Swinging since the 60s:

Fluctuations in UK saving and lessons for Latin America

David Begg and Stephany Griffith-Jones

Birkbeck College, London University; Institute of Development Studies, Sussex University

This paper was prepared as part of the Inter-American Development Bank project on Savings in Latin America.

We would like to thank Michael Gavin, Ricardo Hausman, Marco Pagano and Roberto Rivera for valuable comments at the Bogota workshop, and for Roberto Rivera's written comments.

1 Introduction and background

In the last three decades, gross national saving in the UK has fluctuated widely. Swings in components of national savings have of course been even more marked, since there are sound economic reasons to expect changes in one component (e.g. private saving) to be at least partially offset by changes in another (e.g. public saving). Moreover, since the start of the 1980s, national savings behaviour is characterised not merely by fluctuations but by trend decline, the recent upturn notwithstanding. In this paper we explore changes in UK saving and its components, examine theoretical and empirical explanations, discuss implications for policy design, and draw lessons for Latin America.

Section 1.1 sets out some key facts about two variables, the ratio of saving to GDP and the financial surpluses or deficits of different sectors of the economy. For each sector, the financial surplus is essentially its saving minus its investment (with a few minor adjustments, such as capital transfers). Section 1.2 makes some brief comparisons between the UK and other OECD countries. Section 1.3 highlights some of the key institutional and policy features of the UK that potentially might explain UK saving behaviour both in isolation and in relation to other OECD economies. Section 1 documents two key points about UK saving as a percentage of GDP. First, it has displayed large swings in the short run. Second, its trend decline in the longer run is largely attributable to the trend decline in public sector saving, itself a reflection of steadily lower levels of public sector investment.

Section 2 covers the most amply discussed issue in the UK literature, aggregate consumption and saving by the household or personal sector. We ask how well modern intertemporal consumption theory helps us understand changes in household saving behaviour, and look explicitly at the 'usual suspects': financial liberalisation and credit conditions, perceived changes in underlying productivity growth, demographic changes, the effect of inflation, and problems of (mis)measurement. We draw on econometric evidence, both for aggregate time series and from panels of cohort data. We also discuss why forecasting models persistently failed to forecast these large swings. Section 2 concludes that financial liberalisation in the UK is important in understanding the collapse of household saving in the 1980s and its recovery in the 1990s. Thus the empirical evidence is consistent with what theory suggests the effects of liberalisation, although they may initially be dramatic, are unlikely to have permanent effects on the saving rate. Of equal significance, even the

short run swings in UK household saving cannot be entirely attributed to financial liberalisation; other influences, most notably changes in confidence about future income growth and changes in demography have also played important roles.

Section 3 considers the relation between private and public saving. The purpose of this discussion is not merely to get some idea of the extent to which Ricardian equivalence does or does not hold, but to focus attention on the appropriate fiscal stance during periods, such as rapid financial liberalisation, in which substantial flow imbalances exist in the *private* sector. We argue that if unfortunately such private imbalances develop it is sometimes appropriate for the public sector to aim temporarily for a surplus. Dogmatic insistence on budget balance may then lead to quite inappropriate outcomes. However, we will also argue, particularly in a Latin American context, that it may be inappropriate for the government to aim for large budget surpluses that are achieved by cutting essential government expenditure; if financial liberalisation induces a temporary bout of private dissaving to an extent threatening macroeconomic balance, preference should be given to tax increases rather than public expenditure reduction. The need for any such fiscal cushioning will of course wear off again as any temporary surge in consumption is gradually unwound. More broadly we will therefore argue for preference of policies that do **not** lead to large private sector imbalances.

Section 4 examines the external dimension. How does domestic saving affect the current account? Here again the UK offers interesting evidence for Latin America. In the late 1980s the slump in UK private saving was reflected to a large degree in a current account deficit. While sterling floated, markets did not appear unduly unworried. Once the UK joined the Exchange Rate Mechanism a soft landing became much more difficult, and in practice the UK faced a dramatic exchange rate crisis in 1992 of a kind faced later by countries from Latin America to East Asia. Section 5 draws together some of the key lessons of the UK experience and indicates their possible relevance for Latin America.

1.2 Saving and sectoral balances in the UK, 1963-95

Figure 1.1 shows the ratio of total UK saving to GDP during 1963-95. Starting from around 18% in the early sixties it fluctuates markedly but around a rising trend, peaking at nearly 24% in 1973 and declining steadily after 1979 to fall below 14% by 1993 before recovering quite sharply in 1994; savings fell again a bit in 1995, but was still above 1993 levels.

Figure 1.1

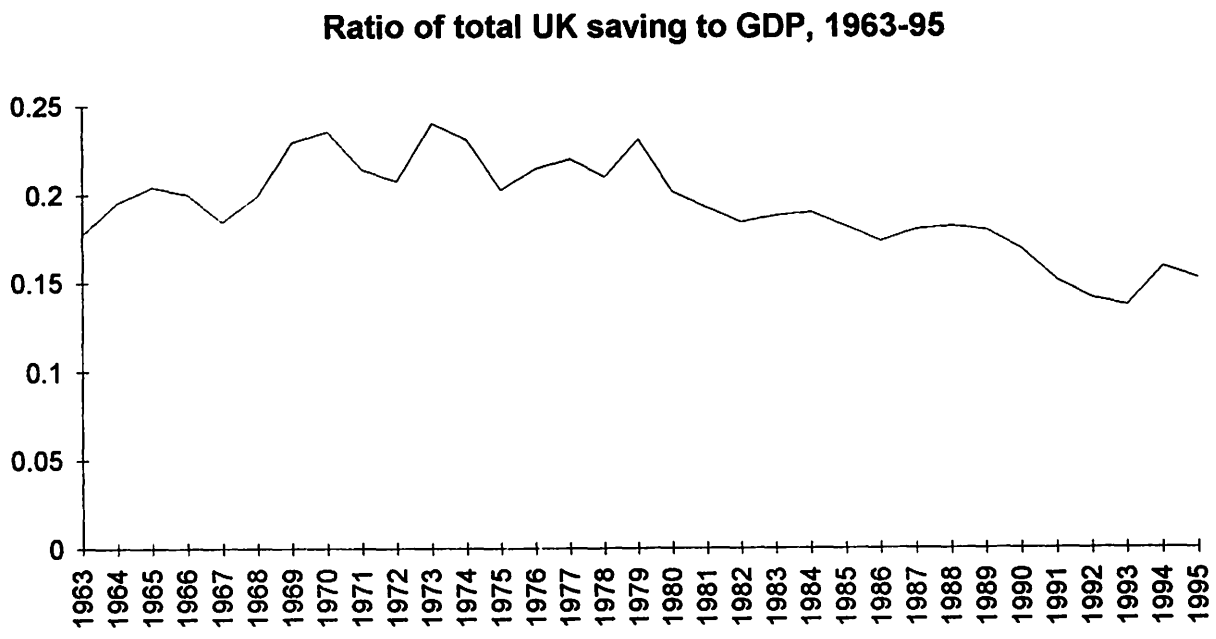


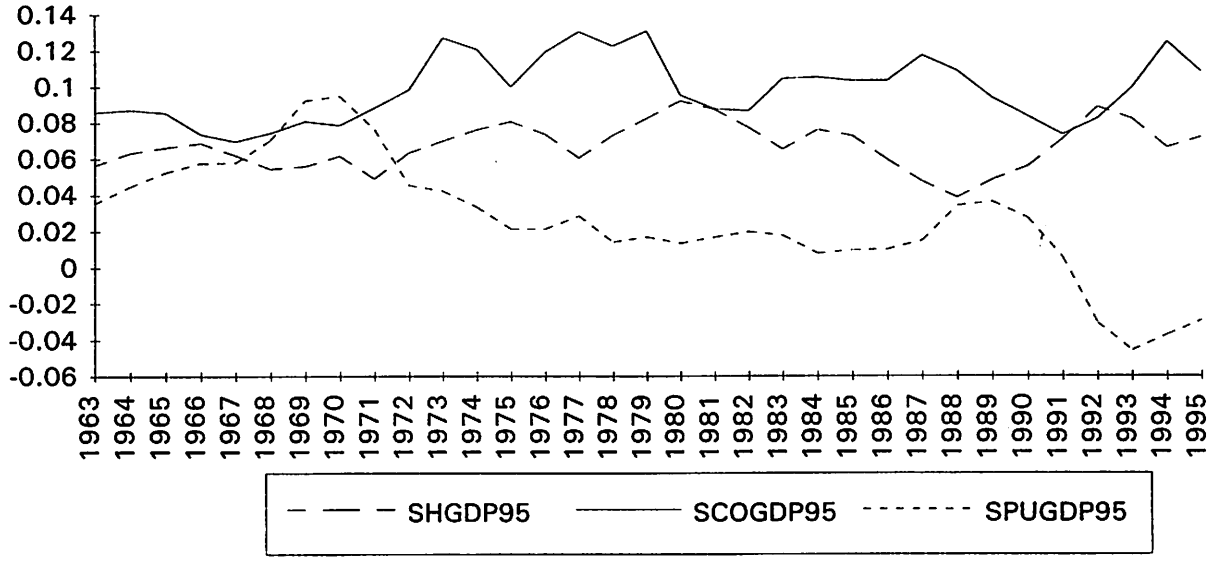
Figure 1.2 shows the three sectoral components of national saving - household, corporate, and public sector (the latter comprising central and local government and public sector corporations) - each also expressed relative to GDP.[1] Figure 1.2 makes clear that all three components fluctuate substantially, but that there is no long run trend in either household or corporate saving. In contrast, there seems to be a distinct downward trend in public sector saving over the 30 year period; in a very simple sense, this is what underlies the downward trend in national savings.

---

[1] Although it is more usual to examine household saving relative to personal disposable income, the correlation of this with the ratio of household saving to GDP is very high for the UK during this period, implying that fluctations are driven primarily by changes in household saving rather than in the relationship between disposable income and GDP.

Figure 1.2

Sectoral saving / GDP ratio (household, corporate, public sector) 1963-95



Since both personal and corporate components of private saving exhibit little trend whereas public sector saving exhibits a clear systematically declining trend over a long period, formal co-integration analysis is unlikely to provide strong support for Ricardian equivalence[2]. This said, Figure 1.2 shows that household saving does display a negative correlation with both corporate and public sector saving, and hence provides weaker support for the idea that households see through both the corporate and government veil. However it is noteworthy that till 1973, household and corporate savings moved together, and thus were positively correlated, whereas after 1973 they start displaying a clear negative correlation. It could be hypothesised that financial liberalisation - which as we shall see below started in the early 1970's - changed the link between household and corporate savings, by lifting the credit constraint. However,, by far the clearest trend since around 1970 is the systematic and sharp decline of public savings (see Figure 1.2).

---

2 Although Ricardian equivalence identifies an extreme set of assumptions under which, for a given path of government spending on goods and services, changes in public saving should be offset by changes in private saving, government spending as a share of GDP has been falling under the Conservative government in power since 1979. The UK government has since 1979 explicitly aimed at reducing the share of public expenditure in GDP. As capital expenditure is the most flexible part of the budget, this has meant that falls in government spending have mainly been achieved by compressing public investment (OECD, 1990). As a consequence, incresees in, and timely renewal of, infrastructure capital did not keep pace with growing demand (OECD, op.cit). The decline in public investment help explain the logic of declining public savings.It is necessary to control for this before reaching a final judgement on how to interpret correlations of different components of national saving. See Box 1.

