briefing notes

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TWENTY-FIVE YEARS OF FALLING INVESTMENT?
TRENDS IN CAPITAL SPENDING ON PUBLIC SERVICES

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THE INSTITUTE FOR FISCAL STUDIES
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Twenty-Five Years of Falling Investment?

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1. Introduction

The Labour government has been at pains to stress the importance of public investment. A large portion of *Spending Review 2000*[1] was devoted to explaining why we should care about public investment: it provides the infrastructure that is a prerequisite for improvements in output and growth and is necessary both to supply and to enhance public services. To these, we would add another concern. Cuts in public investment are less immediately noticeable than cuts in current spending, which risks leaving them a soft target during a period of fiscal retrenchment. For example, a decision to delay building a new school or health centre might be expected to provoke less anger than a decision to cut the pay of public sector workers. The risk is that such short-term political pressures may produce public investment that is below the optimal long-term level.[2]

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[1] HM Treasury, *Spending Review 2000: New Spending Plans 2001–2004*, Cm. 4807, The Stationery Office, London, 2000.

[2] Indeed, this is exactly what the current government alleges happened under its predecessors: 'capital programmes were cut as a way of meeting short-term current pressures, with long-

Our concern is not just theoretical – we know that public investment *has* shrunk in practice. Public investment recently reached a post-war low as a share of GDP.[3] The potential to improve public services depends upon government investment, so it is important that we investigate how we reached this low level of investment and on which public services the axe has fallen most heavily.

Box 1: What is investment?

Investment is spending on *fixed* assets. These are defined as assets that last for more than one year. Government departments use this definition in their annual budgets to distinguish between items of spending such as wages (known as *current* spending) and items such as buildings, vehicles and machinery, from which benefits can be derived in future years (known as *capital* spending).

There are two components of investment: spending on new fixed assets and spending to replace and/or repair existing fixed assets. The former is *net investment*; the latter is *investment to offset depreciation. Depreciation* is the value that items lose as they age and suffer from 'wear and tear'. *Gross investment* is the sum of net investment and investment to offset depreciation.

These precise definitions belie the difficulties of judging what investment is in a broader sense. What if one believed that *any* spending on things that will provide us with services and/or goods of value in future years should count as investment? By this criterion, *all* spending on education, whether on teachers' salaries or on buildings, could reasonably be called 'investment', because it is spent on equipping individuals with skills that will enable them to be productive in the future. For the purposes of clarity in this Briefing Note, we shall be sticking to the conventional definitions.

2. The Recent History of UK Public Sector Investment

Total gross public investment (measured by gross capital formation – a concept we will outline in Box 2) as a percentage of GDP has fallen almost continuously since the mid-1970s (Figure 2.1). It comprised 8.9% of GDP in 1975 and fell to 1.7% in 2000. The decline was therefore 7.2 percentage points of GDP, which in 2000 represented around £67 billion.

Net public investment, for which a longer data series is available, has been declining for a longer period. It shows a similar collapse (Figure 2.2), from 5.3% in 1975 to 0.5% in 2000. The net investment data show that the 1960s and 1970s were periods of exceptionally high public investment by post-war standards but that the current investment level compares unfavourably even with that in 1948 (1.3%). The gross and net series are broadly similar; hereafter, we will concentrate mainly on gross data.

As well as noting the scale of the decline in public investment, one should also be aware that the decline neither started nor ended with the 1979–97

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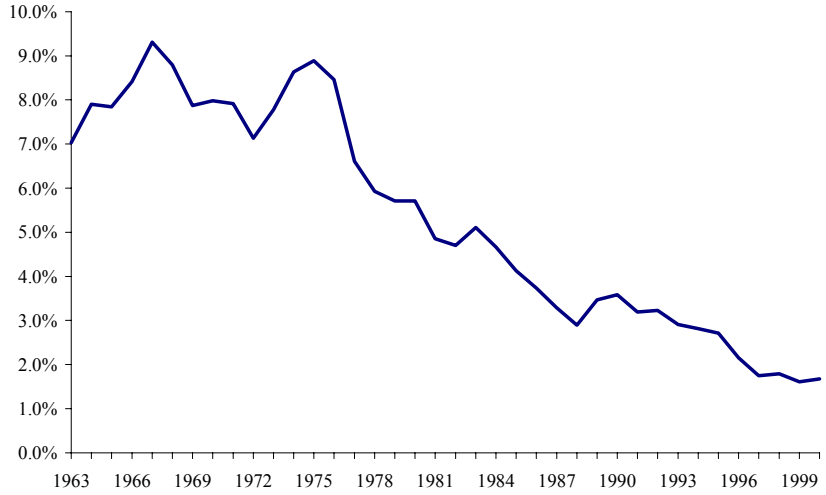
term detrimental effects' (HM Treasury, *Planning Sustainable Public Spending: Lessons from Previous Policy Experience*, London, 2000, p. 2).

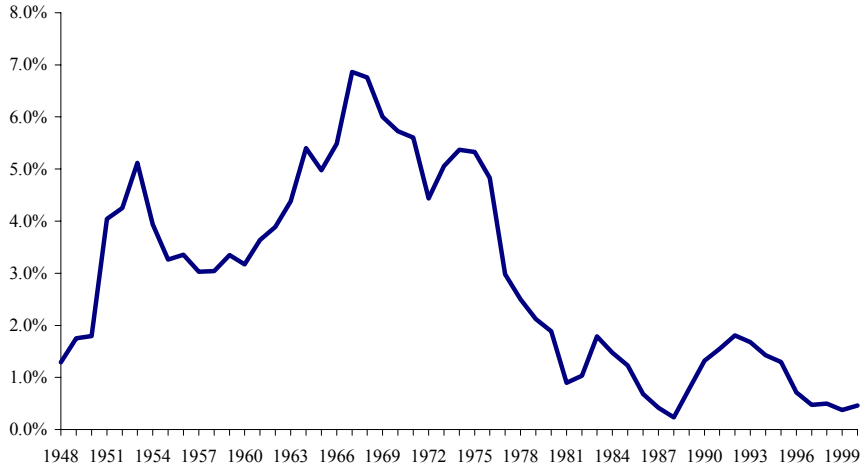
[3] See T. Clark and A. Dilnot (eds), *Election Briefing 2001*, Commentary no. 84, Institute for Fiscal Studies, London, 2001, p. 25.

Figure 2.1. Public Sector Gross Capital Formation as a Percentage of GDP, 1963–2000



Source: *Blue Book*, various years.

Figure 2.2. Net Public Investment as a Percentage of GDP, 1948–2000



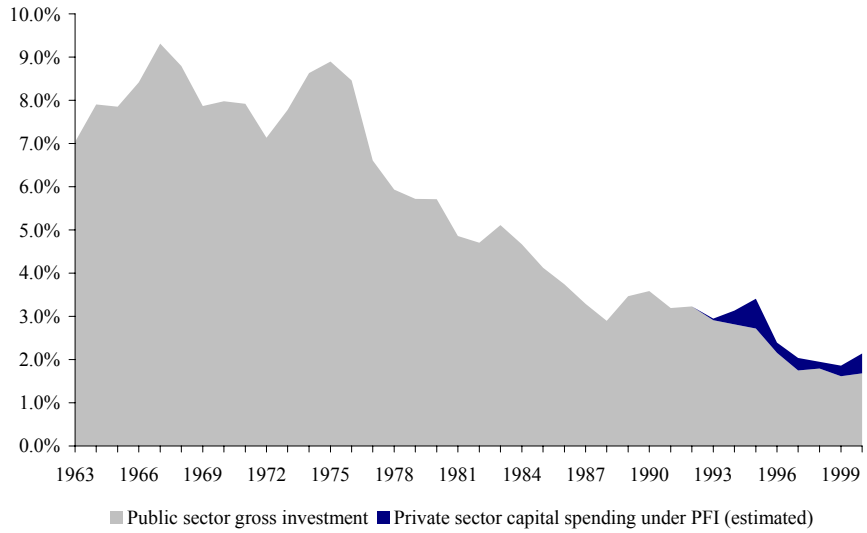
Source: Office for National Statistics website – www.statistics.gov.uk.

Conservative era. *Spending Review 2000* makes it clear that the decline began earlier, saying, 'Public sector net investment fell from 5 per cent of GDP in 1963–64 to 0.5 per cent in 1997–98'. But the low investment did not then end immediately. Two years into the new Labour government, in 1999, public net investment reached its lowest rate in a decade – it stood at just 0.4% of GDP.

It may be that some of the recent decline in public sector investment reflects the increased role of the Private Finance Initiative (PFI). The PFI sees a private company undertaking investment on behalf of the government, which then pays the company an income stream over several years. These payments are not classed as capital spending, so public investment appears lower than it would have been under traditional public procurement – even though the total level of publicly sponsored investment may be no different.

Data for investment under the PFI in the most recent two or three years are estimated rather than confirmed numbers, and the basis on which they are calculated has varied slightly. Notwithstanding these concerns over data reliability, we shall assume that PFI capital spending has the same value to the government as would an equivalent amount of traditional public investment.[4] We shall also assume that all of the estimated investment for the most recent years has materialised. Figure 2.3 shows the effect on public investment of adding in private sector capital spending under the PFI.

Figure 2.3. Public Investment including Capital Spending by the Private Sector under the PFI as a Percentage of GDP, 1963–2000



Notes: 'Public sector gross investment' is identical to the series in Figure 2.1. The figure for PFI investment in 1995 seems unusually high because it includes spending on the Channel Tunnel Rail Link, an exceptionally large project.
Sources: 'Public sector gross investment' – *Blue Book* (various years); PFI investment spending series – obtained from HM Treasury on request and converted from a financial-year to a calendar-year basis by the authors.

During 2000, the inclusion of PFI investment[5] would only have raised gross public investment from 1.7% to 2.1% of GDP, still leaving it at about half its 1985 level. While it may be intended that the role of PFI investment will increase substantially, its current impact on the historically low levels of public investment is minimal.

