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Gerrard Group PLC

Gerrard & King Limited
Cannon Bridge,
25 Dowgate Hill,
London, EC4R 2GN
Tel: 0207 337 2800
Fax: 0207 337 2801
e-mail: enquiry@gerrard.com

Lombard Street Research Ltd.
Cannon Bridge,
25 Dowgate Hill,
London, EC4R 2GN
Tel: 0207 337 2975
Fax: 0207 337 2999
e-mail: lsr@lombard-st.co.uk
www.lombard-st.co.uk

GNI Limited
Cannon Bridge,
25 Dowgate Hill,
London, EC4R 2GN
Tel: 0207 337 3500
Tlx: 884862
Fax: 0207 337 3501
e-mail: enquiry@gni.co.uk
www.gni.co.uk

Greig Middleton & Co. Limited
30 Lombard Street,
London, EC3V 9EN
Tel: 0207 655 4000
Fax: 0207 655 4321
e-mail: enquiries.greigm.co.uk
www.greigm.co.uk

Greig Middleton Financial Services Limited
30 Lombard Street,
London, EC3V 9EN
Tel: 0207 655 4000
Fax: 0207 655 4343

An embarrassment of surpluses

Problems of managing the UK's public sector windfall

21st century starts with robust public finances

For much of the 20th century the British Government had a struggle to finance its budget deficits without inflationary consequences. In the two world wars, and again in the 1970s, the Government had to finance its deficit in part by borrowing from the banking system. This was one cause of high money growth and inflation. The 21st century has started very differently. Using the familiar "public sector borrowing requirement" (renamed in 1997 the "public sector net cash requirement"), a surplus of £7.0b. was recorded in 1998/99 and £8.7b. in 1999/00. At Budget time a further surplus on the PSBR/PSNCR of over £5b. was expected in 2000/01. It is already clear - at this early stage - that a much larger surplus is in prospect.

Surplus on PSBR/PSNCR could reach £25b. in 2000/01

The surplus on the PSNCR in the one month of April 2000 was £6.7b., compared with £2.2b. in April 1999. This was a good start to the year, but much more fundamental is that the Government is to receive a windfall of £20b. from the sale of mobile phone licenses. The surplus for 2000/01 as a whole could reach £25b. (Note that the present Government - unlike its predecessor - downplays the PSNCR. It believes that the *cash* measure of the public sector's position does not capture the change in the Government's *net debt* because of asset sales, accruals adjustments and such like. The change in the Government's net debt is instead measured by "public sector net borrowing". The impact of the mobile phone auction on the PSNB in 2000/01 is small, because the mobile phone licenses last for 20 years and have to be accrued over that period.)

Interesting, and quite difficult, questions arise about how the Government should deploy the excess cash from the surpluses and debt sales

The Government can use its surplus in two main ways - to repay its debt or to build up assets. As the debt is dominated by gilt-edged securities, the obvious answer would seem to be to reduce the outstanding stock of gilt-edged securities. However, the demand for gilt-edged securities has been boosted by the Minimum Funding Requirement introduced by the 1995 Pensions Act. (See the research paper in the November 1999 issue of the *Monthly Economic Review*.) The Government feels that it has to respond to this demand by continuing to issue *long-dated* gilts. So the Government has the cash proceeds from *both* the surplus *and* the sale of long-dated debt. What is to be done with the money? It could redeem and buy back *short-dated* gilts, and apparently intends to do so on a large scale. But this also creates awkward problems. Short-dated gilts have traditionally been one of UK banks' most important liquid assets. If they were virtually to disappear, the banks would have to find alternative liquid assets, with instruments like certificates of deposit and eligible bills being manufactured in sufficient quantities. If that were deemed too artificial, the remaining option would be for the Government to increase its financial assets, such as its foreign exchange reserves and its bank deposits. But both foreign exchange intervention and the accumulation of large sums in the Government's deposit at the Bank of England would be controversial. The difficulties created by budget surpluses may be problems of success, but they are still problems.

Summary of paper on

“Money and asset prices in the UK’s boom-bust cycles: some theory”

Purpose of the paper

The recent buoyancy of equity markets has raised questions about the causes of asset price fluctuations. The research paper argues that the behaviour of the money supply, on the broad definitions, is fundamental to asset price determination. The asset price swings in the boom-bust cycles of the 1970s and 1980s illustrate the argument.

Main points

- * **National income and asset prices (i.e., wealth) are in equilibrium, only when the demand to hold money balances is equal to the quantity of money actually in existence. (See p. 3.)**
- * **Nowadays the most important alternative asset to money is corporate equity, in contrast to the 1930s when it was bonds. The classics of macroeconomic theory (such as Keynes’ *General Theory*) concentrated on the portfolio choice between money and bonds, but today it would be more realistic to think in terms of balancing portfolios between money and equities. (See p. 4.)**
- * **If a sudden and unexpected change in money supply growth causes the quantity of money to differ from the demand to hold it, agents take decisions - *by rebalancing their portfolios of assets* as well as by adjusting their spending on goods and services - to bring the quantity of money into line with the demand to hold it.**
- * **These decisions about the balance between money and assets are intelligible only if a broad definition of money is under consideration. Nowadays no significant agents balance assets against narrow money, the quantity of which is therefore irrelevant to asset price determination. (See p. 4.)**
- * **Large *transactions* - physical assets and paper claims to such assets (i.e., equities, bonds) - are being made constantly by investors and entrepreneurs, to equate the market value of capital assets (i.e., how much they cost to buy) with their replacement cost (i.e., how much they cost to make) and economic value (i.e., the discounted present value of future returns).**

This paper was written by Professor Tim Congdon, with help in the presentation of charts from colleagues in Lombard Street Research’s UK Service.

Money and asset prices in the UK's boom-bust cycles: some theory

Asset prices *are* heavily influenced by *broad* money

Conventional wisdom vs. the truth on broad money

Part of the conventional wisdom about British monetary policy is that the stability of the demand for broad money broke down in the early 1980s, largely because of financial deregulation. (1) As a result, broad money has been widely deemed to be of little relevance to macroeconomic outcomes over the last twenty years. (2) This paper argues that, on the contrary, fluctuations in broad money growth have been and remain crucial in the determination of asset prices and national income.

