it will need certainty that it will have the capacity within its budget to fund the construction of the asset when construction commences. Most budgets are set two or three years in advance but large capital projects are often planned over longer timescales so decisions about the project have to be made before budgets are formally agreed. Capital investment using private finance can offer greater flexibility to departments because the private sector provides the cash for the construction costs. However, several years can pass between the decision to use private finance and the process to determine the final cost of private finance, by which time there is no practical mechanism to reconsider the choice of finance (paragraphs 3.16 and 3.17).

⁷ For example, the Department for Transport's procurement of new trains is not included in the HM Treasury PFI database as this is not defined as a PFI deal.

⁸ Departmental resource spending (RDEL, resource departmental expenditure limit). Resource spending is money that is spent on day-to-day needs – these costs are likely to recur annually.

Refinancing and recent developments

14 Despite a long period of low interest rates and the recovery in financial markets, the refinancing of PFI deals to reduce borrowing costs is relatively uncommon. Following the introduction of gain-sharing agreements, taxpayers may be able to save money as a result of refinancing, renegotiation or buy-outs of private finance deals and share these savings with the equity owners. However, such examples are rare and usually depend on equity owners initiating the refinancing of project debt. Most private finance deals have long-term financing agreements to avoid the risk of increases in interest rates; however, many fixed the cost of finance when interest rates were higher than they are today. It can be expensive to redeem bonds (which are fixed-rate borrowing) or buy out interest rate swaps (contracts used to fix the interest rate for bank loans). We estimate that the swap liabilities of all PFI deals are currently around £6 billion (paragraphs 4.2 to 4.8, Appendix Two).

15 The government has introduced a range of interventions to support the use of private capital for new infrastructure investment. The National Infrastructure Plan envisages that around 80% of new economic infrastructure investment, amounting to more than £35 billion a year, will be wholly or partly privately financed. Government initiatives, including financing guarantees, contracts for difference and direct investment, change the allocation of risk between the private sector, taxpayer and consumer and can have implications for the balance sheets of government departments.⁹ We plan to carry out further work in this area (paragraphs 4.12 to 4.14).

Concluding remarks

16 Departments require HM Treasury's consent before undertaking expenditure or making long-term spending commitments.¹⁰ It is reasonable to question whether features of the current budget system could be more responsive to unanticipated developments in financial markets and changes to service requirements. It is also reasonable to question the extent to which various discrete initiatives to support capital investment, strategy of temporary market interventions and modifications to Public–Private Partnership (PPP) policies (for example, the UK Guarantees scheme, PF2) represents a comprehensive response to the challenges set out in the National Infrastructure Plan.

⁹ We have previously reported on the UK Guarantees scheme for infrastructure, which creates contingent liabilities in HM Treasury's accounts.

¹⁰ Available at: www.gov.uk/government/publications/how-to-understand-public-sector-spending/how-to-understand-public-sector-spending

17 We have identified a number of proposals to improve the coordination of processes and information flows concerning capital spending, budgets and financing. Although each of them may be modest in its individual impact on government's ability to demonstrate value for money in capital investment decisions, we consider this package of measures is worthy of consideration by government. These are to:

- **Improve the transparency of capital spending data.** Trends in historical and forecast capital investment, and in the mix of financing and funding models, would be more readily observable if government reviewed the various public data sources and increased their consistency and completeness, which may support long-term planning.
- **Improve decision-makers' access to the terms of private finance deals.** Central collection and distribution of financial close data, including all PFI and consumer-funded PPP projects, could improve the government's understanding of the relationship between project risks and cost of capital, reveal more opportunities for savings and could be incorporated into refreshed value-for-money assessment guidance.
- **Facilitate direct comparisons between the performance of similar projects with different financing choices.** Detailed comparisons between the benefits and costs of alternative procurement decisions, such as individual cost items, asset quality and performance, and maintenance standards, could improve decision-making and increase confidence in the value-for-money assessment and benefits of long-term contracts with private sector partners.
- **Review the budget-setting process to create greater flexibility to exploit the government's collective advantage in financing.** Revisions to the budget-setting process and greater flexibility to reconsider public finance in the period between budget-setting and financial close could reduce exposure to adverse developments in financial markets.
- **Take steps to achieve further savings from operational private finance contracts and consider the benefits of greater flexibility in future contracts.** Opportunities to refinance and renegotiate contracts to allow for changes in customer requirements may represent value for money provided penalties and other costs are not excessive.
- **Review the long-term consequences of recent interventions,** including the impact on departmental balance sheets and consumer bills.

Part One

Trends in public finance

1.1 This part describes publicly financed capital investment recorded as departmental capital spending – capital departmental expenditure limit (CDEL), including investment trends.

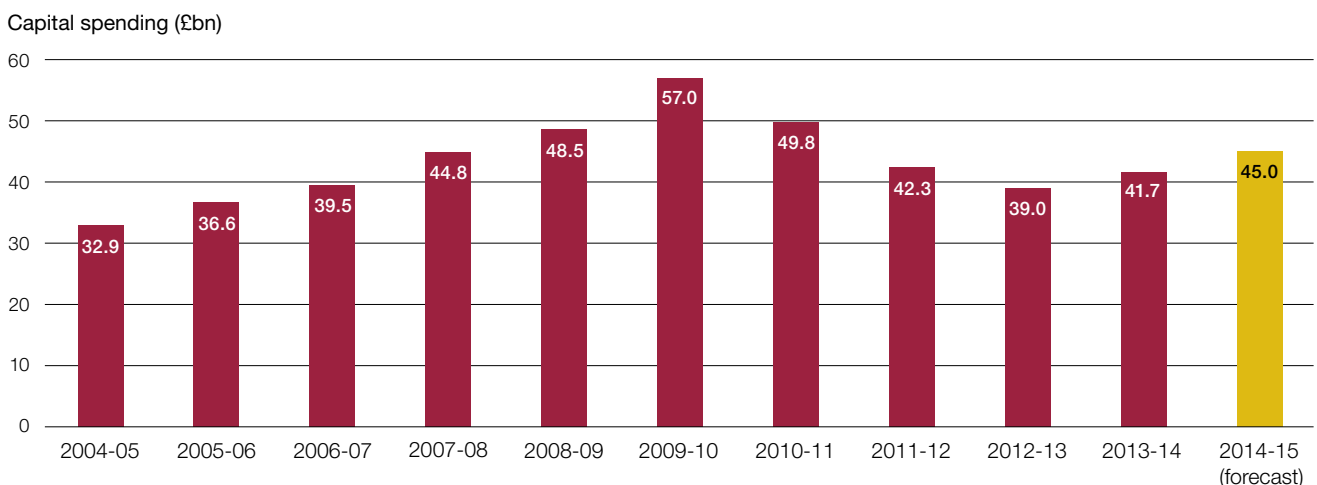
Capital investment using public finance

1.2 Around 90% of central government's capital investment is publicly financed, averaging £46 billion per year over the past five years. **Figure 2** demonstrates that publicly financed capital spending increased year-on-year between 2004-05 and 2009-10. It then fell £18 billion, from £57 billion in 2009-10 to £39 billion in 2012-13, a real-terms decrease of 36%. In 2013-14 the decline reversed but departmental capital spending, at £42 billion, was still around one-third lower in real terms than it had been in 2009-10.

Figure 2

Central government publicly financed capital spending 2004-05 to 2014-15

A short-term fiscal stimulus contributed to the 2009-10 peak



Note

1 A small proportion of private finance capital investment (an estimated £8 billion in total since 1996, making up less than 2% of CDEL) is included within capital spending figures as it is classified as on balance sheet for National Accounts purposes (see Figure 16). It has not been possible to adjust the figures to remove this expenditure accurately.

Source: HM Treasury, *Public Expenditure Statistical Analyses*, July 2010 and July 2014; HM Treasury, *Public Spending Statistics*, February 2015; HM Treasury, *Pre-Budget Report 2008*, November 2008

1.3 A short-term fiscal stimulus in the two years following the financial crisis is one reason that departmental capital spending (CDEL) peaked in 2009-10. For example in 2008 the government announced that it would bring forward £3 billion of capital spending to 2008-09 and 2009-10. £2.5 billion of this temporary boost was allocated for 2009-10.¹¹ Similarly at Budget 2009, the government increased 2009-10 CDEL budgets by a further £3.9 billion.¹² The reduction in departmental capital spending since 2009-10 should therefore be seen in the context of these one-off increases in investment and the government's overriding objective of putting the public finances on a sustainable footing.

1.4 In 2014 HM Treasury said that the government planned to hold Public Sector Gross Investment (PSGI) flat in real terms and then rise in line with GDP from 2018-19.¹³ The Office for Budget Responsibility has forecast that PSGI will be 3.3% of GDP in 2018-19, one-fifth lower than the 4.3% of GDP it averaged in the 5 years to 2013-14.¹⁴ PSGI is a wider measure of capital investment than departmental capital spending as it includes other investment, such as that of local government which is not centrally funded.

1.5 The government publishes an annual National Infrastructure Plan setting out the long-term requirements for public and private sector investment in economic infrastructure and the mix of financing that it expects to be required. In 2013 and 2014 HM Treasury also provided details of longer-term capital spending plans for the 6 years to 2021 in a number of areas including transport, flood defences, science and affordable housing. It has also decided that it will provide some public bodies, such as Highways Agency and High Speed 2, more flexibility to transfer budgets between years. These changes are part of the government's strategy to improve long-term planning.

1.6 Five central government departments – Transport, Defence, Health, Education, and Communities and Local Government – represented two-thirds of publicly financed central government capital spending in 2013-14 (**Figure 3**).

11 HM Treasury, *Pre-Budget Report 2008*, November 2008, Table B5.

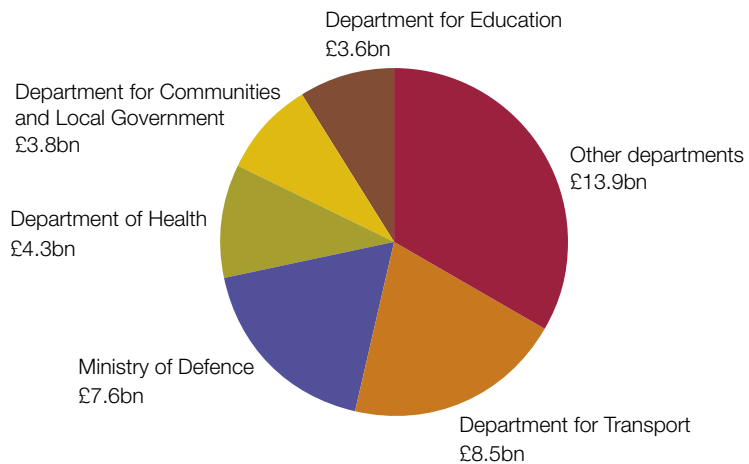
12 HM Treasury, *Budget 2009*, April 2009, Table C10.

13 HM Treasury, *Autumn Statement 2014*, Cm 8961, December 2014, Paragraph 2.7.

14 Office for Budget Responsibility, Public Finances Databank, 26 January 2015.

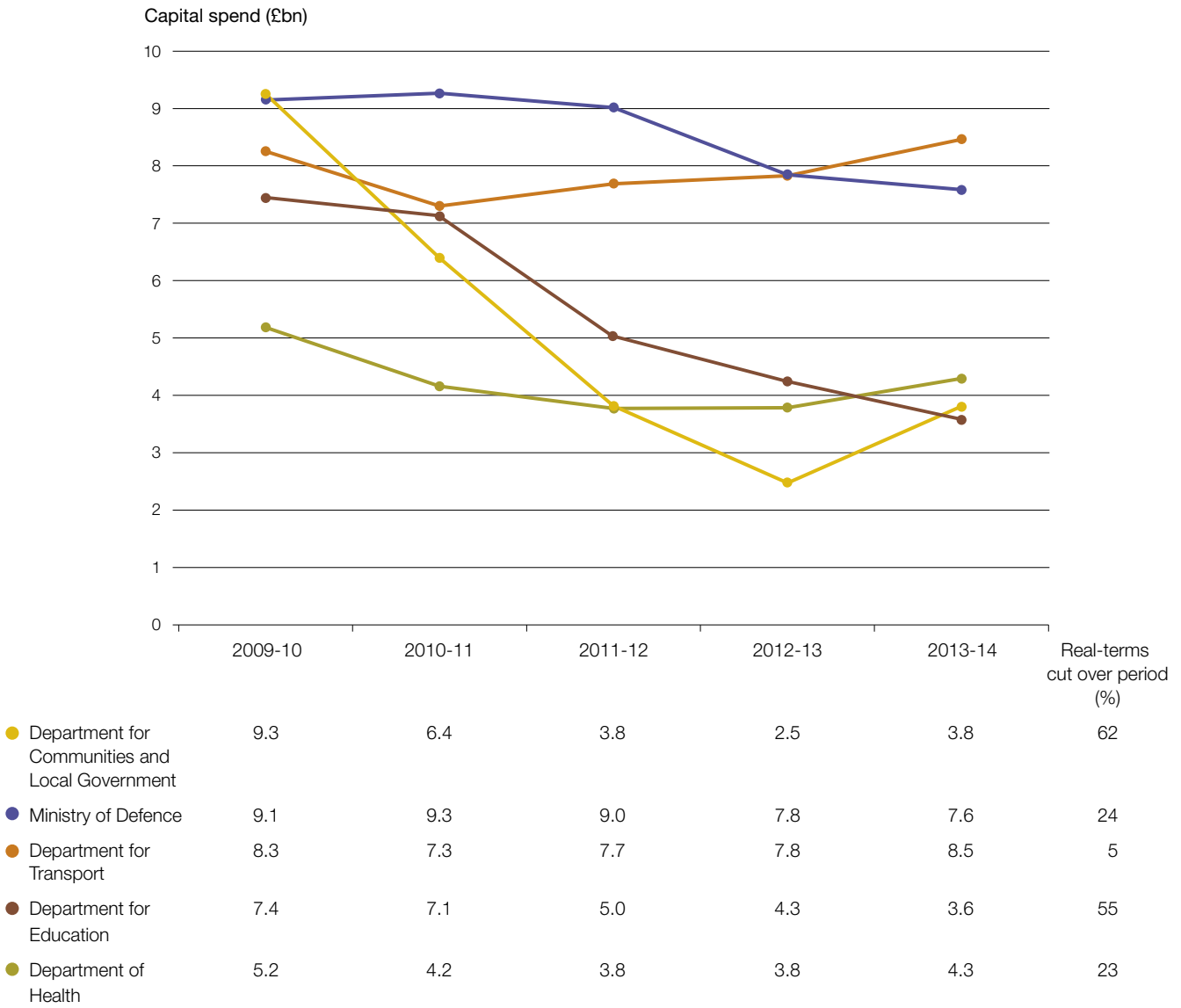
Figure 3

Capital budget spending in 2013-14 by departmental area (£ billion)

5 departments represented two-thirds of publicly funded capital spendingSource: HM Treasury, *Public Spending Statistics*, February 2015

1.7 Each of these 5 departments has reduced investment in real terms between 2009-10 and 2013-14. **Figure 4** overleaf shows that the most significant real-terms reductions have been by Communities and Local Government (62%) – primarily for housing, and Education (55%) – mainly for schools. Defence and Health have reduced publicly financed capital investment by about one-quarter over the 5-year period. Transport has increased its capital spending in cash terms, but it has reduced by 5% in real terms over the period. Capital investment generally creates assets on departmental balance sheets, the benefits of which exist beyond the year in which the money is spent.