One reason to make these points is to emphasise the likely interdependence of different components of national saving and hence the limits to what one can learn by focusing attention on one component alone. This, nevertheless, is what various literatures tend to do. The consumption function literature on aggregate household consumption and saving views the evolution of taxes and transfers as exogenous to the path of disposable income; the literature on fiscal policy, fiscal stance, and the appropriateness or otherwise of government budget balance neglects the likely effect of swings in private saving on the size of the budget deficit; and the literature on the macroeconomic effects of companies has always focused much more on understanding corporate investment than to the study of corporate saving. In what follows we make efforts to trace the linkages, though much yet remains to be done.

As implied in footnote 2 above, sometimes saving should also be examined simultaneously with investment. National income accounts imply that sectoral surpluses, the excess of saving over investment, are linked through an identity: the private sector surplus must be reflected either in a public sector deficit or in a current account surplus on the balance of payments. Figure 1.3 shows how these three magnitudes (each normalised by GDP) evolved during 1963-94.

Box 1

Econometric estimates of sectoral linkages

Statistical inference about causality between highly simultaneous variables is fraught with difficulties. Post hoc propter hoc is a fallacy liable to make Granger causality tests a misleading basis for inference about structural relationships: e.g. in the pure random walk consumption model, lagged consumption predicts but does not cause future consumption.

In this box we examine briefly the relation between household saving and public sector saving. Economics hints at two possible relationships: Ricardian equivalence implies causality from public sector to household saving, but exogenous tax rates as automatic stabilisers lead to causality from household saving to public sector disaving. In what follows we assume that investment is more exogenous than saving: despite the Feldstein-Horioka puzzle, in open economies this seems a reasonable simplification with which to get started.

Equation (B.1) regresses the saving-GDP ratio on sectoral investment rates (for households IHO, public sector IPU, corporate sector ICO), each normalised also by GDP, using annual data for 1963-95, standard errors in parentheses. Whereas equation (B.1) confirms a close relationship between investment and saving for households and the public sector - coefficients close to unity - it suggests a different pattern for companies, which are generally less prominent in the results below.

$$S/Y = \underset{(0.02)}{0.06} + \underset{(0.40)}{0.95}\,(IHO/Y) + \underset{(0.11)}{0.94}\,(IPU/Y) + \underset{(0.14)}{0.33}\,(ICO/Y) \qquad \text{(B.1)}$$

Next we attempt to estimate directly the determinants of household saving, within a framework in which Ricardian equivalence is possible. Corporate investment quickly drops out from estimation, and proceeding from general to specific yields as OLS regression for household saving HOS in terms of household investment HOI and the public sector surplus (PUSU), itself the difference between public saving and public investment (the data is consistent with equal and opposite coefficients on these):

$$HOS/Y = \underset{(0.01)}{0.08} - \underset{(0.24)}{0.59}\,HOI/Y - \underset{(0.07)}{0.28}\,PUSU/Y \qquad \text{(B.2)}$$

Equation (B.3) reestimates by instrumental variables treating PUSU/Y as endogenous and using ratios of public and corporate investment to GDP as additional instruments:

$$HOS/Y = \underset{(0.02)}{0.06} - \underset{(0.38)}{0.24}\,HOI/Y - \underset{(0.17)}{0.46}\,PUSU/Y \qquad \text{(B.3)}$$

Thus, proceeding from general to specific estimation, it is hard to derive much econometric support for the proposition that an increase in public saving causes an equivalent reduction in household saving.

Next consider whether changes in household saving really drive changes in public sector saving. Again, general to specific methodology quickly reveals that corporate variables are much less relevant. Proceeding as before we obtain by OLS:

PUS/Y = -0.1 - 0.99 HOSU/Y + 1.04 PUI/Y **(B.4)**
(0.01) (0.17) (0.13)

The data easily accepts that household saving and investment enter with equal and opposite signs - only the household surplus matters - together with public investment/GDP. Reestimating using household and corporate investment/GDP ratios as instruments for household surplus yields:

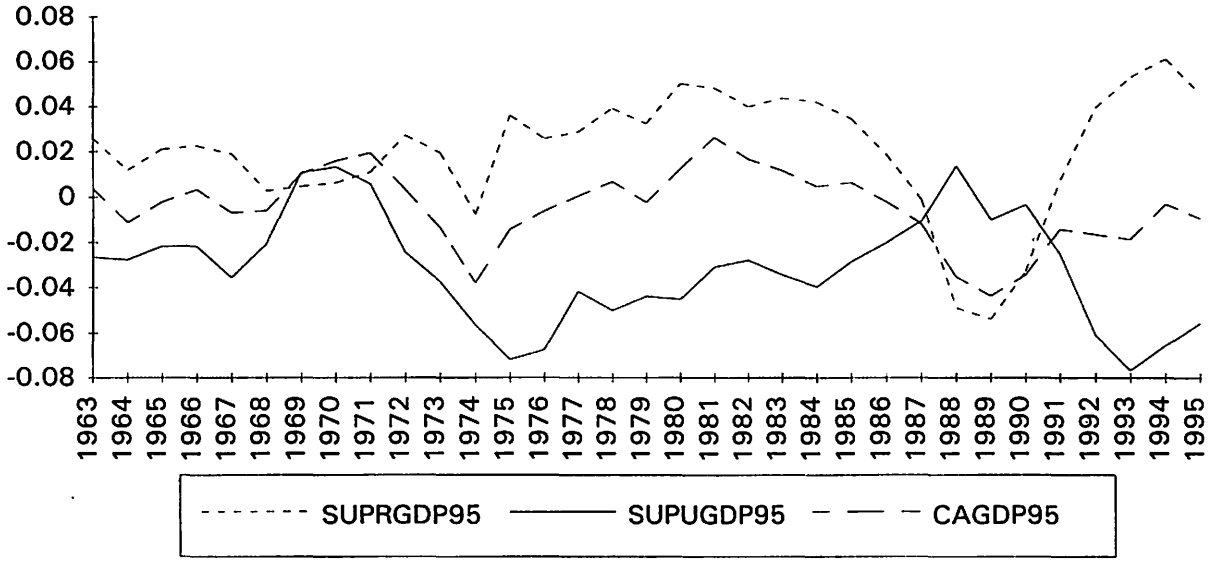
PUS/Y = -0.1 - 1.00 HOSU/Y + 1.04 PUI/Y **(B.5)**
(0.01) (0.19) (0.13)

Unlike (B.3), (B.5) finds not only evidence of a long term relationship between public sector saving and investment (with unit coefficient) but also clear evidence of an almost exact offset between public and private saving. (B.5) should not be taken as definitive proof that it is changes in household saving that cause changes in public saving - differences between (B.5) and (B.3) are not statistically identified, and differences in estimated coefficients may be attributed to the extent to which the assumed orthogonality of instruments is in fact valid in each equation.

The period till 1980 reflects fluctuating but mainly positive private sector surpluses, around a rising trend; these are accompanied since 1970 by fairly large public sector deficits. It is the latter which more than explain current account deficits in the mid-1970s. Since 1980, the trends change. There is a sharp deterioration in the private sector balance, which bottoms out at around 5% of GDP in 1988. This is accompanied by an improving public sector balance, which peaks at 1.3% of GDP also in 1988. It is therefore the very large private sector deficit which more than explains the large current account deficit in the 1987-89 period. Parallels could be drawn with the evolution in Mexico, where large current account deficits in the early 1990s were explained by private sector imbalance (Griffith-Jones, 1995)

Figure 1.3

Ratio of sectoral surplus to GDP (private, public, current account) 1963-95



Returning to the UK context, it used to be argued in Cambridge, UK, in what became known as the Cambridge theory of the balance of payments, that the private sector was usually close to sectoral balance - credit constraints prevented substantial deficits and there was little appetite for sustained saving - whence there was a close short term connection between government deficits and external current account deficits. Figure 1.3 provides some evidence for this proposition up to 1980, but thereafter the correlation between public sector and external positions is clearly negative, and neither swings as much as the household sector which, having gone on a credit binge of overspending in the late 1980s, then in the 1990s had to save massively to meet its debt interest burden.

We complete this initial examination of the data by comparing briefly the UK with other G-7 economies, data for which are given in Table 1.1. A first fact that emerges from Table 1.1 is that UK national savings are the lowest of the G-7 countries, for the years analysed.

Table 1.1 National saving in the G-7 (% of GDP), 1977-93

	1977	1981	1985	1989	1993	change 77-93
Japan	32.0	31.5	31.7	34.3	32.5	+ 0.5
USA	19.7	20.8	17.6	16.6	14.9	- 4.8
Canada	20.9	22.6	19.6	19.4	13.3	- 7.2
Germany	21.7	20.3	22.0	25.7	19.9	- 1.8
France	24.4	21.1	18.9	21.8	18.7	- 5.7
Italy	26.0	22.5	21.6	20.0	18.0	- 8.0
UK	18.5	16.1	17.6	15.4	12.7	- 5.8

Source: OECD, *Economic Outlook.*

Secondly, the final column of Table 1.1 shows that falls in national saving have been the norm, not the exception in G-7 economies with the clear exception of Japan. Since our previous discussion of the UK suggests that different components of national saving may behave very differently, we show next in Table 1.2 the behaviour of household saving during the 1980s and 1990s for the G-7 economies.

Table 1.2 Household saving in the G-7 (% of disposable income), 1982 93

	1982	1988	1993	Change 1982 - 93
Japan	16.7	14.3	14.7	- 2.0
USA	8.9	4.5	4.6	- 4.3
Canada	18.2	10.4	9.2	- 9.0
Germany	12.7	12.8	12.3	- 0.5
France	17.3	11.0	13.8	- 3.5
Italy	20.4	16.7	15.7	- 4.7
UK	11.3	5.7	11.7	+ 0.4

Source: OECD, *Economic Outlook*

Table 1.2 shows wide discrepancies in national rates of household saving, which is high in Italy and Japan but has for a long time been low particularly in the United States but also in the United Kingdom. Personal saving has been falling throughout the G-7 during the last two decades, though it has been remarkably steady in countries like Germany.

Having introduced the key facts about UK saving, both over time and in relation to other G-7 countries, we conclude this chapter with a guided tour of institutional, policy, and other developments in the UK during the period, identifying factors potentially relevant to our subsequent analysis of saving in the UK.

1.3 Institutional and policy features in the UK

In this section we will present some of the key institutional and policy features of the UK that may contribute to explain UK savings, and that help provide an overall context for our analysis.