Concept of “monetary disequilibrium” crucial in the analysis

The paper has two main parts, which follow an introduction defining the subject more precisely. The first is loosely theoretical. It describes the nature of payments in a modern economy and emphasizes the importance of transactions in capital assets to the passage from “monetary disequilibrium” to equilibrium. (The concept of “monetary disequilibrium” is to be discussed and defined below.) The second distinguishes between different sectors’ demands to hold broad money. It isolates the financial sector’s money-holding behaviour as the source of the apparent instability in the aggregate demand for broad money; it also shows that – when analysed from a long-term perspective – one key group of financial institutions’ money-holding preferences have been stable. More generally, UK financial institutions’ money-holding behaviour plays a vital role in the determination of asset prices, while asset price movements are powerful driving influences on the business cycle.

**Introduction:
Defining the subject-matter**

The starting-point of the monetary theory of national income determination is that the demand to hold money balances is a function of a small number of variables, including national income. National income is in equilibrium if the demand to hold money balances is equal to the quantity of such balances actually in existence (i.e., the supply of money). (3) However, it is possible - after, for example, a sudden injection or withdrawal of money balances, or because of a shock to the price level - that the demand for money differs from the money supply. In that event national income is not in equilibrium.

National income determination and the money supply

National income will keep on changing unless demand for money is equal to the money supply

If the economy is closed to international trade and capital flows, the situation can be described as a “domestic monetary disequilibrium”. In the monetary theory of national income determination as expounded by Friedman, Patinkin and others, individual agents adjust their payments to eliminate the excess or deficiency of money holdings. Conceptually, the process can be envisaged as a sequence of rounds as agents adjust their money holdings (by purchasing or selling assets or goods) and move closer to their preferred money-holding positions. In the aggregate national income keeps on adjusting, until the demand for money is equal to the money supply and equilibrium is restored. (4) In some of the simpler and better-known accounts of the move from disequilibrium to equilibrium, the focus is exclusively on agents’ attempts to balance their money balances against their holdings of goods and services or, to

Money and the demand for “commodities”

adopt Patinkin’s word in *Money, Interest and Prices*, “commodities”.(5) Spending on “commodities” in these stories can be validly compared with “national expenditure” in the Keynesian model. The purpose in both cases is to determine the total demand for goods and so the derived demand for labour, with the level of unemployment being of course the ultimate concern of Keynesian economics.

Money and the demand for “bonds”,

More large-scale models introduce capital assets (i.e., they become two-good models, with a commodity good and a capital good) and financial claims on such assets. In the traditional literature of monetary economics, notably in the classic texts of the 1930s, these claims came under the generic label “bonds”. As the price of bonds changed in response to excess demands and supplies of other elements in the models, so too did the rate of interest.(6) In other words, an excess supply of money was taken to cause a rise in the price of bonds and fall in the rate of interest. The behaviour of the rate of interest could then become a potent influence on macroeconomic outcomes.

but “bond prices” are not always a shorthand expression for “asset prices” in general

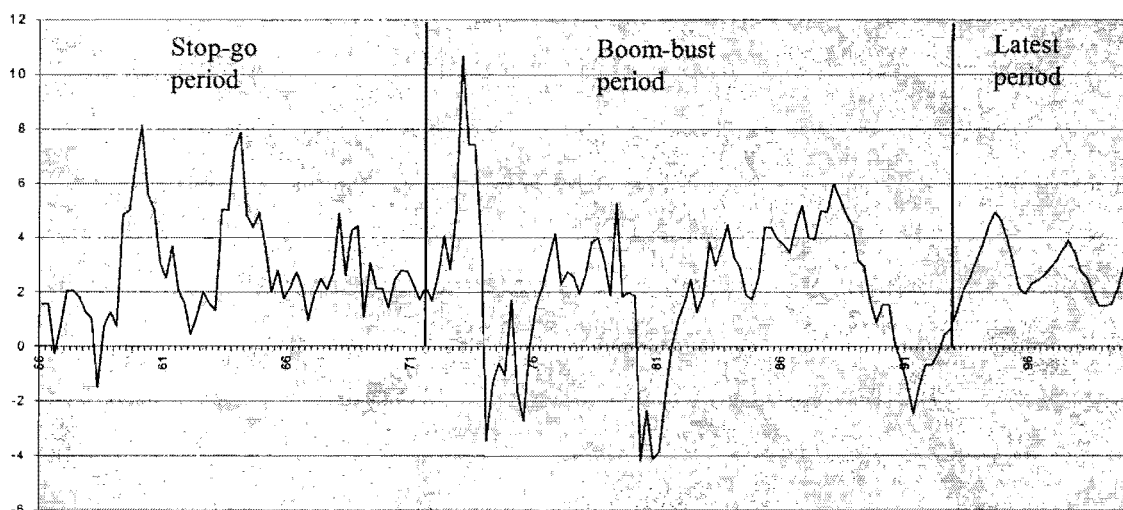
However, theoretical constructs do not neatly correspond to real-world categories. The emphasis on “bonds” in the classics of the 1930s reflected the deflationary pressures of the decade, as well as the large national debts in key countries such as the UK and France. Any real-world economy has a rich diversity of capital assets, while inflation disturbs the relationship between bond yields and capital asset values. When inflation expectations are entrenched, an excess supply of money may aggravate these expectations. In the inflationary world of the 1970s and 1980s, a rise in interest rates and falling prices of fixed-interest bonds were often associated with rapid increases in equity prices and commercial property values. Bond prices moved in the opposite direction from asset values in general. The familiar phrases “bond prices” and “rates of interest” were not representative of the demand price for capital assets, in the way taken for granted by the classics of macroeconomic theory.

