A Critique of Two Keynesian Concepts

Why the income-expenditure circular flow and the multiplier mislead students

Tim Congdon
In his 1970 Institute of Economic Affairs pamphlet on The Counter-Revolution in Monetary Theory Milton Friedman, who was to be awarded the Nobel prize for economics six years later, wrote,

“Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output. ... A steady rate of monetary growth at a moderate level can provide a framework under which a country can have little inflation and much growth. It will not produce perfect stability; it will not produce heaven on earth; but it can make an important contribution to a stable economic society.”
A Critique of Two Key Concepts in Keynesian Textbooks

by Tim Congdon

The purpose of this paper is to discredit Keynesian income-expenditure analysis and the concept of the multiplier embedded within it. These two key concepts of the Keynesian textbook mainstream omit variables critical to the determination of macroeconomic outcomes. The omissions are so serious that the income-expenditure circular flow is incomplete and misleading if it pretends to constitute a policy-making framework. Critically, when organized in its familiar textbook form, income-expenditure analysis has no room for either the banking system or the quantity of money. But changes in the quantity of money have major impacts on asset portfolios and expenditure decisions. These changes must be integrated in all discussions of the macroeconomic conjuncture, if such discussions are to make any claim to real-world plausibility.

Income-expenditure analysis is a close associate of the proposition in The General Theory that, with the marginal propensity to consume fixed, national income can be viewed as a multiple of autonomous expenditure. As autonomous expenditure includes the government’s outlays, the multiplier proposition is commonly regarded as endorsing a widening of the budget deficit as an appropriate counter to a serious downturn in aggregate demand.¹ Led by Samuelson’s influential and much re-edited 1948 contribution, the idea was promoted by Keynesian textbook writers in the 1950s and 1960s.² It has remained a staple item in university tuition ever since.³ Given this background, it is perhaps not surprising that the slide into the Great Recession in late 2008 provoked top policy-makers at the G20 Washington summit to seek fiscal stimulus orchestrated across the world’s largest economies. Fiscal stimulus meant increases in public expenditure and the budget deficit, as if the Keynesian textbooks still had the answer. Indeed, the Great Recession spurred the publication of several books asserting the renewed relevance of the Keynesian framework.⁴

However, within a few months European governments rethought their position. In particular, the Eurozone authorities urged the need for fiscal restraint over the medium term, to comply with the requirements for strong public finances contained in the 1998 Stability and Growth Pact. Sceptics about fiscal expansionism included Alberto Alesina, the most prominent member of the so-called “Bocconi boys”. Alesina has been credited with persuading Eurozone governments to return in 2010 to fiscal consolidation.⁵ Since
then an active and unresolved debate on fiscal austerity has developed between rival schools of economists. It has been pointed out that in the 25 years to 2008 medium-term reductions in the structural budget deficit (as defined by the International Monetary Fund) were consistent in both the USA and the UK with above-trend growth in demand.6 “Expansionary fiscal contraction” was the norm in these two countries over a long period, even though American Keynesians – such as Larry Summers – have described that notion as “oxymoronic” or worse.

Clearly, a big debate is under way not only between academic economists, but also between the policy-making establishments in leading nations. Further, in that debate the conceptual legitimacy of Keynesian income-expenditure analysis is fundamental. The first part of the paper reviews statements that define income-expenditure analysis in order to pin down the subject more precisely. The next four sections show that Keynes’ own work suggested a more holistic and compelling approach to macroeconomic thinking, with attention paid to the value of transactions as well as national income and expenditure.7 The paper then considers the risk of forecasting errors due to the weaknesses in income-expenditure modelling, with illustrations from the forecasting record of the UK’s National Institute of Economic and Social Research. The following sections present numerical information, on the stability (or rather the instability) of the savings ratio and on the comparative size of changes in household net worth and fiscal policy. It turns out that changes in net worth are typically many times larger than “fiscal policy”, as that notion is commonly understood. On this basis such changes could well be more important to the macroeconomic outlook than purportedly contra-cyclical adjustments to government spending and taxation. In conclusion, macroeconomics textbooks still in thrall to the Keynesian paradigm – which in practice means the overwhelming majority of the textbooks recommended to students – need to be rewritten.

The income-expenditure model: some familiar accounts

The core of the income-expenditure model is well-known. National income is set equal to national expenditure, national expenditure is seen as a multiple of autonomous expenditure and the value of the multiplier is the inverse of the marginal propensity to save, which is one minus the marginal propensity to consume. In most statements output is said to depend on expenditure, so the equivalence of national income and expenditure is expanded into the notion of “the circular flow”. In the circular flow national expenditure is made possible by the spending of national income, which arises from the production of national output, which responds to national expenditure, which is made possible by the spending of national income, and so on. Much university teaching of macroeconomics begins with the circular flow. According to Mankiw in the eighth edition of his widely-used Macroeconomics, it is “a good place to start” as it “shows the linkages among the economic actors”.8

When fleshed out, statements of the income-expenditure model can become
appreciably more complex than the skeleton presented in the last paragraph. In the extreme, large econometric models with hundreds of identities and equations can be elaborated, and yet they still depend on the circular flow for their underlying conceptual integrity. In the UK one such model has been employed by the National Institute of Economic and Social Research for over 50 years. Christopher Dow, who moved from the Treasury to the National Institute in 1954 in order to develop the model, and later became chief economist at the Bank of England, was among its champions. In his words,

Interpretation of events cannot depend on unstructured observation, but has to be based on assumptions...about the causal structure of the economy...Total demand is defined in terms of real final expenditure; its level (in the absence of shocks) is determined by previous income; its result is output, in the course of producing which income is generated; income in turn goes to determine demand in the subsequent period.9

Alternatively put, once it has been established at equilibrium values, the circular flow of income, expenditure and output can carry on indefinitely from one period to the next unless it is upset by “shocks”.

What determines the equilibrium values? Here the multiplier and Keynes’ treatment of national expenditure come into play. In the most basic versions expenditure consists of just two components, consumption and investment. Consumption depends on income, with agents having average and marginal propensities to consume from income.10 Investment does not depend on income and in that sense is “autonomous”. The multiplier concept can be expounded in two ways. It can be presented in static terms, when national income comes out of the analytical process just once and then stays the same, period after period, as the circular flow keeps the variables repeating themselves. It is equal to consumption (C or c.Y, where c is the marginal propensity to consume and Y is income) plus investment (I), which logically must be (1-c).Y. Rer-arrangement gives Y = (1/[1-c]).I, where 1/(1-c) is the multiplier. The static presentation implies an obvious comparative static result. When investment increases from I1 to I2, equilibrium national income rises from (1/[1-c]).I1 to (1/[1-c]).I2.

The other approach is to envisage a multiplier “process” dynamically. The exposition starts from national income, Y, equal to national expenditure, E, and in equilibrium at (1/[1-c]).I, and posits an increase in investment to I2. This increase in investment continues in all future periods. In the first period immediately affected by the “shock”, expenditure rises to (1/[1-c]).I1 + (I2 – I1). This is clearly not (1/[1-c]).I2. However, in a well-known textbook discussion, the first shock to expenditure gradually becomes larger over successive periods and a sequence of shocks amounts to a geometric series that sums to (1/[1-c]).I2.11 Over time a new equilibrium is reached, with consumption rising to a new and higher level, when national income and expenditure are both (1/[1-c]).I2. Reassuringly, in equilibrium the static and dynamic multipliers reach the same conclusion.

Both static and dynamic accounts of the multiplier go back to the 1930s, when many of Keynes’ critics objected that the static version was “mechanical” and little more than
“a tautology, devoid of any behavioural significance whatsoever”.12 The critics were generally more sympathetic to the dynamic interpretation. Indeed, Robertson had written an *Economica* article in 1933 in which he used period analysis to illustrate the response of consumption to investment on the way to the new equilibrium. Hawtrey pointed out that, “the adjustment of income to which saving and active investment are made equal takes time”.13 Although the introduction of a time dimension was an analytical advance, it also created a potentially serious new problem. What would remain of the multiplier story if the value of the propensity to consume (i.e., the ‘c’ that was being compounded in the geometric series) changed radically from one period to the next, before the new equilibrium values of Y and E were reached? For the multiplier theory to retain credibility in real-world policy-making, it was essential both to understand the determinants of the propensity to consume and to be confident of their stability.

The significance of the value of transactions

Nowadays university economics teaching pays little or no attention to the value of transactions. The tacit assumption is that the income-expenditure-output circular flow is sufficiently comprehensive as a description of “how real economies function”, to quote again from the Mankiw textbook.14 In fact, in all real-world economies the value of transactions is many times higher than any of income, expenditure and output, and the circular flow is incomplete as a characterisation of the economy’s payments flows. The discussion here focuses on UK data, but the same point applies in all economies.