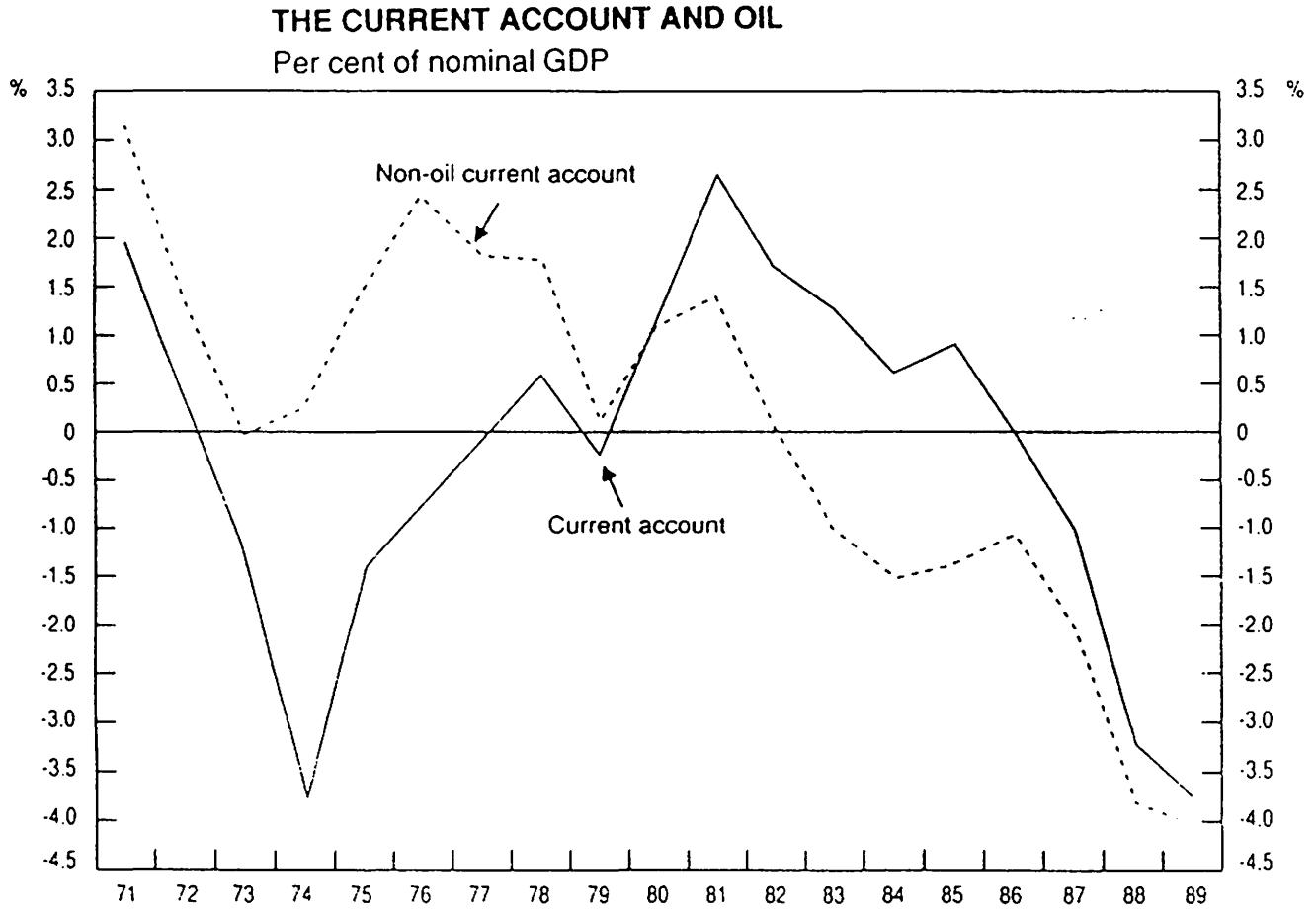
One of the key issues in analysing UK economic trends and one of the key themes of policy in the last few decades has been the evolution of the current account deficit.

Current account developments since the mid-1970's have been characterised by a sharp improvement up to the early 1980's and a deterioration thereafter; in the 1988-90 period, the average annual deficit exceeded 3% of GDP, which is large by post-war standards in the UK.

It is interesting that the initial response of those responsible for policy was to down play the significance of such a large current account deficit, largely because the origin of the deficit was in the private sector, and therefore reject the need for any policy action. This position became known in the UK as the Burns Doctrine (Terence Burns was the Chief Economic Adviser to the UK Treasury), whereas internationally it became known as the Lawson Doctrine. However, this analysis had "respectable" roots in economic thinking. Thus Corden (1977) had argued: "the private sector can take care of itself... if private firms choose to increase their spending and finance this by borrowing abroad, and so generate a current account deficit, this does not call for any public concern or intervention". In broader terms, this was the position then assumed by the then UK Chancellor to Exchequer, Nigel Lawson, for example, when he said in his speech to the IMF in October 1988, that "we are prisoners of the past, when UK current account deficits were almost invariably associated with large budget deficits, poor economic performance, low reserves and exigious net overseas assets. The present position could not be more different".

The evolution of the current account during the 1970's and the 1980's (see Figure 1.4) was strongly influenced by developments in the oil sector. Until 1975, the United Kingdom imported the bulk of its liquid fuel needs. The rapid development of North Sea oil fields boosted oil output sharply in the latter part of 1970's and by 1979 Britain was self-sufficient in oil. By 1987 Britain had turned into the fifth largest liquid energy exporter in the world. Large oil exports in the first half of the 1980's were accompanied by particularly high prices of oil, but the oil price collapsed in 1986. In the latter part of the 1980's, oil exports were less than ½% of GDP compared to 3% at the peak of oil exports revenues in the first half of the decade.

Figure 1.4



Source : Central Statistical Office.

The evolution of the oil account since the mid-1970's concealed a deterioration in the non-oil current account. Measured against GDP, the non-oil external position fell from a surplus of 2½% in 1976 to a deficit of 4½% in 1989. Until the mid-1980's, this deterioration was mainly explained by a deterioration in the non-oil trade balance (particularly due to a sharp widening in the trade gap of industrial outputs, especially

semi-manufactured and intermediate goods). Particularly in the late 1970's and early 1980's, the increase in oil prices, combined with very tight monetary policy, lead to a sharp appreciation of sterling, which was a major factor in explaining the briefness and small scale of current account surpluses inspite of large oil revenues.

An important theme in the analysis of UK savings is the impact of financial liberalisation (see below) and its effect on credit. We will describe here the actual institutional developments in the UK and analyse below the heated debate about their impact on consumption and savings.

Financial deregulation has been an important phenomenon in many countries, particularly in the 1980's. In the UK, regulation of financial institutions' assets and liability management were progressively relaxed during the 1980's, leading to greater competition between institutions for personal customers.

In the UK, the process started when the move to targeting monetary aggregates made interest rates increasingly volatile. Furthermore, in 1979 the UK abolished exchange controls, which opened up its domestic credit markets to international capital movements. This was followed by the abandonment, in 1980, of the "corset" (the supplementary special deposit scheme) that had restricted bank lending till then. The abolition of the "corset", together with difficulties with LDC debt, encouraged banks, to enter the housing loan market. These markets therefore became much more competitive, as the cartel between building societies concerning interest rates was broken up. Furthermore, restrictions on building societies were relaxed; a new type of mortgage lenders, often financed by overseas banks, entered the market. One of the most important changes was that modifications of building societies' regulations in 1986 and 1988 allowed them to expand their lending activity without an accompanying property transaction, for example by mortgaging an already-owned property. This increased the attractiveness of credit financed consumption since the interest rate fell from that of "high interest" personal loans to that of "low interest" mortgage loans.

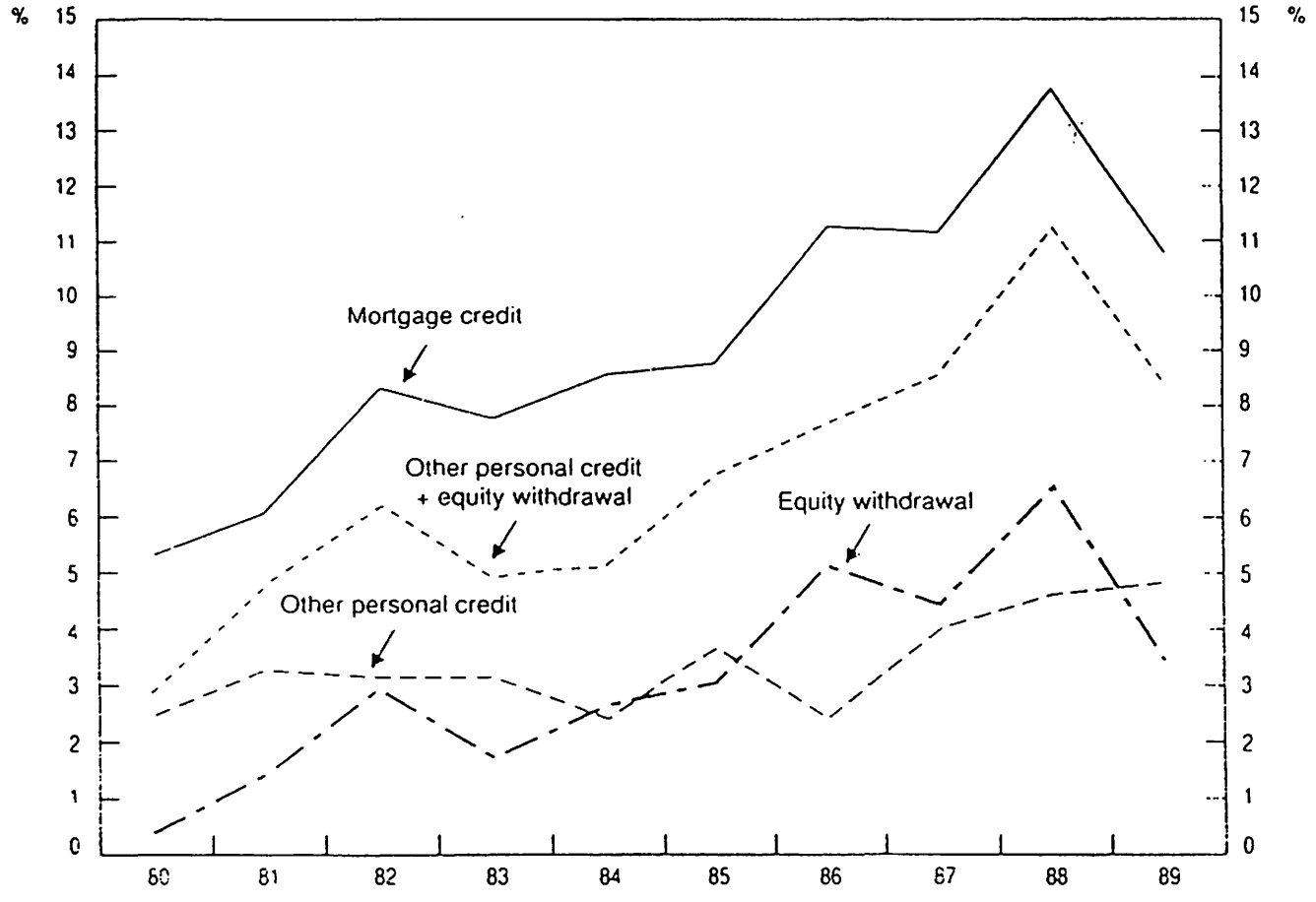
There had also been important changes in the non-mortgage-related personal credit market in the 1980's. Hire-purchase controls were abolished in 1982, and financial institutions then aggressively marketed new personal credit facilities.

Both housing loans and personal credit increased sharply relative to private consumption during the 1980's (see figure 1.5).

Figure 1.5

HOUSEHOLD CREDIT

Per cent of private consumption



Sources : Central Statistical Office, *Financial Statistics* and *National Accounts;* HM Treasury.

From 1980 to 1989, household debt-to-income ratios in the UK more than doubled, becoming one of the highest ratios in the world, and there was a boom in house prices in which real prices in the UK doubled over the same period (Mullbauer, 1994). These developments were not solely the result of financial deregulation, since, there was sustained growth and falling unemployment from 1986 to 1990; however, as we will discuss below, there obviously was a connection.

It is interesting that similar financial liberalisations occurred in Scandinavia, with Denmark followed by Norway, then Sweden and finally Finland. It is interesting that

in all four countries, debt-to-income ratios grew strongly, real house prices boomed and household saving ratios fell sharply.