The predicted increase in the role of PFI-related investment invites consideration of several issues that lie outside the remit of this Briefing Note but are worth touching upon. The government has accepted that there has been prolonged underinvestment in key public services, and it wants PFI investment to assist in remedying this. So it is critical to examine whether or not PFI investment is a suitable substitute for traditional public investment. On the one

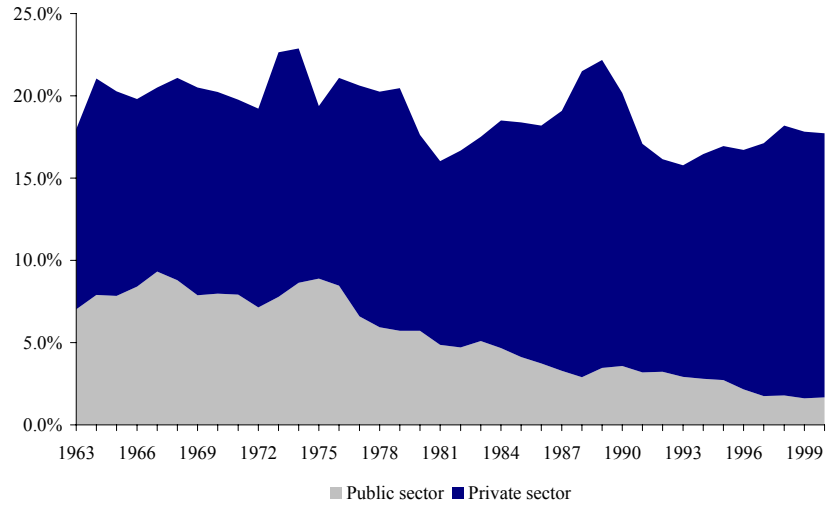
[4] Of course, this is not necessarily true – PFI capital spending could be either more or less efficient. See footnote 6 for sources comparing the efficiency of the two types of spending.

[5] Calculated on the basis of financial-year figures.

hand, advocates argue that the private sector may have advantages in undertaking investment (more cost-efficient investment, new managerial expertise, etc.). On the other hand, private sector firms cannot borrow capital on such advantageous terms as the public sector, and their involvement may limit the government's flexibility in responding to changed circumstances.[6]

An alternative explanation for the decline in public investment might be that it followed from successive governments reducing the overall size and scope of the State. If so, then it would have been affordable to cut taxes at the same time as reducing public spending; and these tax cuts may have enabled individuals and private companies in general (as opposed to just those involved in the PFI) to stand in for the State by undertaking their own investment. If the private sector had fully substituted for declining public investment, then the total level of gross capital formation should have changed little. As Figure 2.4 shows, this has not quite happened. The level of private investment has risen, from around 11% of GDP in 1963 to 16% in 2000. But this is not quite sufficient to compensate for the decline in public investment.

Figure 2.4. Gross Capital Formation by Both Public and Private Sectors as a Percentage of GDP, 1963–2000



Notes: Private sector gross capital formation figures pre-1987 are constructed as the residual of total and public sector capital formation figures. PFI capital spending counts as part of the private sector series in this graph.
Source: *Blue Book*, various years.

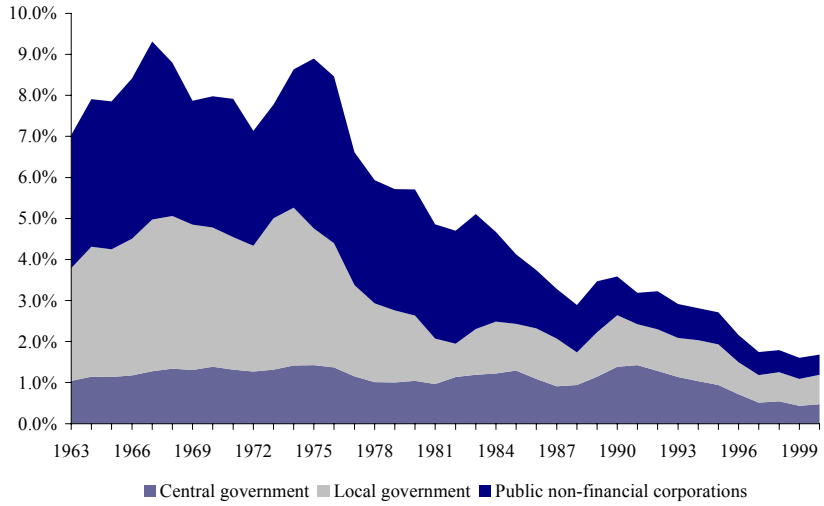
[6] For more on the economic advantages and disadvantages of substituting private for public investment, see, for example: J. Flemming and C. Mayer, 'The assessment: public sector investment', *Oxford Review of Economic Policy*, 1997, vol. 13, no. 4, pp. 1–11; P. Grout, 'The economics of the Private Finance Initiative', *Oxford Review of Economic Policy*, 1997, vol. 13, no. 4, pp. 53–66; and J. Hall, 'Private opportunity, public benefit?', *Fiscal Studies*, 1998, vol. 19, pp. 121–40. Some of the same issues (amongst others) have been tackled more recently in Institute for Public Policy Research, *Building Better Partnerships*, London, 2001.

Total gross capital formation peaked at approximately 23% of GDP in 1974 and is now just under 18%.[7]

3. Investment by Different Branches of the State

The decline in public investment can be divided into three distinct phases (Figure 3.1). The first, and largest, beginning in 1975, was principally due to the collapse in investment by local authorities. Local government gross capital formation fell from 3.8% of GDP in 1974 to 0.8% in 1982. We shall analyse later which programmes are likely to have been the most affected.

Figure 3.1. Public Sector Gross Capital Formation by Sub-Sector as a Percentage of GDP, 1963–2000



Source: *Blue Book*, various years.

Public corporations were the chief source of the next period of investment decline. This collapse is most evident once large-scale privatisations began, starting with that of British Telecom in 1984. Most of the decline took place in the years 1983 to 1988, during which public corporations' investment fell from 2.8% to 1.2% of GDP. Since then, the decline has continued at a slower pace, with public corporations' investment falling below 0.5% of GDP in 2000. Such a decline is not necessarily worrying, because the capital required for investment in, for example, telephone infrastructure is now provided by investors in BT and other companies instead of by the State.

The third period of decline has been principally in central government investment. The share of central government investment in GDP was maintained at a steady rate until recently. Indeed, central government investment contributed to the general rise in public investment over the period

[7] The rest of this Briefing Note is concerned only with publicly sponsored investment. For more on trends in investment overall, see S. Bond and N. Bloom, *UK Investment: High, Low, Rising, Falling?*, Briefing Note no. 18, Institute for Fiscal Studies, London, 2001 (www.ifs.org.uk/corpact/bn18.pdf).

1987–90. But it fell from 1.4% of GDP in 1991 to 0.4% in 1999. Since the election of the new government in 1997, none of these declines has been fully reversed.

4. Analysis of the Decline by Programme

Figure 4.1 shows how the decline breaks down by programme. **Housing**, the bulk of which was the responsibility of local authorities, dominates the total series until the early 1980s and will be the first programme area to be considered. It accounts for nearly the entire decline between 1975 and 1982.

More recently, housing has become less significant relative to other areas (Figure 4.2). Public investment increased its share of GDP between 1988 and 1990, after which it fell back to new lows. The key determinants of the path of public investment over the past decade-and-a-half have been:

- **'Economic affairs':** This new composite category was created as part of the change to the European System of Accounts 1995 (ESA 95). As such, it was published in the *Blue Book* from 1998 onwards and is available

Box 2. What *exactly* are we measuring?

We measure investment using *general government* gross capital formation. 'General government' includes central and local government but excludes public corporations, such as the formerly nationalised industries. We use general government data mainly because, as was mentioned above, much of the decline in public corporations' investment simply reflects privatisations. Another consideration was the lack of suitable data for public corporations' investments by programme. We are mindful of this omission in our analysis by programme and have identified areas where we believe it might have caused public investment in particular programmes to be significantly understated or misrepresented.

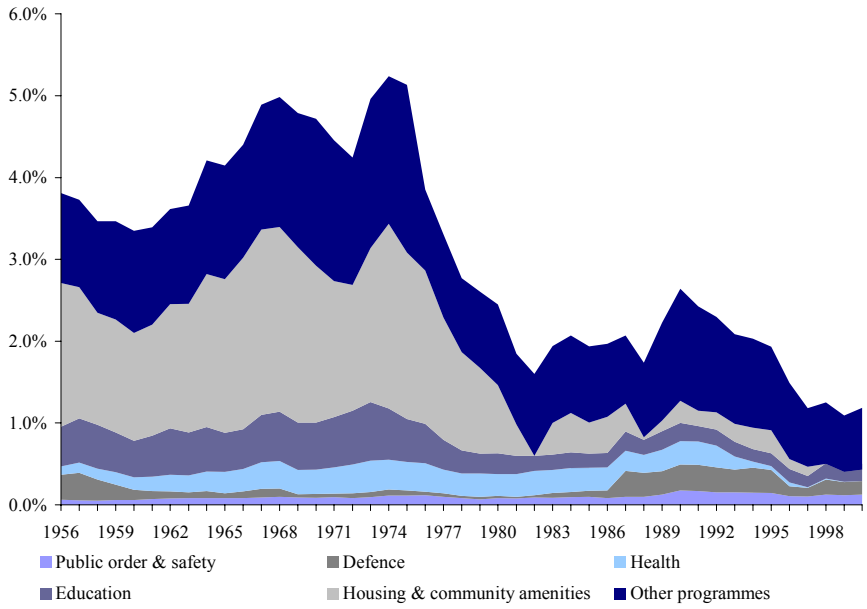
There is a difference between gross capital formation and gross *fixed* capital formation. Only the former includes changes in the level of *inventories*. These are stocks of things other than fixed assets that accumulate and can be 'carried over' as stocks from one year to the next. The *Blue Books*, which are the UK's national accounts, have not offered one or the other of these series consistently in recent decades. Fortunately, inventory changes are such a small part of public investment that we can use the two series interchangeably.*

The Office for National Statistics (ONS) defines gross fixed capital formation as 'acquisitions *less disposals* of fixed assets and the improvement of land' (our italics). Both gross and net figures for investment have already had government receipts from the sale of assets deducted. Even gross investment can be negative if the amount raised from selling assets is greater than the amount spent repairing assets and buying new ones. So negative gross investment does *not* necessarily mean that nothing has been maintained and/or that nothing new has been bought.

The two main ways in which we portray investment are in *real terms* and *as a percentage of GDP*. The former indicates the scale of spending on an item (taking account of inflation), the latter the priority the government gives to that item when allocating its budget. Our 'real terms' figures are calculated using a general 'GDP deflator', which means they are not sensitive to changes in the *relative* costs of particular types of investment.