At one time bank cheque clearing represented well over 95 per cent of the total value of transactions in the UK, but technological change has resulted in much settlement now being done electronically. UK Payments Administration Ltd. is a service company for a range of quite diverse organizations specializing in payments settlement, including (for example) credit card and fraud prevention companies. According to its website, “The brands we support manage the systems behind UK payments, and every year these systems process payments nearly four times the value of the world economy.”15 According to the World Bank, the value of world output in 2013 was $75.6 trillion (i.e., $75.6 thousand billion) in nominal terms. So in the recent past the UK’s payments organizations have been overseeing transactions worth roughly $300,000b. or (at an exchange rate of $1.6 to the £) almost £190,000b. A fair proportion related to international transactions, with some transactions – notably inter-bank foreign exchange settlement – clearly not relevant to the matters under consideration in this paper. According to the *Annual Summary of Payments Statistics 2014* published on the website of Faster Payments Scheme Limited (a member of UK Payments Administration Ltd.), the total value of payments in the UK in 2014 was £73,804b. The latest national accounts estimates (at August 2015) give gross domestic product at market prices in 2014 as £1,791b.16 So the value of transactions was over 40 times the value of GDP. In comparing with the circular flow, allowance needs to be made for income, expenditure
and output, which together are of course three times GDP. Nevertheless, the value of all transactions in the UK in 2014 was roughly 13 times the value of transactions in the circular flow.¹⁷

For many economists, nothing of any significance has been suggested in the last paragraph. It is well-known that the value of transactions is exaggerated, relative to the three categories in the circular flow, by intermediate transactions and transfer payments. Intermediate transactions arise from companies’ buying and selling of inputs, which have the effect of causing transactions to be a multiple of value added. But so what? The purchases and sales of inputs cancel out, so that nothing fundamental follows for the determination of value added, and hence of national output or income. Similarly, transfer payments move the location of purchasing power from one agent to another, and perhaps from that agent to yet another, but do not represent the exercise of purchasing power in the sense that matters to the circular flow. They do not constitute the “effective demand” that motivates output and employment, and which Keynes emphasized as the concept at work in the analytical schema of *The General Theory*.¹⁸

However, two further types of transaction are overlooked entirely by the circular flow. It will now be argued that their non-appearance undermines the both the realism and the analytical coherence of the circular flow notion. Perhaps paradoxically in view of the later development of thought, Keynes’ own work contained one of the best presentations of the first of these transaction types. The two volumes of his 1930 *Treatise on Money* devoted many pages to the discussion of different classes of transactions, and the relationship between the functions of different money balances and the classes of transactions. The discussion began in chapter three of the first volume on *The Pure Theory of Money*, where – despite the title – the main observations were empirical and quantitative.

Keynes noted that two kinds of circulation could be distinguished, “the industrial circulation” and “the financial circulation”. He also referred to the total cheque transactions in 1927 in Great Britain of £64,000m., “to which must be added the transactions for which notes are used, making a total of more than sixteen times national income”.¹⁹ These remarks were the prelude to a much more detailed account of the two “circulations” in chapter 15. By “industry” Keynes meant “the business of maintaining the normal process of current output, distribution and exchange and paying the factors of production”, whereas “finance” was to be understood as “the business of holding and exchanging existing titles to wealth, including stock exchange and money market transactions, speculation and the process of conveying current savings and profits into the hands of entrepreneurs”.²⁰

Is it too much of a leap to suggest that Keynes’ “industrial circulation” in the *Treatise* is equivalent to the circular flow of income, expenditure and output, as presented in modern textbooks? After all, he did say that it corresponded to the “normal process” of spending income on output. Moreover, he added a page later that the money balances involved – which he termed “income deposits”, mostly held by individuals – “are constantly flowing into the business deposits [i.e., the money in company hands]
through the purchases of goods and out again through payment of wages”. 21 This does sound like a flow of payments that is repeated period after period.

An unfortunate consequence of circular flow thinking is to believe that expenditure is constrained by income, unless agents take on debt. Given the ubiquitous holding of money by virtually all agents in contemporary economies, and given also the obtrusive fact that people own assets that can be sold and consumed, this might seem strange. At any rate one result – endorsed in a much-anthologized 1944 Modigliani paper – is the notion that consumption depends on income plus an allowance of some kind for consumer borrowing, hire purchase or whatever.22 As will emerge later, consumers’ supposed dependence on borrowing to pay for above-income expenditure has had an influence on forecasting from the National Institute of Economic and Social Research.

The financial circulation and its leakages

What then is to be made of the “financial circulation”? Keynes undoubtedly thought that this circulation mattered to the economy’s behaviour. Chapter 15 of the first volume of the Treatise had four pages of comments on the industrial circulation, but nine on the financial circulation. The determinants of the financial circulation were “quite different” from those of the industrial. The money balances required “to look after financial business” depended, apart from changes in velocity, on “the volume of trading [multiplied by] the average value of the instruments traded”. Indeed, new investment in capital equipment and structures was, according to Keynes, “quite a small proportion of the total turnover of securities”.23 Additions to the nation’s capital stock in any one period were only a fraction of that capital stock, which had been accumulated over many past periods.

In short, transactions in Keynes’ “financial circulation” are to be viewed as purchases and sales of claims on existing wealth. Such claims include, for example, title deeds to buildings and land, and unquoted corporate equity as well as quoted securities.24 The transactions in the financial circulation are distinct from the transactions in Keynes’ “industrial circulation” or the textbook income-expenditure-output circular flow, while the industrial circulation and the circular flow might be seen as the same thing. So here is an important category of transaction that is outside the circular flow and overlooked in the vast majority of macroeconomics textbooks. Indeed, the available information suggests that in the UK it is these transactions that account for the greater part of the gap between the total value of transactions and the sum of national income, expenditure and output. In 2014 the value of “wholesale financial” transactions through the UK’s CHAPS (the Clearing House Automated Payment System) was £53,073b., whereas “retail and commercial” transactions came to £14,887b.

In principle, the buying and selling of existing assets could be sustained indefinitely, and yet have no contact with the transactions in the circular flow. But another type of transaction has now to be identified. It is this type of transaction – or, better perhaps, this sequence of transactions – that upsets the credibility and usefulness of the circular
flow, and is pivotal to the argument of the paper. The crux is that agents sometimes sell assets in order to create or add to money balances, which are then used in the circular flow. For the most part, when people sell shares, they intend to buy other shares or at least another financial asset. But sometimes they sell shares to buy cars or holidays. Alternatively, they can draw on their equity in the housing stock. They do not use all the proceeds of a home sale to invest in the equity of another home, but again buy cars or holidays. Of course, the transactions can be in the reverse direction, with reductions in consumption in order to rebuild financial assets or housing equity. More generally, Keynes’ financial and industrial circulations are not in separate, watertight compartments with no leakages between them. Instead agents – particularly individuals and households – have constantly to assess, over a life cycle of earning and spending, whether they wish to accelerate and increase consumption (relative to the previous period) or to postpone and decrease it. Payments can be made that link transactions in existing assets with the circular flow.

The statistics show that the financial circulation is a multiple of any of income, expenditure or output. The possibility of large leakages to and from the financial circulation must be recognised. The disparity in size between the financial circulation and the circular flow implies that any diversion from the financial circulation is equal to a higher percentage of the circular flow. Suppose that the total value of transactions is constant. If, say, 2 per cent of the financial circulation leaks into the circular flow, the value of income, expenditure and output rises by, say, 4 per cent. In an economy with a trend growth of 2 per cent a year in real terms, a swing of this kind is the difference between a cyclical upturn and downturn. Larger leakages – involving a modest share of the financial circulation (perhaps 5 per cent of it) – would result in booms and busts.

The trick of the savings-investment identity

The Keynesian textbooks tend to view “savings” as income minus consumption, and to emphasize its ex post identity of savings with “investment”. The investment–savings identity in this sense is the trick that makes the multiplier hang together conceptually. But the word “investment” is being used in a special way, as a component of effective demand and an item in national income accounting. In effect, the definition has been rigged so that investment cannot be anything other than equal to savings. As Humpty Dumpty would have warned Alice, the word has been defined to mean just what the Keynesians wanted it to mean.