2 Household saving in theory and practice

In this section we discuss the behaviour of household saving in the UK. As a percentage of personal disposable income, the personal saving rate grew steadily if not smoothly from 2% in 1950 to 9% in 1961, a level around which it then fluctuated for a decade before rising again during 1972-80 to peak at 13.4% in 1980. It then fell sharply to a mere 5.7% in 1988 but then climbed back to 12.8% in 1992 before starting to edge down again[3]. Thus, how one sees the pattern of evolving personal saving depends very much on the chronological vantage point from which one looks. Those, like much of the literature, wearing recent spectacles tend to emphasise the secular decline since 1980; those (e.g. Chrystal, 1982) taking a much longer perspective begin by noting how exceptional were the high saving levels around 1980[4]. Chrystal, op.cit even goes back to the early 1920's, when the personal savings was negative; the whole inter-war average was only between 3 and 4%

Despite the potential relevance of earlier evidence, we shall follow much of the literature in confining our attention to relatively recent experience, in part of course because we wish to relate our theoretical discussion to available empirical evidence, where the most relevant econometric evidence tends to use quite recent data. Thus, within the broad framework of modern intertemporal consumption theory we use UK evidence to reinterpret some familiar and general issues in saving behaviour - excess sensitivity and excess smoothness, the role of income expectations, the effects of financial liberalisation, the importance of uncertainty, problems of inflation accounting, other measurement issues, (dis)aggregation problems and demographics, and forecasting failures.

2.1 Intertemporal smoothing, permanent income, and household saving

A glance at Figure 1.2 and Table 1.2 reveals that the most dramatic episode in the behaviour of household saving in the UK in the last 30 years was its sharp collapse during the 1980s - for quarterly data, it reached a mere 2.4% of disposable income in 1988IV - followed by an equally sharp recovery to reach 13.3% by 1992II. Lower saving in the 1980s had as its counterpart a substantial increase in household debt. The most obvious issues therefore are whether economic theory can explain such wild

---

3 All data from *Economic Trends*, Central Statistical Office, UK.

4 This period had two obvious features: high inflation (whose effect on measured income and saving we discuss shortly) and valuable North Sea Oil revenues that, being temporary, should have induced some degree of intertemporal smoothing through saving.

swings, and whether econometric models of consumption and saving predicted this ex ante or, more modestly, can rationalise it ex post.

Deaton (1992) and Muellbauer (1994) give excellent summaries of the current state not merely of the intertemporal theory of household consumption and saving but also econometric attempts to fit the data and discover remaining problems. Relative to the simplest rational expectations permanent income hypothesis, encapsulated in Hall (1978), in practice aggregate consumer expenditure exhibits *excess sensitivity* to changes in the currently predictable component of future income. Simultaneously however, given the strong persistence in the process of income and output dynamics, current innovations in income, which should be extrapolated to have a large effect on permanent income, in fact lead to surprisingly little effect on current consumption, which therefore exhibits *excess smoothness* with respect to such income innovations. Caballero (1994) also notes that such "puzzles" about expenditure on nondurables apply even more strongly to expenditure on consumer durables. What this implies is that the predictable changes in income have relatively large effects on consumption, whilst surprise or unexpected changes in income have relatively small effects on consumption. These empirical trends seem to show that, even after financial liberalisation, credit market imperfections remain that reduce the ability of households to smooth consumption, when faced with unexpected changes in income.

Although these propositions were often formulated in respect of US data and experience, they apply equally to aggregate consumption and saving behaviour of UK households. "Solutions" to the puzzles have explored several avenues, notably the role of liquidity constraints, habits and evolving tastes or needs, uncertainty and precautionary motives, demography and disaggregation, and measurement difficulties. The large swings in UK household saving offer an ideal opportunity to test some of these propositions, and thereby to inform policy design.

One final point before elaborating these issues. As in the USA, UK personal saving during the last 30 years has displayed only small sensitivity to real interest rates. In theory, of course, although substitution effects apply universally, the sign of income and wealth effects depend on whether initially one is a saver and lender or dissaver and borrower. Aggregation therefore produces considerable netting out. Liquidity constraints also diminish the role of intertemporal substitution, both in theory and in

practice. Interestingly, even without such constraints, an elasticity of substitution[5] of around 0.5 , which is quite plausible, would generate the small real interest rate effects typically found in empirical work prior to 1990 (see e.g. Deaton, 1992). This said, the traditional importance attached to inflation (section 2.3) can be interpreted in part as an effect via real asset returns; and relaxation of credit constraints is unlikely to increase the role of real interest rates in saving decisions.

2.2 The 1980s consumer boom : easier credit versus supply side optimism

Many of these general issues can be crystallised in the debate about the causes of the UK 1980s saving collapse and its subsequent reversal, a literature sparked by the interchange between Muellbauer and Murphy (1990) - whose central thesis was that financial liberalisation had, for the first time, allowed house owners to use housing wealth as collateral for loans for more general consumption spending, thereby relaxing previous credit constraints - and King (1990) and Pagano (1990), who instead took the view that increasing confidence in a "Thatcher miracle", and consequent belief in a sustainably higher rate of productivity growth, had led to a sharp upward revision in estimates of permanent income (for a summary of the debate on the impact of UK savings see table 2.0). Although this interchange took place before the reversal of saving behaviour of the early 1990's was fully apparent, the competing explanations for reversal follow from the above: either (a) the end of a one-time adjustment plus the consequences of falling prices of housing and other assets as the UK experienced the chill wind of high real interest rates in the 1990s [6]; or (b) increasing awareness that many of the Thatcher improvements to productivity were more likely to be once-for-all increases in levels, caused e.g. by greater discipline, than sustainable increases in rates of growth, for which e.g. more investment in human and physical capital was likely to have been necessary (see e.g. Crafts, 1991).

---

5 Elasticity of substitution is here defined as the measure of responsiveness of the ratio of consumption to relative prices (in this case to interest rates).

6 This implies that alleviation of credit constraints might significantly raise the responsiveness of saving to real interest rates, a point emphasised in Pagano (1990). Note that the real interest rate effect operates not because intertemporal substitutability of consumption is directly enhanced but because real interest rates have a wealth effect via asset prices.

TABLE 2.0

Impact on UK Savings

Authors	Financial de-regulation	Expectation of future income	Inflation	Other
Mullbauer and Murphy (1990, 1993) Mullbauer (1994)	Yes, main factor; relaxing credit constraints facilities due to increasing 'spendability' of financial assets.	Yes.	Yes, via effect on real interest rates.	
King (1990) and Pagano (1990)	More sceptical.	Yes, main factor; increased confidence in Thatcher reforms initially increased estimates of permanent income.		
Accmoglu and Scott (1994)	Not important.	Yes, main factor; linked to reduction in uncertainty about future income, more than increased mean of income.		
Deaton (1992)	Yes, initially, by diminishing need for precautionary saving.	Yes.		
Hendry (1994)	Yes, indirectly.		Yes, via departures from long-term value of desired ratio of liquidity-adjusted assets to inflation-adjusted income.	
Bayoumi (1993)	Yes: a)			

Muellbauer and Murphy (1993b) and Muellbauer (1994) extend their earlier econometric analysis of consumer spending and saving by refining operational measures of the "spendability" of assets to capture their changing liquidity as financial regulation and financial practice in credit markets alters over time. Indeed, financial liberalisation, by making asset-backed credit more available, made previously more illiquid assets more spendable. With the appropriate measure, they claim a well fitting consumption function in which financial deregulation and increasingly spendable financial assets plays a major role in the collapse of saving in the UK in the 1980s. During the 1970s, in which nominal interest rates failed to keep pace with inflation, substantially negative real interest rates, combined with large tax incentives (deductibility of *nominal* interest payments), created a large demand for credit that was held in check by rationing. Progressive deregulation of lending, especially for house purchase, led to lending spurts not merely in the UK but also in Denmark, Sweden, Norway and Finland.

However, this effect is more subtle than it first appears. Several authors (Campbell and Mankiw, 1989, 1991; Japelli and Pagano, 1989) have tried for several countries to estimate the percentage of credit constrained households. Essentially, such tests rest on the idea that credit-constrained households have a close correspondence between current consumption and current income, whereas unconstrained households smooth consumption to an extent that vastly reduces its correlation with current income. These authors find that the percentage of credit-constrained households in the UK *increased during the 1980's*. The response of Muellbauer and Murphy is that deregulation, by allowing the use of housing asset collateral, made previously illiquid assets more liquid. The spendability of assets increased. Moreover, when borrowing for house purchase, consumer durables purchases or intertemporal smoothing becomes a good idea, for whatever reason, it is not implausible that households not initially credit constrained now borrow up to a point at which they become credit constrained. Financial liberalisation never meant the overnight appearance of perfect capital markets, nor should it have been expected to in a world of asymmetric information, adverse selection, and moral hazard.

The competing view, represented in King (1990) and Pagano (1990), is that an optimistic revision in the income generation process, thought at the time to be permanent but subsequently shown to have been temporary, may better explain the 1980s swings in UK household saving[7]. King in particular raises several doubts about

---

[7] One particular episode is agreed by everyone to have been (temporarily) significant. In the budget of spring 1988, Chancellor of the Exchequer Lawson announced that in the third quarter of

the Muellbauer-Murphy thesis. First, financial liberalisation had been proceeding throughout the 1980s, not merely during the period of sharply rising house prices. Second, prices of houses and other assets are endogenous. Hence, rising house prices themselves are more a symptom than a cause.

This last point is not disputed. Muellbauer-Murphy see financial liberalisation as the largest exogenous cause of the initial house price boom. The subsequent literature (e.g. Miles, 1993; Muellbauer and Lattimore, 1994) has also clarified other aspects of the argument. In particular, whilst privatisation of state housing at subsidised prices unambiguously raised private sector wealth whenever Ricardian equivalence is incomplete, pure rises in real house prices have two effects requiring careful disentangling and disaggregation: they increase the user cost of housing, whose substitution effect reduces the demand for housing, and they have a wealth effect whose sign depends on one's existing housing assets relative to one's average demand for housing over the remainder of the lifecycle.

2.3 Further econometric evidence

Acemoglu and Scott (1994) re-examine aggregate UK consumption spending in relation to excess sensitivity with respect to expected income, usually taken as implicit evidence of significant credit constraints. Interestingly, they find that when one includes *both* a lagged indicator of consumer confidence *and* the usual income measures based on information already available, the latter become insignificant whereas the lagged confidence measure remains highly significant. Excess sensitivity applies not to income but to confidence. The authors conclude that this is compatible with a significant role for precautionary saving, the motive for which is easily linked with uncertainty and a desire for intertemporal smoothing. This and other evidence leads the authors to find against the importance of changes in credit market

---

1988 one particular form of tax relief would be discontinued, namely the ability of unmarried cohabiting couples to claim two allowances for mortgage tax relief (married couples had always been entitled to only one such relief). Predictably, this announcement led to a spate of housebuying by unmarried couples before the deadline expired, and helps explain the precise date of the peak in the housing market. Chancellor Lawson had engaged in similar tactics before and might therefore have been expected to foresee the outcome. Earlier in the 1980s, in switching from a regime of highly taxed corporate profits accompanied by high tax relief on new physical investment to a regime of lower corporate tax accompanied by abolition of investment allowances, he preannounced the phasing of the regime change over two years in such a way that, with no uncertainty, firms could investment today with full tax allowances knowing that tomorrow capital taxation would be low. There was of course a dramatic spike in UK investment in 1984 accompanied by much lower levels in the two subsequent years, confirming the intertemporal substitution that had occured in response to such a large, certain, and temporary fiscal incentive.

imperfection and to favour explanations based on perceived changes in income dynamics as the driving force for consumption and saving, albeit that the latter now applies to uncertainty about future income not just to views about its mean. The golden years of Mrs Thatcher are thus to be interpreted as dispelling clouds of doubt allowing the sunshine of optimism and greater certainty to shine on households. As uncertainty re-emerged, precautionary saving took off again.