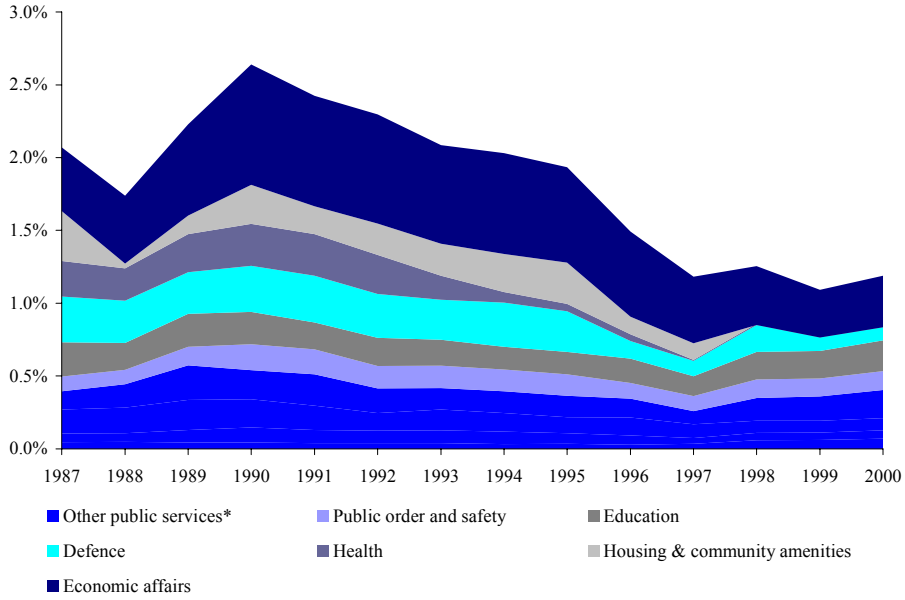
*For an illustration of the differences between the two series, see the Appendix. Generally, our data are gross fixed capital formation before 1987 and gross capital formation thereafter.

Figure 4.1. General Government Gross Capital Formation by Function as a Percentage of GDP, 1956–2000



Source: *Blue Book*, various years.

Figure 4.2. General Government Gross Capital Formation by Function as a Percentage of GDP, 1987–2000



*General public services; recreation, culture & religion; social protection; environment protection.
Source: *Blue Book*, various years.

retrospectively for years from 1987. In itself, the category contains too many different spending programmes to tell us which areas of public services have been adversely affected.[8] Closer inspection reveals that the main component of this series has been **transport**, so we shall examine the impact of the increase and subsequent decline in transport investment.

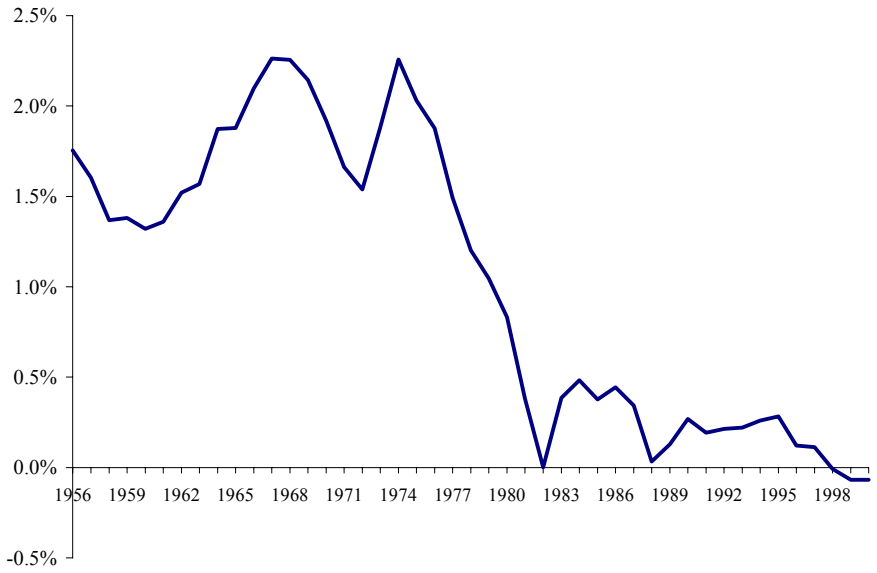
- **Health:** This category of investment seems to have contracted rapidly since 1992. We shall examine the reasons for this fall and the impact on the capital stock of the NHS.
- **Defence:** This has accounted for a significant share of public investment in the past, but appears to have contracted significantly since 1995.
- **Education:** Education investment has been squeezed gradually until 1998. We shall consider how much of this decline reflects changes in the school-age population and how much reflects a deterioration in the capital stock.

We shall also look briefly at the key area of **public order & safety**, which is one of the few areas of investment to have increased in real terms between 1987 and 2000.

Housing

As Figure 4.3 shows, government housing investment fluctuated around a rate of approximately 2% of GDP in the two decades after 1956. But, after 1974, it went into a dramatic and rapid decline, which took it to zero in 1982.

Figure 4.3. General Government Gross Capital Formation for Housing as a Percentage of GDP, 1956–2000



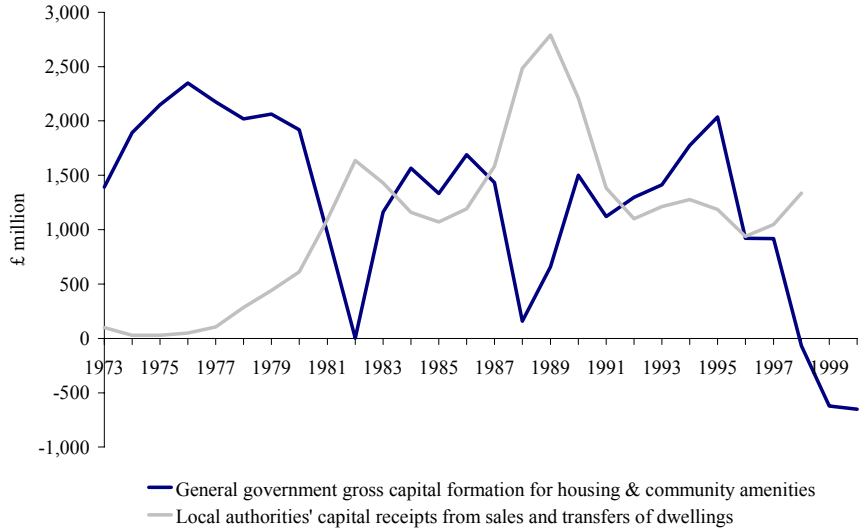
Source: *Blue Book*, various years.

[8]The areas are fuel & energy, agriculture, mining & minerals, transport & communications and general economic.

Although it has fluctuated a little since, it has never again reached as high as 0.5% of GDP, and, since 1998, it has been negative. In 2000, it stood at –0.1%.

As was mentioned in Box 2, gross capital formation figures have already had asset sales deducted, so part of the explanation for the collapse in investment in housing may be that sales of council houses have obscured continuing investment. Figure 4.4 shows an inverse relationship between capital raised by local authorities from dwelling sales and transfers (to bodies such as Housing Associations and Registered Social Landlords) and general government gross capital formation for housing and community amenities.

Figure 4.4. Capital Raised from Local Authorities' Asset Sales (1973–98) and General Government Gross Capital Formation for Housing & Community Amenities (1973–2000) at Current Prices



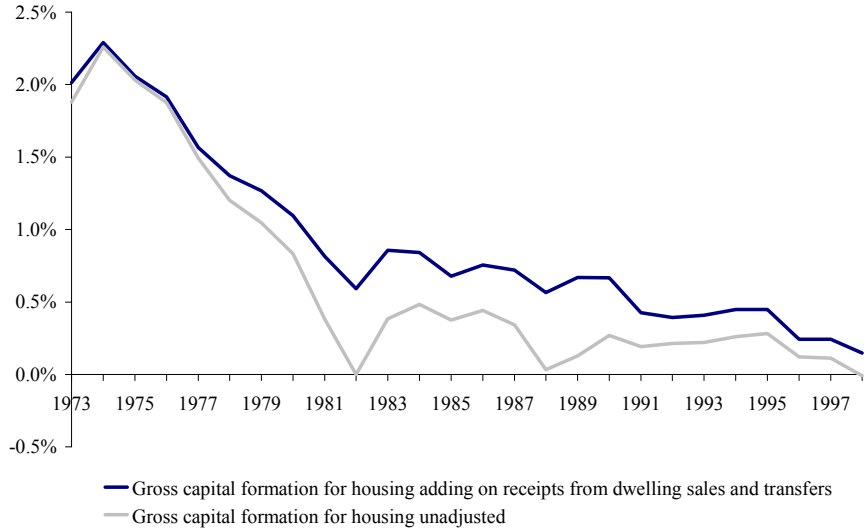
Notes: Figures for local authorities' capital raised are for England only. Calendar-year figures for receipts are calculated on the basis of financial-year data.
Sources: *Housing Statistics 2000*; *Blue Book*, various years.

If we add capital raised by local authorities from asset sales back into gross capital formation for housing, the dramatic decline in housing investment as a percentage of GDP is smoothed and moderated slightly but still occurs (Figure 4.5).

There are important reasons to regard these 'adjusted' figures as more meaningful than the raw numbers. In particular, when houses are sold – either to non-governmental 'social landlords' or else to former council tenants – although the public housing stock has declined, the national housing stock is unaffected. So, in an aggregate sense, this is not disinvestment.

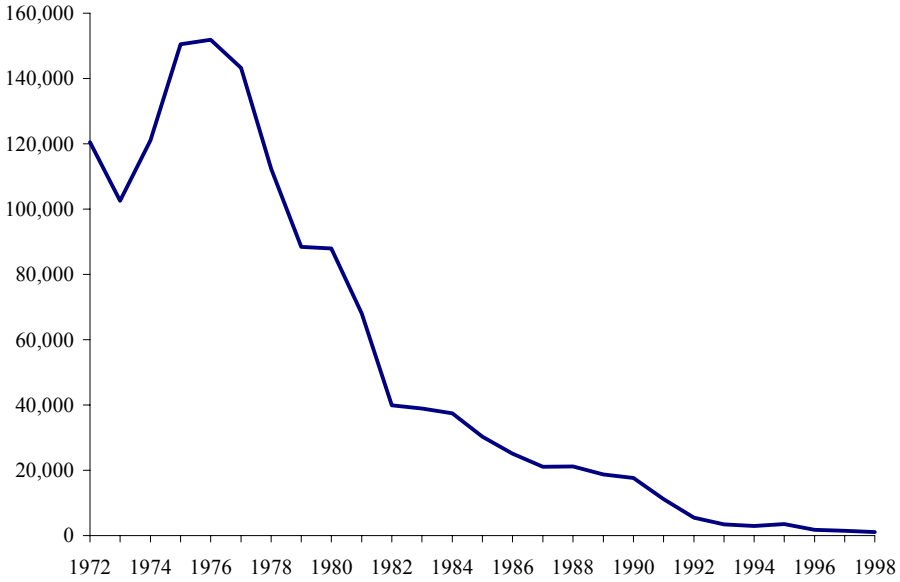
And even this adjustment has not fully captured the extent to which the headline decline in public housing investment overstates the effect on the national housing stock. For, once houses have been sold, much of the routine investment required for their upkeep continues to be done, but is simply undertaken by the new landlords – whether former council tenants or Housing Associations – instead of the State.