Only a comprehensive measure of money (i.e., “broad money”) relevant in balancing money against other assets

A case can be argued that only broad measures of money play an interesting role in the working-out of monetary disequilibrium in the sense understood here. Econometric work typically finds narrow money to have a better-fitting relationship with some measure of expenditure (such as retail sales or gross domestic product) than broad money, but this is not a decisive reason for focussing on narrow money. Broad-money definitions try to include all money balances, whereas narrow money consists of only a subset of money assets. Almost by definition, it is therefore only with a broad measure of money that agents can be balancing their money holdings against other asset holdings and spending on goods. Disequilibrium in narrow-money holdings can be ended trivially by a transfer between different money balances, with no implication for spending.(7) Indeed, the dominant constituent of some narrow-money measures – notes and coin – is almost never used in purchases and sales of capital assets, and it is difficult to see how they can be of any relevance to the determination of asset prices. In the rest of this paper “the money supply” is to be understood as a broad measure of money.

Cyclical volatility in the UK economy, 1955 - 2000

Chart shows annual growth rate in real GDP at market prices, on quarterly basis. Note the contrast between the volatility of the period from 1972 to 1992, and the relative stability of the preceding seventeen years (i.e., 1955 to 1971 inclusive) and the following seven years.



A measure of instability is the “coefficient of variation”, measured here as the standard deviation of the growth rates divided by the average growth rate in the period in question.

Stop-go period (1955-71)

Average annual growth rate	2.80%
Standard deviation of growth rate	1.86
Coefficient of variation	0.67

Boom-bust period (1972-92)

Average annual growth rate	2.01%
Standard deviation of growth rate	2.72
Coefficient of variation	1.35

Latest period (1993-1999)

Average annual growth rate	2.88%
Standard deviation of growth rate	0.99
Coefficient of variation	0.34

(Note that, in distinguishing periods, the value for each quarter is the annual increase in GDP in the following four quarters. The boom of the early 1970s began in late 1971 - early 1972, but - on an annual basis - it only became evident in Q1 1973.)

Source: *Economic Trends*

Removal of monetary disequilibrium key motivating force in business cycle

To claim that the removal of monetary disequilibrium is the principal motivating force behind the business cycle is controversial. In the UK it became cogent and persuasive after the so-called "Competition and Credit Control" reforms in 1971.⁽⁸⁾ From then until the early 1990s fluctuations in nominal and real money growth were unusually large, both by international standards and the UK's own previous history. Three well-defined cyclical episodes were so extreme as to be labelled "boom-bust cycles". (According to the cycle-identification methodology of the Central Statistical Office, the precursor of today's Office for National Statistics, the trough-to-trough dates of the *four* cycles of 1970s and 1980s were Q1 1972 to Q3 1975, Q3 1975 to Q1 1981, Q1 1981 to Q4 1985 and Q4 1985 to Q2 1992. However, the period from 1982 to 1986 was quite stable, and the three boom-bust cycles are perhaps better understood as spanning 1972-75, 1975-81 and 1987-92.) The central analytical challenge becomes to explain in greater detail the connections between domestic monetary disequilibrium and the often erratic UK business cycle.

Focus is on domestic aspects of the process, despite the importance of UK's international financial linkages

Of course this is not to claim that the UK economy was operating largely in isolation from external monetary shocks. Not only did it receive direct demand impulses from the rest of the world, but also its capital markets were highly integrated with those in other countries. The rationale for concentrating on the domestic aspects of the monetary disequilibria is that the subject would become unmanageably large if all the financial interactions between the UK economy and the rest of the world had to be incorporated as well. The analysis of domestic monetary disequilibria requires financial market data of great variety and detail. It is fair to say that much of the following discussion would have been impossible in the 1960s because the data were simply not available. In this respect the Radcliffe Report of 1959 was undoubtedly a turning-point in British monetary economics. Despite being mostly sceptical - or even downright dismissive - of the monetary approach to national income determination, the Radcliffe Report recommended the collection of money supply statistics and other data on a regular basis. The official UK money supply series therefore start in 1963. Now - over 35 years later - some interesting, consistent and unexpected patterns have been revealed by the data. Arguably, they go a long way to validate an emphasis on money as the mainspring of the business cycle.

**Part I:
*Asset prices and asset markets in the passage from monetary disequilibrium to equilibrium***

A simplified quasi-theoretical exposition of the passage from monetary disequilibrium to equilibrium in a closed economy may introduce the discussion of data, real-world economic relationships and events. Consider an economy with money, a consumer good, an assortment of capital goods and paper claims on those capital goods. Nowadays, unlike the 1930s, the bulk of these paper claims are "equities", not "bonds". It is plainly an equilibrium condition that the market value of equities - individually and in the aggregate - be equal to both their economic value and the replacement cost of the capital goods to which they relate. The "economic value" is to be understood as the stream of future profits and rents, discounted by an interest rate, while the "replacement cost" is the cost of their physical production.

Assume steady state, with constant money growth

Suppose that the economy is in a steady state, where “a steady state” is taken to have three aspects. The first is that the ratios of money, the capital stock and the value of the paper claims to the capital goods are all stable in relation to national output, while output, money and the capital stock are rising at the same rate as output; the second is that output is at its trend level; and the third is that the rate of output growth is equal to the trend rate of output growth, implying no change in inflationary or deflationary pressures.

What happens if money growth increases?

Now assume a money supply growth shock. The rate of money supply growth suddenly increases, creating an excess supply of money. The excess supply of money can impact on any one or two or all three of the other elements in the economy. It can lead to,

- *excess demand for the consumer good,*

- *excess demand for the capital goods as such* (i.e., for buildings, plant and equipment, ships, planes, cars), and

- *excess demand for the paper claims on the capital goods* (i.e., for “equities” in short, although a wide variety of instruments exist in the real world).

- Excess demand for the “consumer good”

The macroeconomic consequences of the excess demand for the consumer good are familiar and straightforward, and do not need much discussion. The rise in demand causes a drawdown in inventories and prompts an increase in production. The required increase in production boosts output growth to an above-trend rate and takes the level of output also above its trend. (Unemployment falls beneath its so-called “natural rate”.) The rate of inflation rises. Eventually the increase in the rate of inflation matches the increase in the rate of nominal money growth. The rate of real money growth is again in line with the rate of trend output growth, restoring a steady-state equilibrium which is the same as before except that the rate of inflation is permanently higher.