In everyday life “investment” tends to be seen as the commitment of funds to a financial asset, with the purchase of unit trust units, life insurance policies or whatever. The commitment of funds for these purposes is part of “household savings”, as such savings are understood in, for example, the UK’s official sources-and-uses-of-funds data. The national accounts statements behind these data show the extraordinary complexity of “savings” and “investment” in the topsy-turvy real world. Indeed, the latest international conventions have made the notions of “net” and “gross” alarmingly
flexible, with meanings jumping around according to the context. In the UK’s annual *Blue Book*, with its supposedly definitive presentation of the national accounts, households’ gross saving (which is the denominator in “the savings ratio”) is the sum of their gross fixed capital formation and their net lending or borrowing of financial assets. Gross fixed capital formation is “gross”, in that it includes depreciation, which here is predominantly depreciation of the housing stock.

But the concept of depreciation is not applicable to financial assets! So the “net” in the phrase “net acquisition of financial assets” means the acquisition of money, bonds, equities and other financial instruments minus disposals of the same assets, while the “net” in “net lending” is that net acquisition figure minus the net incurrence of financial liabilities (i.e., of debt). Needless to say, with all the complexity official statisticians have difficulty reconciling the numbers actually at hand with the numbers that ought to come out conceptually. In the 2011, 2012 and 2013 calendar years, the statistical discrepancies between UK households’ financial and non-financial accounts were £13.0b., £12.5b. and £11.7b. respectively. These figures were more than 10 per cent of estimated “gross saving” in all three years.

The disingenuous investment-savings identity of the Keynesian textbooks draws a veil over both these troublesome real-world statistical issues and an immense amount of financial market activity. If households’ net acquisition of financial assets is positive, that reflects purchases of financial assets by households from other sectors of the economy (the financial and corporate sectors, mostly) above sales of financial assets to those sectors. Asset transactions between sectors can be a multiple of “net acquisition” by one sector. Further, and perhaps more fundamentally, a massive volume of asset transactions takes place within each sector. Changes in leakages between the financial circulation and the income-expenditure circular flow are usually trivial in size relative to the volume of asset transactions. One symptom of such changes is likely to be fluctuations in the savings ratio. As noted earlier, if the savings ratio is volatile while the dynamic multiplier process is unfolding, that process loses its analytical neatness and clarity. The later section on the savings ratio shows that, in the UK at least, its ups and downs within cycles are large enough to cast doubt on the meaningfulness of the dynamic multiplier as anything more than a classroom exercise.

**Leakages from the financial circulation and asset prices**

In the *Treatise* Keynes was well-aware that he was treading on problematic conceptual terrain. He was unsure about how best to classify and designate the phenomena in which he was interested. In a footnote to chapter three he mentioned “the non-income transactions of private individuals, arising out of (e.g.) loans for building or other purposes or changes of investments”, and wanted such transactions to be seen as “business transactions”. In chapter 15 agents were interpreted as seeking to balance “the quantity of money available for the industrial circulation” against the money balances at work in the financial circulation. Keynes noted that, with the prices of
securities vulnerable to erratic mood swings, the central bank might have difficulty in managing the quantity of money to preserve equilibrium. In a big equity bull market (such as that in the United States of America in 1928 and early 1929, when Keynes would have been writing), the central bank might be tempted to boost the quantity of money, in order to prevent a fall in share prices. But, in Keynes’ words, “If the [central] bank increases the volume of bank money so as to avoid any risk of the financial circulation stealing resources from the industrial circulation, it will encourage the ‘bull’ market to continue....”. In chapters 16 to 19 the potential tension between the two circulations was one theme in the playing-out of what Keynes termed “the credit cycle”.

Keynes has been invoked in these pages partly for polemical reasons, since his writings are often seen as the source of income-expenditure analysis. The last few paragraphs have demonstrated that his work also provides the basis for a fundamental critique of such analysis. Is it mischievous to suggest that the “Keynes” of the Treatise is different from the “Keynes” of The General Theory, and the “Keynes” of The General Theory is different from the “Keynes” of the 1948 Samuelson textbook? Appeals are constantly made to a canonical Keynes, but fashions in the notion of “Keynes” come and go. Whether Keynes is taken as an authority for the present argument or not, one question is evidently crucial. What determines the sign and size of the leakages between the two circulations which, undoubtedly, he did distinguish? Alternatively, when is the income-expenditure-output circular flow most likely to be subjected to big shocks in the form of leakages to and from the financial circulation? The conjectures in the Treatise point towards the answers. When asset prices in general are high (relative to the long-run norms expected over a lifetime), people may be keen to sell assets in order to boost consumption. Similarly, when the prices of financial securities are strong (again relative to long-run norms), they are more prepared than usual to sell those securities, and to convert the proceeds into either consumption or tangible investments, such as houses and other structures. (Conversely, when asset prices are low, people may be reluctant to sell assets and instead defer consumption to rebuild wealth.) Major interactions are to be expected between the level of asset prices and the size of leakages from the financial transactions, and between fluctuations in such leakages and the savings ratio.

That raises a further issue, “what is the key driver of the overall level of asset prices?”. This is a large topic and space constraints prevent detailed discussion. But an argument can be made that cyclical movements in asset prices (i.e., of equities and real estate especially, although bonds need also to be incorporated in the analysis) are heavily influenced by roughly contemporaneous fluctuations in the quantity of money created by the banking system. On this basis, the key defect of the income-expenditure flow as an analytical device is that it has no room for the banking system to determine the quantity of money, for the quantity of money to motivate asset prices, and for large swings in asset prices to cause big leakages to and from the financial circulation. (The quantity of money relevant to these statements is always one that is broadly-defined to include balances that have little connection with retail expenditure, but are critical to

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the portfolio decisions of large corporate and institutional investors.)

Unhappily, the standard textbook presentation of the circular flow says nothing whatever about banks, money and asset prices. Let it be acknowledged that more advanced statements are sometimes much better. For example, the entry on income-expenditure analysis in the first edition New Palgrave said that most textbooks oversimplified, with “the stock of productive capital, wealth and the ‘state of expectations’” as “given”, and expenditures as “cash-constrained”. These radical concessions might appear to anticipate the dissection of the circular flow in the current paper. Perhaps so, but many of the exponents of income-expenditure analysis in real-world forecasting do not seem to appreciate the force of the critique that is being levelled against it. The next section reviews the pitfalls of real-world forecasting when leakages from the financial circulation are largely overlooked.

Chart 1: Growth rate of nominal broad money in the UK, 1964-2015
Annual % growth rate of M4 until Q4 1998 and M4x from Q4 1998, quarterly

Leakages from the financial circulation: their significance for forecasting

The discussion so far implies that forecasts based on income-expenditure models are most likely to go wrong when asset prices are volatile, since it is asset price volatility that is seen here as a key influence on leakages between the financial circulation and the income-expenditure circular flow. Further, large fluctuations in asset prices are
attributed to roughly contemporaneous fluctuations in the rate of growth of the quantity of money, broadly-defined. These remarks suggest that macroeconomic forecasts based on the income-expenditure model ought to fail most seriously when the economy is subjected to instability in the rate of money growth. What have been the most well-defined periods of unstable money growth in the UK in recent decades? Charts 1 and 2 show the annual rates of growth of broad money, both nominal and real, in the five decades since 1964. In general, accelerations in money growth are more gentle than decelerations, suggesting that the decelerations ought to have been more troublesome in their macroeconomic impact. Chart 1 reveals three significant decelerations in the growth of nominal broad money,

• from 22.3 per cent in the fourth quarter (Q4) 1973 to 10.9 per cent in Q4 1974,
• from 17.0 per cent in Q2 1990 to 3.5 per cent in Q4 1992, and
• from 10.7 per cent in Q4 2007 to 3.7 per cent in Q4 2008 (and to 0.9 per cent in Q1 2010).

In Chart 2 the same three decelerations remain salient, although two others – at the end of the 1960s and the start of the 1980s – deserve notice. (The change in real broad money dropped from plus 10.4 per cent in Q4 1967 to minus 2.5 per cent in Q1 1970, and from plus 5.2 per cent in Q2 1978 to minus 6.3 per cent in Q2 1980.)

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<th>Chart 2: Growth rate of real broad money in the UK, 1964-2015</th>
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<td>Annual % growth rate of nominal M4/M4x adjusted for change in GDP deflator</td>
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All five of the identified phases of monetary contraction were accompanied by marked weakness in aggregate domestic demand, with at least one quarter of falling output. How good were the UK’s so-called “leading forecasting groups” in alerting policy-makers to these disturbances? Unhappily, they made large errors ahead of and during the cyclical upheavals in which monetary contraction occurred. They either misjudged the scale and timing of the recessions or were slow to see the strength of the above-trend growth ahead of the recessions. In short, they failed to warn about “boom and bust”. As noted above, the forecasting model at the National Institute of Economic and Social Research was built in the mould of Keynesian income-expenditure theorizing, and its quarterly Review exemplified the approach. However, the impression should not be given that the National Institute was unique in its understanding, or misunderstanding, of “how the economy worked”. Other forecasters, with similar models, were also wrong or very wrong.