Figure 4.5. Effect of Adding Capital from Asset Sales to Gross Capital Formation for Housing as a Percentage of GDP, 1973–98



Notes and Sources: See Figure 4.4.

Figure 4.6. Number of Permanent Dwellings Completed for Local Housing Authorities, 1972–98



Source: *Annual Abstract of Statistics*, various years.

But there is good reason to think that the decline seen in Figures 4.3–4.5 represents more than sales and the associated transfer of responsibility for maintenance. For public investment in new dwellings has all but stopped. The number of new dwellings completed for local housing authorities declined rapidly during the period 1976–82 and more slowly thereafter (Figure 4.6). From a peak of 151,824 dwellings completed in 1976, the number fell to 39,960 in 1982 and 1,058 by 1998, less than 1% of the 1976 level. So, as well

as selling their existing dwellings, local authorities have built fewer new ones. This decline in local authority house-building has coincided with an increase in the total number of households, from 18.6 million in 1971 to 23.9 million in 2000. Is this cause for concern?

Any such worry would be reduced if non-governmental investment had stepped in to fill the gap. But even if overall private housing investment increased, the concern might remain that this private investment may cater for a different segment of the market and would not fully substitute for the low-cost accommodation that councils traditionally provided. In this case, the worry is that the supply of such housing would be reduced, which would put upward pressure on the rents that low-income tenants in the private sector have to pay. This, in turn, would increase inequality in disposable incomes and might threaten the ability of some low-income people to live in acceptable housing.

'Social landlords' have helped in this respect: these non-governmental organisations aim to provide affordable housing, and have been building more new houses in recent years. They produced only 9,750 new dwellings in 1972 but this increased to 39,328 in 1995. There is also evidence to suggest that this accommodation is well maintained. The 1996 English House Condition Survey found that only 7.7% of households renting their accommodation from Registered Social Landlords lived in housing classified as 'poor'.

Still, this increased provision only makes up for a small fraction of the reduction in council house starts. Local authorities and social housing groups built over 130,000 new dwellings between them in 1972. In 1998, they built fewer than 30,000.[9] Combined with council house sales, this downward trend has reduced the stock of cheap rented housing. In 1981, there were 6.9 million dwellings in Britain rented by local authorities and Registered Social Landlords. By 2000, that figure had fallen to 5.2 million. Given this, it seems unsurprising that housing costs did indeed increase through the 1980s in an inequality-promoting manner.[10]

The decline in the supply of social housing and the rent increases it produces need not necessarily have threatened the ability of low-income tenants to live in decent housing. Housing benefit is designed to ensure that the disposable incomes of poor tenants, which would otherwise be threatened by the rental cost of acceptable accommodation, remain above a 'safety net' level: if rent increases, so too does housing benefit entitlement.

One could, then, view the trend towards spending less on social housing but more on housing benefit as akin to moving from a *universal* benefit towards a *means-tested* one. This means-testing should preserve the ability of everyone to live in decent accommodation at a *lower* exchequer cost than does offering 'universal' housing subsidies. But the extension of means-tested housing support for the poorest risks familiar problems: benefit withdrawal as income increases creates disincentives to earning more, leading to poverty and

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[9] Figures are from the *Annual Abstract of Statistics*.

[10] See A. Goodman and S. Webb, *For Richer, For Poorer: The Changing Distribution of Income in the UK, 1961–91*, Commentary no. 42, Institute for Fiscal Studies, London, 1994.

unemployment traps. In addition, the significant number of families entitled to housing benefit who fail to claim their entitlement will often be left with disposable incomes below the level of the income support safety net.[11]

A final possible problem with the decline of social housing is that low-cost private sector housing might not be a substitute of the same quality. Many of those who would have rented from local authorities or social housing groups if there were enough dwellings may have become homeowners, but it is likely that some have become private renters. The 1996 English House Condition Survey found that 31.2% of households in privately rented accommodation were in dwellings judged to be 'poor'. The probability of a household living in housing of an unsuitable standard is higher if that household rents privately than if it rents from a Registered Social Landlord or a local authority (the figure for local authority renters was 16.5%).

It is also worth noting that the proportion of houses deemed 'poor' by the English House Condition Survey has not changed greatly over the past decade or so: it was 11% in 1981 and 14% in 1996. This suggests that a disproportionate share of the total investment in housing over this period has been concentrated in the upper end of the housing market, leaving the cheapest bought and rented dwellings in a not greatly improved condition.[12]

Transport

A significant proportion of public investment in transport has always been excluded from the *Blue Book*'s series of gross domestic capital formation. In particular, rail and local transport have historically been the responsibility of British Rail (and its privately owned successors) and local Passenger Transport Executives respectively.

It is also not possible to trace a consistent series of public investment even in the remaining forms of transport because, as was mentioned above, 'transport & communications' was moved, under ESA 95, from its own category as a function of government into an 'economic affairs' category, along with various other functions. So, instead, we shall focus on two main areas of transport investment – roads and rail.

Roads

The Transport Statistics division of the Department for Transport, Local Government and the Regions (DTLR) presents, in its annual *Transport Statistics Great Britain* publication, a series for investment in roads. This series is calculated on a different basis from the transport figures in the *Blue*

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[11] Official estimates suggest that between 5% and 11% of entitled families do not claim housing benefit (Department for Work and Pensions, *Income-Related Benefits: Estimates of Take-Up in 1999/2000*, London, 2000; available from www.dss.gov.uk/asd/tu9900f.pdf).

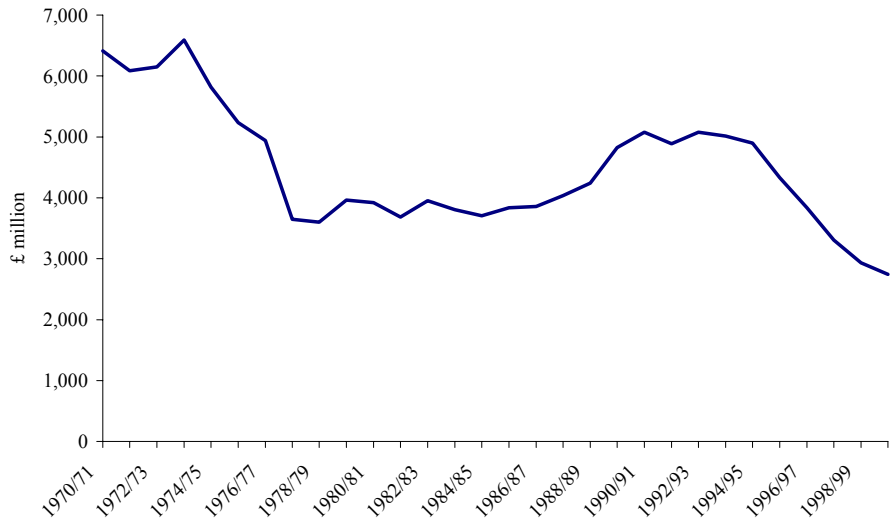
[12] Note that the figures in the preceding passage relating to the stock of dwellings generally refer to the whole of Great Britain and come from the *Annual Abstract of Statistics*, whereas the information on dwelling quality relates to England only and comes from the English House Condition Survey. For more information and statistics on housing, see the DTLR's website, www.housing.dtlr.gov.uk.

Book and includes private investment in roads, under both the PFI and its predecessor private investment schemes (but it does follow the same overall pattern as the *Blue Book*'s transport investment figures, in so far as these can be retrieved).

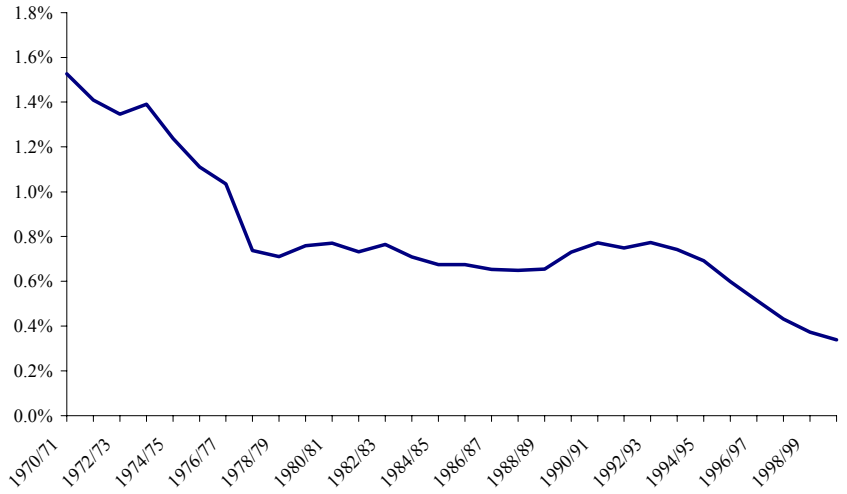
Figure 4.7 shows the series both in real terms and as a percentage of GDP. It reveals that road investment was 1.5% of GDP in 1970/71, then declined and stabilised at around 0.7% of GDP during the 1980s. There was a surge in investment in the early 1990s, followed by another period of sharp decline.