- Excess demand for “capital goods”

The discussion of the two other types of excess demand is more complicated. The annual increase in the capital stock (i.e., “investment”) is a small part of the existing capital stock, while many capital assets are indivisible, or at any rate very lumpy, and excess demand cannot be met by a rundown in inventories. (For example, the services of office buildings cannot be provided more expeditiously by knocking down and adding storeys, according to the state of the business cycle.) Excess demand for physical capital assets is therefore likely to be associated with larger fluctuations in their prices than in those of consumer goods. The greater volatility of capital-goods prices (ships, planes, office buildings, even residential housing) than of consumer price indices is indeed a conspicuous feature of the real world. But, if the market value of a capital asset is higher than its replacement cost, businessmen invest more heavily in the asset in question. Their aim is to sell the capital asset and secure a capital gain. The extra investment boosts national output, which intensifies the excess demand arising from the increased spending on the consumer good. With

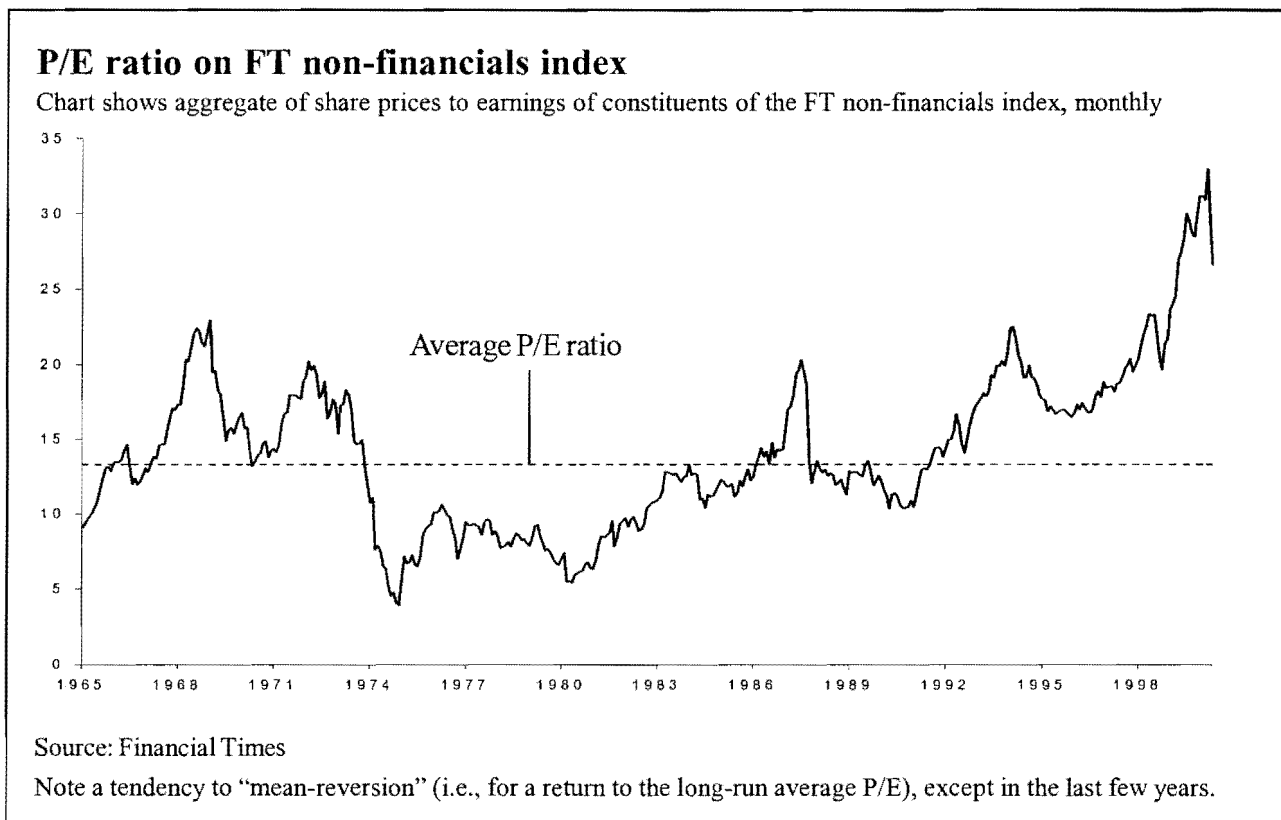
both output growth and the level of output above trend, inflation rises. The story then has the same conclusion as before, with the rate of real money growth sooner or later settling down at the rate of real output growth.

- Excess demand for paper claims on capital assets (i.e., equities, etc.)

The excess demand for paper claims on capital assets opens up even greater opportunities for instability. At least excess demand for the capital assets themselves can be met partly from increased production of the assets in question. The cost of producing the assets is usually well-known to businessmen in the relevant activity and acts as a constraint on "blue-sky" asset pricing. But "equities" are claims on profits for many later periods, and the relationship between future revenues and costs cannot be calculated precisely. The market value of assets in organized capital markets may diverge hugely from both their economic value and their replacement cost. (Quoted equities are often worth multiples of their "book value", whereas on some occasions they stand at a discount.)

but corporate finance activity keeps equity prices in line with the "fundamentals"

However, equilibrating mechanisms are at work. If market values are ahead of economic values, it makes sense for entrepreneurs to float their companies and sell their shares. Conversely, if market values are less than economic value, managements may borrow from banks to purchase the equity in the market and so take the assets out of the quoted sector. Purchases and sales of capital assets at ever-changing prices, as well as investment at varying rates in physical capital assets, tend in the long run to maintain a rough equivalence between the market value of a society's assets, their economic value and their replacement cost. (The dividend yield in equity



markets has a tendency to revert to the long-run mean; Tobin's "Q" - the market value of assets divided by its replacement cost - also has a history of reverting to a mean value not far from one, although that has not been true in the USA in recent years; the house-price-to-earnings ratio in the UK fluctuates around a long-run average of three to 3 1/2; and so on.(9))