Figure 4
Capital spending of 5 large departments



Source: HM Treasury, *Public Expenditure Statistical Analyses 2014*, July 2014; HM Treasury, *Public Spending Statistics*, February 2015; HM Treasury, GDP deflators: September 2014, October 2014; National Audit Office analysis

Capital budget flexibility and outturn against budget

1.8 In four of the past five years since 2009-10 government departments have underspent against their original capital budgets. Over the past three years the underspend has increased (**Figure 5**). In the past two years underspending has averaged £3.9 billion a year (8.8% of the original capital budget).¹⁵ Most of the underspend is in the Ministry of Defence.

1.9 During each financial year departmental budgets are revised by agreement with HM Treasury so the final provision is closer to the outturn than is displayed in Figure 5.¹⁶ HM Treasury guidance states: “There is no place for excess expenditure or low-value spending in the last quarter of the financial year. Any evidence of excessive spending at the year-end in areas that will not generate savings in future years will be taken into consideration in future decisions on spending”.¹⁷ HM Treasury allows departments to use Budget Exchange to transfer a small proportion of anticipated underspends to the subsequent year (**Figure 6** overleaf), and in 2013 the government stated that “to enable infrastructure to be delivered in the most efficient and expedient way, certain projects and policy areas will be given greater flexibility to move money between years than is currently permitted under Budget Exchange rules”.¹⁸

Figure 5
Central government capital spend compared with original budgets

Financial year	Net overall spend against original CDEL budgets (£bn)	As proportion of original budget (%)
2009-10	+0.5	+0.9
2010-11	-0.4	-0.8
2011-12	-1.0	-2.4
2012-13	-4.2	-9.8
2013-14	-3.5	-7.8

Notes

- 1 A positive figure represents an overspend against original budgets and a negative figure represents an underspend.
- 2 During the year spending estimates are revised so the final recorded underspends are likely to be lower than the difference between the original budgets and final outturn presented here.
- 3 CDEL – capital departmental expenditure limit.

Source: HM Treasury, *Public Expenditure Statistical Analyses*, July 2009–2014; HM Treasury, *Public Spending Statistics*, February 2014

¹⁵ Included within these figures are some departmental overspends but these are less than underspends of other departments, leaving a net underspend.

¹⁶ HM Treasury has asked us to note that it does not agree that the methodology we have employed here is an appropriate way to assess departments’ underspends.

¹⁷ HM Treasury, *Improving spending control*, April 2012, paragraph 3.21.

¹⁸ HM Treasury, *Investing in Britain’s Future*, June 2013, paragraph 1.10.

Figure 6
Budget exchange limits

Size of department	RDEL Limit (%)	CDEL Limit (%)
Total DEL <£2bn	2	4
Total DEL >£2bn but <£14bn	1	2
Total DEL >£14bn	0.75	1.5

Note

1 DEL – Departmental expenditure limit.

Source: HM Treasury, *Consolidated budgeting guidance 2014-15*

Delivering projects efficiently

1.10 A number of initiatives have sought to improve the efficiency of publicly financed capital spending.

- The *Government Construction Strategy*¹⁹ launched in 2011 is designed to reduce the cost of publicly financed government construction projects through a number of initiatives.²⁰ The Cabinet Office has reported savings from the Strategy of £1.4 billion over the period 2011-12 to 2013-14.²¹
- The Department of Health uses the Procure21 framework contracts for publicly financed capital projects. During the past 10 years more than 95% of projects (worth around £4 billion in total) using these frameworks were delivered within or below budget. The most recent data available show an overall saving against original budgets.²² Using a framework contract means that procurement time is reduced by 6 to 9 months as each project does not need a new EU procurement notice.
- The Highways Agency also has several strategies to reduce costs. For example, in 2014 it awarded contracts to supply and erect gantries across the nationwide managed motorway. Splitting up the work in this way by specialism, rather than by project location, is intended to result in improved methods and increase efficiency.

19 Cabinet Office, *Government Construction Strategy*, May 2011.

20 Government Construction Strategy initiatives include: improving visibility of the construction pipeline; using benchmarked costs in project design and delivery; developing digital capability in design and construction through Building Information Modelling (BIM); exploring alternative procurement methods; and promoting fair payment with the use of Project Bank Accounts (PBAs).

21 Cabinet Office, *Construction Cost Reductions, Cost Benchmarks, & Cost Reduction Trajectories to March 2014*, July 2014.

22 The most recent data available were for projects completed in 2013 as data was requested in autumn 2014. The framework provides a gain-sharing agreement if projects come in under budget – these savings outweighed any project overspends, providing a net overall saving.

New investment and maintenance expenditure

1.11 Departmental capital spending data do not distinguish between expenditure on creating new assets, repairing existing assets or replacing old equipment. Evidence suggests that less than half of government capital spending is used to construct new assets:

- a *The Whole of Government Accounts (WGA)* from 2009-10 to 2012-13 show that the ratio of depreciation and amortisation to capital expenditure was about 60%, indicating that the government increased its total capital base; however, this ratio provides only a general indication of net investment.²³
- b The *Government Construction Strategy* notes that refurbishing and improving existing assets represents about half of total public sector construction economic output²⁴ and government construction data for 2011-12 reported that the total spent on new government construction projects was £11 billion,²⁵ approximately one-quarter of the total central government capital spending in that year.²⁶

23 In the WGA depreciation and amortisation charges ranged from between 52% and 66% of the level of capital investment in the four most recent accounts available (2009-10 to 2012-13). These charges amounted to 56% of the level of capital investment over the whole 4-year period.

24 Cabinet Office, *Government Construction Strategy*, May 2011.

25 HM Treasury and Cabinet Office, Government Construction pipeline data: November 2012.

26 £11 billion is about one-quarter of the £42 billion capital spending reported in 2011-12 (see Figure 2).

Part Two

Trends in private finance

2.1 This part describes privately financed capital investment, including investment trends over time.

Capital investment using private finance

2.2 The private finance initiative (PFI) has provided more than £60 billion of capital investment since its began around 25 years ago, averaging £4.6 billion a year since 2000 (in 2013-14 terms).²⁷ This is about one-tenth of the value of total capital spending over the same period, but in terms of construction of new assets the proportion is higher.²⁸ The capital value of all current contracts now stands at £58 billion. This is less than the original investment as some deals have been bought out (for example, the London Underground PPPs) and some contracts have ended.

2.3 Departments' use of private finance for new capital investment has fallen to £2.3 billion per year on average over the past 5 years (**Figure 7**). This compares with £4.6 billion a year in the previous 5-year period (2004-05 to 2008-09), representing a real-terms reduction of over one-half.²⁹ The annual unitary charges for operational deals, which includes spending on services plus interest charges and the repayment of debt, has increased from £7 billion in 2009-10 to £10 billion in 2013-14. Unitary charges are only paid once the project is in operation, which can be several years after the capital spending is recorded, depending on the length of construction.

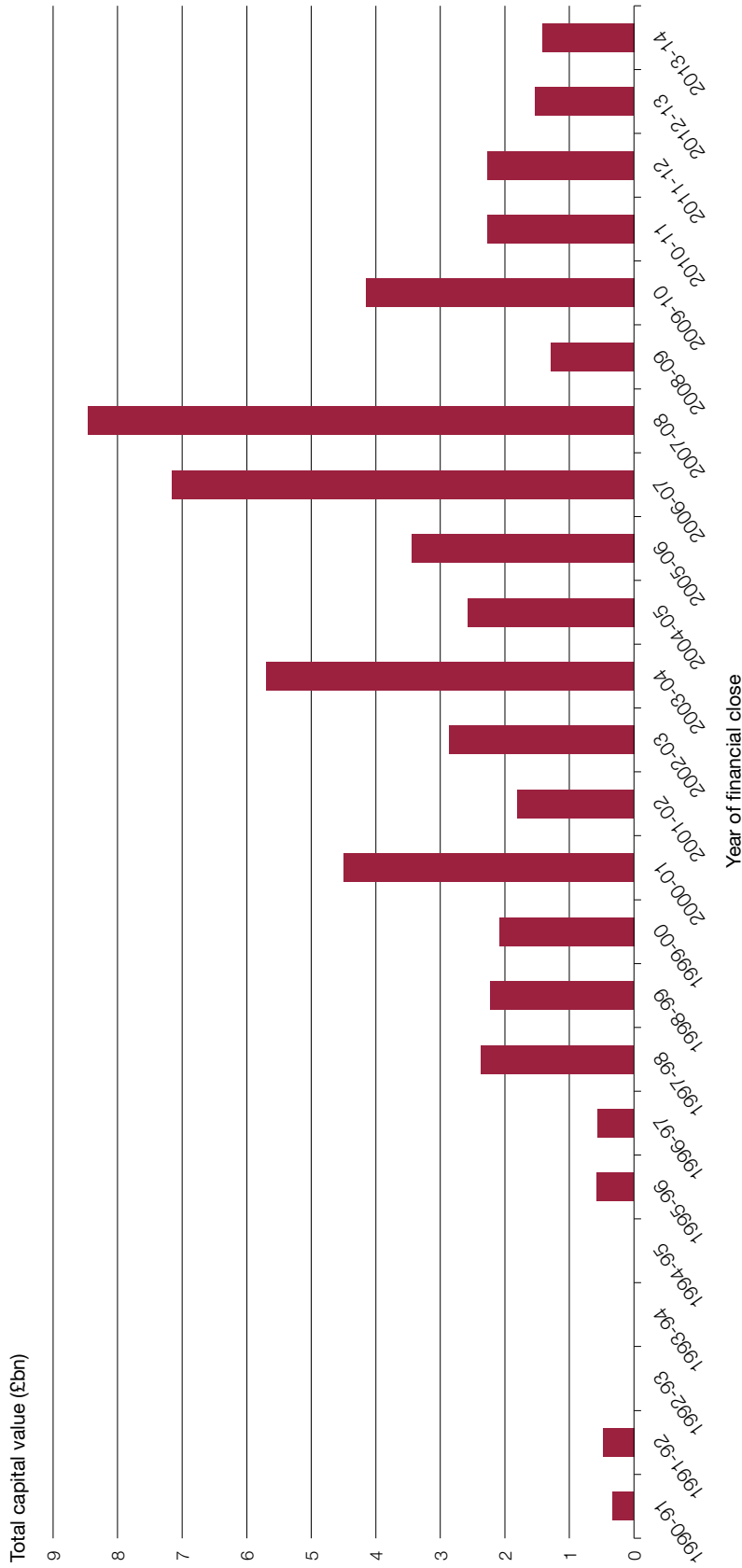
2.4 Four departments (Health, Defence, Education, Transport) represent three-fifths of all central government private finance capital investment by value (**Figure 8** on page 20). Health has used private finance to a greater extent than any other department and, alongside Education, continues to use it. Neither Defence nor Transport have any current plans to use private finance for new capital investment. However, they have not ruled out using private finance in the future should it be the best option.

²⁷ This includes private finance investment deals for Transport for London which were subsequently bought out.

²⁸ Nearly all private finance investment has been used to build new assets but we estimate that less than half of capital budgets have been used for new construction.

²⁹ These figures on the use of private finance only include private finance deals in HM Treasury's database so some departmental private finance deals are not included.

Figure 7
Capital value of projects in the PFI database



■ Private finance capital investment

Notes

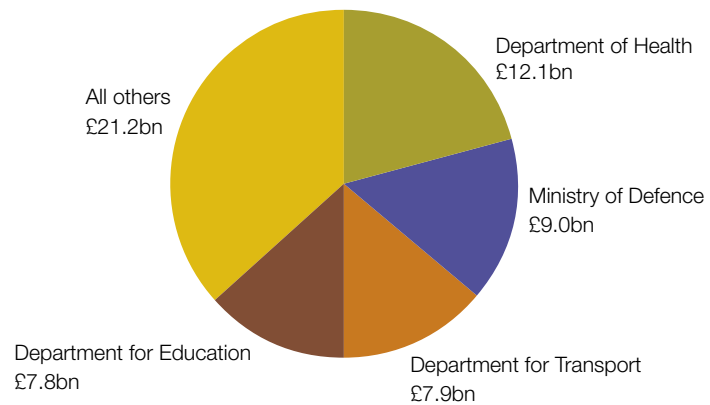
- 1 These figures show the capital value of projects included in the 2013-14 HM Treasury PFI database at the year of financial close. The actual capital investment will take place after this date when the asset is constructed.
- 2 Several privately financed projects have been bought out cancelled or completed. These projects have not been included within these figures.
- 3 Estimates for capital value and date of financial close were made if these were not included in the database.
- 4 Some private finance deals procured by central government (such as train rolling stock deals) are not included within the database so are not included in these figures.

Source: National Audit Office analysis of HM Treasury PFI database (updated 15 December 2014); Infradeals

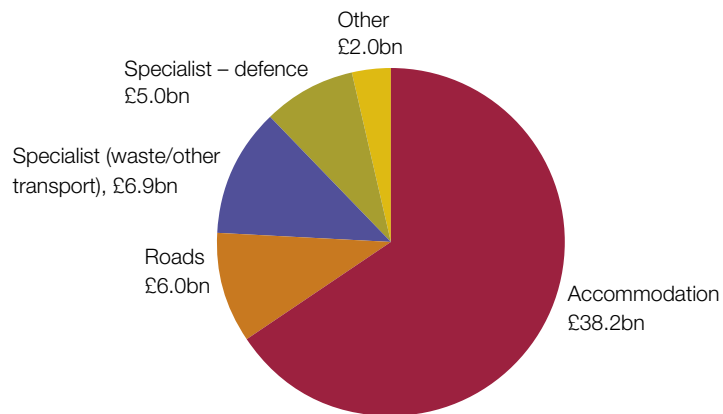
Figure 8

Use of private finance, by department and project type

Projects by department (£bn)



Private finance projects by type (£bn)



Notes

- 1 Projects are valued according to their capital value.
- 2 Accommodation includes military barracks so these have not been included in the Specialist – defence category.