Figure 4.7. Total Investment in Roads, 1970/71–1999/2000

(a) At 1995 prices

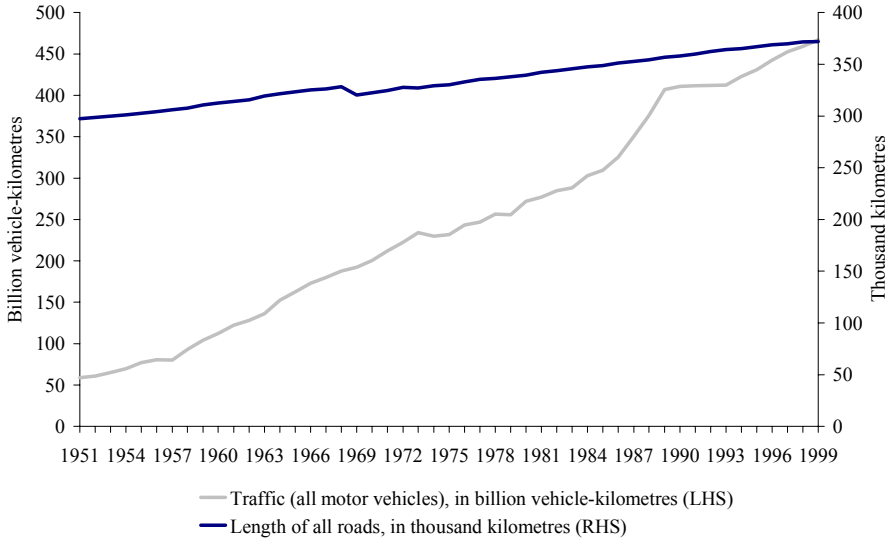


(b) As a percentage of GDP



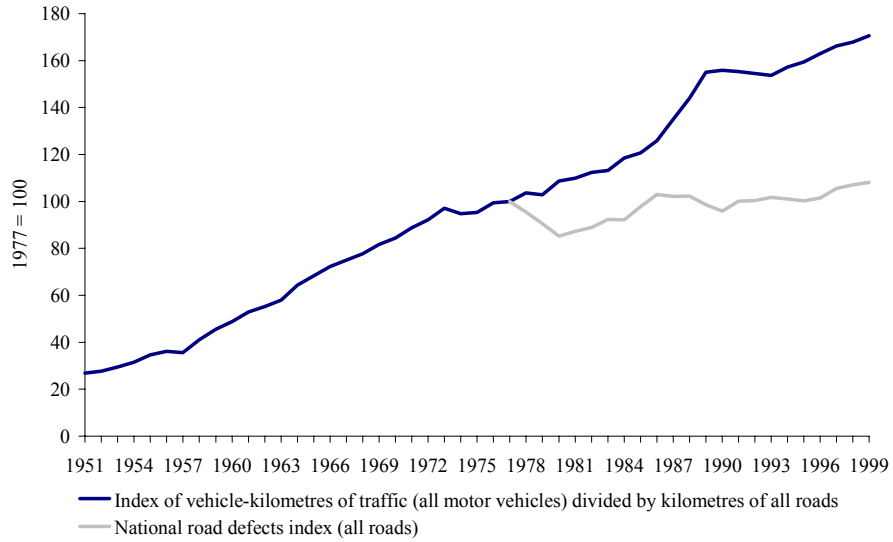
Notes: The figures for 1995/96 and certain other years differ from those published in *Transport Statistics Great Britain: 2000* because amendments have been incorporated. Figures for years before 1985/86 have not been published and a certain amount of estimation was involved in the compilation of these figures – e.g. pre-1975/76, capital maintenance was not included in the available data for national roads, so 10% was added to new construction to make allowance for capital maintenance; similarly, before 1980/81, figures for local authority capital maintenance have been estimated on the basis of new construction.
Source: Transport Statistics.

Figure 4.8. Road Traffic for All Motor Vehicles and Length of All Roads, 1951–99



Source: *Transport Trends: 2001*, Transport Statistics division, Department for Transport, Local Government and the Regions, London.

Figure 4.9. Indices of Road Defects (1977–99) and Intensity of Road Use (1951–99)



Note: National road defects index is for England and Wales only.
Source: Transport Statistics.

Figure 4.8 shows that, for many years, the total length of roads has risen at a slow pace (suggesting low net investment) but that, in spite of this, the growth of traffic has been rapid. This accounts for the increase in the intensity of road use since the 1950s (the volume of traffic relative to the length of roads available) and also helps explain the associated congestion. The decline in road investment since the mid-1990s might be taken as worrying, given that the level of traffic has been rising at an increased rate since 1993. How much

weight to give concern about low levels of net investment in roads is a moot point. Congestion carries environmental and economic costs, but then so would building more roads to relieve it.

How well has investment offset the depreciation of *existing* roads? The National Road Maintenance Condition Surveys, which are the gauge of the state of Britain's road network, suggest that the investment has actually been relatively successful. Figure 4.9 compares the index of road defects (beginning in 1977) with an index of intensity of road use. Road defects have tended to trend upwards since 1977 but the rise is lower than one might expect, given the rate of road traffic increase. It seems that maintaining the existing road network has received priority over expanding it to alleviate congestion.

Rail

The railway networks and rolling stock were privatised in several phases from 1994 to 1997. Since then, rail investment has been funded by a mixture of private money and public subsidies. Given the relative mix of public and private rail investment and the difficulties involved in precisely disentangling the two, we shall focus on the overall level of rail investment rather than dividing it by source.

The *Blue Book*'s series of gross domestic fixed capital formation for 'rail transport', which has not been published for the years since 1995, includes investment by British Rail and its successor companies but excludes investment in most urban railway networks.[13] By contrast, Transport Statistics publishes a much more broadly defined series for rail investment, which includes investment in the Channel Tunnel and several urban tram and underground rail systems.[14] Figure 4.10 shows both the narrow and the broad series for comparison.

The overall impression is of investment that declined until the late 1980s, rose in the early 1990s and then declined again. In following these trends, rail investment mirrors the path of overall public investment. But the relative *levels* over time are atypical, for the rise over 1987–92 was especially large, meaning that investment over the last 10 years has consumed a higher proportion of GDP than it did over the 1975–87 period. Specific factors such as the huge capital cost of building the Channel Tunnel could be responsible, but, if that were the whole story, then the persistence into the later 1990s would seem surprising. Given the widespread contemporary perception that train services in particular have suffered from low investment, these results may be worthy of further investigation – to see whether asset sales or some other technical issue during the 1980s can explain the series in Figure 4.10 or whether contemporary rail investment really is at historically high levels.

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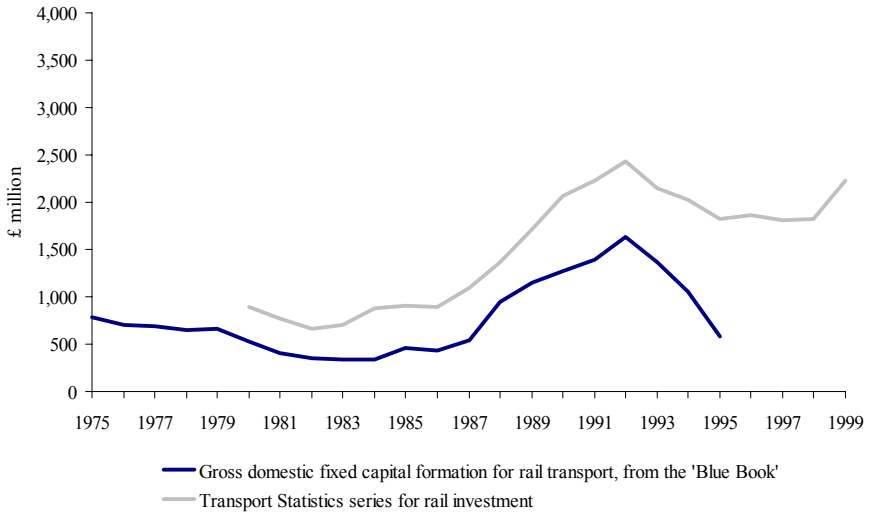
[13] See Central Statistical Office, *United Kingdom National Accounts: Sources and Methods*, 3rd edition, Studies in Official Statistics no. 37, HMSO, London, 1985, p. 194.

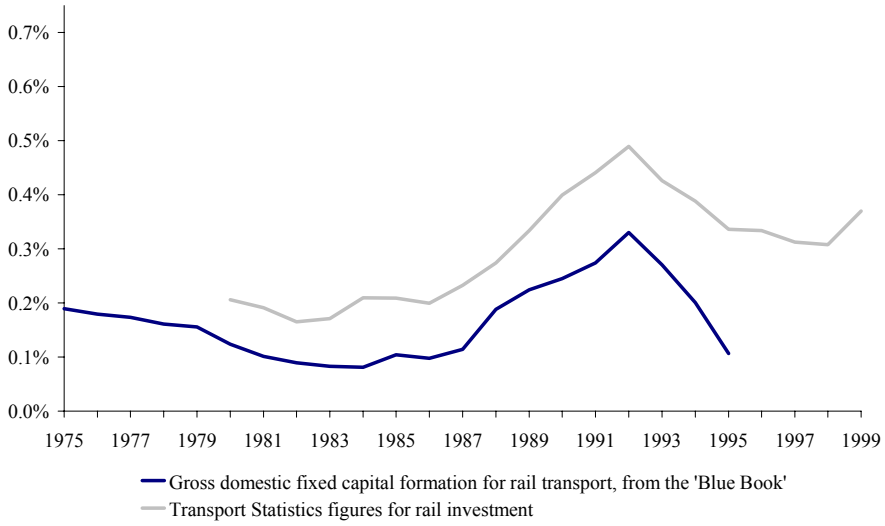
[14] Transport Statistics includes as rail infrastructure investment capital spending on: London Underground, Docklands Light Railway, Manchester Metrolink light rail system, South Yorkshire Supertram, Tyne and Wear Metro, Midland Metro, Glasgow Underground and Tramtrack Croydon. See the Notes and Definitions for Section 1 of *Transport Statistics Great Britain: 2000* (www.transtat.dtlr.gov.uk/tables/tsgb00/1/1text.htm).

Figure 4.10. Blue Book *(1975–95) and Transport Statistics (1980–99) Series for Gross Rail Investment*

(a) At 1995 prices



(b) As a percentage of GDP



Notes: Calendar-year figures for Transport Statistics are calculated on the basis of financial-year data. Transport Statistics figures for 1984/85 use a 15-month reporting period as, prior to this date, they reported in calendar rather than financial years. Spending on continuous welded rail is excluded from *Blue Book* figures since 1980; this item amounted to £72 million in 1979. Sources: *Blue Book*, various years; Transport Statistics.

Health

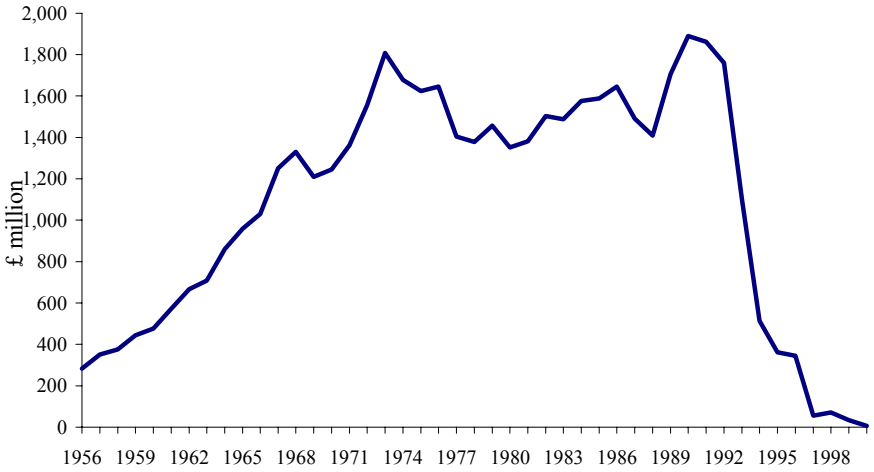
Health investment by general government rose steadily until 1973, when it reached nearly 0.4% of GDP (Figure 4.11). Thereafter, it fluctuated between 0.25% and 0.3% until 1991. It then appears to have collapsed, both as a percentage of GDP and in real terms, from around 0.3% of GDP in 1991 to less than 0.01% in 2000. By contrast, total National Health Service spending has risen, albeit unsteadily, from 3.5% of GDP in 1949/50 to 5.7% in

2000/01.[15] This might suggest that the proportion of NHS spending devoted to maintaining and expanding the capital stock has collapsed over the past quarter-century.