A typology of different types of payment and a discussion of the relationship between them

So, conceptually, at least three types of payment are relevant in the elimination of the excess supply of money created by the upturn in money growth. They are payments on consumer goods, payments for capital assets and payments for paper claims on the capital assets. Only one type of payment is directly and exclusively relevant to the determination of national income and employment, that on consumer goods. It is true that payments for capital assets that are to be newly produced ("construction orders", "new plant and equipment orders") lead to "investment" in the national-income-accounting sense. But investment forms only a small part of all transactions in capital assets. In most industrial societies transactions in existing assets, outside organized capital markets with daily quotations, have a value which is a multiple of investment expenditure. Further and more important, turnover on organized capital markets - such as the Stock Exchange - is vastly higher than the value of transactions in less formal asset markets with sporadic deals and occasional valuations.

Arbitrage transactions and investment decisions constantly under way in capital assets

Examples of these less formal markets are those in residential and commercial real estate, in second-hand ships (which in the UK forms part of the Baltic Exchange's work) and planes, and in antiques (for example, the fine art auctions), and those which organize so-called "trade sales" of subsidiaries and small unquoted businesses to large, usually quoted companies. The distinction between, on the one hand, the informal and unquoted markets, and, on the other, the organized and quoted markets should not be pressed too far. In the real world arbitrage occurs between the two kinds of market. Commercial buildings can either be bought and sold in their own right, or they can be assembled into unquoted companies, or they can be packaged in quoted companies. Transactions are routinely under way for the purpose of exploiting one corporate form rather than another, as well as for other reasons.

Are payment flows in capital assets distinct from "the circular flow of income"?

The markets in capital assets and the markets in paper claims on capital assets are therefore highly interdependent. Some economists might want to argue that all transactions in existing capital assets need to be separated from transactions relevant to the determination of national income and expenditure. They would like to denote one set of payments as "capital payments", another as "the circular flow of income" or whatever. Indeed, the standard university macroeconomics text has a chapter (or, at any rate, a long section) on "the circular flow of income". It is this "circular flow" - plus or minus demand injections or withdrawals from investment, government spending and net exports - which is said to determine national income. Indeed, the circular flow of income is presented as an essential, even a defining, item in the toolkit of Keynesian economics. By contrast, the standard text says almost nothing about the transactions which take place in existing capital assets.

Keynes' "financial circulation" and "industrial circulation"

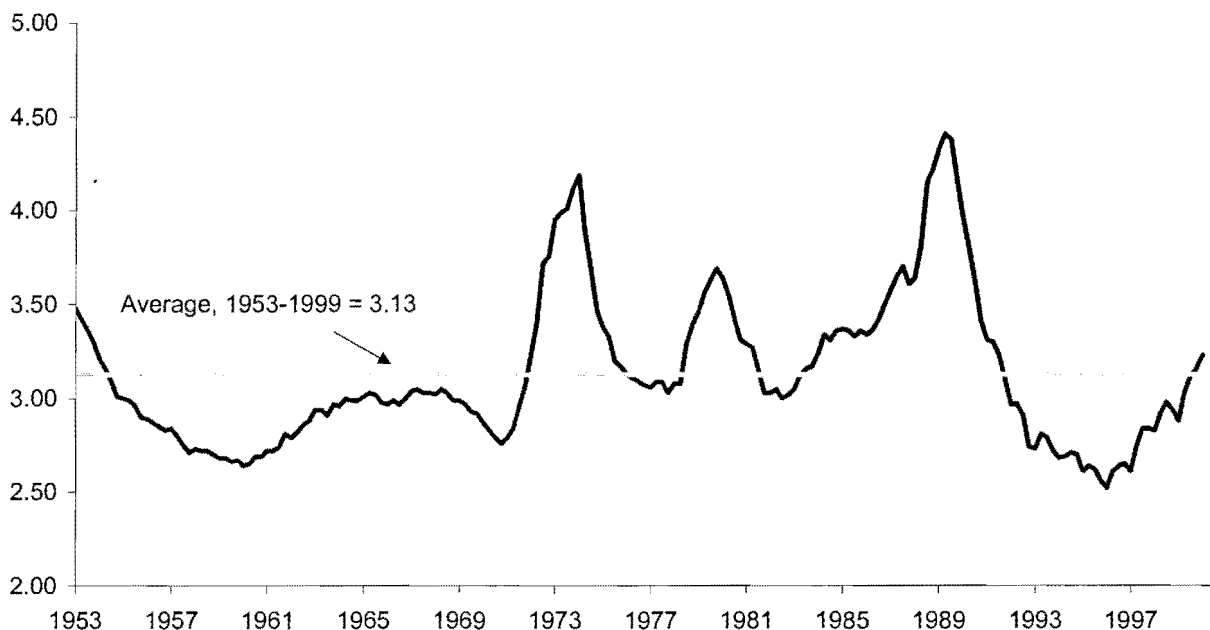
Ironically, Keynes' own writings take a broader perspective. In his *Treatise on Money* he differentiated between the "financial circulation" and the "industrial circulation". By industry Keynes meant "the business of maintaining the normal process of current output, distribution and exchange and paying the factors of production their incomes"; by finance he meant "the business of holding and exchanging existing titles to wealth... , including stock exchange and money market transactions". He suggested that the money balances used in the "industrial circulation" might be expected to "vary with ... the aggregate of money incomes", while those used in the "financial circulation" would be "determined by a quite different set of considerations", namely the level of security prices, the extent of turnover in securities and investors' "bullishness" or "bearishness". He also remarked that "in a modern stock-exchange-equipped community the turnover of currently produced fixed assets is quite a small proportion of the total turnover in securities".(10)

People try to convert excess asset holdings into consumption

A serious mistake here would be to leap from the valid and useful analytical distinction between the three different types of payment (i.e., some to pay for consumer goods, others for capital assets, others for paper claims on such assets) to the conclusion that in the real world the flows of such payments take place in unrelated compartments. As already emphasized, investors and businessmen conduct arbitrage between

House prices and earnings

Chart shows ratio of house prices to average annual earnings, using Nationwide house price data.