There is one reason to be sceptical of the conclusion that changes in credit constraints played no significant role in the 1980's: there is no easy theoretical partition between precautionary saving and capital market imperfections. As Deaton (1992) and Muellbauer (1994) make clear, by inhibiting future borrowing to meet future crises, credit constraints should raise significantly the return on precautionary saving that, by providing a buffer of accumulated assets, reduces the danger of future adversity. Conversely, initial relaxation of credit restrictions should diminish the need for precautionary saving but, once new credit limits have been exhausted, the incentive at the margin for precautionary saving may be restored. None of this denies an additional role for changes in beliefs about income dynamics, or the degree of future income uncertainty.

One way in which to pursue this issue further is to turn to micro data and disaggregation, the subject of section 2.4. First, we discuss briefly other econometric studies of aggregate macro time series data for UK consumption and saving by households. Church, Smith & Wallis (henceforth CSW) (1994) usefully survey the performance of such equations in the large number of UK macroeconometric models. Such models have perhaps been taken more seriously in the UK than some other countries, to the extent that public grants help fund not merely modelling groups but also a unit to evaluate the models of the groups thus funded.

CSW provide a summary on the relevant equations of the main models and make four main points. First, different models come down on different sides of the fence about whether to model consumer durables and nondurables separately or whether to model then jointly as total consumption spending. CSW conclude that the empirical performance of the latter is clearly superior, presumably because substitution between the two components of consumer spending is hard to model reliably.

Second, operational empirical consumption functions adopt the cointegration framework of Engle and Granger (1987) presaged in Davidson, Hendry Srba and Yeo

(DHSY) (1978) and Hendry and von Ungern-Sternberg (HUS) (1981), who first introduced error correction models. Thus modern equations can be viewed as first estimating the cointegrating vector (long run relationship) and then estimating an error correction mechanism to represent dynamic adjustment towards long run equilibrium. CSW's second conclusion is that the routine updating of macroeconometric models to fit new data as it became available led to 'improvements' in the dynamic adjustment equations but to no fundamental alteration of the cointegrating vector representing the long run relationship. To the extent that, within the overlapping cohorts that make up the real world, fundamental regime changes should be expected to alter not merely dynamics but the underlying long run relationships, this conclusion is unwelcome evidence for those who believe that the sources of swings in household saving have been established definitively.

Third, CSW conclude that inclusion of unadjusted housing wealth in these models provides no magic solution to their previous difficulties in accounting for the substantial swings in household saving during the 1980s. The success obtained by Muellbauer and Murphy (1993b) therefore reflects key but subjective judgements about the 'spendability' of different assets. It will probably take many more years of data before we can be confident whether such adjustments are reliable.

Fourth, CSW observe that the standard empirical models 'missed' forecasting the large turnarounds in saving, both in the 1980s when it fell more quickly than forecast and then in during 1989-92 when it increased more quickly than forecast. This they attribute to 'overfitting' equations that have picked up too much of the spurious noise during the period of estimation despite the battery of statistical tests to which they have been subjected.

All investigators have had to contend with dramatic revisions in UK macro data. For example, official statistics for household saving as a percentage of disposable income in 1974 was originally estimated at 15.3% but by the early 1990s the estimated figure for 1974 had been reduced to 10.6%, largely because the systematic amounts by which income-based GDP data exceeded expenditure-based measures of GDP had led statisticians eventually to search for ways in which expenditure might have been under recorded (Hendry, 1994). Table 2.1 gives further details. Note that some of the largest revisions for 1974-75 data take place nearly 20 years later!

Hendry (1994) also considers how these substantial data revisions affect the HUS model he had earlier estimated with von Ungern-Sternberg in 1981. The 1981 variant had emphasised the role of inflation through two distinct channels: (a) the need to replace actual income with adjusted income to reflect the effect of inflation (both because of losses on assets, especially liquid assets, whose real return was effectively negative, and (b) through deviations in the ratio of liquid assets to income from the long run value of that ratio, prompting a need temporarily to alter saving rates to rebuild liquid assets to more normal levels. With completely revised data and systematic changes in estimates of the saving rate, the original model now of course fits poorly. As a result, inflation plays a far smaller role in influencing savings than had been previously thought. However, Hendry shows that incorporating a Muellbauer-style variable to capture financial regulation effects on effective assets and liquidity is sufficient to allow successful re-estimation in which many of the original channels survive. Specifically,

Table 2.1 Successive revisions of Central Statistical Office estimates for 1974-75

Calender date		Date at which estimated					
		1978	1980	1983	1986	1989	1992
1974	consumer expenditure						
	(in £10 bn)	52.0	52.1	52.6	53.1	53.2	53.7
	personal saving rate (%)		14.1	14.2	12.2	11.1	11.9
	10.0						
1975	consumer expenditure						
	(in £10 bn)	63.6	63.7	64.7	65.2	65.5	66.1
	personal saving rate (%)		15.3	14.7	12.6	12.8	12.0
	10.6						

Source: Hendry (1994)

Hendry concludes that short run departures from the desired long-run value of the ratio of liquidity-adjusted assets to inflation-adjusted income continues to be critical in understanding the dynamics of saving behaviour[8].

The impact of inflation was different before and after financial de-regulation on interest rates. Thus, after de-regulation, declines in inflation have coincided with positive and high real interest rates.

This section has examined the macroeconometric literature on household consumption and saving. So far, we have identified four possible effects: changes in expected (long run) income caused by changed perceptions of income dynamics; changes in perceived uncertainty and the need for precautionary saving; changes in inflation (effectively an effect via real interest rates on relevant assets including money); and changes in liquidity or spendability of assets caused by financial deregulation[9]. Muellbauer (1994) concludes his review of UK saving by using his latest estimate of a consumption function to decompose the 10 percentage point increase in the ratio of consumption to income during 1980-88 as follows:

percentage points	*cause*
+2.0	forecast income growth
+2.5	lower unemployment (more security)
+0.5	lower income volatility (more security)
+0.5	higher current income growth (for credit constrained)
+5.0	rise in spendability-weighted net asset-income ratio
-1.0	higher real interest rates
-1.0	rise of inequality

8 If inflation affects consumption by reducing real interest rates on liquid assets, sometimes to substantially negative levels, this is hard to reconcile with the view that real interest rates have little effect on consumption and saving. Where inflation simply raises the real tax burden because measured income fails to incorporate appropriate inflation accounting, no such effect is implied.

9 Carroll (1992), reviewing US data, attributes the decline in saving of US households primarily to easier access to credit and to reduced uncertainty.

According to Muellbauer, op.cit, the biggest single contributor to the rise in the consumption-to-income ratio was the rise in the spendability-weighted net-asset-to-income ratio, which explains 5 percentage (that is half) of the rise. His analysis, because it is rigorous, clearly shows the importance of financial liberalisation. However, as discussed above, other economists (like King and Pagano) have argued for the significance of other factors such as income expectations. Given the existence of the debate, and that Muellbauer is a strong advocate of financial liberalisation, as well as the high quality of Muellbauer's estimates, we can conclude that Muellbauer's estimate for the impact of financial liberalisation represents the upper bound of its influence.

Looking at the strong debate of the UK economists from another angle, one could perhaps argue that to some extent they are involved in discussing a false dilemma. King and Pagano attribute the increase in the consumption to income ratio to the perception of a "Thatcher miracle" (the perceived positive effect of a successful reformer, while Mullbauer attributes it largely to financial liberalisation. Since financial liberalisation was such an important part of the Thatcher reform package, it would seem that the distinction was not as sharp as the debate would indicate even though - in abstract - one could conceive financial liberalisation without other structural reforms; furthermore, the fact that both processes are integrated makes it difficult to disentangle empirically in a completely conclusive way which was the most important cause of the rise in the consumption-to-income ratio.

Additional insights into the analysis of the impact of financial deregulation, on household savings, with empirical tests for the UK, based on its eleven standard regions, are provided by Bayoumi (1993). Bayoumi distinguishes two effects of financial deregulation: a) an exogenous short-run fall in saving, some of which will be recouped overtime and b) an increase in the sensitivity of saving to other variables, such as wealth, current income, real interest rates and demographic factors.

Bayoumi's model for UK savings divides the fall in savings in three parts: one associated with changes in wealth and other factors, using coefficients in the savings function prevailing before liberalisation; another part associated with changes in wealth and the shifts in the coefficients of the savings function associated with deregulation; and the autonomous change in saving resulting from de-regulation.

Bayoumi's results indicate that the main cause of the fall in saving was the rise in wealth caused by the higher real value of houses and shares, which he estimates to have lowered the saving rate by over 5 percentage points over the 1980's. Some of this rise in asset values may have reflected the impact of deregulation on these markets; thus, deregulation may have had some indirect influence on this process. The direct effects of deregulation came through two channels. The first relates to the increased sensitivity of saving to wealth and other factors, estimated to have lowered the saving rate by 1.6%. Second, de-regulation is, however, also estimated to have resulted in an autonomous 2.3 percentage point decline in the UK personal saving ratio. It is interesting that this result, though showing a slightly smaller direct impact of financial deregulation on savings in the 1980's than that of Muellbauer, op.cit (see above) gives **fairly similar** results to that of Jappelli and Pagano (1991), which using a different econometric approach find that financial deregulation explains one third of the fall in saving over the 1980's.

2.4 Evidence from micro data

The UK *Family Expenditure Survey* contains detailed information on a large number of individual families and offers a further opportunity to examine the issues set out above. Although such data may be subject to its own forms of measurement error, it offers an important cross check given the substantial revisions to macro data that have occurred. Attanasio and Weber (1994) use a time series of data on cohorts (by age) to explore both the consequences of disaggregation and the behaviour of a synthetic but representative aggregate, in particular in regard to the debate of the previous sections.

They attempt to model both credit constraints and the perceived dynamics of the income generation process.

Disaggregating by age, Attanasio and Weber conclude that liberalisation of credit and housing finance *can* explain much of the mid 1980s consumer boom for older households, whose lifetimes had been long enough to accumulate substantial equity in their house, for whom house price increases were beneficial and who could use this collateral in liberalised credit markets as collateral for general consumption loans. Equally significantly, Attanasio and Weber find that such factors *cannot* account empirically for the consumption boom of younger households, who quantitatively made up more of the total UK consumption boom prior to 1988. Rather, it appear that increased optimism about future incomes was the principal cause.

For the synthetic aggregate sample, the authors then simulate the consequences of an unexpected but permanent increase in productivity growth and expected labour income. In the short run, saving falls sharply as particular cohorts adjust to their altered circumstances. In the long run, however, the saving rate may actually increase.

2.5 Conclusions

In this section we have analysed the behaviour of household saving in the UK. Consumption functions have always been a popular area for empirical research in macroeconomics, attracting many of the leading empirical macroeconomists and econometricians; the UK is no exception. The preceding discussion describes we hope the state of play. Much has been learned, and the interaction of theory and evidence continues to be fruitful.

The personal savings rate has not been stable, exhibiting both medium term swings and abrupt short term changes. The role of income, liquid assets, uncertainty, and real returns are all established, although there remains a healthy dispute about their exact relative importance. Aggregate behaviour conceals significant differences in disaggregated behaviour. Disaggregating between durables and nondurables, although theoretically attractive, has to date had no empirical payoff with UK macro data. Disaggregation by cohort reveals much sharper differences[10]. In particular, it suggests that optimism effects and liquidity effects may each have their place but in relation to different cohorts or different age groups.