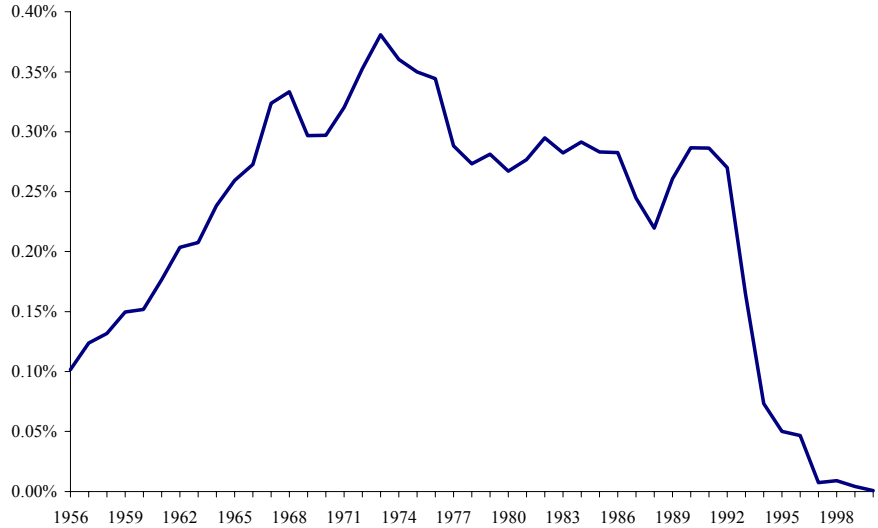
But much of this apparent decline is an illusion, due to the creation of National Health Service Trusts by the 1990 National Health Service and Community Care Act. These are classified as public corporations, whose expenditure falls outside the 'general government' category, and so their expenditure does not show up in our series. The Trusts were phased in over a period of several years, during which time publicly sponsored NHS investment was gradually reclassified from general government to public non-financial corporations.

Figure 4.11. General Government Gross Capital Formation for Health, 1956–2000

(a) At 1995 prices



(b) As a percentage of GDP

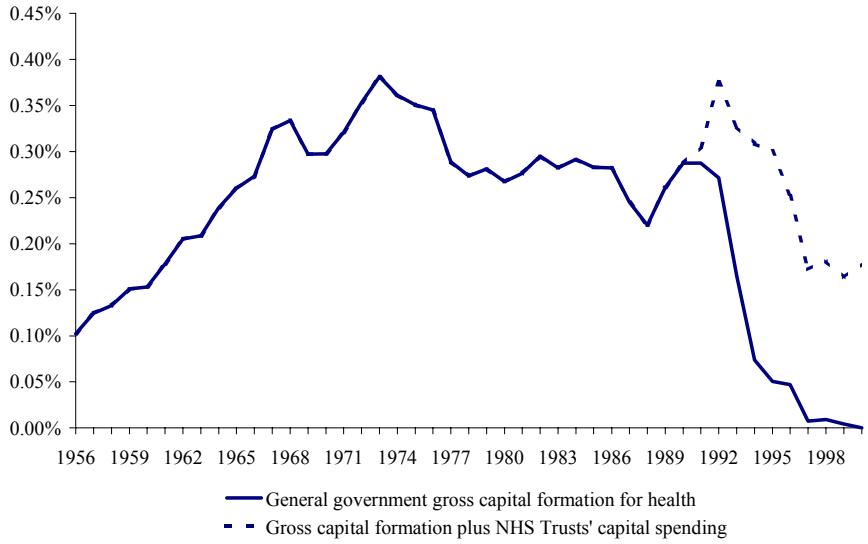


Source: *Blue Book*, various years.

[15] See C. Emmerson, C. Frayne and A. Goodman, *Pressures in UK Healthcare: Challenges for the NHS*, Commentary no. 81, Institute for Fiscal Studies, London, 2000, p. 6.

Figure 4.12 adds in the capital spending by NHS Trusts; the picture changes very significantly. The early 1990s, when the Trusts were being phased in, are revealed as a period of high public health investment – in 1992, the rate of health investment returned to its 1973 peak of nearly 0.4% of GDP. Still, a very significant decline after that point does remain: public sector health investment fell to less than 0.2% in 2000, around half its 1992 level.

Figure 4.12. Gross Capital Formation for Health including Capital Spending by NHS Trusts as a Percentage of GDP, 1956–2000



Sources: *Blue Book*, various years; *Economic Trends*, various years.

The increase in private sector investment under the PFI compensates for a small amount of the recent decrease. The Department of Health's figures show that the inclusion of PFI investment for the financial year 2000/01 would have increased health investment in real terms by roughly 20%, bringing it to just above its 1994/95 level.[16] Overall, public investment in health remained reasonably steady as a percentage of GDP until 1995, when it began to fall. Since 1999, private sector investment has helped to compensate for some of this decline, but there is still a backlog of maintenance worth around £3.1 billion (or about 0.3% of GDP).[17]

The government plans to increase the levels of public and private investment in the NHS significantly to compensate for this decline and for the backlog it has produced. It also plans to increase its capital allocation to the NHS from £1.5 billion in 2000/01 to £2.6 billion in 2003/04.[18] This is not the end of the story, because the PFI will also play a significant and expanding role – from now on, it seems likely that most major developments, such as new hospitals, will be privately financed and that private companies will also play a larger

[16] See Department of Health, *Departmental Investment Strategy*, p. 10, www.doh.gov.uk/dis/dis2000.pdf.

[17] Ibid., p. 28.

[18] Ibid., p. 23.

role in areas such as primary care facilities. Therefore, the Department of Health also suggests that PFI investment will increase, from £632 million to £832 million over the next three years.[19]

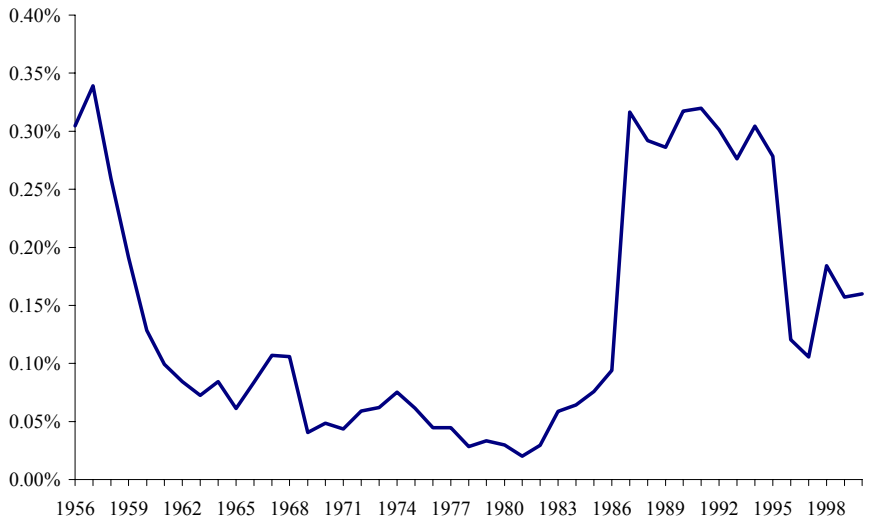
If these plans are realised, and if public and PFI spending are taken together, then they imply that total publicly sponsored health investment will rise from around 0.2% of GDP in 2000/01 to just over 0.3% in 2003/04. By the latter year, this would represent a return to the investment rate seen in most years in the early 1990s, although it would remain below the 1992 peak. Interpretation of what these levels of investment mean for UK healthcare provision will depend crucially on whether we assume that, in contrast to the early 1990s, they will be sustained.

Defence

It appears from Figure 4.13 as if public defence investment jumped between 1986 and 1987 by 0.23% of GDP, bringing it almost back to its post-war peak.

In fact, the reason for this seeming increase is a change in the classification of military equipment investment in ESA 95: 'In the previous system of national accounts, all purchases of military equipment and buildings, apart from family housing, were regarded as current expenditure. Under the new system, purchases of fixed assets of a capital nature that could have a civilian use, eg, hospitals and their equipment, airfields and buildings, are treated as capital formation'.[20] This change affects the data from 1987 onwards. Figure 4.14

Figure 4.13. General Government Gross Capital Formation for Defence as a Percentage of GDP, 1956–2000

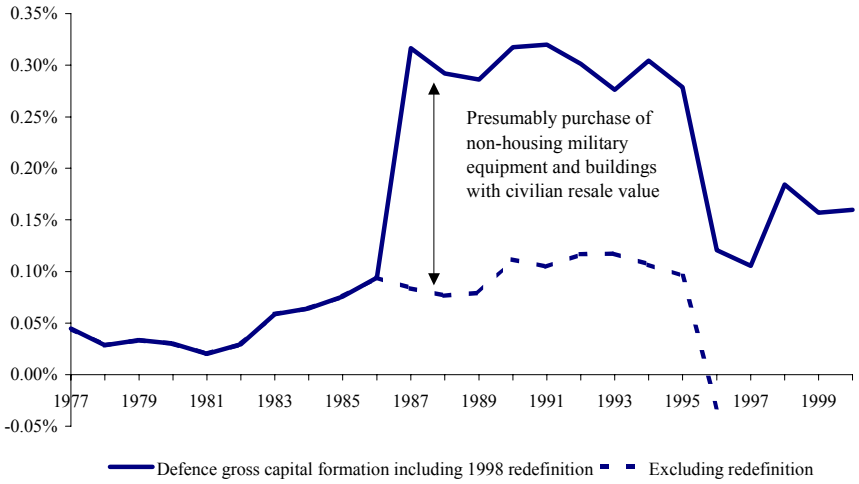


Source: *Blue Book*, various years.