Source: National Audit Office analysis of HM Treasury PFI database (updated 15 December 2014)

Project-specific risks

2.5 Private finance can represent value for money if the additional cost of finance is offset by benefits of risk transfer to the private sector. Construction risk is transferred by specifying in contracts that unitary charges are only paid once the asset is operational.

2.6 Private finance has been used to deliver a wide range of assets for the public sector. HM Treasury's PFI database as of March 2014 shows that about two-thirds of all current private finance projects are accommodation (Figure 8). These include hospitals, schools, offices and military barracks, and much of this is generally known as 'social infrastructure'.³⁰ HM Treasury guidance distinguishes between project types, including standard and non-standard buildings.³¹

2.7 Finance theory indicates that there is a relationship between project risk and the cost of private capital – lower-risk projects should have a lower cost of capital. Standard & Poor's, a credit rating agency, publishes a construction risk spectrum, which indicates that the construction risk associated with accommodation-type projects is low relative to a range of other infrastructure projects (**Figure 9** overleaf).

2.8 The final transaction documents contain the commercial terms for each deal and are available to the procuring authority when the transactions reach financial close. Some specialist publications provide details of various transaction terms; however, many transactions are subject to non-disclosure agreements. None of the departments we spoke to, when asked, supplied us with comprehensive data on the costs of debt and equity of their deals. Until 2011 information on all PPP deals (including PFI) was collected by Partnerships UK (PUK). This data is incomplete – only 31% of entries in the database provided information on debt and equity returns and no information on the financial terms of the 58 deals of 2010 and 2011 was requested. Since 2012 HM Treasury has requested summary financial close data from each procuring authority for centrally supported PFI projects and it has data for 86% (25 of 29 projects) that reached financial close since 2012 – procuring authorities are under no legal obligation to provide this information. If all information on the financial terms of the projects was centrally collated and distributed it could provide more evidence for public authorities about the relationship between project-specific risk and the cost of capital in completed transactions and could be used to:

- improve the estimated cost of private capital in the VfM assessment model;
- help procuring authorities to evaluate financing terms in past and future procurements, reduce their reliance on unverified third-party sources and advisers and could help to identify potential refinancing opportunities; and
- provide additional sources of pricing information for market interventions which involve public authorities assuming project risks, such as the UK Guarantees scheme for infrastructure investment.³²

³⁰ Social infrastructure is not included in the National Infrastructure Plan.

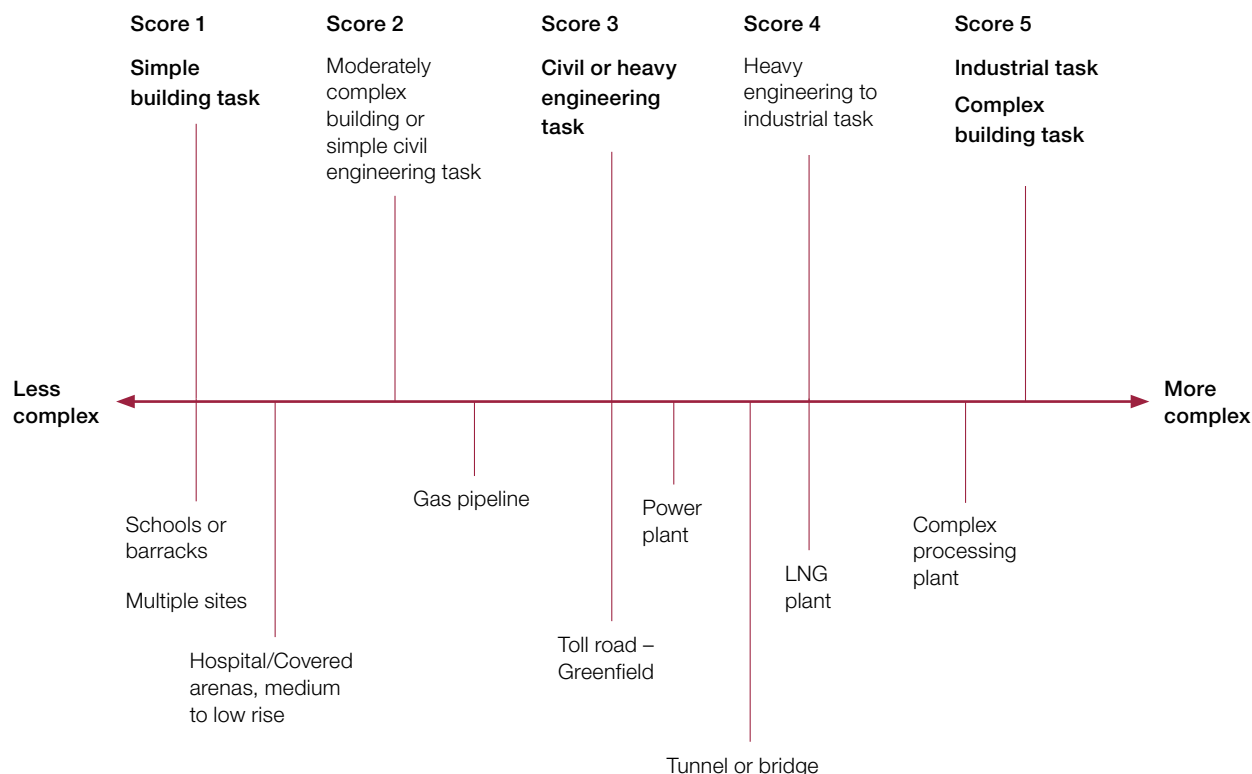
³¹ Available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/191507/Optimism_bias.pdf

³² As we have recently reported in our VfM report *UK Guarantee Scheme for Infrastructure Investment*, the commercial specialists in HM Treasury use a range of market indicators including bonds and credit default spreads to determine a market-orientated price for government guarantees but there is often limited relevant information on prices for equivalent risk from the financial markets. IUK does not use the financial close transaction data from the PFI database.

Figure 9
Construction risk spectrum

Diagram of construction difficulty score

Construction difficulty



© Standard & Poor's 2013

Source: Standard & Poor's

Future financial commitments

2.9 When departments procure assets using private finance they enter into long-term contracts to maintain and service the asset alongside repayment of the original investment with interest. This can ensure that the asset is maintained to contractually agreed standards throughout its life as this spending is ringfenced.³³ The capital investment value of current private finance deals is £58 billion and the total charges for these deals amount to £310 billion in cash terms (**Figure 10** overleaf).³⁴ Of this, £78 billion of these have been paid, leaving future cash commitments of around £232 billion. The average payment is around £10 billion for each of the next 20 years.

2.10 The annual payment for private finance deals is less than 3% of overall departmental resource and capital spending (£380 billion in 2013-14) and for most government departments servicing these deals is not a major budgetary commitment. However, for a small number of organisations it is significant. For example, the proportion of the Highways Agency's resource cash programme costs spent on PFI has increased from 18% to more than 50% over the past 8 years (**Figure 11** on page 25). Highways Agency data on annual traffic flow and spending figures from the accounts show that operational expenditure on private finance roads in 2013-14 was three times higher, in proportion to road usage, than similar spending on publicly financed roads.³⁵ The higher spending on private finance roads is in part due to the returns to equity investors and the need to set aside funds for future investment. There may be other reasons, such as the relative efficiency and flexibility of operational spending on different types of roads, but we have not examined this.

2.11 Seven health trusts have PFI deals which were deemed unaffordable by the Department of Health in 2012 and it agreed to provide extra funding when needed.³⁶ In 2013-14 two of these trusts (Peterborough & Stamford and North Cumbria) received interim deficit support of more than £40 million.³⁷

33 Maintenance budgets for non-private finance assets could also be ringfenced; however, HM Treasury chooses not to do this as it limits budget flexibility for departments.

34 According to the *Whole of Government Accounts*, approximately three-fifths of the total private finance charges relates to service charges, with the remaining two-fifths repaying the original capital investment and interest.

35 In 2013-14 operational spend for private finance roads (PFI service charges excluding the interest and capital element) are £16.99 for every 1,000 vehicle miles travelled (£280 million for 16.5 billion miles travelled). This compares with £5.65 for 1,000 vehicle miles travelled on other roads (£380 million spending on maintenance for 67.3 billion miles travelled).

36 Department of Health, *NHS Trusts to receive funding support*, Press release, 3 February 2012.

37 Department of Health, *Financial assistance under section 40 of the National Health Service Act 2006*, July 2014.

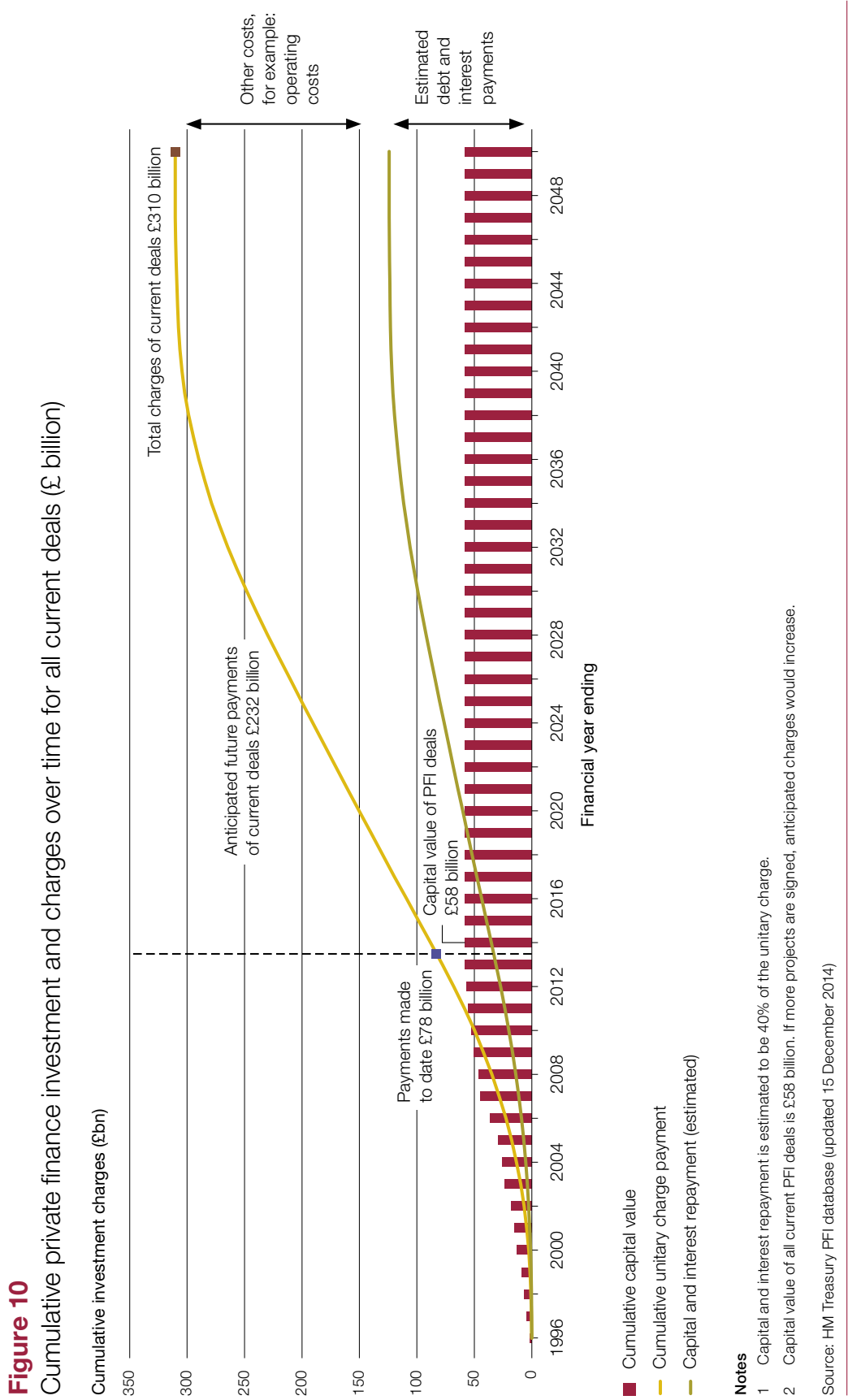
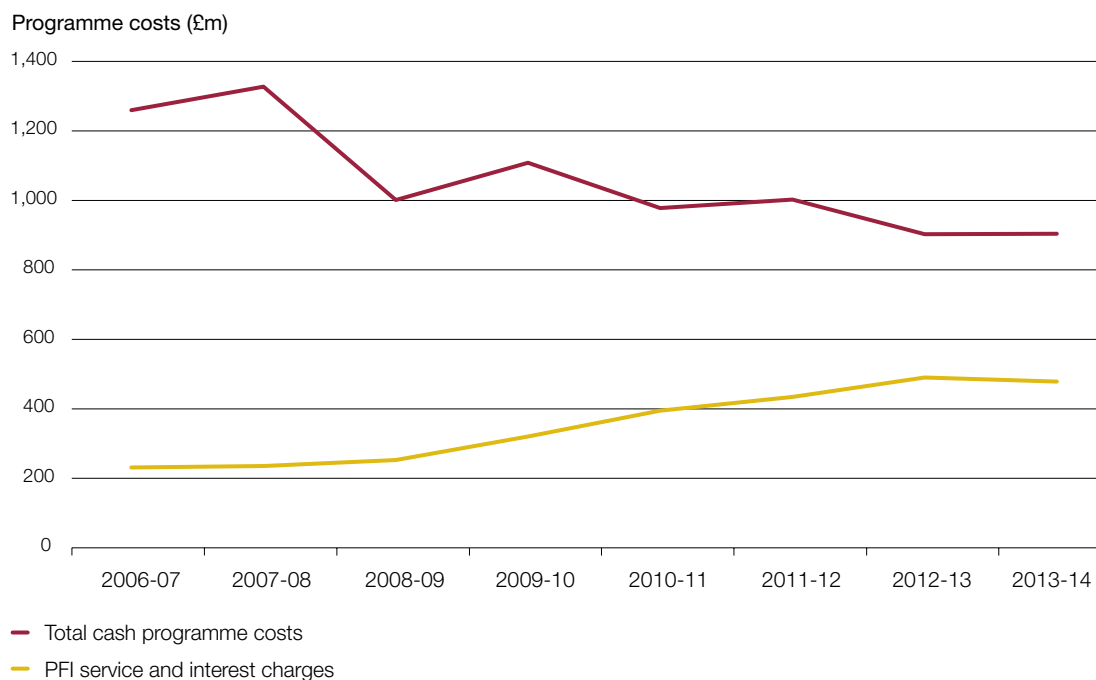


Figure 11
Highways Agency resource programme costs (excluding non-cash items)



Note

1 These are cash programme costs of the Highways Agency so exclude non-cash items such as depreciation.

Source: National Audit Office analysis of Highways Agency financial accounts, 2006-07 to 2013-14

Part Three

Decision-making process and budgets

3.1 This part explains how the government's capital budget process affects decisions to use public or private finance for capital investment.