What lessons should a policy maker take out of all this. First, swings in household consumption and saving can be large. Given the share of consumption in output, and of household saving in national saving, considerable effort should be devoted to trying to understand what drives these variables.

Second, economic theory goes a long way to providing a framework in which to interpret what is going on. As elsewhere in economics, simple one-liners (e.g. consumption is a random walk) should be understood for the insight they contain but then rejected in favour of something more complex. In the theory of saving and

---

10 Banks and Blundell (1994) show that many disaggregated effects are cohort specific rather than simply age specific: ie for a 50 year old in 1996 it may be more important that they were born in 1946 than that in 1996 they were 50. If so, year of birth effects follow a cohort throughout its lifetime.

consumption, intertemporal analysis is not enough: we also need to think about credit constraints, effective liquidity, non-linearities, uncertainty, and hence the role of precaution and confidence. Against this ambitious list, empirical research has made substantial operational progress even if there is always much yet to do.

Third, the tide right now is always flowing one wayThe late twentieth century is a time of increasing financial liberalisation, not just in the US and the UK, but increasingly throughout the OECD, middle-income countries, transition economies and beyond, though this liberalisation is proceeding at a rather different pace in different countries. Reductions in capital market imperfections increase the relevance of intertemporal considerations and stock variables, but eventually reduce the relevance of contemporareous flow variables. In policy making this has several implications. Credibility, or the lack of it, by affecting a stream of expectations about the future, can potentially have a bigger effect today than was the case when the future was quarantined to a larger extent by capital market imperfections. A fortiori, when policies have large effects on relevant stocks (e.g. liquid assets or debts), the short term implications for flow variables - consumption, saving, output - may be large.

Fourth, despite country-specific shocks in policies, resources, and institutions, the UK has shared two characteristics of other economies. With other G-7 economies, it has shared a longer run trend for the saving rate to drift downwards; with the Scandinavian economies it shared the asset price inflation, consumer debt, boom-bust cycle of the last ten years. Simulations, such as Attanasio and Weber (1994), suggest that there is no reason for credit liberalisation to necessarily lead permanently to a fall in the saving rate: rather it may represent temporary adjustment (admittedly over very many years) to dramatic changes in credit regime. The precise adjustment path is unlikely to be independent of the path of real interest rates, exposure to which is increased when households make more use of credit markets.

Fifth, our discussion of UK household saving is consistent with two other beliefs about saving that are often expressed: demography and public pension provision both matter (and indeed interact). Not only does saving behaviour change over the lifecycle, the age structure of the population can have a large effect on the path of adjustment to other exogenous changes, whether in credit, interest rates, taxes, or output growth. Moreover, to the extent that we have established the usefulness of the lifecycle approach, this suggests that pension rights should affect household saving, a point often made to explain cross country differences in private saving rates. In this

context, one should be interested not merely in whether countries have or do not have generous state provision of pensions, but also in whether or not unfunded state pension plans will credibly be honoured once the baby boomers become the aged and there are few young workers to pay the taxes to support them. This raises the prospect, at least among the countries previously thought to have generous state pension provision, that increasing worries about future pension rights may gradually prompt a renewal of personal saving.

This indicates one channel through which private and public savings interact. Swings in household behaviour are likely to have many implications for other sectors of the economy. In the next two sections, we discuss the government and the external sector.

3. Government saving, public finance and fiscal policy

Figures 1.1 and 1.2 show not merely that UK saving has fluctuated during the last three decades but also that it has done so around a declining trend; and that the source of this trend must be traced not to personal or corporate saving but to a fall in public sector saving. Figure 1.3 shows, unsurprisingly, that there is no such trend in the overall surplus or deficit of the public sector. Even though intertemporal smoothing of tax rates might provide a motive for public sector surpluses today to provide, at least in part, for demographic changes already known with certainty to be going to have adverse effects, low tax payments and high pension demands, on public finances especially after the year 2010 (see e.g. OECD, 1995), governments with short term reelection constraints find it politically difficult to sustain surpluses; and sustained deficits, properly measured, may lead eventually to threats of insolvency.

Figures 1.2 and 1.3 imply that lower national saving was attributable to lower public sector saving; and, since there was no trend in the overall public sector balance, the fall in public sector saving must have been roughly offset by a fall in public sector investment. Indeed, given the avowed objective of the Conservative government since 1979 to shrink the size of the public sector, it is more plausible to attribute causality in the reverse direction - as the government managed to reduce public sector investment the perceived need for public sector saving was reduced, providing scope for cuts in tax rates.

An interesting question is therefore whether the cut in public sector investment was achieved by cutting government investment or by cutting fixed capital formation by public sector companies, either by constraining their activities or as a result of reclassification by privatisation. Figure 3.1 shows that both components fell substantially in relation to GDP, but that since 1979 it has really been cuts in investment by public corporations not cuts in government investment that have been the counterpart to reductions in public sector saving.

Figure 3.1 shows not merely that public sector saving and investment have been falling but also that public saving is much more volatile than public investment, generating the fluctuations in public sector deficits shown in Figure 1.3 of section 1. Figure 3.2 shows how fluctuations in public sector surpluses compare with the separate components of private sector surpluses, those for households and for

companies. The very strong negative correlation between surpluses of households and the public sector is evident.

Figure 3.1

Public sector saving & investment by government and by public sector companies (each as a ratio of GDP), 1963-94

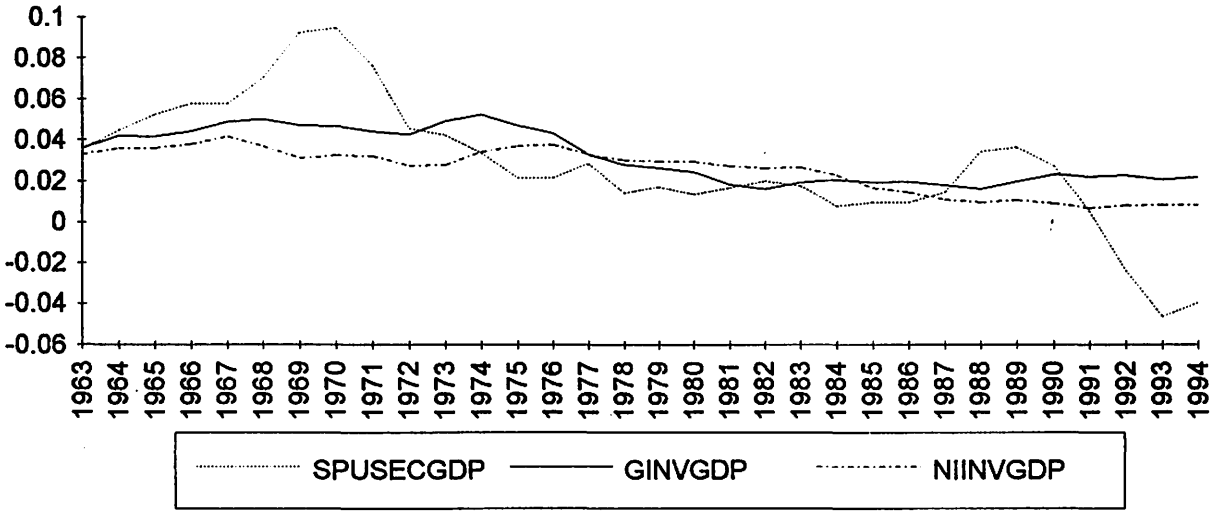
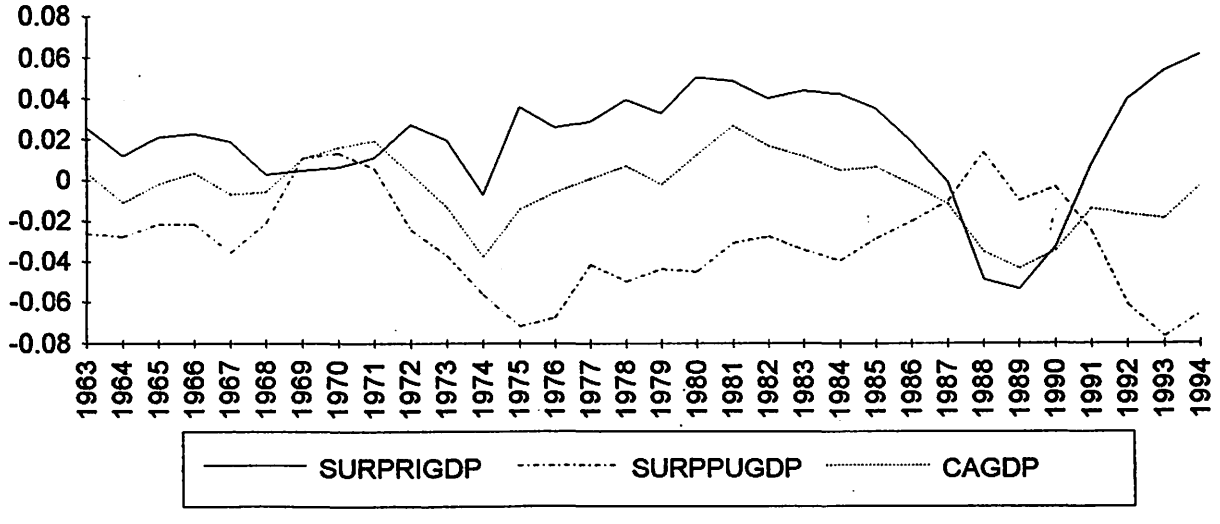


Figure 3.2

Sectoral surpluses, as ratio of GDP, 1963-94 (private sector, public sector, current account)



Correlation does not of course determine causality. Causality may often flow from public to private, as for example when a tax increase leads to a reduction in the government deficit but an increase in the household deficit, in the direction if not the extent implied by Ricardian equivalence. But economics also teaches us about automatic stabilisers and the effect of the business cycles on budget deficits, examples in which a private spending boom, caused by dissaving, generate budget surpluses in the public sector. Whilst in section 1 we cautioned against viewing the behaviour of any sector in isolation from other sectors, nevertheless our discussion in section 2 made clear that there are good reasons to believe that some fluctuations in macroeconomic variables can properly be traced to events impinging in the first instance on households. Credit liberalisation is one obvious example.

Given that shocks to the household sector can have first order effects elsewhere, particularly on the government budget, it will always be dangerous to frame unconditional guidelines for assessing fiscal behaviour, a point appreciated early by Allsopp (1985, 1994). In particular, there is nothing sacrosanct in budget balance as an indicator of fiscal performance in the short run. From the cyclical viewpoint of whether or not the economy is overheating, when the private sector is known to be on a spending spree only a substantial contemporaneous fiscal surplus is likely to suffice. In such circumstances, one attractive way (from an economic, though possibly not from a political point of view) of increasing the fiscal surplus is by increasing taxes - either via indirect taxes on consumption or direct taxes on households. This will both improve the fiscal balance **and** reduce the private sector imbalance, by dampening the consumption spree. In the UK context, the government resisted this option, due to its strong programmatic commitment not to increase (and indeed to decrease) taxes. The alternative implies, via national accounts identities, that the private deficit is allowed instead to spill over into a current account deficit, but the substitutability of traded and non traded goods is (by definition!) too low to allow an additional supply of traded goods fully to discipline prices of non traded goods; nor may it be wise to promote substantial real adjustment between the two sectors. In the specific context of the UK, one reason the so called Lawson Boom of 1987-88 was allowed to escalate to such an extent was that a government already achieving a budget surplus for almost the only

time in post-war UK history[11] found it hard to believe that fiscal policy could be part of the problem[12], given the massive private sector imbalances.