Source: Nationwide Building Society

In the 37-year period, the average annual rate of house price increase was 8.2% and the average annual rate of earnings increase was 8.3%.

organized capital markets and informal markets in capital assets. Such arbitrage is indeed so extensive and frequent that the notion of separate markets in capital assets is viable only as an abstraction. It has to be emphasized that - as Adam Smith remarked - consumption is "the sole end and purpose" of economic activity. In the final analysis the owners of capital assets want to convert them into consumer goods or, at any rate, into capital assets from which they receive psychic benefits which are akin to consumption (such as large houses, works of art and so on).

Payment flows in capital assets not distinct from the "circular flow of income",

Economic agents can sell capital assets (and paper claims to capital assets) and use the proceeds to purchase consumer goods. Alternatively, they can reduce the proportion of their incomes spent on consumer goods and use the residue to invest in capital assets or paper claims on capital assets. *In the real world there is no compartmentalization between those payments for goods and services which directly determine national expenditure and the other types of payment for capital assets and paper claims to such assets.*(11)

which is an artificial and misleading construct

It follows that the "circular flow of income" is an artificial and misleading construct. In an advanced industrial economy - with a massive capital stock relative to current output and large, sophisticated and liquid capital markets - expenditures on currently-produced goods and services form only a tiny fraction of all payments. Moreover, individual agents - particularly wealthy individuals and companies - can at times finance expenditures on currently-produced goods and services which are a multiple of their income. (It has to be strongly emphasized and understood that they can do this without borrowing. The ability of certain agents to spend above income reflects their asset holdings, not their access to credit. They can sell assets to boost their money balances, in order to spend above income; they do not have to borrow.) On the other hand, the expenditures of companies and rich individuals may in other periods be a fraction of income. It is such expenditure fluctuations by asset-rich agents - not demand injections or withdrawals by government - which dominate the business cycle in modern economies.

Working-out of monetary disequilibrium via assets, including equities, and not just goods and services

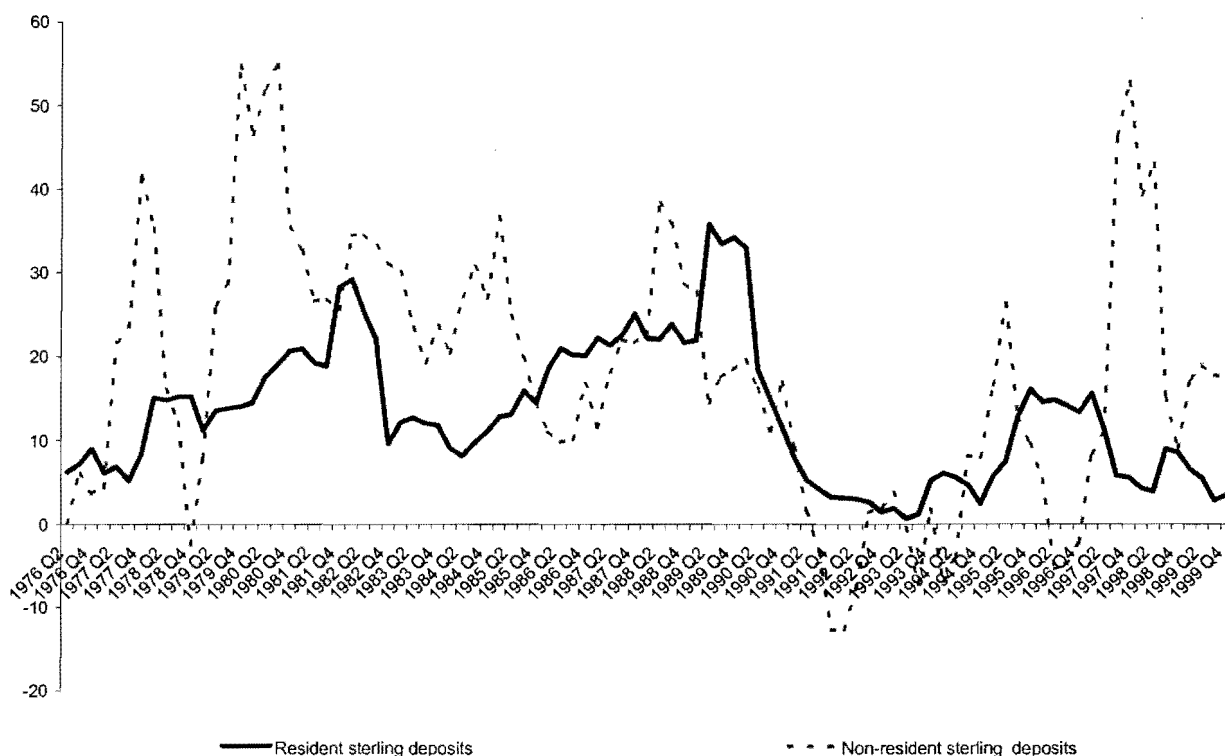
A further and related idea is central to the current paper. When the demand for money differs from the supply, agents try to eliminate the disequilibrium not merely by changing their expenditures on currently-produced goods and services, but also by changing their payments for capital assets and paper claims to these assets. By implication, the working-out of monetary disequilibrium affects not merely the price level and quantity of national output, but also the price levels of capital assets and equities, as well as all other transferable claims to assets and property. *Indeed, the impact of monetary disequilibrium on the valuation of equities (and capital assets in general) is inextricably connected with the determination of investment and national income.*

Part II
Different
sectors'
demand-for-
money
behaviours:
background to
the UK data

Since 1963 the Bank of England has compiled data on the monetary holdings of different economic sectors, as well as the various aggregates of monetary assets (i.e., M0, M1, M3 and so on). The five main sectors, apart from the banks themselves, are the public sector, the overseas sector, the personal sector, the corporate sector and the non-bank financial sector. The public sector's money holdings have typically been small relative to banks' total deposit liabilities and are, in any case, of little relevance to decisions on public expenditure; they are not included in the standard money supply measures and will be ignored in the rest of the paper. The overseas sector's sterling holdings have been significant throughout the period and have on average grown faster than resident money holdings, but - as already explained - the analysis of their behaviour is not part of the paper. The three remaining sectors are the personal, the corporate and the non-bank financial.