Overview of roles and responsibilities

3.2 **Figure 12** shows the organisations involved in capital investment and financing decisions.

3.3 HM Treasury sets departmental budgets every three to four years after negotiating with departments. Indicative 3-year budget plans were first introduced in 1992. From 1998 multi-year budget settlements were fixed at spending reviews.³⁸ At the Spending Review 2010 a capital investment ranking exercise was introduced and was used again in the Spending Round 2013. HM Treasury, with information from departments, ranked capital projects by their costs and benefits, to inform the level of capital budget it gives to each department.³⁹

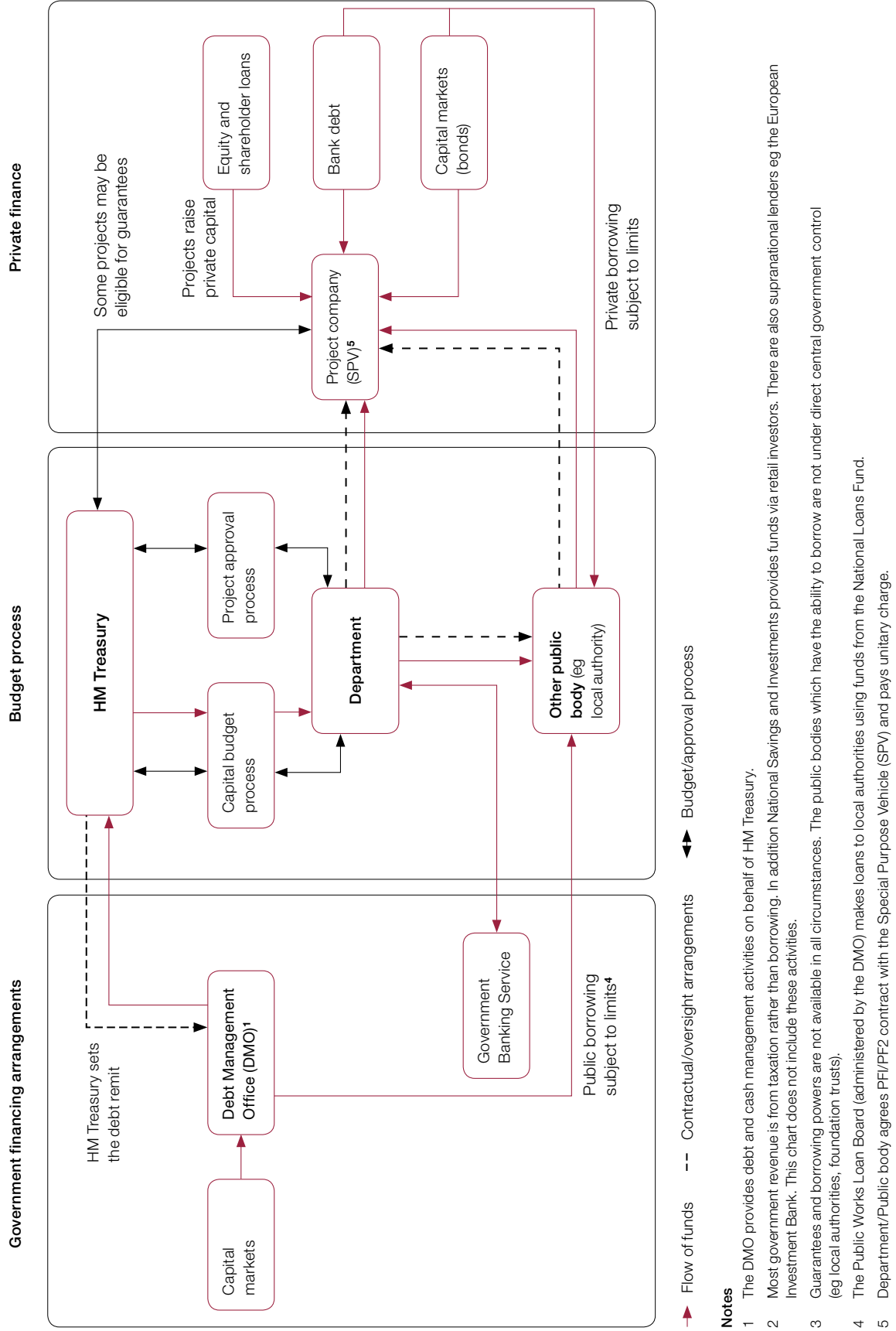
3.4 HM Treasury directs the Debt Management Office (DMO) to issue government debt to raise money in the gilts market based on an assessment of tax revenue forecasts, spending plans and cash requirements. The DMO manages financial risks (for example, changes in interest and inflation rates) for government borrowing. It issues a mixture of long- and short-dated debt, some of which is inflation-linked. The government, as a whole, bears the interest costs on this debt. The DMO is not involved in individual project financing decisions.

3.5 Departments decide whether to use public finance (paying upfront with their capital budget allocation) or private finance (paying for use of the asset once it is constructed) for a capital investment. Most decisions are also subject to HM Treasury approval and will only be approved if the department and HM Treasury assess them to be value for money. HM Treasury does not allow departments to borrow directly from financial markets. However, if a department uses private finance procurement it results in the winning contractor setting up a private finance company that borrows to build an asset. Once the asset is built the department bears the financing costs and any arrangement costs of this borrowing as part of the annual unitary charge paid to the company.

³⁸ The 2013 spending review is referred to in HM Treasury documents as "2013 Spending Round" and spending reviews prior to 2010 were entitled "Comprehensive Spending Review". The term "spending review" is used to refer to these multi-year budget settlements.

³⁹ Comptroller and Auditor General, *Managing budgeting in government*, Session 2012-13, HC 597, National Audit Office, October 2012.

Figure 12
Organisations involved in capital investment and financing decisions

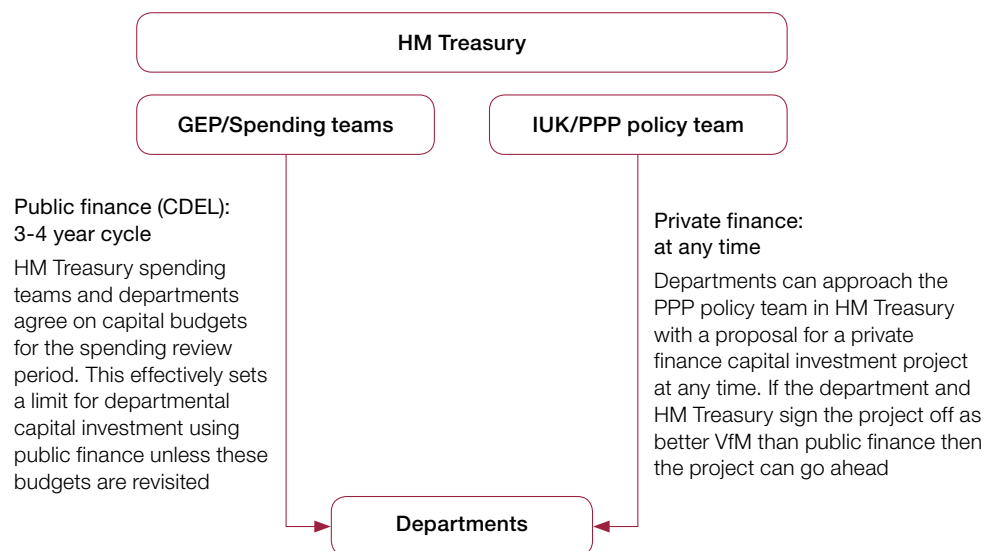


3.6 Some public bodies (such as local authorities) can borrow via the Public Works Loan Board (PWLB), which DMO administers, and can borrow from banks and issue bonds. Other organisations such as Transport for London and foundation trusts can also borrow, subject to agreed limits.

3.7 The Government Banking Service (GBS), established in April 2008, is the banking provider to government and the wider public sector. It is part of HM Revenue & Customs and incorporates the Office of HM Paymaster General (OPG), which had provided banking services to the public sector since 1836. GBS’s purpose is to minimise cash held outside the Exchequer, thus reducing the government’s overall borrowing needs. The GBS provides banking services to 700 customers including government departments, executive agencies, non-departmental public bodies and NHS bodies.

3.8 If a department wants to finance a large capital investment with public finance, it will usually seek HM Treasury approval during the spending review. Adjustments can also be made to departmental capital budgets outside of the spending review process but increases are often relatively small in comparison to overall budgets.⁴⁰ If a department wants to use private finance it can approach HM Treasury at any time. If both parties assess that the project is value for money it can proceed (**Figure 13**).

Figure 13
Public and private finance investment approval process



Notes

- 1 Capital budgets are often increased outside of the spending review period but increases are typically relatively small in comparison to overall budgets so this generally provides limited extra flexibility.
- 2 GEP: General Expenditure Policy; IUK: Infrastructure UK; PPP: Public-Private Partnerships.

Source: National Audit Office analysis

⁴⁰ For example, at the most recent fiscal event, the Autumn Statement 2014, £330 million was added to capital budgets in 2015-16 (an increase of less than 1%). The largest single increase to capital budgets was an increase of £70 million for household energy efficiency incentives.

Value-for-money assessment

3.9 Private finance is more expensive than public finance; however, it can be value for money provided the benefits from risk transfer (such as construction risk) and commercial disciplines (for example, investors' due diligence and contribution of commercial expertise) outweigh the increased cost. HM Treasury guidance requires departments' contracting choice to be determined by VfM considerations but further guidance is limited.⁴¹ In our report about the VfM assessment model, we reported that HM Treasury withdrew its VfM quantitative tool on 5 December 2012 when Private Finance 2 (PF2) was introduced.⁴² At the same time, HM Treasury said it would update the existing VfM assessment guidance to reflect a wider choice of contracting options, including PF2, but this guidance remains unpublished.

3.10 Although specific guidance for private finance has still not been updated, HM Treasury is clear that departments should follow the guidelines in the *Green Book* when carrying out their VfM assessments. This provides a common, standard method for comparing all public spending decisions that use central government funding. At the individual project level, the appraisal informs individual spending decisions and applies only to decisions about resource allocation within a predetermined budget. The standard approach uses a single discount rate – the social time preference rate.⁴³ Project-specific risk is as far as possible built into the cash flow model, so for this reason a common discount rate is applied.

Use of private finance

3.11 Private finance can provide departments with budgetary and cash flow flexibility. A department can invest more than would have been possible from its budget in the short term, as payments are made over the length of the project rather than being required upfront (**Figure 14** overleaf). Since 2000, departments have used private finance for more than £40 billion of capital investment in addition to their capital budgets and spending figures.⁴⁴ Private finance provides a short-term cash flow benefit for a department. However, over the long term it will not have an advantage as it will have to spend its future budget (over a 25- to 30-year period) to repay the capital and interest of the debt and a return on the investors' equity to compensate the private sector for their participation in the project. By contrast, the costs of servicing any additional government borrowing is not allocated to departmental budgets.

41 HM Treasury, *Managing Public Money*, Section 5.9 – External borrowing, July 2013.

42 National Audit Office, *Review of the VfM assessment process for PFI*, October 2013.

43 The government discount rate of 6.09% is used by departments to discount cash flows. This discount rate was determined in 2003.

44 These are private finance deals which were off balance sheet for national accounts purposes and so are not included within capital budgets.

Figure 14

Budget impact of different financing routes

Phase	Public finance	Private finance
Construction phase	Large capital (and cash) budget required up front – this may require considerable budget flexibility to cope with uncertainty of timing of payments.	No capital (or cash) budget required – this can provide a route for capital investment if a department's overall budget is insufficient or inflexible.
Operational phase	Lower resource budget needed to service building and spending level is flexible.	Higher resource budget committed for 25 to 30 years to pay off debt and interest of original investment and service the asset.

Source: National Audit Office analysis

3.12 All departments we examined had used private finance and this increased their capital investment (**Figure 15**). The most significant increases were Health (23%) and Education (12%). The resource budgets in 2013-14 were high relative to the capital budget for each of these departments (Health had a resource budget of £102.6 billion and a capital budget of £4.3 billion. Education had a resource budget of £50.8 billion and a capital budget of £3.6 billion). The resource budgets for each department have risen consistently,⁴⁵ whereas each department's capital budget has been more volatile and cut significantly in recent years.

Impact on public finances

3.13 Whether an investment is publicly or privately financed affects how the transaction is recorded in public expenditure statistics, budgets and financial accounts (**Figure 16**). About 90% of privately financed capital investment is not recorded as public spending when the investment takes place and so does not impact departmental capital budgets. By contrast, publicly financed investment is always included as capital spending in public expenditure statistics and budgets. The Office of Budgetary Responsibility estimates that official government debt levels would be 2% of GDP higher if public rather than private finance had been used in government private finance deals.⁴⁶

3.14 In the short term using private finance will reduce reported public spending and government debt figures. However, over the longer term, as the original investment is repaid, additional public spending will be required to repay the debt and interest of the original investment. In 2013-14 around £10 billion was spent on servicing private finance contracts; we estimate that around £4 billion of this was debt and interest payments, while the balance was for ongoing service contracts linked to the assets.⁴⁷

45 The Spending Review 2010 set out that the resource budgets of both Health and Education were due to increase year-on-year in cash terms between 2010-11 and 2014-15. Nearly all other departments had cuts in their resource budgets over the same period.

46 Office for Budget Responsibility, *Fiscal Sustainability Report*, July 2014.

47 The 2012-13 *Whole of Government Accounts* indicates that around two-fifths of future PFI unitary charges will be for debt and interest payments.

Figure 15

Departments' capital investment between 2000-01 and 2013-14

Department	All capital investment in capital budgets	Private finance investment excluded from capital budgets	Increase in capital spending over period enabled by use of private finance
	(£bn)	(£bn)	(%)
Department of Health	45.5	10.3	23
Department for Education	62.5	7.5	12
Ministry of Defence	103.9	5.6	5
Department for Transport	81.6	4.1	4

Notes

- 1 Capital investment included in capital budgets includes all public finance capital investment plus a small amount of private finance which is 'on balance sheet' for national accounts purposes and therefore included in capital budgets.
- 2 The private finance figure for Department for Transport does not include some private finance deals (such as recent rolling stock procurements) as these are not included in the PFI database.