[19] Ibid., p. 23.

[20] Office for National Statistics, *Introducing the European System of Accounts 1995 in the United Kingdom*, The Stationery Office, London, 1998, para. 7.1.61.

Figure 4.14. Gross Capital Formation for Defence Before and After the Reclassification, 1977–2000



Source: *Blue Book*, various years.

'strips out' the effects of this reclassification until 1996, using data from old *Blue Books*.

It appears that 'true' defence investment rose slightly over the 1980s and early 1990s before falling sharply in 1996. The fact that the old gross investment series turned negative in 1996 shows that there must have been sales of items counted as assets under the previous regime, namely family housing. Indeed, over the two financial years 1996/97 and 1997/98, the Ministry of Defence raised over £1.5 billion through sales of married quarters.[21] As with council house sales, this does not represent net disinvestments in an aggregate sense, but merely a transfer of ownership: the private sector now owns these houses and leases them back to the government. Consequently, we may want to discount the decline in 1996.

If we ignore the effects of both the ESA 95 reclassification and the sale of family housing, then defence investment appears far more stable. In this case, the increase over the 1980s appears to be followed by relative stability over most of the 1990s, followed by a slight decline towards the end of the decade.

Education

Gross public capital formation for education reached a peak of just over 0.7% of GDP in 1973. After that, as Figure 4.15(b) shows, it fell extremely rapidly, so that, by 1982, it represented just under 0.2% of GDP. It has remained at a similar level since, fluctuating between 0.15% and 0.25%. Even when looked at, instead, in real terms (as in Figure 4.15(a)), the drop of the late 1970s and early 1980s was dramatic and was not reversed. Although there was a very slight recovery in real spending after 1986, it fell back again from the early

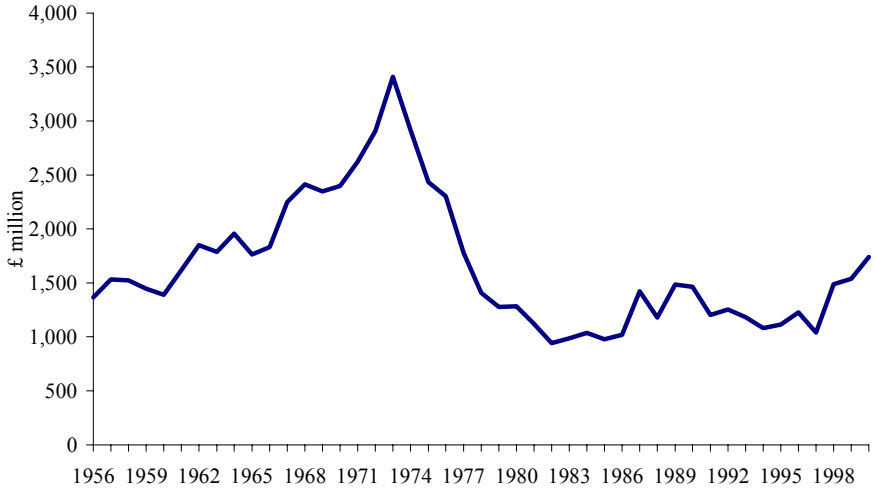
[21] HM Treasury, *Public Expenditure Statistical Analyses 2001–02*, Cm. 5101, The Stationery Office, London, 2001, p. 45.

1990s. In the last three years, a second recovery appears evident, although real-terms investment spending remains far below the levels of the mid-1970s. (These numbers exclude some further and higher education spending – an issue to which we soon return.)

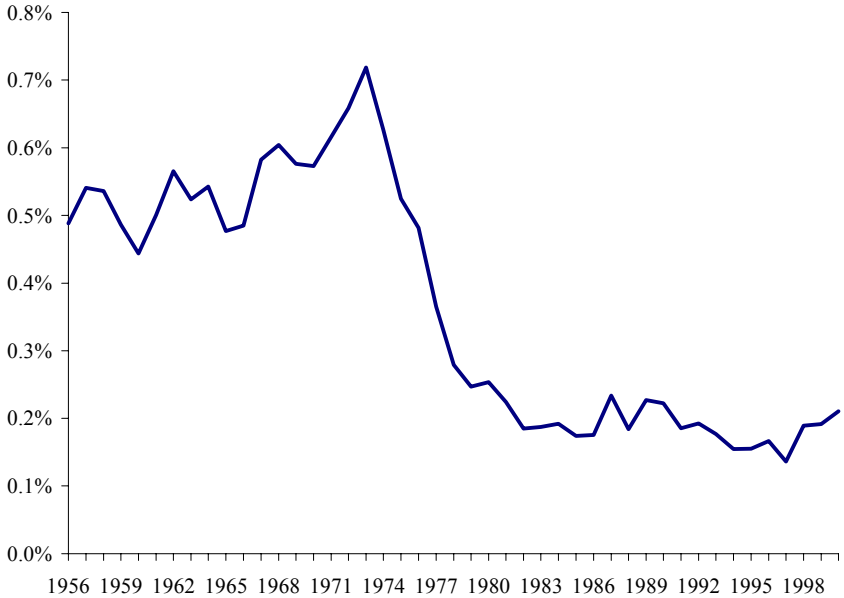
When judging how much the fall in investment as a share of GDP matters, we must distinguish between changes in the level of investment that merely reflect changes in the number of individuals in education and changes that reflect a genuine 'pupil-adjusted' decline in investment. Figure 4.16 shows that much of the increase in investment between 1956 and 1973 is accounted for by the acceleration in the rise of pupil numbers during this period. This

Figure 4.15. General Government Gross Capital Formation for Education, 1956–2000

(a) At 1995 prices

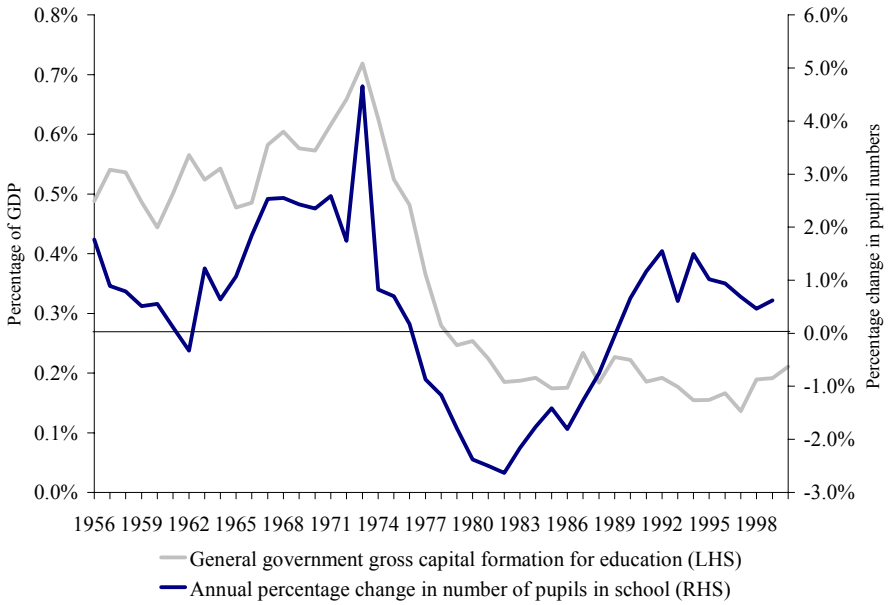


(b) As a percentage of GDP



Source: *Blue Book*, various years.

Figure 4.16. Gross Capital Formation for Education as a Percentage of GDP (1956–2000) and Percentage Change in the Number of Pupils in School (1956–99)



Notes: Number of pupils includes full-time and part-time pupils. Annual percentage change is the change between the number of pupils in school for the *academic* year starting last September and the number in school for the academic year to start in the current calendar year.
Sources: *Blue Book*, various years; *Annual Abstract of Statistics*, various years.

acceleration peaked in 1973, a year after the minimum school-leaving age was raised to 16.

If one excluded the need to offset depreciation, or any wish to change the quality of the capital stock, then 'new' investment in school buildings and equipment could cease once the school-age population had stabilised and/or begun declining,[22] something that happened in 1977. Figure 4.16 shows that this could plausibly explain some of what happened. Gross capital formation as a share of GDP tracks the decline in the percentage change in pupil numbers during the late 1970s and early 1980s. Even this decline might be worrying, given that, in reality, some new school places would be needed as people moved between areas. Besides, one might hope that the government was continually maintaining existing school equipment and buildings as well as upgrading their quality – especially since more than 90% of pupils consistently rely on publicly provided education.[23]

The path of investment in the late 1980s and 1990s is less explicable. In 1990, the pupil rate of growth turned positive, but education investment continued to decline as a share of GDP. The absolute number of pupils in 1999 had almost

[22] Assuming that there was no net movement between areas.

[23] See Office for National Statistics, *Annual Abstract of Statistics 2000 Edition*, The Stationery Office, London, 2000, p. 68, for numbers of pupils attending schools of different types over recent years.

reached its 1970 level – 10.2 million. In 1970, the investment in maintaining, improving the quality and expanding the supply of capital stock occupied 0.57% of GDP; in 1999, by contrast, it was 0.19%.

There might be reason to suspect that the collapse in headline public educational investment overstates the real decline in publicly sponsored investment. This is because many educational establishments were 'hived off' from State control in the 1980s and 1990s, even though the State continued to finance them ultimately. Their investment could have fallen out of the 'general government gross fixed capital formation' category, despite still being financed by the government. How important might these reclassifications have been?

Changing numbers of state-sponsored schools outside local education authority control (for example, due to the ability of schools to 'opt out' after the late 1980s) are one potential concern, although not, as it turns out, one that has any bearing on our figures.[24] The changing status of certain higher- and further-education colleges, however, does have a bearing.

The 1988 Education Reform Act made larger higher-education institutions and polytechnics independent of local education authorities (LEAs). Thereafter, their capital spending was financed by the Polytechnics and Colleges Funding Council (PCFC). The PCFC received a capital grant from central government, which was not included in gross capital formation. Between 1989 (the PCFC's first year of responsibility for funding) and 1993 (when the PCFC was discontinued), its capital grant was 0.02% of GDP. So the gross capital formation figures are depressed by roughly this amount from 1989 onwards.

The 1992 Further and Higher Education Act gave further-education and sixth-form colleges independence from LEAs. Their capital spending switched from gross capital formation to a capital grant to the Further Education Funding Council (FEFC). This has, likewise, depressed the general government investment figures by about 0.02% of GDP a year. Universities have always been classified as non-governmental organisations, so the publicly funded component of their investment has been treated consistently throughout the series.