Resident and non-resident sterling deposits

Chart shows % p.a. increases in private sector resident and overseas sector sterling deposits, in both cases held in the UK banking sector. Figures until Q1 1997 refer to UK banks, thereafter to UK "monetary financial institutions" (i.e., including building societies).



Source: *Financial Statistics*

Note that the overseas sector's deposits were generally growing faster than residents' deposits. As such deposits would in many cases have formed part of portfolios with other UK assets (including equities), the rapid growth of the overseas sector's deposits was relevant to UK asset price inflation. However, their role is not discussed at length in the paper.

Changing system of sectorization in money data

One complication is that the system of sectorization has varied over time. Until the adoption of the European System of National Accounts in September 1997, the definitions were more or less stable. The personal sector included not only households, but also unincorporated businesses (such as professional partnerships and farms) and charities. The corporate sector as such embraced “industrial and commercial companies” or ICCs, while the financial sector covered “other (i.e., non-bank) financial institutions” or OFIs. The ESA introduced a new system of sectorization, with the personal sector being replaced by the household sector, while the other two sectors became “private non-financial corporations” (PNFCs) and “other [i.e., non-bank] financial corporations” (OFCs), and small adjustments were made to the sectors’ definitions. Fortunately, the definitions were broadly consistent over a sufficiently long period - from 1963 to 1997 - that sensible statistical inferences can be drawn. For expository convenience, the three sectors will in the rest of the paper be termed the personal, corporate and financial sectors, and the constituents of the sectors “people”, “companies” and “financial institutions”. More precise usage is adopted only if it is where made necessary by the context.

Personal sector’s demand to hold money is stable

A first step is to suggest relationships between the sectors’ money requirements and the different types of payment discussed in the previous sections. The personal sector’s demand for money is that most immediately and obviously relevant to expenditure on currently-produced goods and services. After all, consumption is both the largest component of national expenditure and can be carried out only by people. However, the personal sector’s money balances include an element which might be categorized as for saving rather than consumption. This element has not only been sizeable throughout the last 35 years, but has also grown at a faster rate than the balances deemed mostly applicable to consumption. A common tendency in the literature is to characterize “the balances deemed applicable to consumption” - namely, notes and coin, and sight deposits (particularly non-interest-bearing sight deposits) - as “transactions money” and the remainder as “savings money” (or something of the sort). For reasons which will become apparent in the next two paragraphs, this characterization can be misleading and is arguably very dangerous.(12)

Corporate sector’s is less stable, with money sometimes used for very large transactions

The corporate sector’s money holdings have always been smaller than the personal sector’s in the period under review. Of course, companies have no income in their own right, since ultimately they belong to shareholders. So the legitimacy of including income (or gross domestic product) as an argument in the corporate sector’s demand-for-money function is debatable. The corporate demand for money may instead be interpreted as an aspect of the portfolio balance that companies maintain in order best to serve their shareholders’ interests. The corporate demand for money is therefore located, to a large extent, in the flows of payments for capital assets and paper claims to such assets rather than in expenditures on currently-produced goods and services. Big capital transactions such as mergers and take-overs, and the purchase and sale of subsidiaries, land and buildings, are particularly the responsibility of the corporate sector. The word “transactions” has been used here deliberately, to emphasize that the tendency to describe the money balances used in small-scale retail purchases as “transactions money” is a misrepresentation.

Financial sector's money is held in order to improve the timing of asset purchases

Like industrial and commercial companies, non-bank financial institutions have no income in their own right. They exist in order to secure good investment returns for ultimate beneficiaries, the people who hold claims on them (i.e., the policy-holders who own the insurance policies, the pensioners who are receive retirement payments from pension funds, the unit-holders who own unit trusts and so on). Again as with the corporate sector, but to a much greater degree, the financial sector's transactions are in capital assets and paper claims to them. Financial institutions do not hold money in order to smooth purchases of goods and services for consumption, but - almost entirely - in order to improve the timing of their transactions in assets. In fact, in the UK only a small proportion of non-bank financial institutions' transactions enter the circular flow of income in the textbook sense. In any one-year period these transactions - the financing of investments in commercial property and venture capital which lead to the creation of new capital assets - are miniscule compared with the value both of total assets under their control and the turnover in these assets.

Demand to hold financial sector money unlikely to be a stable function of income

In short, on theoretical grounds only personal sector money holdings ought to have a reliable link with national income. Some relationship between companies' money and national income may obtain, but it is unlikely to be as stable or as predictable as the personal sector's. Finally, financial institutions' money balances are more likely to be a function of asset prices than of national income. Although financial institutions' money may in the long run have a relationship with national income, that will depend on the stability of the connection between asset prices and national income, as well as such variables as the proportion of a nation's savings which are intermediated through financial institutions rather than held directly by their owners.

and changes in importance of financial sector money to total money will affect stability of aggregate demand-for-money function

More generally, two points emerge. First, long-term changes in the relative importance of companies' and financial institutions' money in aggregate money are likely to be associated with long-term changes in the ratio of money to national income. Secondly, insofar as large cyclical fluctuations in the aggregate quantity of broad money are accompanied by similar (or even greater) fluctuations in companies' and financial institutions' money, the initial impact will tend to be on asset prices rather than the price level of goods and services. Ultimately, the price level of goods and services must adjust, but the response of the price level in goods and services to asset prices is part of a larger process of macroeconomic equilibration. Although monetary disequilibrium may be the trigger for that process, the role of excess or deficient money in the determination of the general price level may be obscured by the violent and often arbitrary behaviour of asset markets.