Source: HM Treasury PFI database (updated 15 December 2014); HM Treasury, *Main Supply Estimates*; HM Treasury, *Public Expenditure Statistical Analyses*; HM Treasury, *Public Spending Statistics*, February 2015

Figure 16

Recording in public finances

Area	Treatment of different types of investment
National accounts	The European System of Accounts (ESA) determines how to record debt in national accounts. Around 90% of private finance debt is 'off balance sheet' and not recorded in the government borrowing figures, as the risk and rewards are deemed to be passed to the private sector. If the government chose to do so, it could include all private finance project debt in public borrowing statistics as some other countries, for example Germany, do. These rules can, and are, revised and reinterpreted. For example, some deals in the transport and defence sectors which would have previously been classified as off balance sheet are now on balance sheet.
Capital budgets and public spending statistics	The public spending and budgetary treatment follows the treatment in the national accounts. Publicly financed capital investment is always included in capital budgets and spending figures whereas the majority (about 90%) of privately financed investment is not.
Resource accounts and <i>Whole of Government Accounts</i> (WGA)	International Financial Reporting Standards (IFRS) are used to determine the accounting treatment – as the department is deemed to 'control' the asset (in nearly all cases) then the asset and liability is included on its balance sheet. The liabilities of nearly all (about 95%) of private finance deals are included within departmental resource accounts and consolidated within the WGA.

Source: National Audit Office analysis

3.15 From a department's perspective there is a difference between the budgetary impact of the alternative financing options. The initial capital investment of public finance projects is recorded as capital spending, and therefore scores against the capital budget, but most private finance investment does not. In the absence of sufficient capital budget some projects would not be possible without private finance. For example:

- In Defence, our report on procuring of the multi-role tanker aircraft found that the decision to use private finance was driven primarily by short-term affordability.⁴⁸
- Our report on PFI in housing found that PFI was often the only available route for housing.⁴⁹
- The Department for Transport undertook a qualitative assessment of funding Intercity Express rolling stock publicly. The Department did not perform a VfM assessment of funding new Thameslink trains with public finance as it did not have budget available. HM Treasury advised the Department in 2009 and 2012 that it would not provide any extra budget should the deals be included in budgets (that is, publicly funded) and therefore the deals “should remain off balance sheet” (that is, privately financed).⁵⁰

All of these private finance projects also required HM Treasury approval and had been judged to be value for money. If HM Treasury does not agree a proposal it cannot go ahead regardless of whether it is publicly or privately financed.

Procurement timescales

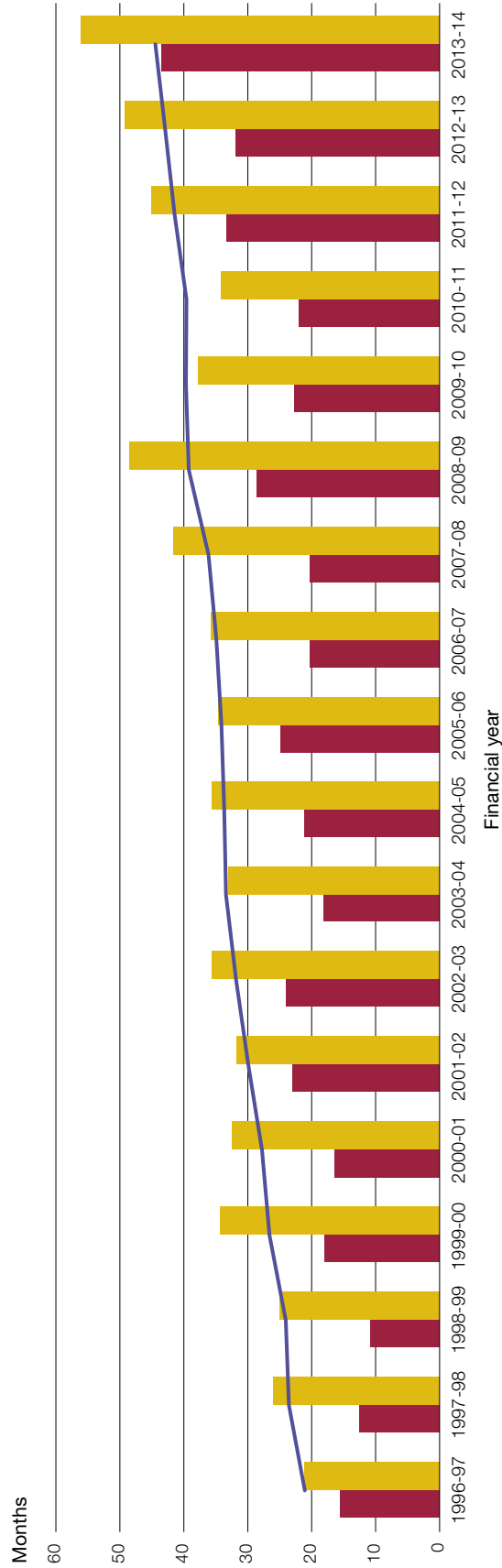
3.16 Capital investment projects can take several years to plan, approve and start construction. These timescales mean that public bodies often must choose between public and private finance before budgets are agreed with HM Treasury. In 2013 the government introduced 6-year forward-looking plans for capital spending in some key areas in order to provide more certainty. The procurement timescale for private finance deals finalised since 2000 has averaged more than 3 years, more than 1 year of which related to agreeing financing terms. The time taken to reach financial close has increased in recent years (**Figure 17**). PF2 has introduced a maximum competitive tendering phase of 18 months.

48 Comptroller and Auditor General, *Delivering multi-role tanker aircraft capability*, Session 2009-10, HC 433, National Audit Office, March 2010.

49 Comptroller and Auditor General, *PFI in housing*, Session 2010-11, HC 71, National Audit Office, June 2010.

50 HM Treasury noted in a letter to Department for Transport in 2009 that the Department would need to “manage balance sheet risk within its budget” and reiterated in 2012 “a Treasury view that this should remain off balance sheet”.

Figure 17
Private finance procurement length



- OJEU publication date, to date of preferred bidder
- OJEU publication date, to date of financial close
- 5-year rolling average

Note

1 OJEU: *Official Journal of the European Union*, a publication in which all public sector contracts with a value exceeding a certain threshold must be published.

Source: HM Treasury PFI database (updated 15 December 2014)

3.17 The financing decision is made before procurement starts so the overall time elapsed between this decision and financial close can be 5 years or more for some large projects, for example:

- The decision to use private finance for the M25 was first made in 2004, a year before the procurement started (2005) and 5 years before financial close (2009).⁵¹
- The plan to use private finance for the multi-role tanker aircraft was first mooted in 1997, 3 years before the transaction launch (2000) and 9 years before financial terms were agreed (2008).⁵²

In both cases the decision to use private finance was made at a time of low private finance costs relative to gilts but by the time these deals were closed the spread above gilts had increased significantly but the ability to use public financing was no longer available to the department (Appendix One).

51 Comptroller and Auditor General, *Procurement of the M25 private finance contract*, Session 2010-11, HC 566, National Audit Office, November 2010.

52 Comptroller and Auditor General, *Delivering multi-role tanker aircraft capability*, Session 2009-10, HC 433, National Audit Office, March 2010.

Part Four

Recent developments in infrastructure financing

4.1 This part summarises recent developments in infrastructure financing. These include: refinancing; PF2; new risk allocation between the public and private sectors; and financing considerations concerning the National Infrastructure Plan.

The benefits and challenges of refinancing private finance contracts

4.2 Private finance deals result in the creation of a private finance company, known as a Special Purpose Vehicle (SPV), which invests to build an asset. Once the asset is operational the public sector pays the SPV a 'unitary charge' for the use of the asset. This provides certainty to the public sector as the unitary charge is agreed (subject to adjustments for inflation) when the deal is signed.

4.3 The SPV's owners are responsible for commercial activities such as construction and maintenance during the asset's life. They also determine the financing structure of the SPV. This is typically 90% debt (bank loans, or bonds) and 10% equity. Debt is usually cheaper than equity, and interest paid is deducted from the SPV's profits before tax, which can lead to the procuring authority and investors sharing a combination of lower unitary charges and potentially higher returns. Our analysis of the largest SPVs suggests that much of the equity investment is in the form of tax-deductible shareholder loans.⁵³ The total called-up share capital amounted to less than 1% of the total investment that these companies made. Dividends paid to shareholders are not tax-deductible for the SPV.

4.4 It is a well-established principle that private finance contracts should contain refinancing gain-sharing clauses so that the public sector can benefit from part of the savings.⁵⁴

⁵³ Shareholder loans may share downside risk, similar to equity capital, because they have lesser creditors' rights than other forms of borrowing (for example, senior bank debt).

⁵⁴ Comptroller and Auditor General, *PFI Refinancing Update*, Session 2001-02, HC 1288, National Audit Office, November 2002.

4.5 Interest rates are at a historic low, so current financing costs may be lower than when many PFI contracts were signed (Appendix One). Refinancing is usually, but not exclusively, initiated by shareholders rather than the public authority.

4.6 HM Treasury issued guidance in 2006 to help public authorities and their financial advisers to develop, evaluate and implement cost-effective strategies for managing interest rate and inflation risks under PFI contracts.⁵⁵ Interest rate swaps are contracts which can be used to fix the interest rate payable on a loan, and thus reduce the risk of interest rate variation. Swaps linked to inflation are also available. Our analysis shows that the majority of SPVs have used interest rate swaps in combination with bank loans to protect the procuring authority and SPV against increases in interest rates. Swaps can reduce scope for savings from refinancing when interest rates fall.

4.7 Most SPVs negotiated swap contracts when interest rates were much higher than now. To exit the contract, they will usually need to pay breakage costs. For example, in October 2014 Northumbria Healthcare NHS Foundation Trust bought-out a private finance deal: it paid a reported £24 million in swap breakage costs and £4 million to compensate unsecured loan holders as well as repaying the underlying debt.⁵⁶ We estimate that swap liabilities of all SPVs are currently around £6 billion. This figure will vary in response to changes in interest rates (Appendix Two).

4.8 Refinancing is relatively rare. We have identified 3 refinancings since 2010. The 2 largest were: the 'Airwave' SPV, which supplies secure communications systems to the emergency services, refinanced approximately £2 billion of debt; and the M6 toll road SPV restructured around £1 billion of debt.⁵⁷ However, during the second half of 2014 the Department for Transport began actively pursuing the refinancing of 3 major projects.⁵⁸ The refinancing of Thameslink completed in February 2015, which may lead to taxpayer savings due to lower borrowing costs.

Private Finance 2

4.9 In December 2012 the government introduced Private Finance 2 (PF2), which is designed to increase transparency compared to PFI, particularly around equity returns for the private sector sponsors and contractors. It plans to do this by holding a minority equity stake in a project (**Figure 18**); this will not automatically enable the public sector body to trigger refinancing. In other ways PF2 is very similar to PFI: a private company will borrow money to invest in an asset, which the public sector will pay for over 25 to 30 years.

⁵⁵ HM Treasury, *Application Note – interest rate and inflation risks in PFI contracts*, May 2006.

⁵⁶ The overall cost to the Department of Health's resource budget of this buy-out was £54 million.

⁵⁷ The taxpayer does not pay any payments to the providers of the M6 toll road (all of its income is from toll payers) so any saving from restructuring this deal did not directly benefit taxpayers. The other refinancing deal was South West Devon Waste Management.

⁵⁸ The three projects are M25 widening, Thameslink rolling stock and Intercity Express rolling stock.

Figure 18**Private Finance 2 (PF2)****Main proposed changes in PF2**

Public sector may take a minority equity stake.

Private sector will provide information on equity returns.

Tendering phase of the projects kept to an 18-month limit.

Soft services (for example, cleaning and security) will be removed from projects.

The private sector will hold a funding competition for part of the equity.

Allows increased capital contributions (above previous limit of 30% of the capital cost) from the public sector in some cases.

Source: National Audit Office analysis; HM Treasury, *A new approach to public private partnerships*, December 2012

4.10 The Priority Building Schools Programme (PBSP) is the first PF2 project. Its capital value was reduced to £700 million from £1,750 million. The second major PF2 project is Sandwell and West Birmingham Hospitals NHS Trust's procurement of a £350 million hospital. The Ministry of Defence considered PF2 for new military accommodation but decided against it.

Control totals

4.11 The government has announced a 'control total' of £70 billion for the next Parliament, capping private finance unitary charges for the 2015–2020 Parliamentary term. The control total applies to a 5-year period whereas annual payments for deals span a much longer period of 25 to 30 years. This means that any new deals signed between 2015 and 2020 will not be paid off until at least 2040 to 2045. The government has already committed to spend £50 billion on existing deals in 2015–2020. If the £70 billion control total is reached for the 2015–2020 Parliamentary term then we estimate that the next 4 Parliaments will require limits of more than £80 billion.

Risk allocation between the private sector, taxpayers and consumers

4.12 The use of private capital is intended to transfer some risks from the public to the private sector and provide other commercial benefits to offset the higher cost of private capital. The government has introduced various mechanisms to support private capital funding public assets, which changes the risk allocation between the private sector, taxpayer and consumer.⁵⁹ In principle, the commercial effect of this risk allocation should be reflected in the project cash flows and cost of capital. However, there is a wide range of implications for the national accounts and departmental financial statements that merit detailed review. For example:

- **Traffic and volume guarantees** can create contingent liabilities in departmental accounts, such as the government guaranteed toll road revenue in relation to vehicles using transport infrastructure, for example the Mersey Gateway Bridge project in 2014.⁶⁰
- **Contracts for difference (CfDs)**, which set a price for the electricity that generators produce, were introduced as part of the Electricity Market Reforms and may result in balance sheet provisions in the Department of Energy & Climate Change's accounts. The Department's Main Estimate for 2014-15 contained a new provision of £28.8 billion for the fair value of liabilities expected to be incurred for all CfDs that might have been agreed in 2014-15.⁶¹ We recently reported on the first tranche of CfDs in our report on renewable electricity – the cash cost of these projects over their lifetime was estimated to be £16.6 billion and will be paid by electricity consumers through a levy on their bills.⁶² In practice there may be no direct cost to the taxpayer if all these future costs are covered by consumers.
- **Direct lending by departments**, such as the loan that HM Treasury made under the Infrastructure (Financial Assistance) Act, creates balance sheet assets and generates interest income for departments.
- **Financial guarantees**, such as HM Treasury's UK Guarantees scheme for infrastructure investment, whereby government takes on project-specific risk in return for a market-oriented fee. It has been used to guarantee £1.7 billion of debt associated with new capital investment and has an overall limit of £40 billion in lending to infrastructure projects. We recommended that HM Treasury should develop an additional pricing methodology to reflect the use of the national balance sheet and other costs associated with this Scheme.