Figure 3.2 shows that after 1988 private saving increased dramatically and public saving correspondingly collapsed. Causation is almost certainly in both directions. Faced with a consumer debt mountain and high real interest rates, households had to save hard merely to meet debt service obligations. A government aware of the preceding arguments and evidence might have taken a relaxed view of the burgeoning budget deficit, believing that once households overcame their debt problem and reduced their saving rate, public saving would correspondingly rise. For a government wishing to keep its European options open and looking over its shoulder at the criteria for fiscal prudence agreed at Maastricht in 1991, this was never an option. Hence the comovements of household and public saving, and in particular the final reversal after 1992, was caused not just by gradual reductions in the burden of household debt and consequent need to save, achieved most notably by cuts in interest rates after 1992 the prospect of which was what forced the UK out of the Exchange Rate Mechanism of the EMS, but also by explicit government action (higher tax rates after the elections) to arrest the growing budget deficit.

Despite its drawbacks, IS-LM analysis conveys some important messages. One is that the mix of fiscal and monetary policy matters. Assessments of fiscal policy should not be independent of the monetary regime or the particular conduct of monetary policy. In a sense, our argument is this section takes that proposition one stage further: given the demonstrable empirical connection between household and public saving, it cannot be wise to frame fiscal policy without reference to pressures on households. Credit liberalisation is potentially (and certainly, in the UK, in reality) a massive shock to household behaviour. Nor do we mean simply the initial change of regime, important as that is; during the subsequent regime of easier credit, one should expect larger fluctuations in saving rates precisely because households are no longer so constrained by current income. This is a lesson that fiscal policy ignores at its peril.

---

11 The only years of budget surplus during1953-94 were 1969-70 (fiscal retrenchment following devaluation), and 1988-89.

12 Monetary policy also mattered: the then policy of shadowing the DM from outside the EMS delayed the use interest rate increases to cool down the economy. When interest rate rises were eventually judged to be the only solution, interest rates were increased very substantially.

Having studied household saving and then its relation to public saving, we turn finally to the relation with the balance of payments.

4 Saving and the Balance of Payments

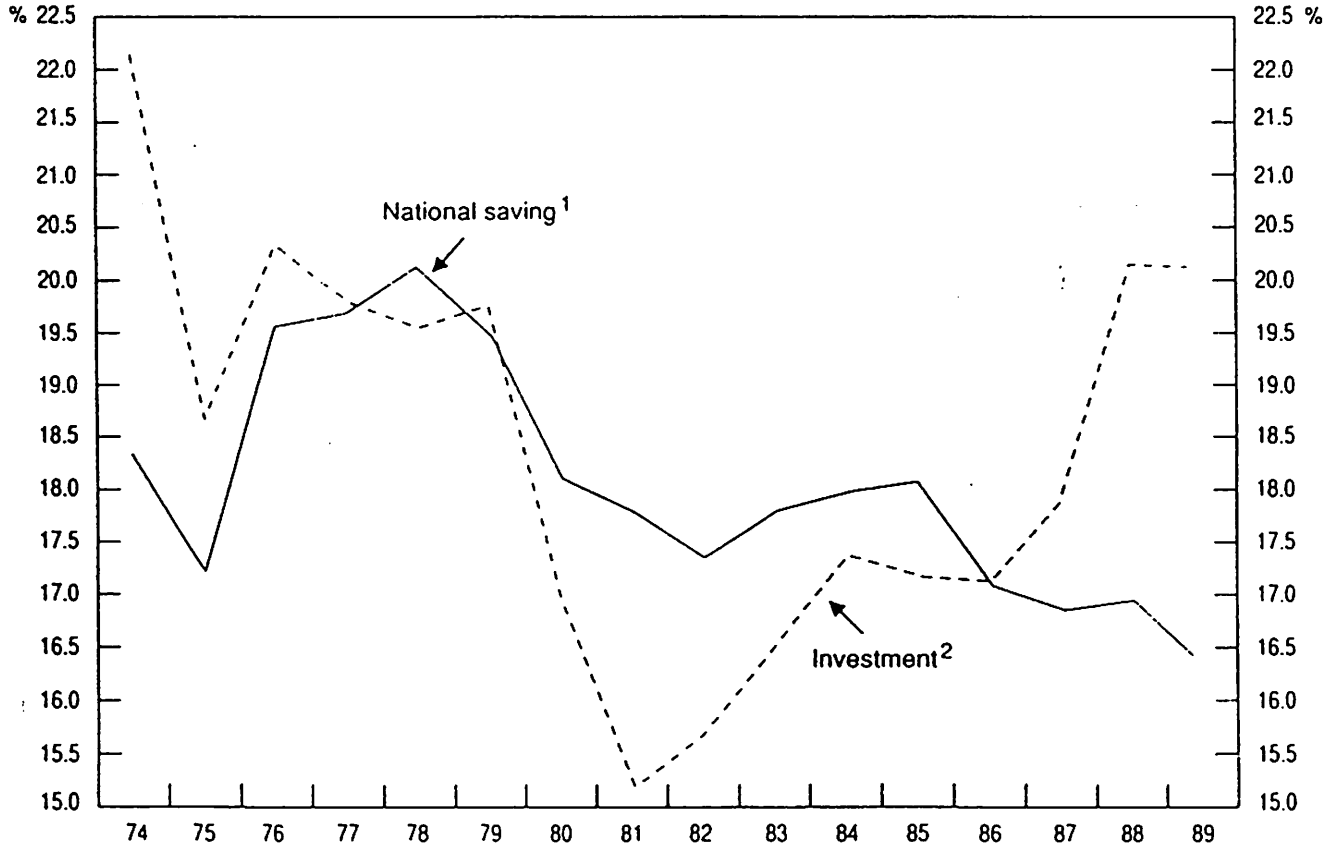
As discussed above, the UK current account was characterised by a sharp improvement up to the early 1980's and to a deterioration thereafter (see Figure 1.4 above). This evolution resulted from a combination of sharply increased oil trade balance since the mid-1970's, and by the influence which sterling's appreciation had on the non-oil current account.

Current account developments are by definition linked to changes in the balance between national savings and investment. As can be seen in Figure 4.1, the deterioration of the UK current account during the second half of the 1980's reflected mainly increased investment. However, if the comparison is made between the late

Figure 4.1

NATIONAL SAVING AND INVESTMENT

Per cent of nominal GDP



1. National saving is derived from the expenditure-based measure of gross national product *plus* net transfers from abroad *minus* private and public consumption.
2. Investment includes stockbuilding.

Source : Central Statistical Office.

1980's and the second half of the 1970's, it was the decline in the national savings ration which explains the deterioration in the current account, as the investment ratio had recovered during the 1980's from its very sharp decline in 1980-81. Thus, at the peak of the current account deficit in 1989, the investment ratio was not higher than the average over the 1974-79 cycle, while the national savings ratio was significantly lower. As discussed above, the deteriorating balance between national investment and savings was mainly explained by the growing private sector deficit (see again figure 1.3 above). This was till around 1987 mainly due to a sharp deterioration in the personal sector financial balance since around 1980, (partly offset by some improvement in the business sector imbalance); however, during 1987-89, the deficit in the personal sector financial balance was added to a deteriorating - and negative - business sector deficit.

It is interesting to examine how the fairly large UK current account deficit in the late 1980's was financed. Particularly till 1989, financing the current account deficit did not pose any problem. Thus, inspite of a sharp widening of the current account deficit in 1987 and 1988, the authorities were faced with strong upward pressure on the exchange rate during most of this period. In 1989, however, the exchange rate came under repeated downward pressure, which forced the authorities to tighten monetary conditions significantly, and lead to a major increase in interest rates. It is interesting that since late 1988, the current account deficit had suddenly become an important news item, even though it had been ignored during the period when the deficit was growing. Thus, changes in expectations during 1989 seemed to put more pressure on the exchange rate than was warranted by changes in fundamentals (OECD, op.cit).

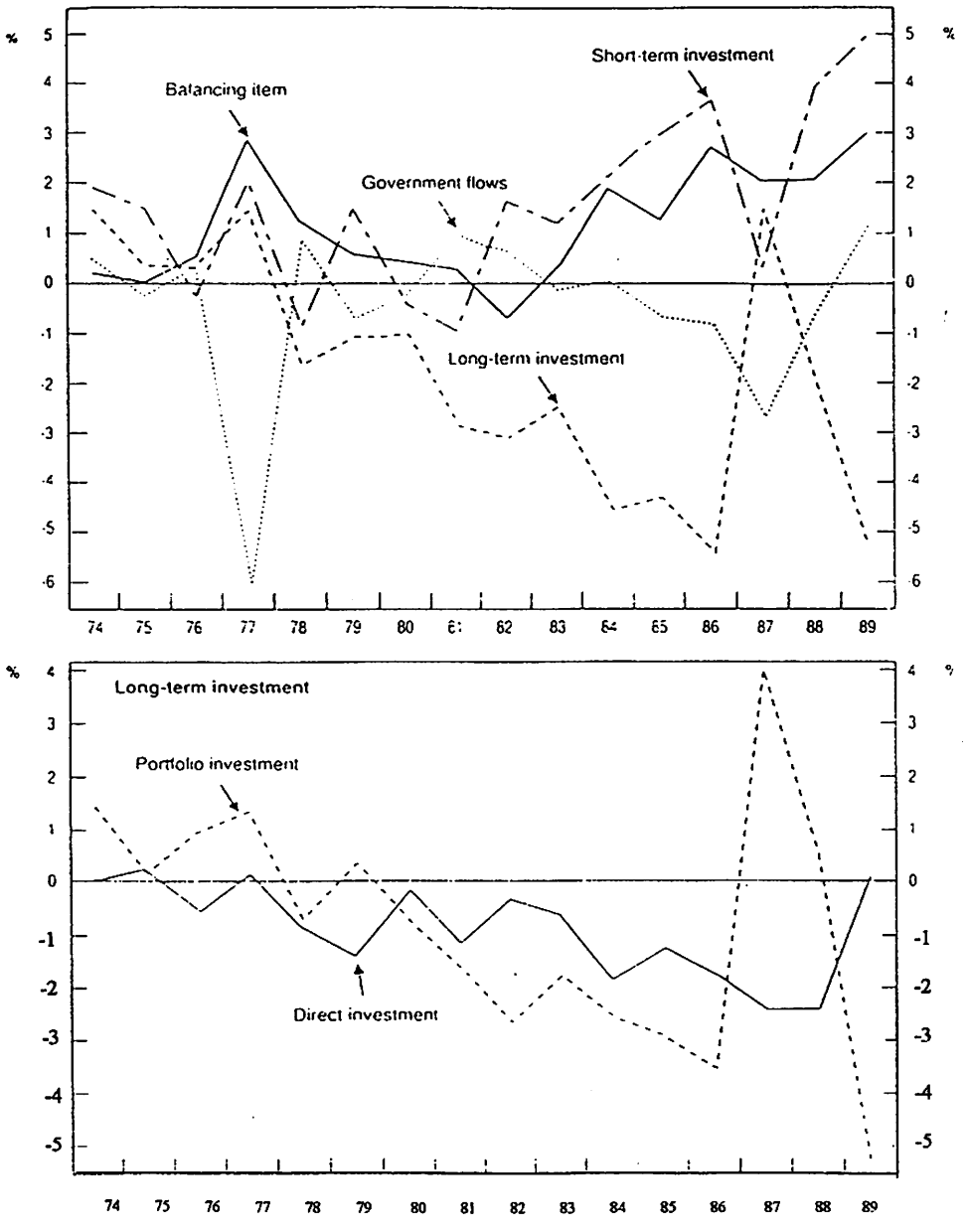
The dominant feature of UK capital developments in the late 1980's were rapidly growing short-term inflows required to finance widening current account deficits plus net outflows of long-term capital (see Figure 4.2)

To the extent that capital classified as short-term is more volatile than capital classified as long-term, the capital inflows during the 1980's made the exchange rate more vulnerable to shifts in portfolio preferences of international investors, as was shown during the 1992 crisis.