The UK economy enjoyed reasonable macroeconomic stability in the first 25 years after the Second World War, an era sometimes known as “the Age of Keynes”. But economic growth was slow compared with that recorded in other advanced economies, notably those in the UK’s European neighbours. The Conservative government under Edward Heath attempted from late 1971 to secure faster output growth by deliberate demand stimulus, with a widening of the budget deficit associated with reductions in interest rates, financial liberalization and extremely fast growth of the quantity of money. Inflation was to be held in check by direct statutory control of prices and ages, in a “Counter-inflation Programme” spelled out in a January 1973 Act of Parliament. In its February 1973 Review the National Institute said nothing whatever about the growth of the money supply. But it approved of the main elements in government policy, especially fiscal expansionism and statutory wage restraint.

The Review provided an annual forecast through to 1976. Real GDP growth in 1972 was estimated to have been 2¼ per cent, and it was forecast to be an extremely fast 6¼ per cent in 1973. High but less extreme numbers of 5¼ per cent, 5 per cent and 3¼ per cent were to follow in 1974, 1975 and 1976 respectively. Detailed quarterly projections in line with this medium-term view were set out only for 18 months (or six quarters) ahead, with Q2 1974 being the last one for which precise forecast values were given. Total final expenditure, excluding stocks, was envisaged as being 5.9 per cent higher in Q2 1974 than in Q1 1973, which was put at £12,491m. “in 1963 prices”. The Counter-inflation Programme was assumed to be “rigidly adhered to” and in that sense to work, with the consumer price index in Q2 1974 coming out 6.1 per cent higher than in Q1 1973. Consumers’ expenditure (in real terms) in Q2 1974 was forecast to be 5.1 per cent above its level in Q1 1973, with the savings ratio falling from 9.6 per cent at the start of the 18-month period to 8.6 per cent at its end. The detailed forecast of consumption mentioned a “credit effect” as among the factors relevant to the outcome. The thinking behind this “credit effect” may have been that expenditure is constrained by income, unless the personal sector borrows by means of hire purchase or consumer credit
facilities. If so, the possibility that agents could spend above income by running down money balances or by selling assets seems to have been overlooked. The “credit effect” amounted to 1 per cent or more of consumption, and was evidently viewed as important to the change in consumption between years. (As noted above, an effect of this kind was proposed in a celebrated 1944 Modigliani paper. It must be noticed that, both then and now, personal sector assets are a multiple of consumer credit, and changes in the value of assets are usually many times larger than changes in consumer borrowing. But in 1973 the National Institute’s economists neglected the point altogether. See the Appendix for further discussion of the size of changes in household net worth relative to changes in one financial flow, the budget balance.)

The National Institute continued to advocate fiscal reflation and wage restraint during 1973, but demand proved to be more buoyant than forecast and inflation much worse. Six months later, in its August 1973 issue, the increase in consumer prices in the 18-month period to Q2 1974 was seen as likely to be 11.8 per cent. (Might a viable argument be that the surge in money was at least partly responsible, with M4 up by 22.9 per cent in the year to Q3 1973? But the National Institute’s Review contained no references to the money aggregates.) In the August issue total final expenditure, excluding stocks, was taken from official information as being £12,799m. in Q1 1973, again in 1963 prices. This was 2.5 per cent more than believed when the January 1973 Review was published, a difference equivalent to one year’s normal output growth. All the same, the forecast growth rate of aggregate demand from Q1 1973 to Q2 1974 was kept at a very high 5.9 per cent. Relative to the original starting-point understood in the February 1973 Review, real demand growth over the six-quarter period was to be a stonking 8.5 per cent.

By the time the February 1974 issue of the National Institute’s Review was published, the UK’s economic prospects had darkened dramatically. Inflation was running way ahead of the levels envisaged in legislation just a year earlier. Moreover, the government was embroiled in a bitter dispute with the coalminers’ union, which wanted a much larger pay rise than allowed by the Counter-inflation Programme. With the dispute interrupting coal supplies, industry was unable to maintain continuous production and was put on a so-called “three-day week”. Not only did the loss of output render implausible the National Institute’s growth enthusiasm of February 1973, it also created so much uncertainty that the February 1974 issue of its Review gave alternative “optimistic” and “pessimistic” forecasts. The average of the two forecasts can presumably be seen as “the house view”. On the key variable, the growth of aggregate demand, a vast re-appraisal was made. The average of the two February 1974 forecasts was that total final expenditure would be lower, by 2.7 per cent, in Q2 1974 than in Q1 1973.
Table 1: The National Institute’s forecast of UK output growth in early 1973, compared with the outturn

<table>
<thead>
<tr>
<th></th>
<th>Forecast in February 1973</th>
<th>Outturn, according to latest data in 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>2%</td>
<td>3.9</td>
</tr>
<tr>
<td>1973</td>
<td>6%</td>
<td>8.0</td>
</tr>
<tr>
<td>1974</td>
<td>5%</td>
<td>-0.9</td>
</tr>
<tr>
<td>1975</td>
<td>5</td>
<td>-0.2</td>
</tr>
<tr>
<td>1976</td>
<td>3%</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Source: National Institute Review for February 1973 and Office for National Statistics for outturn. (Mnemonic CDID in September 2015 database. Note that the outturn is on a 2010 price basis, whereas the 1973 forecast was on a 1963 price basis, and this may affect the comparison.)

The difference (in the assessment of real demand growth in an 18-month period) between the August 1973 and February 1974 issues of the National Institute Economic Review was therefore not far from 9 per cent of aggregate demand. For such a short period, this is the largest change in forecasting view by a reputable body known to the author.\(^4\) In the event 1974 suffered the worst slide in demand and output until then in the post-1945 period, an outcome that had become clear by early 1975. Table 1 compares the Institute’s February 1973 annual growth forecast for the 1972 – 76 period with the outturn, as the official data now judge the matter. Table 2 summarizes the major differences between the February 1973 and February 1975 issues of the Review in the numbers for the six-quarter period to Q2 1974.\(^4\) Note that, instead of falling from Q1 1973 to Q2 1974, the latest official data show that the savings ratio increased from 6.8 per cent to 7.9 per cent, and was to move up to 11.9 per cent in Q1 1975. (Note also that the increase in the savings ratio in the six quarters to Q2 1974, as shown in the latest national accounts data, is much less than that given in the February 1975 Review. The claim that the propensities to consume and save from income are stable lies at the heart of Keynesian macroeconomics. It is untrue as a matter of fact, but would in any event be difficult to establish in the real world because of serious measurement problems. The savings ratio is volatile, while the data series for it in the national accounts are subject to large and frequent revisions. See Chart 3 below and the discussion above on the trick of the savings-investment identity.)
Table 2: Changes in view (on six quarters to mid-1974) from February 1973 to February 1975 issues of National Institute Review

<table>
<thead>
<tr>
<th></th>
<th>Feb-73</th>
<th>Feb-75</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of national output in Q2 1974 compared with Q1 1973</td>
<td>+5.4%</td>
<td>-0.1%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Rise in consumer prices (consumer exp. deflator), Q1 1973 to Q2 1974</td>
<td>6.1%</td>
<td>16.3%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Change in savings ratio from Q1 1973 to Q2 1974</td>
<td>Fall of 1.0% of PDI</td>
<td>Rise of 3.6% of PDI</td>
<td>4.6% of PDI</td>
</tr>
</tbody>
</table>

Note: PDI is an abbreviation for ‘personal disposable income’.