59 In addition, the government provides tax reliefs to encourage companies to invest (for example, capital investment allowances).

60 According to the Department for Transport's annual report and accounts 2013-2014 a new contingent liability of £1.7 billion has been created through a commitment made by the Department to fund any shortfall of toll revenue from the Mersey Gateway Bridge.

61 Department of Energy and Climate Change, *Main estimate 2014-15: Select committee memorandum*, 30 April 2014.

62 Comptroller and Auditor General, *Early contracts for renewable electricity*, Session 2014-15, HC 172, National Audit Office, June 2014.

- **Government-owned financial institutions**, such as the Green Investment Bank (GIB), which are wholly owned by government, can invest public money in accordance with an investment mandate and European State Aid consent directly into a project on commercial terms. GIB's loans and equity investments are reported in its own financial statements. These are consolidated into the accounts of the Department for Business, Innovation & Skills.
- **Debt issuance by government-owned companies**, such as Network Rail, create public sector liabilities. Network Rail's outstanding borrowings of £33 billion are government-guaranteed and were not recorded as public sector borrowing until the 2014 decision to reclassify Network Rail's assets and liabilities as part of the public sector.⁶³
- **Debt aggregators**, which are designed to use the advantages of scale to raise private capital centrally and then lend it onto smaller public sector bodies or projects, may create liabilities if a department provides a guarantee to the aggregator.

4.13 The costs to taxpayers of most departmental private finance deals are included in a published HM Treasury database. However, many of the interventions listed above support investment which consumers either partly or wholly fund through user charges (for example electricity bills). There is no such database available of the future costs to consumers of these deals.

Financing of the National Infrastructure Plan

4.14 Treasury publishes yearly a National Infrastructure Plan (NIP) setting out the long-term requirements for public and private sector investment in economic infrastructure and the mix of financing that it expects to be required. The 2014 NIP identified a pipeline from 2014-15 to 2020-21 of £327 billion of investment (an average of £47 billion a year over the 7-year period). This anticipates that 79% (averaging £37 billion a year) will involve private finance of some form, with the remaining 21% (averaging £9.6 billion a year) being direct public investment (**Figure 19**). Significant projects in the priority project list included HS2, Hinkley Point C nuclear power station and the Thames Tideway Tunnel sewer.⁶⁴

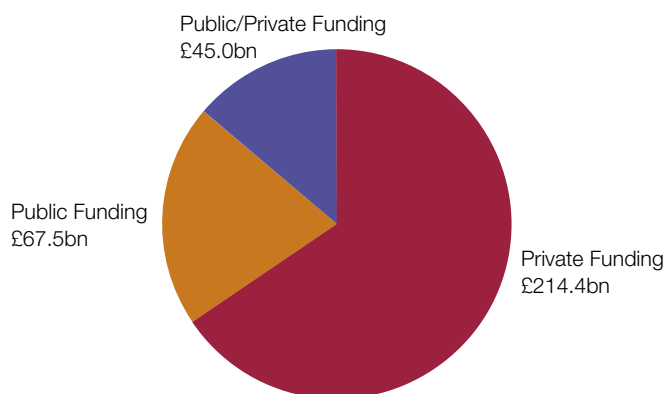
⁶³ Net borrowings of £32,987 million were disclosed in Network Rail's 2013-14 annual report and accounts.

⁶⁴ HM Treasury, *National Infrastructure Plan 2014*, December 2014.

Figure 19

Mix of finance in the National Infrastructure Plan pipeline
(2014-15 to 2020-21)

Funding mix of 2014 Infrastructure pipeline, 2014-15 to 2020-21 (£bn)



Note

1 Figures shown are in 2013-14 prices.

Source: HM Treasury, *National Infrastructure Plan 2014*, December 2014

Appendix One

Cost of private capital

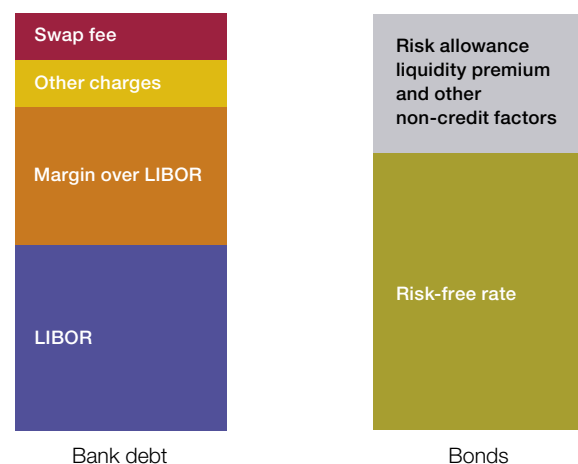
1 This appendix sets out further background information about the cost of debt and equity for private finance based on recent financial market trends and relevant publications. The overall cost of capital for private finance is affected by numerous project-specific features of individual procurements.

Cost of debt

2 In our recent report *UK Guarantees scheme for infrastructure* we summarised the recent trends in bond issuance and bank lending to privately financed infrastructure projects. When projects issue bonds the investors seek a premium above government borrowing costs to compensate for risk and illiquidity. Banks generally price loans at a premium to the short-term LIBOR⁶⁵ rate (a variable rate of interest) and projects use interest rate swaps to achieve fixed-rate borrowing (**Figure 20**). Recent trends in government borrowing costs, investment grade credit spreads, LIBOR and the premium of bank debt over LIBOR for infrastructure projects are shown in **Figure 21**, **Figures 22 to 24** respectively.

Figure 20

The total cost of debt is comprised of various components



Note

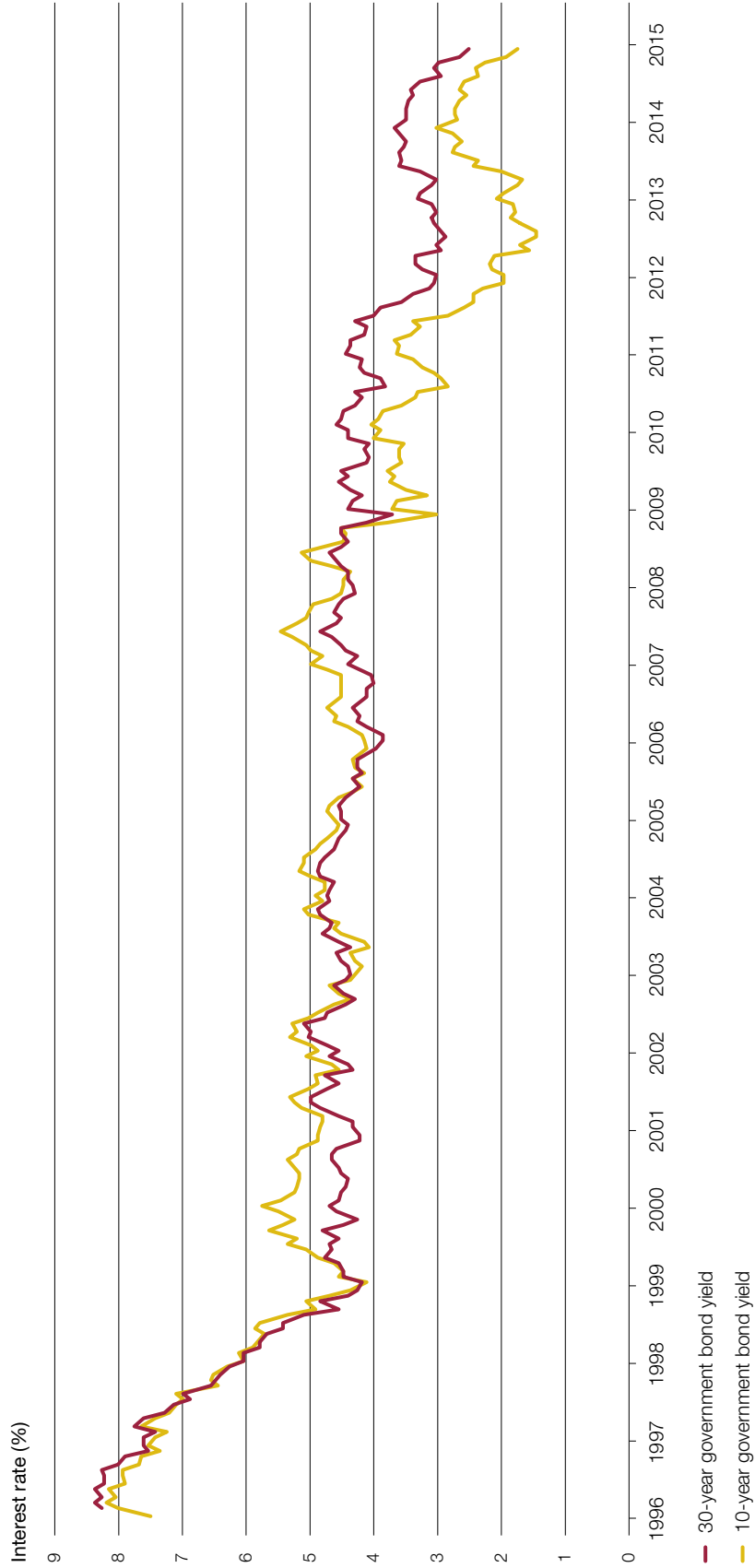
1 Diagram is illustrative only and not to scale.

Source: National Audit Office analysis

65 London Interbank Offered Rate.

Figure 21
Government borrowing costs

The government borrowing costs have reduced in the past 20 years



Note

1 The Debt Management Office issues gilts with a range of maturities. The average is around 15 years.

Source: Bloomberg

Figure 22

Corporate bond (A and BBB rated bonds) spread above government borrowing costs

The spread of corporate bonds over government gilts increased significantly following the financial crisis but has subsequently fallen

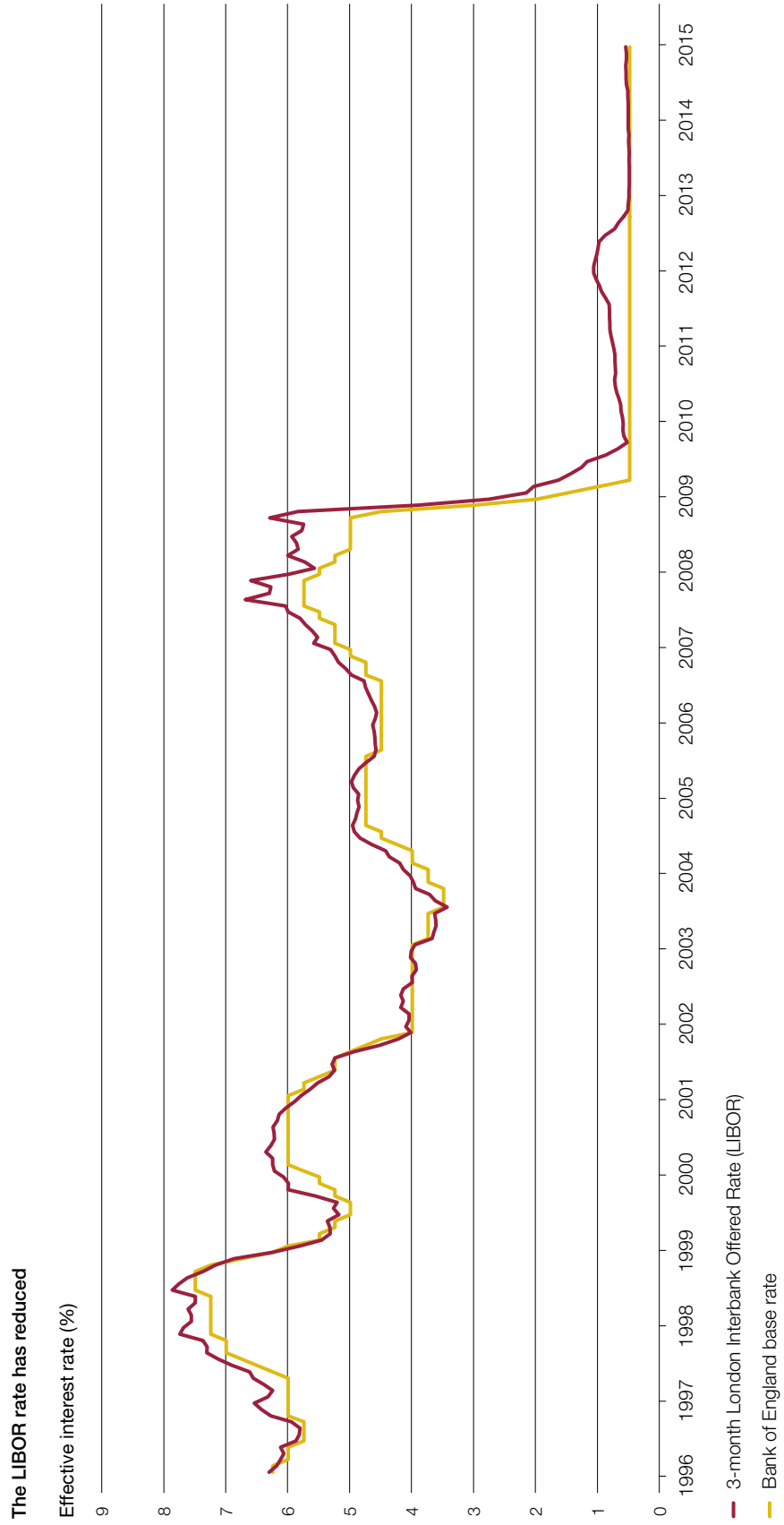
Spread over gilts (%)

**Note**

1 2006 starts with August and 2014 ends with November.