Figure 4.2

BALANCE OF PAYMENTS

Per cent of nominal GDP



Source: Central Statistical Office

Recorded long-run capital net outflows grew rapidly, as proportion of GDP, in the first half of the 1980's, explained both by direct investment and portfolio flows. By 1986, recorded net long-term capital outflows totalled as much as 5½% of GDP while short-term capital inflows amounted to 3% of GDP. After a period of repatriation of portfolio investment following the stock-market crash in 1987 which led to net long-term capital inflows in that year, investment by UK residents in foreign bonds and

shares restarted in 1988, and by 1989 had again reached 5½% of GDP. Short-term capital inflows reached more than 5% of GDP in 1989.

The fact that, on a net basis, direct investment did not contribute to financing current account deficits is primarily due to the high propensity of British companies to invest abroad, (4.0% of GDP during 1986-89) rather than a lack of inflows (1.8% of GDP during the same period, which is above the average for major OECD countries).

The abolition of foreign exchange controls in April 1979 appears to have been the main element behind the sharp outflow in the early 1980's (Artis and Taylor, 1989). In the pre-1979 regime, institutional investors, such as pension funds and insurance companies, were constrained in diversifying into foreign assets. After 1979, when all controls were lifted, the share of foreign assets in their total portfolio increased sharply; further portfolio outflows were caused by the rapid rise of these institutions' total assets. Another stimulus to outward portfolio investment came in 1988 when the government started retiring debt: lack of suitable domestic investment assets encouraged institutions to buy foreign assets.

The increase in short-term capital inflows in the first half of the 1980's was associated with a growing differential between UK and foreign short-term interest rates, which continued into the latter part of the 1980's.

5 Conclusions

What are the lessons from the UK experience? What is their relevance for Latin America? Above all, what are the policy implications? This section concludes the paper, by attempting to answer these questions.

The first point to make is that the UK experience does offer important lessons for Latin America. Indeed, it could be argued that many parallels exist between the UK evolution during the 1980's and - for example - Mexico's economic evolution in the early 1990's, which Mexican economic authorities could have examined with benefit during the "euphoria" period. In both cases, liberalisation of the domestic financial sector as well as optimism partly generated by a perceived very successful reform process led to sharp increases in consumption, which was financed to an important extent by an increase in credit from the newly liberalised financial system. In both cases, the resulting decline of national savings was a factor behind rising current account deficits, which were initially financed with ease, as the international markets did not seem to "notice" the negative evolution of the current account deficit. Furthermore, in both cases, the growing current account deficit was financed mainly by short-term, potentially, volatile, capital flows; this was made easier by previous liberalisation of the capital account and made possible by higher short-term interest rates domestically than internationally. In both cases, but particularly loudly in the UK, the economic authorities argued that current account deficits did not matter or were not so serious, because they were not caused as in the past by budget deficits, but by imbalances in the private sector's accounts.

Naturally, there are also important differences in the macro-economic evolution of the UK in the 80's and Mexico in the 90's; there are far larger differences in the structural features of both economies, as well as in the "denouement" to the period of declining national savings and growing current account deficits.

Returning to the UK experience and its lessons, the evidence and the literature shows that the process of liberalisation of the financial sector contributed to the consumption boom in the 1980's, and the resulting decline in the national savings rate. The UK experience, combined with that of the Scandinavian countries which underwent similar processes of financial liberalisation, seems to show that financial sector liberalisation - especially if radical and speedy - is likely to contribute to an increase in households' consumption. This consumption is likely to be also boosted by the

optimism generated by the perceived success of the overall market reform programme, of which financial liberalisation is a part. However, in the UK case, household savings has recovered fairly significantly, (see Fig 1.2). Though other factors are at play, this would seem to confirm what the literature affirms, that the post-financial liberalisation decline of households' savings is a temporary problem. In the UK the ratio of savings to GDP is still well below its' 1970's peak, but this is mainly due to the sharp and systematic trend towards declining public sector savings (see again Fig 1.2).

However, very rapid and radical liberalisation of the financial sector is a somewhat problematic policy, in the context of a reform programme, if one of its main aims is the encouragement of domestic savings, as at least in the short-term, it is likely to lead to a fairly important decline of household savings.

The fact that liberalisation of the financial sector can be done far more slowly and gradually is illustrated by the fact that certain continental European countries (particularly Germany) have liberalised their financial systems more gradually. It is interesting that Germany has seen its savings rate fall far less than the UK. However, much further study would be required before it can be concluded that this slower financial liberalisation was a key factor in explaining lower declines of German savings.

Avoiding liberalisation of the financial sector completely does not seem, however, a realistic option, both because of international trends and pressures, and because liberalisation of the domestic financial sector does bring important benefits, particularly of a micro-economic nature. The better option seems, as pointed out above, to liberalise the domestic sector far more gradually. This would lead to a more gradual decline in domestic savings, which will make particularly the management of the temporary decline of savings less problematic.

In doing so, policy-makers need to be aware that the financial liberalisation will tend to be a factor leading to higher interest rates. The reason is that as other mechanisms disappear, the interest rate becomes the only way to ration credit, and is likely to increase as a result.

Higher domestic interest rates, particularly in the context of a liberalised capital account is likely to attract short-term capital inflows from abroad. This may lead to

an appreciation of the exchange rate and a growing current account deficit, if this deterioration is too large, the threat of costly Balance of Payments crisis may emerge (see Ffrench-Davis and Griffith-Jones, 1995).

The UK experience seems to show that a further tightening of fiscal policy in the late 1980's (even though the fiscal position was already in surplus) may have led to a better economic performance, and to higher savings, than the policy of very high interest rates pursued. In the context of middle income or low-income countries, with both important social and developmental needs being met by public spending, it seems difficult to argue for large public sector surpluses, achieved via public spending cuts, unless these relate to non-essential public spending, where cuts are to be welcomed. Economically a more attractive option (though probably not politically) may be to compensate for any household sector dissaving by increasing taxes. Increased taxes would not just increase public savings but would also do it in a way that discouraged household consumption.

However, the UK experience also shows that, once financial liberalisation has been completed, increases in savings in one sector are often largely compensated by induced effects in the other direction in other sectors. Therefore, the task for policy-makers of raising total savings become somewhat harder.

Bibliography

Acemoglu, D. and A. Scott (1994). 'Consumer confidence and rational expectations : are agents' beliefs consistent with the theory?, *Economic Journal.*

Allsopp, C. (1985). 'The assessment: monetary and fiscal policy in the 1980s', *Oxford Review of Economic Policy.*

Allsopp, C. (1994). 'The assessment : strategic policy dilemmas for the 1990s' *Oxford Review of Economic Policy*

Artis, M. J. and Taylor, M. P., (1989), 'Abolishing exchange control: the UK experience', *Centre for Economic Policy Research, Discussion Paper* 294

Attanasio. O. and G. Weber (1994). 'The UK consumption boom of the late 1980s: aggregate implications of microeconomic evidence', *Economic Journal.*

Banks, J . and R. Blundell (1994). 'Household saving behaviour in the United Kingdom', in J. Poterba (ed*): International comparisons of household saving*, University of Chicago Press, Chicago and London.

Barro, R. (1974). 'Are government bonds net wealth', *Journal of Political Economy.*

Bayoumi, T. (1993) 'Financial deregulation and Household Saving', *Economic Journal,* November Vol 103, No 421

Campbell, J. (1987). 'Does saving anticipate declining labour income? An alternative test of the permanent income hypothesis', *Econometrica.*

Campbell, J. and N.G.Mankiw (1989). 'Consumption, income and interest rates: reinterpreting the time series evidence', *NBER Macroeconomic Annual.*

_____ (1991). 'The response of consumption to income: a cross country investigation', *European Economic Review.*

Campbell, J. and A. Deaton (1989). 'Why is consumption so smooth?', *Review of Economic Studies.*

Carroll, C. (1992). 'The buffer stock theory of saving: some macroeconomic evidence', *Brookings Papers on Economic Activity*

Carroll, C. and L. Summers (1991). 'Consumption growth parallels income growth: some new evidence', in B. Bernheim and J. Shoven (eds): *National saving and economic performance*, University of Chicago Press, Chicago and London.

Church, K., P. Smith and K. Wallis (1994). 'Econometric evaluation of consumers' expenditure equations', *Oxford Review of Economic* Policy.

Chrystal, K.A. (1992). 'The fall and rise of saving', *National Westminster Bank Review,* February.

Davidson, J., D. Hendry, F. Srba and S. Yeo (1978). 'Econometric modelling of the aggregate time series relationship between consumers' expenditure and income in the United Kingdom', *Economic Journal.*

Deaton, A. (1991). 'Saving and liquidity constraints', *Econometrica.*

_____(1992). *Understanding consumption*, Clarendon Press, Oxford.

Engle, R. and C. Granger (1987). 'Cointegration and error correction; representation, estimation and testing', *Econometrica* .

Flavin, M. (1981). 'The adjustment of consumption to changing expectations about future income', *Journal of Political Economy* .

Flemming, J. (1983). ' The consumption function when capital markets are imperfect', *Economic Journal* .

Forsyth, P. and J. Kay (1980). 'The economic implications of North Sea oil revenues', *Fiscal Studies.*

Ffrench-Davis, R and Griffith-Jones, S (1995) Coping with capital surges, Lynne Rienner.

Hall, R. (1978). 'Stochastic implications of the life-cycle permanent income hypothesis: theory and evidence', *Journal of Political Economy.*

Hendry, D. (1994). 'HUS revisited', *Oxford Review of Economic Policy.*

Hendry, D. and T. von Ungern-Sternberg (1981). 'Liquidity and inflation effects on consumers' expenditure', in A. Deaton (ed): *Essays in the theory and measurement of consumers' behaviour*, Cambridge University Press, Cambridge.

King, M. (1990). 'Discussion of Muellbauer and Murphy', *Economic Policy.*

Japelli, T. and M. Pagano (1989). 'Consumption and capital market imperfections: an international comparison', *American Economic Review.*

_____(1994). 'Saving, growth and liquidity constraints', *Quarterly Journal of Economics.*

Mankiw, G. and M. Shapiro (1985). 'Trends, random walks and tests of the permanent income hypothesis', *Journal of Monetary Economics.*

Miles, D. (1993). 'House prices, personal sector wealth and consumption: some conceptual and empirical issues', *Manchester School.*

_____ (1993). 'Housing markets, consumption and financial liberalisation in the major economies', *European Economic Review.*

_____ (1994). *Housing, financial markets and the wider economy*, Wiley , # Chichester and New York.

Muellbauer, J. (1994). 'The assessment: consumption,' *Oxford Review of Economic Policy.*

Muellbauer, J. and A. Murphy (1990). 'Is the UK balance of payments sustainable?"*Economic Policy*, pp 347-395.

_____ (1993). 'Income expectations, wealth and demography in the aggregate UK consumption function', mimeo, Nuffield College, Oxford.

Obstfeld, M. (1995). 'International currency experience: new lessons and lessons relearned', *Brookings Papers on Economic Activity.*

OECD, *Economic Surveys*, United Kingdom, (several issues)

Pagano, M. (1990). 'Discussion of Muellbauer and Murphy', *Economic Policy.*