The next big downturn in the economy after 1974 came in 1980 and 1981, but forecasters were fairly successful in flagging it up before it occurred. The above discussion of monetary trends showed that a major drop in broad money growth occurred in 1990 and 1991. It too was associated with a recession, although acknowledgement must again be made that forecasters did generally anticipate – six months to a year ahead of the event – that the economy would enter an awkward patch. (Business had to cope with the high interest rates and over-valued exchange rate due to the UK’s membership of the European exchange rate mechanism.) The serious misjudgements by leading forecasters in the boom-bust cycle of 1986 – 92 came early in its course, not at the end. In particular, virtually without exception, they were too late in spotting that the boom of 1986 – 89 was under way and too hasty during the boom in saying that it would soon halt without any significant change in government policy. From 1987 the tendency to make premature predictions of a slowdown was so widespread and recurrent that it even acquired its own label, “forecasters’ droop”.42

Broad money growth started to turn upwards in late 1985, after the “over-funding” of the budget deficit was stopped and the growth of banks’ deposit liabilities increasingly approximated to the growth of their loans to the private sector. (At this period banks’ claims on the private sector were typically rising at percentage annual rates well into the double digits.) The stock market advanced strongly in 1986 and early 1987, and the prices of houses and commercial real estate also increased sharply. But none of this was of any interest to the National Institute. In its February 1987 Review it instead noted that the “monetarist” policy framework in the early years of the Thatcher government had been “almost entirely abandoned”, so that the exchange rate had resumed its traditional role in UK policy-making of being “the main indicator of monetary stringency”.43 The quarterly forecast ran out to two years rather than the 18 months which had been the practice in the early 1970s. The Review predicted that GDP would...
rise by 1.5 per cent between Q1 1987 and Q4 1987, and by 2.5 per cent between Q1 1987 and Q4 1988. Despite the marked asset price gains that had occurred in the preceding year and were still being recorded, the National Institute did not envisage an upturn in domestic demand growth, let alone a boom. Indeed, since real GDP had risen by 5.4 per cent in the year to Q4 1986, its February 1987 assessment was for a pronounced growth slowdown over the next two years.44

Table 3 shows the evolution, in more or less successive issues of the National Institute Review, of numbers on the change in GDP from Q1 1987 over the next three quarters (i.e., to the end of 1987) and over the next seven quarters (i.e., to the end of 1988), and compares them with the eventual outturn.45 By August 1988 the phrase “the Lawson boom” had wide currency, as the economy’s indisputable cyclical buoyancy was attributed to the policy decisions of Nigel Lawson, the Chancellor of the Exchequer. But it is clear from the table that the National Institute was repeatedly behind events. In February 1988 it realized that it had been wrong about 1987, but it opined, “We expect the boom to be followed by a period of relatively slow growth.”46 Its forecast was for growth in 1988 to run at about half that in 1987. Even in August 1988, with only four months of the year left, it significantly under-estimated the outturn. In practice, growth in demand was higher in 1988 than in 1987. (The growth in output was much the same in the two years, because a high proportion of 1988’s demand surge could not be met by UK producers and resulted in a widening balance-of-payments deficit.) To summarize, actual growth to end-1987 was three times that forecast by the National Institute in its first 1987 assessment, while growth in the seven quarters to end-1988 was four times higher.

Again, it must be emphasized that the National Institute’s forecast was not an outlier. The Treasury’s forecast in March 1988 was somewhat more positive about the outlook for demand and output than the National Institute in its Review a month earlier, but not markedly so. Most independent private sector forecasts in early 1988 were similar to those from the National Institute and the Treasury. According to Christopher Smallwood, then the economics editor of The Sunday Times, “For economic forecasters 1988 will go down as the annus horrendous. It was the year they all got it wrong. And not just a little bit wrong, but spectacularly wrong.”47
Table 3: The National Institute’s forecasting record in the Lawson Boom

<table>
<thead>
<tr>
<th>Date of Review</th>
<th>Forecast growth of GDP from Q1 1987:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To Q4 1987</td>
</tr>
<tr>
<td>Feb-87</td>
<td>1.5</td>
</tr>
<tr>
<td>Aug-87</td>
<td>1.7</td>
</tr>
<tr>
<td>Nov-87</td>
<td>2.6</td>
</tr>
<tr>
<td>Feb-88</td>
<td>3.9</td>
</tr>
<tr>
<td>Aug-88</td>
<td>4.5</td>
</tr>
<tr>
<td>Outturn</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Source: National Institute Reviews for the dates in question and Office for National Statistics for outturn. (Mnenomic CDID in September 2015 database.)

By the start of the 21st century the importance of economic forecasting in the National Institute had been downgraded. Its forte had traditionally been an assessment of the budgetary stance (i.e., of fiscal policy) and analysis of this stance in macroeconomic strategy. But the 1997 decision to give the Bank of England independence in the setting of interest rates altered the relative significance of monetary and fiscal policy, and the National Institute chose not to second-guess the Bank’s Monetary Policy Committee. Its Review gave more space to research papers on topical themes and less to detailed macroeconomic forecasting. But the forecasting continued, and had many of the same biases and emphases as before.48

After a period of reasonable macroeconomic stability in the years of the Great Moderation (i.e., the 15 or so years from end-1992), broad money growth accelerated in 2006 and 2007 to annual per cent rates in the double digits. Faster money growth had preceded earlier periods of cyclical turbulence and served as a warning signal of future inflation trouble. Disquiet was expressed by a handful of commentators, some with known “monetarist” leanings.49 But in the run-up to the Great Recession, as in the prelude to both the Heath and Lawson booms, the main text of the National Institute’s Review did not mention the behaviour of monetary aggregates at all. The July 2008 issue contained an 18-page analysis of ‘Prospects for the UK economy’, with quarterly changes in output projected out to the end of 2010.50 Not one quarter of falling output was foreseen. The judgement was made that inflation would peak at 4.3 per cent in Q3 2008, “before gradually returning to the 2 per cent target over the next few years”. Interest rates were expected to remain at much the same level as then prevailing, with clearing bank base rate at 6 per cent. A fair verdict is that the risk of the Great Recession, or even the possibility of major macroeconomic instability, was overlooked.

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almost entirely. (In practice, output fell over 5 per cent from Q2 2008 to Q3 2009, while the annual rate of consumer inflation was more than 1 per cent above the 2 per cent target continuously from January 2010 to April 2012, and for a few months in late 2011 was above 5 per cent.)

As with earlier examples of major analytical lapses from the macro-econometric forecasting fraternity, the National Institute was far from alone. The Great Recession of late 2008 and early 2009 was global in impact, with the UK economy buffeted around by forces over which London-based policy-makers had little direct influence. None of the supranational authorities, with forecasting capability, such as the International Monetary Fund, the Bank for International Settlements and the Organization of Economic Cooperation and Development anticipated in mid-2008 that 2009 would see the worst demand downturn in the developed countries since the 1930s.

Chart 3: The savings ratio in the UK
Savings as a % of personal disposable income

Q1 Q3 Q1 Q3 Q1 Q3 Q1 Q3 Q1 Q3 Q1 Q3 Q1 Q3 Q1
Cyclical instability in the savings ratio

When presented with evidence that their forecasts had been badly awry in periods of asset price turmoil, a common ploy of the UK’s Keynesian macroeconomists was to point out that the savings ratio had fluctuated sharply. Given the textbook claim that consumption tends to be stable relative to income, and given the further premise that the multiplier ought therefore to be a robust and worthwhile conceptual category, the fluctuations in the savings ratio came as a surprise to them. The fluctuations could then be indicted as “unprecedented” aberrations that were difficult or impossible to predict. According to this kind of Keynesian, the blame for the forecasting errors could be placed on structural shifts in behaviour rather than on the exclusion of money and banking from income-expenditure modelling. It was noted earlier that stability of the savings ratio was indeed a central assumption of the Keynesian textbook approach to macroeconomics, but that large changes in the savings ratio might be due to asset price swings and hence to money growth variability. If money growth variability did indeed have this power, the Keynesians’ attempt to attribute their forecasting mistakes to structural behaviour shifts was at best misleading.

Chart 3 shows the UK savings ratio from 1963 to 2015. One message comes out immediately, that the savings ratio was not stable in any absolute sense. It was certainly not stable enough for the multiplier to be assumed constant from one cycle to the next or even within cycles. Admittedly, this does not demonstrate that large changes in the savings ratio were due to variability in money growth. However, the author has been able to find two periods when big changes in money growth were accompanied by a drastic shift in the savings ratio. Money growth decelerated abruptly in late 1990 and during 1991, in association with severe asset price declines. (This was the first occasion since the 1930s when UK house prices fell in nominal terms.) It also fell sharply over the year from mid-2008 as the main official response to banks’ funding problems, namely a tightening of regulation, caused them to restrict balance sheet expansion. On both occasions the savings ratio increased substantially. From Q3 1990 to Q1 1992 the increase was from 12.2 per cent to 16.6 per cent, and from Q1 2008 to Q3 2009 it was from 4.8 per cent to 10.1 per cent. While further research is needed, these experiences suggest a possible link between money growth and asset prices, and then from asset price movements to savings behaviour. If a link of this sort does obtain in reality, mechanical application of the multiplier concept in cyclical analysis is artificial and improper. Hawtrey and Robertson were right to be concerned in the 1930s about the length of the period, in terms of calendar time, that was needed for the Keynesians’ dynamic multiplier to make sense.
Changes in net worth, compared with fiscal policy

Recall Dow’s jibe about the need to avoid “unstructured observation”. According to the earlier quotation from his book on *Major Recessions*, income-expenditure analysis is built around a circuit of payments which is never-ending unless “shocked” in some way, unless – in other words – an injection or leakage of demand comes “from outside”. With the financial circulation forgotten, and the banking system, the quantity of money and asset prices all neglected (or even ignored), the structure of income-expenditure analysis biases policy-makers towards fiscal actions as the necessary and benign *deus ex machina*. As was discussed at the start, the renewed interest in Keynes at the start of the Great Recession was accompanied by an attempt at large-scale fiscal stimulus concerted across the economically largest nations.