Source: Markit

Figure 23
LIBOR and Bank of England base rates

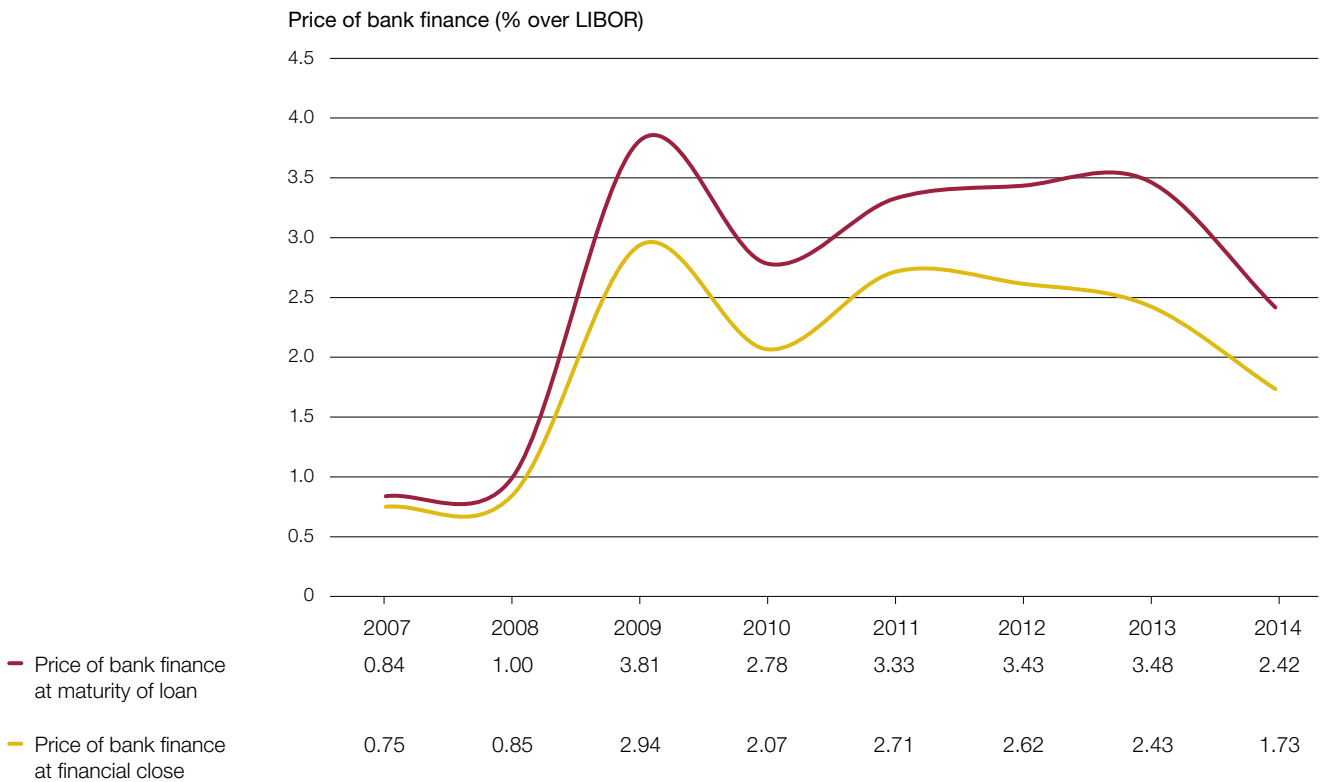


Source: Bloomberg

Figure 24

The premium of bank finance over LIBOR

The premium of bank debt above LIBOR increased during the financial crisis and has subsequently reduced

**Notes**

- 1 The data is from a mix of 27 European and UK infrastructure projects.
- 2 The price of debt is measured as a margin over the London Interbank Offered Rate for the relevant currency.
- 3 Margins are indicative and have been calculated by averaging the margins from three or four projects that reached financial close during the relevant year.
- 4 The difference between the margin at financial close and the maturity of the loan is due to step-up or step-down clauses within the loan agreements that increase (or decrease) margins over the terms of the loans.

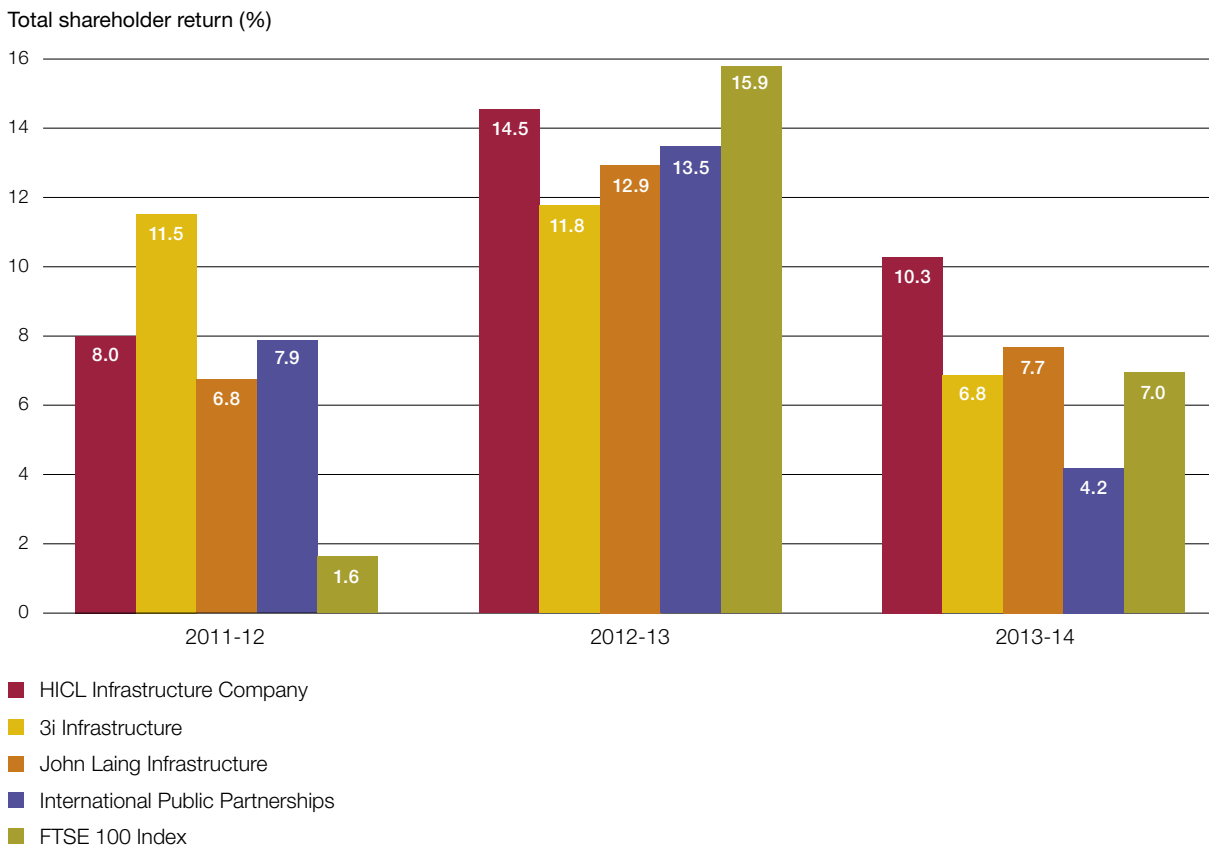
Source: Credit Agricole

Cost of equity

3 A 2012 National Audit Office (NAO) report on equity returns in privately financed projects noted that the expected return to investors when PFI contracts was signed was between 12% and 15%.⁶⁶

4 There is an active secondary market involving the sale and purchase of shares in Special Purpose Vehicles (SPVs), many of which are privately negotiated so the transaction terms may not be readily observable. Some PFI projects are owned by listed investment companies. We identified from HM Treasury’s PFI database 4 listed companies which collectively have an interest in 68 SPVs. The total returns to shareholders including dividends in these 4 listed companies compared with the FTSE100 index in each of the past three years is shown below (**Figure 25**).

Figure 25
Total shareholder return of 4 listed infrastructure funds



Note
1 Return consists of combining the price appreciation with the dividend re-investment.

Source: Bloomberg

66 Comptroller and Auditor General, *Equity investment in privately financed projects*, Session 2010–2012, HC 1792, National Audit Office, February 2012.

Published references to cost of capital

5 In 2003 HM Treasury published *PFI: meeting the investment challenge*.⁶⁷ The report states that the overall cost of private finance (including debt and equity) had fallen from 13.5% in 1995 to just under 10% in 2001. These private finance costs were approximately double that of the cost of government long-term borrowing in 1995 and 2001 respectively.⁶⁸ The report stated that the overall cost of capital in 2001 was 2.4% higher than a benchmark (utility) rate. It concluded that the return was higher than the benchmark for a number of reasons, including: high unsuccessful bid costs, which increased the required return for investors; the cost of swaps; and limited competition, resulting in excess returns.

6 HM Treasury's 2010 National Infrastructure Plan (**Figure 26**) estimated that the cost of capital for government private finance projects was between 2% and 3.75% higher than for public finance.⁶⁹

7 Analysis of the 2012-13 *Whole of Government Accounts* (WGA) implies that the effective interest rate of all private finance deals (7%–8%) is double that of all government borrowing (3%–4%) (**Figure 27** overleaf). This is consistent with the findings of the Treasury Committee in 2011.⁷⁰

Figure 26

Cost of capital estimates in National Infrastructure Plan 2010

Type	Funding models	Indicative WACC (%)
Public finance	Direct government-funded investment; eg, flood defence, some rail and roads	3.9
Government-supported	Government-guaranteed debt	+0.0–1.25
Regulated markets	Regulated Asset Base model; eg, water, electricity, regulated airports	+0.25–3.0
Availability-based payment	PFI/PPP schemes	+2.0–3.75
Unregulated markets – demand-based	User pays – such as corporate energy utilities, unregulated airports, waste operators and communications	+3.5–7.0

Notes

1 The public funded Weighted Average Cost of Capital (WACC) is based on the cash weighted average yield of actual issuance at the gilt auctions, syndicated offerings and mini-tenders between 2005-06 to 2009-10. The cost is now lower as government borrowing costs have fallen in recent years.

2 The WACC figures for the non-public funded option are expressed in terms of their cost above public finance.

Source: Adapted from HM Treasury, *National Infrastructure Plan 2010*, October 2010

67 HM Treasury, *PFI: meeting the investment challenge*, July 2003.

68 The cost of government long-term borrowing was around 8% in 1995 and 5% in 2001 (see Figure 21).

69 HM Treasury, *National Infrastructure Plan*, October 2010.

70 HC Treasury Committee, *Private Finance Initiative*, Seventeenth Report of Session 2010–2012, HC 1725, July 2011.

Figure 27Financing costs estimated from 2012-13 *Whole of Government Accounts*

Type of debt	Debt level over the year (£bn)	Financing costs in year (£bn)	Implied interest rate (%)
Government borrowing	965.5–996.2	33.2	3.3–3.4
Private finance (including finance leases)	41.4–41.9	3.1	7.4–7.5

Notes

- 1 The financing costs of private finance deals and finance leases are grouped together in the WGA. The future minimum payment under finance leases of £5.3 billion was added to the private finance liability of capital repayments to provide the total private finance debt level for the year.
- 2 These data do not include the minority of private finance deals not disclosed in accounts departments' or the WGA.
- 3 The implied interest rate is the estimated financing cost of servicing all outstanding debt.

Source: HM Treasury, *Whole of Government Accounts 2012-13*, June 2014**Cost of capital in regulated utilities**

8 Private finance uses a competitive procurement process to enable the market to determine the price of the contract. Bidders' cost of capital is integral to the final contract terms, which determines the unitary charge. Departments and procuring authorities may use a 'shadow bid model' to simulate bidders' returns. Taxpayer value is affected by the competitive dynamics during procurement and market conditions.

9 Privatised utilities represent another way for the private sector to deliver economic and social infrastructure. As shown in Figure 1, the private sector became responsible for infrastructure investment in several sectors which had previously been part of the public sector. When the utilities were privatised in the 1980s–1990s, a system of economic regulation was developed to protect consumers against the risks that market power might create and to incentivise efficiency. The price control regimes consider the cost of capital to be an important part of the determination of maximum prices paid by consumers and reasonable returns for investors. The cost of capital is set on a forward-looking basis, is reviewed periodically and may be combined with a regulated asset base, estimates of efficient costs, quality and incentives to invest. For example, Ofwat determines the cost of capital for the water industry for the period 2015–2020.⁷¹ It has concluded on a real Weighted Average Cost of Capital (WACC) of 3.74%.⁷²

⁷¹ Water companies differ from private finance projects because they are funded by customer bills, and financed via corporate balance sheets and private investors.

⁷² Available at: www.ofwat.gov.uk/pricereview/pr14/prs_pre201412pr14investor.pdf

Case study: rail rolling stock

10 Recent train rolling stock procurements were both public and privately financed, allowing comparisons of financing costs.

11 Private finance is more expensive than public finance, however these deals can be value for money provided the benefits from risk transfer (such as construction risk) and commercial disciplines (for example, investors' due diligence) outweigh the increased cost. There are other differences between these two rolling stock deals which should be considered alongside the cost comparison. Transport for London (TfL) owns the Crossrail rolling stock whereas the leasing company, not the Department for Transport, owns the Thameslink rolling stock. The decision to fund Crossrail with public rather than private finance was primarily made to ensure that trains would be ready in time for the opening of the line as there had been significant delays with other private finance train procurements. In our recent report on the Thameslink and Intercity Express Programme (IEP)⁷³ we recommended that the opportunity to refinance these deals should be taken if and when it would maximise value for money.⁷⁴ In late 2014 a refinancing competition for Thameslink was launched and it reached financial close in February 2015.⁷⁵ The NAO estimate for the financing costs of the Thameslink project is based on publicly available information of the original deal, not the refinanced deal.

12 We estimate that Crossrail (public finance), which has a capital cost of around £1 billion, had financing costs around 3% lower than Thameslink (private finance), resulting in an estimated £0.5 billion lower interest payments over a 25-year period.⁷⁶ Conversely, the Thameslink trains, with a capital cost of around £1.8 billion, will incur an estimated extra £0.8 billion in financing costs due to the higher cost of finance than the Crossrail project.⁷⁷ Using the government discount rate to discount the extra financing costs of Thameslink results in a net present cost of £0.4 billion (**Figure 28** overleaf).⁷⁸

73 The rolling stock for the Intercity Express Programme (IEP) was also privately financed.

74 Comptroller and Auditor General, *Procuring new trains*, Session 2014-15, HC 531, National Audit Office, July 2014.

75 Infradeals reported that the refinancing of the Thameslink deal had reduced the cost of the debt by more than 1%.

76 The Thameslink deal is not included in the HM Treasury database of PFI deals as the payments will be made by the franchisee that uses the trains (underwritten by the Department for Transport). These financing costs will ultimately be borne by rail users and taxpayers.

77 For the Thameslink calculation it has been assumed that the debt and interest are paid off in equal instalments and are paid over a 22.5-year period. If the repayment schedule is slower (that is, less repayment in early years) or no repayments during construction then the extra spending on private finance interest payments will be greater.