In short, a consistent series of general government capital formation relative to GDP for education would show a 0.02 percentage point increase for each year from 1989 until the 1992 Act had full effect and a 0.04 percentage point increase thereafter. This would bring gross capital formation for 2000 up to 0.25% of GDP – still about one-third of its level in 1973. In short, even once all reclassifications are discounted, the large, rapid and sustained decline in public education investment over the period 1973–82, which was so clearly visible in our 'headline' results, continues to dominate the long-term story.

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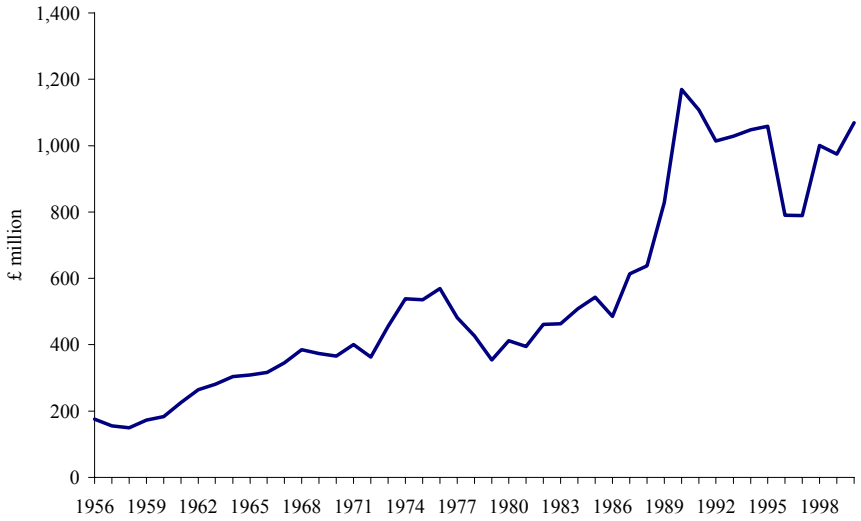
[24] Although grant-maintained schools have been moved from the personal sector under the old system (as private non-profit-making bodies) to general government under ESA 95, their financing has consistently been counted as part of general government spending, so the change in status should not have any effect. See Office for National Statistics, *Introducing the European System of Accounts 1995 in the United Kingdom*, The Stationery Office, London, 1998, p. 19.

Public Order & Safety

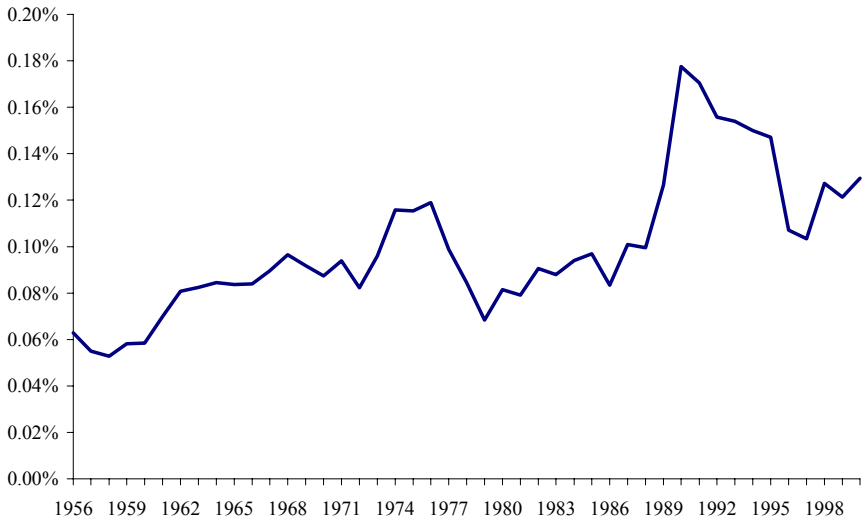
As Figure 4.17 shows, investment in public order & safety has more than held its share of GDP, tending to trend upwards since the 1950s. It fluctuated around 0.1% of GDP during the 1970s and 1980s, but rose to approach 0.2% in 1990, since when it has fallen back to just above its previous levels. Public order & safety as a function of government comprises mainly police, fire protection, law courts and prisons.

Figure 4.17. General Government Gross Capital Formation for Public Order & Safety, 1956–2000

(a) At 1995 prices



(b) As a percentage of GDP



Source: *Blue Book*, various years.

5. Conclusions

There has undoubtedly been a dramatic fall in the 'headline' level of public investment over the past 25 years. In 1999, a new post-war low was reached, with gross public investment at 1.6% of GDP. In 2000, it was a mere 0.1 percentage point higher. The 1975 level was 8.9%. How alarming is this decline?

The majority of the decline reflects privatisation and the scaling-back of council housing. Neither necessarily demands concern about the level of investment per se, because the required investment in utilities and housing should now be undertaken by the private sector (although, in the case of housing, we have argued that this substitution could produce concerns). Technicalities affecting the recording of investment spending also explain a very small amount of the decline. But the remainder, especially that after 1991, reflects a genuine reduction in investment, and one which has affected core public services, such as health, transport and education. The resulting backlogs in maintenance work are summarised in *Spending Review 2000*.[25] These indicate that the investment has been inadequate even to offset depreciation of the existing capital stock, let alone to modernise and expand the public sector's assets.

The long-term decline in public investment has not affected all departments equally. Public investment in health held fairly steady over the 1980s – representing the same share of GDP in 1992 as it had in 1973. Public order & safety investment actually increased as a share of GDP over the 1980s and 1990s; so too did investment in rail transport. By contrast, education investment was low: it fell dramatically over the period 1973–82, and never recovered much in the 1980s and 1990s.

The recent (chiefly central government) squeeze in public investment began in the early 1990s and left few departments unaffected. Investment in health, transport and education began to fall as a share of GDP in about 1992. Even public order & safety investment fell as a share of GDP in the late 1990s. Of these areas, only education has since experienced a recovery to the levels of the early 1990s.

What will happen to public investment in the next few years? If official GDP and expenditure projections prove correct, gross public investment as measured using the Treasury's methodology will increase to 2.7% of GDP in 2001/02, 3.0% in 2002/03 and 3.2% in 2003/04.[26] These numbers are certainly very low by the standards of the post-war era, when the State invested extensively in housing and the utilities, but, indeed, they are also lower than the public investment rates of the late 1980s and early 1990s, which stand at

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[25] HM Treasury, *Spending Review 2000: New Spending Plans 2001–2004*, Cm. 4807, The Stationery Office, London, 2000, p. 6.

[26] These numbers are from the October 2001 Public Finances Databank, p. 22. They are arrived at by summing 'public sector net investment' and 'depreciation'. Gross investment in this series is higher than in the *Blue Book* numbers used throughout the rest of this Briefing Note. It has been necessary to change series here in order to look forward – the *Blue Book* is retrospective.

around 3.9% of GDP when measured in the same way. And even a public investment recovery on this comparatively modest scale will depend on the government succeeding in spending all the money it intends to, something that has not always happened in the past – *Spending Review 2000* provided for net public investment of £7 billion in 2000/01; the out-turn was a little lower, at £6.3 billion.[27]

Nor does the inclusion of government-financed investment under the Private Finance Initiative look likely to change the story dramatically – with this included, current projections imply that total publicly sponsored investment will rise from just over 3% of GDP in 2001/02 to about 3.5% in 2003/04, still less than the highest figures seen in the early 1990s.[28]

The long-term reduction in public investment from the mid-1970s was briefly checked at the start of the 1990s, but continued through the rest of the decade to take public investment to unprecedentedly low rates in 1999. The year 2000 saw the start of a recovery in public investment, which looks set to continue over the next few years. But, taken alone, the plans to expand investment spending through to 2003/04 provide for a recovery in public investment that is fairly modest by historical standards. The plans are only likely to prove a turning point in the long-term trend of declining public investment if they are sustained and followed by additional increases.

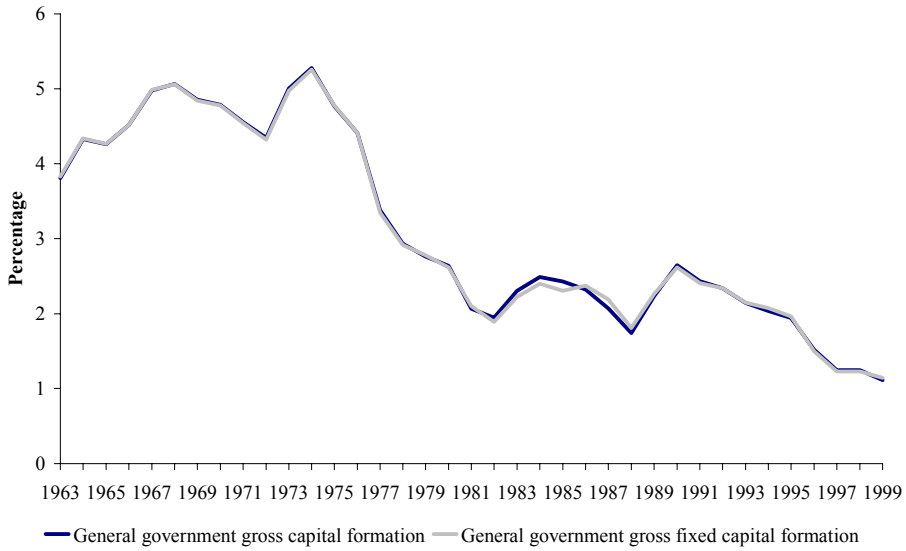
[27] Source: October 2001 Public Finances Databank.

[28] PFI projections were obtained from HM Treasury on request. In this paragraph, PFI investment is added to total gross public investment, measured on the Treasury basis (see footnote 26), to give total publicly sponsored investment.

Appendix

In this Briefing Note, when we have examined general government investment broken down by expenditure programme, the data available were not perfectly consistent over time. For earlier years, only the 'general government gross fixed capital formation' series (which excludes changes to inventory stocks) is available on a disaggregated basis; for later years, only the 'general government gross capital formation' series (which includes changes to inventory stocks) is available disaggregated. Figure A.1 shows that the discontinuity is extremely unlikely to pose major problems, for general government spending at least. (As the data shown in the graph are for general government only, they are lower than the totals in Figure 2.1 for overall public sector investment, which also includes public corporations.) For public corporations (excluded from Figure A.1), the difference is more marked, as inventories are more significant. But, because we have not disaggregated public corporation expenditure by programme, we have not had to switch series in that case.

Figure A.1. General Government Gross Capital Formation and General Government Gross Fixed Capital Formation Compared as a Percentage of GDP, 1963–99



Source: *Blue Book*, various years.