The argument here has been that changes in net worth can motivate volatile leakages between the financial circulation and the income-expenditure circular flow. It follows that the relative size of fiscal policy and changes in household net worth is an important empirical issue. If the reader accepts that a surge in home prices and the stock market (i.e., an increase in household net worth) can affect people’s asset re-dispositions and consumption, the scale of changes in household net worth needs to be remembered in appraisals of the macroeconomic conjuncture. In general, national statistical agencies commit more resources to estimating the components of national income, expenditure and output than they do to preparing data on the national balance sheet. However, the USA has consistent official data on the household sector balance sheet back to 1945, and most other countries have some data on the subject, even if it is not consecutive over such a long period. In recent years the International Monetary Fund has provided figures on “fiscal policy” for many countries, with the concept at work being the change in the general government “structural” (i.e., cyclically-adjusted) fiscal balance as a percentage of GDP. The tables in Appendix 1 compare changes in household net worth with the IMF fiscal policy numbers for the USA and the UK since 1997. Charts 4 and 5 are based on those tables.

No doubt, these charts invite and permit many interpretations. However, two comments seem justified. First, changes in net worth are much larger, relative to national income and output, than fiscal policy. On average over the 1998 – 2013 period annual changes in net worth were 21 per cent of GDP in the USA and just under 12 per cent of GDP in the UK, if the sign is ignored. In both countries the annual change in the budget balance implied by “fiscal policy” was on average 1.2 per cent of GDP. Of course, agents do not try to run down assets by the full extent of recent capital gains and they do not compensate for capital losses by reductions in consumption that are exactly the same size. But, if their adjustments of current plans to recent balance-sheet changes amount to only a sixth or a quarter of such changes, it is clear that these adjustments are usually more powerful influences on aggregate demand than fiscal policy.
Chart 4: Net worth changes compared with fiscal policy in the USA, 1998-2013 See Appendix for details

Chart 5: Net worth changes compared with fiscal policy in the UK, 1998-2013 See Appendix for details
Secondly, the two tables add insights on apparent puzzles about the ineffectiveness of fiscal policy in the 1998 – 2013 period. The “fiscal cliff” episode is an example. As is well-known, numerous American economists of Keynesian leanings had expected in late 2012 that the looming drop in the US budget deficit would cause a plunge in aggregate demand. Most of the prospective tightening of fiscal policy did occur, but aggregate demand grew faster in the four quarters to end-2013 than in the previous four quarters. The seeming anomaly becomes readily explicable by the surge in household net worth, which amounted to about half of GDP in the year.

The persistence of the US recovery in 2013 might have led the American Keynesians to re-examine their models and to rethink their ideas. But that has not been the sequel. In 2015 Paul Krugman, a Nobel laureate and influential Keynesian columnist on The New York Times, switched his attention to the UK. In his view Britain was “a snookered isle” which suffered from a “terrible, no-good economic discourse” indifferent to Keynesian precepts. He expressed dismay about the tightening of UK fiscal policy by the Conservative government since 2010. However, significant apparent fiscal “austerity” had not prevented a recovery. Altogether over the four years to 2012 households net worth rose by 60 per cent of GDP, implying significant positive “wealth effects”. Along with other demand drivers, these effects seem in practice to have outweighed the “deflation” that was widely expected to stem from the government’s drive to lower the budget deficit. (Remember that the UK’s Keynesians – notably the 364 signatories of a letter to The Times – had forecast a deepening of the then recession in the British economy, to follow the Budget statement of 10 March 1981. The consensus view today is that the 364 were wrong, as the six years from mid-1981 saw trend or above-trend growth in the British economy, and a big rise in employment. Alternative claims are sometimes made. The debate on UK fiscal policy since 2010 has run on parallel lines to that after the 1981 Budget.)

Conclusion

Is the income-expenditure circular flow a “good place to start” in macroeconomics? And is the multiplier a valid and serviceable concept when confronted by the real-world challenges of data collection and appraisal, and then of policy-making? The income-expenditure circular flow pretends to be a all-embracing representation of the economy’s payments patterns. It is no such thing. In the UK the sum of income, expenditure and output is less than 10 per cent of the value of all transactions passing through the banking system. Some economists may dismiss this concern, by asserting that the remaining 90 per cent or more of transactions are derivative from the circular flow. But that is just not true. The standard textbook account of the circular flow is misleading on two counts. First, it fails to notice that transactions in existing assets – dubbed “the financial circulation” by Keynes over 80 years ago – are a high multiple of any of national income, expenditure or output.
Secondly, and yet more fundamentally, it is blind to the obvious possibility that agents’ net sales of assets allow them to spend above income, while net asset purchases require them to run expenditure beneath income. At an even more banal level, agents can purchase goods and services by running down their money balances. They do not in fact pay for goods and services with an amorphous blob of “income”. Most suppliers and retailers do not extend credit, and do not even know their customers’ income levels. Sometimes people can be net purchasers of assets, but also match income and expenditure, in which case they must logically be reducing their money holdings. Statements about their equilibrium conditions, and indeed about such conditions for the economy as a whole, must therefore refer to money and wealth. A well-established proposition in macroeconomics is that agents’ money holdings, as well as their non-money asset portfolios as a whole, must be at desired levels if national income is to be at equilibrium. But textbook statements of the circular flow typically do not mention as essential requirements of macroeconomic equilibrium that the demand to hold money be equal to the quantity of money actually created by the banking system or that the market value of the capital stock be equal to its replacement cost.

To reiterate, big shocks can be delivered to the circular flow by leakages to and from the financial circulation, with these leakages in turn the result of swings in asset prices that may have been motivated by oscillations in the rate of growth of the quantity of money. The paper has not presented detailed econometric work, but it has offered evidence that the savings ratio can be volatile even in the course of a single business cycle. It is plausible that this volatility is attributable to large changes in household net worth. The multiplier argument is central to the Keynesian view of national income determination and to the defence of fiscal reflation as a response to aggregate demand weakness. But the static version of this argument is merely a tautology, while the dynamic presentation depends on the stability of the savings ratio during the sequence of periods in which a demand injection is having its effects. As far as the UK is concerned, the facts are plain. In periods of asset price turbulence and monetary disequilibrium the savings ratio does not have the stability needed for the multiplier to be a useful or valid way of thinking about reality.

For good or ill, the circular flow is entrenched in practical macroeconomics. It has part of the apparatus of the Keynesian mind since the 1940s and will not be soon dislodged. Robert Neild, one of the two Cambridge economists who organized the letter from the 364 in 1981, remarked correctly in a 2012 note to the Royal Economic Society that Keynes proposed the income-expenditure approach in his 1940 articles in *The Times* on ‘How to pay for the war’. In that sense the circular flow was part of Keynesianism, as he and many others conceived it. Neild was also right to say that Keynes’ thinking transformed UK policy, because he “pioneered the use of national income accounts in macroeconomic management”. Indeed, it has become unimaginable nowadays to attempt a course in macroeconomics that does not appeal to both the “effective demand” notion advanced by Keynes in *The General Theory*, and the national accounting
concepts being developed, more or less simultaneously, by Colin Clark, Richard Stone and James Meade.

But students need to be told, at the earliest opportunity, that the equilibrium levels of national income and national wealth are interrelated, and that movements in the quantity of money are fundamental to the determination of both national income and wealth. They should also be alerted to two key features of modern economies, that the value of transactions in existing assets is a multiple of transactions in the circular flow, and that agents can pay for goods and services by running down money balances or by tapping into their wealth. Expenditure does not depend solely on income. The circular flow and the financial circulation are not separate, but interconnected, and leakages between them are likely to be substantial in periods of financial instability. The circular flow is a Keynesian construct, but the financial circulation was also one of Keynes’ most striking and useful innovations. The two ideas should be taught together in university macroeconomics courses.