78 The net present value has been calculated by discounting the cash flows by the government discount rate of 6.09%.

Figure 28

Train procurement – financing costs comparison

Rolling stock project	Financing used	Financing costs
Crossrail	Public finance	Gilt rate (approximately 3%) and TfL borrowing costs – 0.37% above gilts Overall cost: 3%–4%
Thameslink (terms of original deal)	Private finance	Debt: 2%–3% above LIBOR Equity: 13% (estimated) Overall cost: 6%–7%
Estimated extra financing cost of Thameslink above Crossrail (to nearest percentage)		3%

Notes

- 1 The figures used to estimate the cost of capital have been derived from publicly available information.
- 2 Infradeals reported that commercial bank debt for the Thameslink deal amounted to £1.2 billion and pricing started at 260 bps (2.6%) above LIBOR and that £0.4bn of the debt was financed by the European Investment Bank. The overall financing costs for the Thameslink project was estimated by assuming that a swap was entered into to fix the debt at 2%–3% above gilts. The cost of equity, which made up an estimated 10% of the financing (around £0.2 billion), was estimated to be 13%.
- 3 The cost of borrowing for the Crossrail project was in effect a combination of government and TfL borrowing costs. TfL was able to secure financing specifically in relation to Crossrail rolling stock at the equivalent of 0.37% above gilts.

Source: Infradeals; Bloomberg; Transport for London; National Audit Office analysis

Appendix Two

Special Purpose Vehicles

- 1 When a public sector body uses private finance procurement it enters into a contract with a private finance company known as a Special Purpose Vehicle (SPV).
- 2 HM Treasury's PFI database contains the list of all current private finance projects, SPV name and company number. There were 728 SPVs at 31 March 2014.
- 3 Shareholders of SPVs include private sector contractors, construction companies and financial investors. The public sector does not usually hold a direct equity stake in SPVs, but it has signalled it may do so under PF2.⁷⁹
- 4 We reviewed the most recently available accounts of more than 150 SPVs filed at Companies House. We estimate that the SPVs are collectively holding around £4 billion in cash. These companies are not in public ownership, so there is little, if any, scope to achieve efficiency savings from centralised management of working capital, for example via the Government Banking Service. Many SPVs have used a combination of bank loans and interest rate swaps to obtain long term financing at fixed rates and protection against higher borrowing costs if interest rates increase. We estimate that these swaps are currently around £6 billion out of the money (if the shareholders wanted to buy-out the contract this payment would be required to exit the swaps).⁸⁰ We believe the total swap liability may exceed £6 billion because more than 25% of the sampled SPVs which used swaps and other hedging instruments did not disclose the liability in their accounts (**Figure 29**).

79 The NHS Lift and Building Schools for the Future (BSF) private finance programmes did involve the public sector organisation holding equity stakes. The Department for Education sold its equity stakes in BSF projects in 2011.

80 Similarly, if the government wanted to redeem bonds issued to finance projects it may also have to pay a premium to their face value. Interest rates have fallen and an investor would require a higher price to ensure it could receive a similar rate of return on another bond. This is known as the Spens clause.

Figure 29

Special Purpose Vehicle (SPV) analysis

Private finance companies	Cash held at year end	Net position of SWAPs
Largest 75 SPVs	£1,930m	-£1,842m
Random sample of 81 of the 653 smaller SPVs	£303m	-£488m
Estimate for all SPVs	£4.4bn	-£5.8bn

Notes

- 1 There are 728 SPV accounts listed in the PFI database.
- 2 The largest 75 SPVs were the largest by capital value.
- 3 The estimates for all SPVs have been derived by extrapolating the result for the 81 randomly sampled SPVs across the entire population of 653 smaller SPVs and then adding this result to the figures for the largest SPVs.
- 4 Analysis of company accounts was conducted in July to November 2014. All financial accounts are as of March 2013 or later, as was available during the analysis. The accounts for the largest 10 SPVs by debt level have been updated to the most recent accounts as at February 2015. In instances where the SPV name and/or number was not provided within HM Treasury's PFI database, this was obtained manually via an internet search, followed by cross-checking this with the *principal activities* description provided within the accounts.
- 5 Of the 156 accounts sampled, 100 accounts disclose the use of hedging instruments. Of these, 73 accounts disclose the liability of the hedging instruments used.

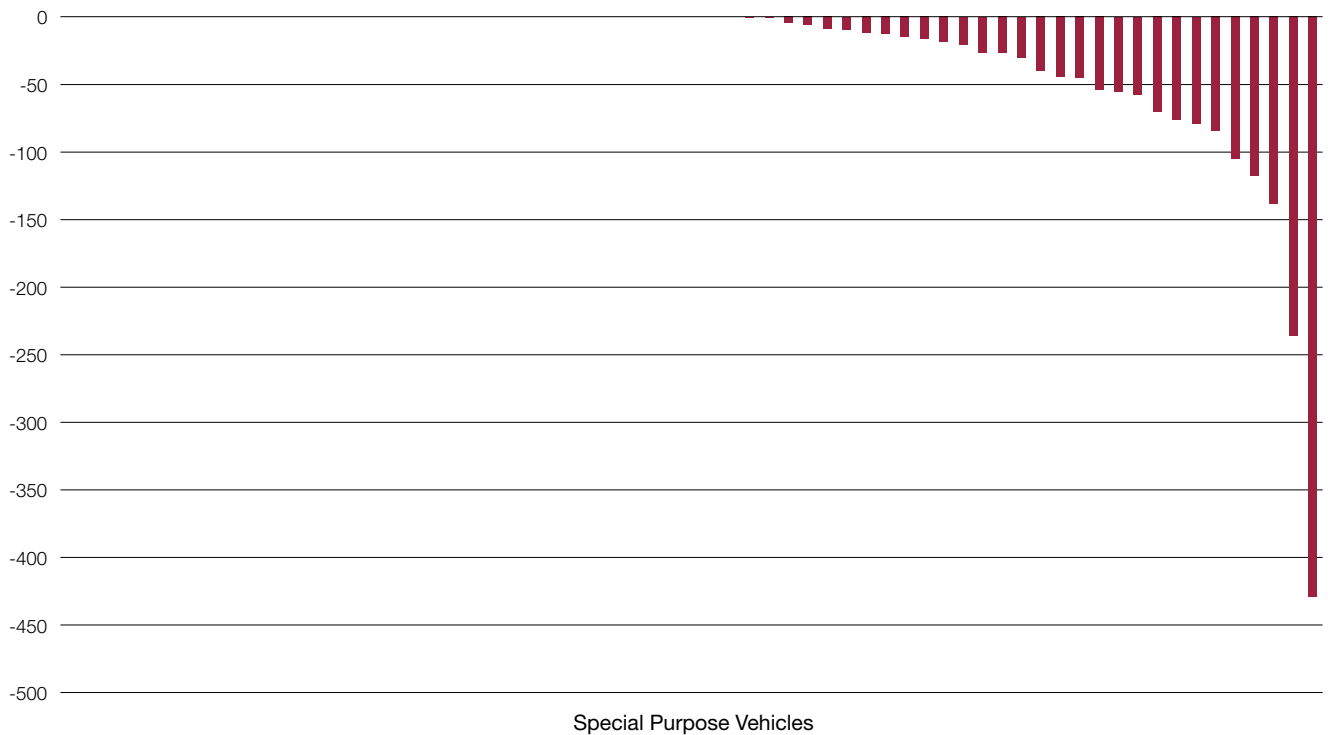
Source: HM Treasury PFI database (updated 15 December 2014) for Special Purpose Vehicle (SPV) company numbers, National Audit Office analysis of most recent SPV accounts available from Companies House – financial year ending 2013 and 2014

5 **Figure 30, Figures 31 and 32** show the net swaps position, cash balance and debt are not evenly distributed across the 75 largest SPVs by capital value.

Figure 30

Net position of swaps held

Total swap position (£m)



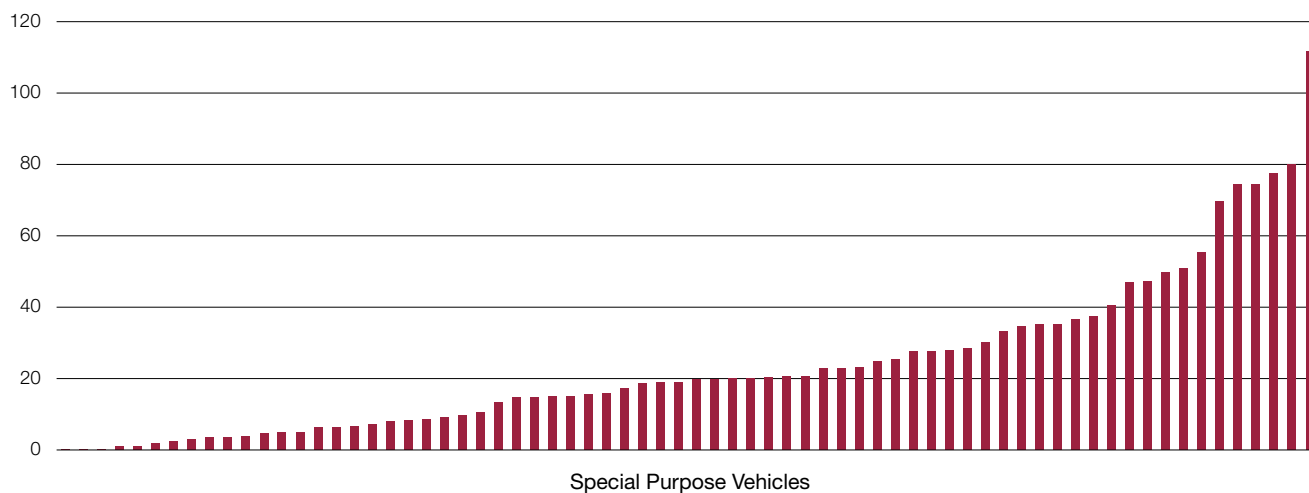
Note

1 Figure excludes the 10 out of 75 companies that hold swaps but do not disclose the amount held/net position of the swaps.

Source: National Audit Office analysis of large Special Purpose Vehicle accounts for most recent year available

Figure 31
Cash balance

Cash at bank, current year (£m)



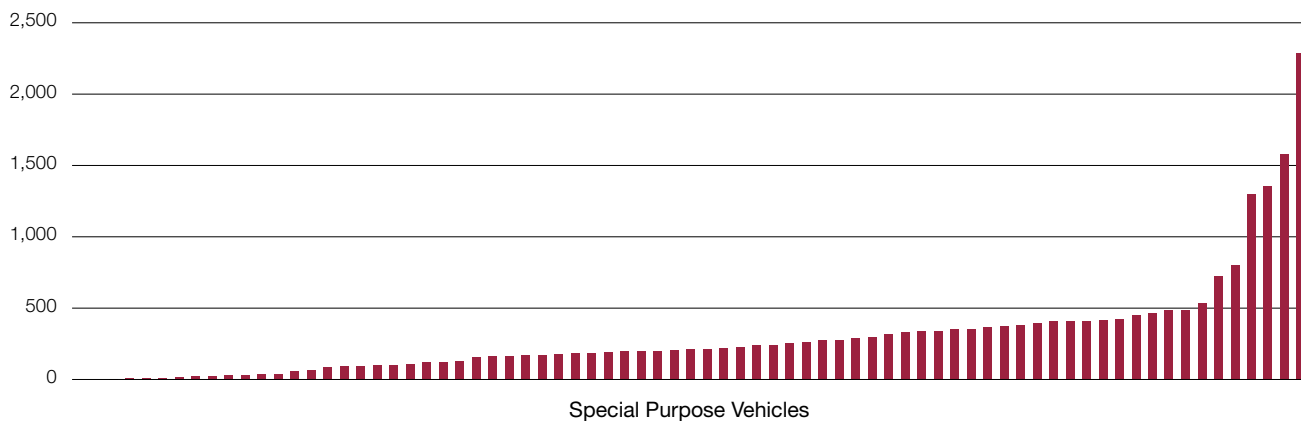
Note

1 Figure excludes 5 of the 75 companies that did not provide a cash at bank figure.

Source: National Audit Office analysis of large Special Purpose Vehicle accounts for most recent year available

Figure 32
Debt

Debt, current year (£m)



Note

1 Debt is interest bearing borrowings only.

Source: National Audit Office analysis of large Special Purpose Vehicle accounts for most recent year available

6 **Figure 33, Figures 34 and 35** provide further details of debt, cash balances and swap liabilities.

Figure 33

The 10 SPVs with the highest debt

Project description (recorded capital value, date of financial close)	Debt (£m)	Annual Interest paid (£m)	Cash (£m)	Swap liability (£m)	Debt to capital value ratio (%)
Future Strategic Tanker Aircraft (£2.7 billion, March 2008)	2,285.6	119.0	77.4	-429	85
Allenby/Connaught military barracks (£1.3 billion, April 2006)	1,583.1	86.0	294.7	n/a	122
Barts/London NHS Trust Hospital (£1.1 billion, April 2006)	1,358.4	52.5	80.0	n/a	118
M25 widening (£1.0 billion, May 2009)	1,297.2	103.1	35.1	-236	131
M6 Toll road (£0.5 billion, February 1992)	799.5	70.3	2.3	n/a	165
Selly Oak and Queen Elizabeth Hospitals (£0.6 billion, June 2006)	724.1	45.3	51.0	n/a	116
Colchester military barracks (£0.6 billion, February 2004)	534.5	36.0	37.3	n/a	95
Southmead – North Bristol Hospital (£0.4 billion, February 2010)	484.5	32.0	0.1	-118	113
New District General Hospital, Walsgrave (£0.4 billion, November 2002)	483.5	31.9	55.3	n/a	128
Redevelopment of 3 hospitals for Women, Children, Adults and a specialist Eye Hospital (£0.5 billion, December 2004)	462.7	33.0	34.6	n/a	90

Notes

- 1 The debt levels include interest bearing borrowings only so excludes items such as trade payables.
- 2 All figures are for the most recent financial accounts available from Companies House, as at February 2015.
- 3 Some SPVs hold inflation-linked debt – one reason why some have debt levels higher than the original capital value.
- 4 Debt to capital ratio figures are indicative. Capital value figures are at construction.

Source: National Audit Office analysis of large Special Purpose Vehicle accounts for most recent year available

Figure 34

Other SPVs with large cash balances

Project description (recorded capital value, date of financial close)	Cash held (£m)
Skynet MoD secure communications (£1.4 billion, October 2003)	111.5
Trillium Prime DWP offices (£1.0 billion, December 1997)	74.5
Manchester Waste (£0.6 billion, April 2009)	74.4

Source: National Audit Office analysis of large Special Purpose Vehicle accounts for most recent year available

Figure 35

Other SPVs with large swap liabilities

Project description (recorded capital value, date of financial close)	Swap liability (£m)
MoD Offices (£0.4 billion, May 2000)	-138.6
Larbert Acute Hospital (£0.3 billion, May 2007)	-105.3
Peterborough Hospital (£0.3 billion, June 2007)	-79.1

Source: National Audit Office analysis of large Special Purpose Vehicle accounts for most recent year available

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