Notes

- (1) A. J. C. Britton *Macroeconomic Policy in Britain 1974-87* (Cambridge: Cambridge University Press), p. 106. Other statements on similar lines are legion.
- (2) See, for example, the collection of papers on *Economic Models at the Bank of England* published by the Bank of England in 1999. The volume *does* include several references to the quantity of money, but they are infrequent,

miscellaneous and disorganized. On p. 45 an equation is given for “broad money demand”, with “real broad money holdings” said “to *respond to activity, wealth and interest rates*” (author’s italics). The prevailing view – here and throughout the collection – is that the quantity of money adjusts to forces established elsewhere in the economy. However, p. 114 notes that “broad money (M4) holdings of industrial and commercial companies were found to contain statistically significant leading-indicator information about fixed investment by companies”, which clearly implies that fixed investment *might be responding to money*, rather than the other way round. This possibility is then abandoned with the comment that, “Astley and Haldane [the authors of the research] rationalised” the relationship “as reflecting ICCs increasing their money balances ahead of planned but lumpy investment outlays”. In other words, money balances were judged not to have any independent causative role in the economy, but to be anticipating spending decisions already determined by influences other than companies’ money balances. *At no point in the collection of papers do the various Bank of England authors contemplate the idea that spending decisions could be motivated by an excess or deficiency of money balances.* It is hard to resist the conclusion that “the Bank of England” has learnt rather little from the macroeconomic instability of the 1970s and 1980s, despite a welcome expansion in its monetary research agenda since the 1960s. Part of the trouble is that the concept of “the Bank of England” is hardly stable because of the constant changes in personnel, particularly in the research function.

- (3) This is standard textbook fodder. See the section on “The supply of money, money market equilibrium and the LM curve”, pp. 105 – 110, in R. Dornbusch and S. Fischer *Macroeconomics* (New York: McGraw-Hill, Inc., 6th edition, 1994). There is no doubt – however – that many people find the terminology difficult and believe that “the demand for money” is “the demand for new bank credit”. This is *not* so. The “demand for money” is always to be understood in academic monetary writing as the demand to hold money balances.
- (4) The classic discussion of this idea is chapter three of D. Patinkin *Money, Interest, and Prices* (New York: Harper & Row, 2nd edition, 1965).
- (5) “...[I]f the individual’s initial [money] balances are for some reason increased above the level which he considers necessary, he will seek to remedy this situation by increasing his amounts demanded of various commodities, thereby increasing his planned expenditure, and ...drawing downhis balances.” The quotation is from pp. 18 – 9 of D. Patinkin *Money, Interest, and Prices* (New York: Harper & Row, 2nd edition, 1965).
- (6) See, for example, p. 104 of – once again - Dornbusch and Fischer *Macroeconomics* which states, “The total amount of real financial wealth in the economy consists of existing real money balances and real bonds.” This would be a puzzling statement if it were supposed to have some relevance to the real world (which of course has a plethora of financial assets other than money and bonds), but it is readily explained by the huge influence the classics of the 1930s still wield over the writers of textbooks in the 1990s.
- (7) This point – and its crucial implications for the debate about the significance of different money aggregates – was emphasized in T. G. Congdon ‘Broad money vs. narrow money’, pp. 13 – 27, *The Review of Policy Issues*, vol. 1, no. 5, 1995 (Sheffield).

- (8) See, particularly, 'Disequilibrium money – a note', pp. 254 – 76, in C. A. E. Goodhart *Monetary Theory and Practice* (London and Basingstoke: Macmillan, 1984).
- (9) The recent book by A. Smithers and S. Wright *Valuing Wall Street* (New York: McGraw-Hill, 2000) emphasizes the long-run stability of Tobin's "q", i.e., the ratio of stock market value to "corporate net worth", which is roughly to be equated with the book-value of corporate assets.
- (10) The key chapter is chapter 15 in Book IV of *A Treatise on Money* from which all the quotations are taken. See pp. 217 – 30 of *A Treatise on Money* (London and Basingstoke: Macmillan for the Royal Economic Society, 1971, originally published in 1930). The distinction between income deposits, business deposits and savings deposits in *A Treatise on Money* is recalled in chapter 15 of *The General Theory of Employment, Interest and Money*, which develops a somewhat different but related distinction between the transactions, precautionary and speculative demands for money. The "savings deposits" of *A Treatise on Money* are said to correspond to money held for the precautionary and speculative motives in *The General Theory*.
- (11) An example of the interplay between payments for capital assets and payments for goods and services is provided by "equity withdrawal" in the housing market. The purchase of a house with borrowed money may appear to be, quintessentially, a transaction in capital assets separate from "the circular flow of income". But this overlooks that the vendor can use the sales proceeds for whatever purpose he or she wishes, including consumption. The notion that the loan proceeds somehow "go into the housing market" – and nowhere else – is a crude misunderstanding. Obviously, the sale of a house allows housing equity to be translated into consumption. The point was explained in 'Introducing the concept of "equity withdrawal"', pp. 274 – 87, of T. G. Congdon *Reflections on Monetarism* (Aldershot: Edward Elgar, 1992). In the boom-bust cycles a standard pattern was for the upturn in money growth to be associated with rising prices of equities and commercial property, and – more or less coincidentally – with rising prices of expensive central London houses. The link was simple: rich people sold some shares – where they had made capital gains – to buy London houses, driving up their prices. This disturbed the "equilibrium" relationship between London house prices and house prices in the South-East of England, encouraging some people to sell London homes and to buy larger homes with gardens in the South-East, again driving up prices; this disturbed the relationship between house prices in the South-east and in the rest of Britain; and so on. Of course, at any point in the process of trickle-out from the London asset markets an asset sale by any agent made possible spending above current income.
- (12) As remarked in footnote (10) above, Keynes himself indulged in various classificatory games with money balances, ultimately settling on the division between the "transactions" and "speculative demands for money" which is now regurgitated by the textbooks. But he recognised that money held for different purposes "forms, nevertheless, a single pool, which the holder is under no necessity to segregate into...water-tight compartments". This quotation is from p. 195 of *The General Theory* (London: Macmillan, 1964, originally published in 1936).