Is the circular flow “a good place to start”, as Mankiw has claimed? This paper has argued that it is incomplete and unsatisfactory, and that the Mankiw textbook is wrong to imply that the circular flow embraces all “the linkages among the economic actors”. In the second half of the 20th century too many economists became addicted to the concepts in the Samuelson 1948 textbook and its epigones. The textbooks have remained much the same even into the early 21st century, and hydraulic Keynesianism is now a bad and widely-ingrained habit. The income-expenditure circular flow and the multiplier may give a kick to short-term macro-forecasters, but they have become dangerous intellectual narcotics. Like tobacco, they have done much long-term harm and should be marketed only with health warnings. A new generation of textbooks is needed. Less prominence should be given to the circular flow and the multiplier, and more attention should be paid to transactions in assets, the quantity of money and the banking system.
Appendix: Data on household net worth in the USA and UK

One of the main arguments in the paper is that changes in household net worth, because of asset price movements, are large relative to incomes, both within and between cycles. Leakages from the “financial circulation” (i.e., the payments circuits in which settlement is made for asset transactions) can disturb the income-expenditure circular flow, and cause expenditure to differ markedly from income. In most nations official statistical agencies do not generally give much prominence to estimates of household net worth, preferring to concentrate their resources on estimates of national income and expenditure. However, in the USA quarterly estimates of household net worth have been prepared by the Federal Reserve on an annual basis from 1945 and on a quarterly basis from Q1 1952. In the UK, where quarterly national accounts began in 1955, no official estimates of household net worth are available before 1997 and these are only end-year. The numbers for household net worth in the tables below are for the fourth quarter in the USA and the end-year in the UK, and in both cases the net-worth-to-income ratio is the net worth figure divided by Q4 seasonally adjusted GDP at market prices multiplied by four. Changes in the net-worth-to-income ratio are therefore for net worth relative to actual income, where GDP at market prices is taken to be “household income” conceived in the large, in that ultimately all income and output belongs to people and only to people.

For some years the International Monetary Fund has published data on the “structural” (i.e., cyclically-adjusted) budget balance for most of its member states, where the budget balance is expressed as a percentage of potential output (i.e., output when the “output gap” is zero). The change in the structural balance provides a measure of fiscal policy, although it should be noted that it is relative to potential, not actual, output. (The differences are likely to be small.) In comparing with changes in net worth, the numbers derived from the IMF database have been given with the sign reversed. An increase in net worth should encourage more expenditure, as should an increase in the budget deficit (i.e., the inverse of the budget balance), according to the textbooks.
### Table A1: Changes in net worth, compared with fiscal policy, in the USA, 1998-2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Net worth of GDP data</th>
<th>Calculation of ‘net worth’ effect</th>
<th>Fiscal policy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b Net worth</td>
<td>GDP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Net worth as % of actual GDP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change in net worth as % of actual GDP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change in government balance as % of potential GDP, with sign reversed</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>34,486</td>
<td>8,768</td>
<td>-1.1</td>
</tr>
<tr>
<td>1998</td>
<td>38,343</td>
<td>9,326</td>
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</tr>
<tr>
<td>1999</td>
<td>43,232</td>
<td>9,926</td>
<td>-1.3</td>
</tr>
<tr>
<td>2000</td>
<td>43,951</td>
<td>10,472</td>
<td>-0.7</td>
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<tr>
<td>2001</td>
<td>44,403</td>
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<td>2002</td>
<td>44,074</td>
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<tr>
<td>2003</td>
<td>49,481</td>
<td>11,817</td>
<td>1.1</td>
</tr>
<tr>
<td>2004</td>
<td>56,581</td>
<td>12,562</td>
<td>0.0</td>
</tr>
<tr>
<td>2005</td>
<td>62,604</td>
<td>13,382</td>
<td>-0.8</td>
</tr>
<tr>
<td>2006</td>
<td>67,392</td>
<td>14,066</td>
<td>-0.7</td>
</tr>
<tr>
<td>2007</td>
<td>67,832</td>
<td>14,685</td>
<td>0.8</td>
</tr>
<tr>
<td>2008</td>
<td>57,198</td>
<td>14,550</td>
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</tr>
<tr>
<td>2009</td>
<td>58,981</td>
<td>14,567</td>
<td>1.7</td>
</tr>
<tr>
<td>2010</td>
<td>63,364</td>
<td>15,230</td>
<td>1.8</td>
</tr>
<tr>
<td>2011</td>
<td>64,692</td>
<td>15,785</td>
<td>-1.4</td>
</tr>
<tr>
<td>2012</td>
<td>70,815</td>
<td>16,297</td>
<td>-1.6</td>
</tr>
<tr>
<td>2013</td>
<td>80,274</td>
<td>16,958</td>
<td>-1.5</td>
</tr>
</tbody>
</table>

Source: Federal Reserve for household net worth, Bureau of Economic Analysis for GDP at market prices and International Monetary Fund for fiscal policy.
<table>
<thead>
<tr>
<th>Year</th>
<th>Net worth of GDP data (£b)</th>
<th>Calculation of ‘net worth’ effect</th>
<th>Fiscal policy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net worth as % of actual GDP</td>
<td>Change in net worth as % of actual GDP</td>
<td>Change in government balance as % of potential GDP, with sign reversed</td>
</tr>
<tr>
<td>1997</td>
<td>3,199.0</td>
<td>357.6</td>
<td>-1.4</td>
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<tr>
<td>1998</td>
<td>3,322.4</td>
<td>352.8</td>
<td>-4.7</td>
</tr>
<tr>
<td>1999</td>
<td>3,630.9</td>
<td>369.7</td>
<td>-0.6</td>
</tr>
<tr>
<td>2000</td>
<td>4,065.2</td>
<td>394.0</td>
<td>24.3</td>
</tr>
<tr>
<td>2001</td>
<td>4,245.5</td>
<td>405.0</td>
<td>1.1</td>
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<tr>
<td>2002</td>
<td>4,798.7</td>
<td>419.8</td>
<td>2.5</td>
</tr>
<tr>
<td>2003</td>
<td>5,242.3</td>
<td>436.9</td>
<td>1.7</td>
</tr>
<tr>
<td>2004</td>
<td>5,658.2</td>
<td>444.4</td>
<td>0.5</td>
</tr>
<tr>
<td>2005</td>
<td>5,932.2</td>
<td>436.7</td>
<td>-0.6</td>
</tr>
<tr>
<td>2006</td>
<td>6,374.4</td>
<td>445.8</td>
<td>1.3</td>
</tr>
<tr>
<td>2007</td>
<td>6,864.1</td>
<td>455.2</td>
<td>0.7</td>
</tr>
<tr>
<td>2008</td>
<td>6,722.1</td>
<td>451.4</td>
<td>-0.3</td>
</tr>
<tr>
<td>2009</td>
<td>6,478.8</td>
<td>430.2</td>
<td>3.1</td>
</tr>
<tr>
<td>2010</td>
<td>7,144.5</td>
<td>454.5</td>
<td>-1.7</td>
</tr>
<tr>
<td>2011</td>
<td>7,306.6</td>
<td>448.1</td>
<td>-2.3</td>
</tr>
<tr>
<td>2012</td>
<td>7,320.6</td>
<td>439.6</td>
<td>-0.3</td>
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<tr>
<td>2013</td>
<td>7,644.5</td>
<td>439.2</td>
<td>-1.9</td>
</tr>
</tbody>
</table>

Source: Office for National Statistics for household net worth and GDP at market prices, and IMF for fiscal policy.
"On average, the short-run multiplier for the US economy is around 1.5. If the government spends about a billion dollars now, GDP this year will go up by $1.5 billion." Joseph Stiglitz *Freefall: Free Markets and the Sinking of the Global Economy* (London: Allen Lane, 2010), p.60.


“This is Alesina’s hour. In April in Madrid, he told the European Union’s economic and finance ministers that ‘large, credible, and decisive’ spending cuts to reduce budget deficits have frequently been followed by economic growth. He backed his proposal with historical research on rich countries’ experiences since 1980.” Keyes vs. Alesina. Alesina, who?, by Peter Coy, 29 June 2010 issue of *Bloomberg Businessweek* magazine.


The concept of a “transaction” is more awkward than it seems. The procedure here is to regard the value of the transactions in a nation as roughly equal to bank settlement business plus transactions in cash, to the extent that cash transactions can be monitored. This follows Irving Fisher in his 1911 *Purchasing Power of Money* and, as acknowledged in the text, Keynes in the 1930 *Treatise on Money*. Note that this excludes, for example, most transactions in specialized exchanges (such as commodity, securities and currency exchanges) and the transactions that are recorded in trade credit.


In this paper the consumption function is assumed to be linear, in line with most textbook treatments, so that the average and marginal propensities to consumer are the same.

To elaborate, extra incomes have been received in this first period and a proportion of them, c.(I₂ – I₁), is spent in the second period, so that expenditure in the second period rises to (1/[1-c]).I₁ + (I₂ – I₁) + c.(I₂ – I₁). This means that yet another boost to incomes occurs in the second period, and again a proportion of that boost c.(c.(I₂ – I₁)), or c²(I₂ – I₁) is spent in the third period, so that expenditure in the third period rises to (1/[1-c]).I₁ + (I₂ – I₁) + c.(I₂ – I₁) + c²(I₂ – I₁), and so on. Clearly, the successive additions to expenditure – due to the original shock to investment – constitute a geometric series, c.(I₂ – I₁), c²(I₂ – I₁), c³(I₂ – I₁)…The sum of the series is (1/[1-c]).(I₂ – I₁), or the multiplier times the increase in investment.


The discussion draws on Laidler’s discussion on pp. 290 – 91 of *Fabricating the Keynesian Revolution*, which in turn draws on Ralph Hawtry’s 1937 *Capital and Employment* and Dennis Robertson’s 1936 writings on *The General Theory*.

Mankiw *Macroeconomics*, p. 45.
A Critique of Two Key Concepts in Keynesian Textbooks

See the home page of www.ukpayments.org.uk, as at the time of writing (August 2015).


The value of non-cash payments in the USA in 2006 is estimated to have been $75,800b., compared with nominal GDP in the same year of $13,856b. See Geoffrey R. Gerdes ‘Recent payment trends in the United States’, pp. A75 – A106, Federal Reserve Bulletin (Washington, DC: Federal Reserve), October 2008 issue. The circular flow appears to be larger relative to total transactions in the USA than in the UK.


For current purposes the phrase “financial circulation” might be better replaced by “asset circulation”. Transactions in existing assets include, for example, transactions in second-hand cars and other long-lived consumer durables, antiques and works of art, jewellery, collectibles, vintage wine and indeed chattels of all sorts. It hardly makes sense to view these as transactions in financial assets.

The author proposed the concept of “mortgage equity withdrawal” in a joint paper with Paul Turnbull. (See ‘Introducing the concept of “equity withdrawal”’, pp. 274 – 87, in Tim Congdon *Reflections on Monetarism* [Aldershot and Brookfield, Vermont: Edward Elgar, for the Institute of Economic Affairs, 1992], based on a paper of 4 June 1982 for the stockbroking firm of L. Messel & Co., ‘The coming boom in housing credit’.) Dozens of articles have subsequently been written about “mortgage equity withdrawal” and its influence on personal expenditure, and the Bank of England regularly prepares estimates of its size. See also, for example, for the USA, Stiglitz *Downfall*, p. 2, for an estimate of “mortgage equity withdrawals” in the USA of $975b. in 2007, the year just before the Great Recession.


Because the propensity to consume is forever changing, the process cannot be thought of the summation of a geometric series.


The author gave an argument on these lines in *Money and Asset Prices in Boom and Bust* (London: Institute of Economic Affairs, 2005) and in the final part, part V on ‘How does the economy work?’, of his *Money in a Free Society* (New York: Encounter Books, 2011). The argument is related to Keynes’ extensive observations in the *Treatise*, as quoted in the current paper.


Modern UK monetary data started in 1963, following a recommendation in the 1959 Radcliffe Report.
34 Robert Lekachman *The Age of Keynes* (New York: Random House, 1966) is an example of this sort of thing.


38 Franco Modigliani – in his 1944 paper with much discussion of portfolio balance between money and bonds – thought that new personal borrowing was a key influence on consumption. Belief in the macroeconomic importance of new credit creation by itself persists, even though in all economies the value of transactions is a multiple – usually a several hundred-fold multiple – of new consumer credit or bank lending to the private sector. For an example of emphasis on credit, see the note by Richard Werner on ‘Quantitative easing and the quantity theory of credit’, Royal Economic Society’s *Newsletter Online*, July 2013.

39 The forecast (in Table 1 of the February 1974 issue of the *National Institute Economic Review*) was given in 1970 prices, reflecting the official shift from national accounting in 1963 prices. In 1970 prices total final demand in Q1 1973 was £17,353m. The optimistic forecast was that total final demand in Q2 1974 would be £17,167m., down by 1.1 per cent from Q1 1973; the pessimistic was that it would be £16,630m., down by 4.2 per cent on the same basis.

40 The May 1974 issue of the *National Institute Economic Review* conducted a post mortem (pp. 14 – 17) on the forecasting fiasco and concluded that it had not been much more wrong than the Treasury or the London Business School. Apart from the National Institute (which was in any close to the Treasury both intellectually and in terms of its physical location), the London Business School was at the time the main alternative source of macroeconomic forecasts outside the government machine.

41 In qualification, the price basis of the UK’s national income accounts changed in 1974, from a 1963 basis to a 1970 basis, and this would have had an effect on the growth rates of national income and the demand categories.

42 Tim Congdon *Keynes, the Keynesians and Monetarism* (Cheltenham, England, and Northampton, Massachusetts, USA: Edward Elgar, 2007), p. 73.


45 The numbers in the May 1987 and May 1988 *Reviews* are not included, as they were close to those in the preceding February *Reviews*. The outturn is from GDP data series “in 2010 prices”, with a different weighting of various GDP components from that applicable to contemporary analyses in the late 1980s, but the point is technical.


47 Smallwood overlooked that the author produced a February 1988 forecast (with his team at the stockbrokers, L. Messel & Co.) that was right in essentials and even quite a lot of detail, envisaging continued high growth, rising inflation and a large payments deficit. Unlike the mainstream forecasts with their income-expenditure model, the author’s approach assessed the credit counterparts to money growth, arrived at a forecast for the growth of the money stock, considered how different sectors of the economy would hold the extra money balances, and then drew conclusions for asset prices, demand and output, and for the direction of monetary policy. A brief account is given in Tim Congdon ‘The importance of money in macroeconomic forecasting – part 2’, pp. 191 – 94, based on an article in *The Spectator* of 11 March 1989, in Tim Congdon *Reflections on Monetarism* (Aldershot, England, and Brookfield, Vermont, USA: Edward Elgar for the Institute of Economic Affairs, 1992). The success of the author’s approach was noted in three chapters (pp. 50 – 154) of Gordon Pepper *Inside Thatcher’s Monetarist Revolution* (London and Basingstoke: Macmillan, 1989). UK Treasury officials rejected the suggestion that, in the Lawson boom, the relative accuracy of the money-based forecasts was due to the use of a different and possibly superior method. In response to a question at the House of Commons’
Treasury Committee in October 1991, Colin Mowl, the head of the Treasury’s economic analysis and forecasting group at the time, said, “Certain monetarists’ forecasts in the later 1980s were more accurate than a number of other forecasts, but if you have 20, 30, 40 forecasts being published, there will always be a handful more accurate than the majority.” (Martin Summers ‘Free the Liverpool Six!’, pp. 30 – 33, Economic Affairs [London: Institute of Economic Affairs], June 1992 issue. The Mowl quotation is given on p. 32.)

In fairness it should be pointed out the Institute increasingly incorporated changes in house price, and even in equity prices, in its forecasting exercises. The July 2008 issue (p. 58) of its Review contained a ready-reckoner of the effect of a 10% fall in house prices on consumption over the subsequent two quarters, for six countries, including the UK. The possible relationship between movements in broadly-defined money and the general level of asset prices was not discussed. See also footnote 52.

‘Higher rates may be needed to contain inflation’, letter in the Financial Times, signed by Tim Congdon and others, 27 September 2006, included the remark, “...rapid growth of money will lead to higher inflation”.


See, for example, the remarks from Jim Hibberd, a Treasury economist, in the summer 1990 issue of the Treasury Bulletin. In his words, the failure to recognise the buoyancy of demand in the late 1980s was due to “structural changes (primarily the deregulation of the financial sector) which led to unprecedented and unpredictable shifts in personal and company sector behaviour” Hibberd’s remarks were quoted on p. 33 of Martin Summers ‘Free the Liverpool Six!’, Economic Affairs, June 1992 issue.

The literature is enormous. See for a nice summary of the link between housing wealth and consumption in the USA, Congressional Budget Office Housing Wealth and Consumer Spending (Washington, DC: Congress of the United States, January 2007). Its concluding paragraph, which must have been written more than a year before the start of the Great Recession, ran, “If homeowners currently expected home prices to rise by 10 percent during 2007 but they instead fell by 10 per cent, housing wealth would end 2007 more than $4 trillion lower than expected. That would raise the saving rate by between 1.0 and 3.1 percentage points...After adding in a moderate estimate for the impact of [mortgage equity withdrawal], the total impact on consumer spending would be...between 0.7 percent and 2.2 percent of GDP. The upper end of that range...would most likely be enough to tip the economy into recession.”

According to the latest US national accounts data (August 2015) from the Bureau of Economic Affairs, gross domestic purchases in real terms rose by 2.1 per cent in the year to the fourth quarter of 2013, compared with 1.0 per cent and 1.7 per cent in the years to the fourth quarters of 2011 and 2012 respectively. (In terms of domestic final sales, the three years were similar, with increases of about 1½ per cent.)


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