Proposals to modify the measurement of broad money in the United Kingdom: a user consultation

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The concept of money traditionally relates to goods or assets that are generally accepted as media of exchange. In practice, there is considerable disagreement about how money should be measured. To ensure its measure of broad money remains relevant, the Bank regularly reviews the theoretical and practical basis of its definition of M4, as part of its long-term research programme. This article explains the Bank's analysis undertaken over the past year, in which a key issue has been to question whether the present boundary between the money-creating and the money-holding sectors is still appropriate. The Bank proposes to move that boundary in a few places, to address some changes that have taken place in the global financial system in recent years. In most other respects, the Bank's measure of broad money will be unaffected, as there are no compelling reasons for further modifications. The Bank welcomes readers' views on the proposals discussed in this article, by the end of December.

Introduction

Over the past year, as part of a long-term research programme on monetary aggregates, the Bank has been examining the theoretical and practical basis of its current definition of M4. The aim has been to assess whether its measure of broad money remains relevant. In a world of rapidly changing financial systems, it is necessary to review regularly which financial instruments should be considered as 'money' and which ones should not. An important step in the measurement of money is to determine which institutions are able to issue or create it and which ones are holding it. 'Money-creating' organisations issue liabilities that are treated as media of exchange by others. The rest of the economy can then be referred to as 'money holders'. So a key issue in the Bank's analysis has been to re-assess the boundary between the money-creating and the money-holding sectors.[1]

The objective of this article is to explain in which respects the Bank proposes to modify its measure of broad money in the future. The proposals would draw the boundary between the money-creating and the money-holding sectors differently, leading to an improvement in the definition of broad money. Implementing the proposals would require some changes to the Bank's data-collection process, which would inevitably take some time. The Bank intends to keep other elements within its current definition of broad money unchanged, as the benefits of altering them would not outweigh the costs of making relatively minor changes. Before making the proposed modifications, the Bank would like to obtain readers' views on the issues discussed in this article. Details on how to respond are given at the end of the article.

The concept of money

Traditionally, the *concept* of money has referred to any good or asset that meets three requirements: it serves as a unit of account, is a store of value and — most crucially — is generally accepted as a medium of exchange for goods and services. In the absence of money, economic transactions would generally only occur if there was a so-called 'double coincidence of wants', so barter would be the typical alternative way to trade. David Hume emphasised the medium of exchange role of money in his 1752 essay *Of money*, where he wrote: 'Money is not, properly speaking, one of the subjects of commerce, but only the instrument which men have agreed upon to facilitate the exchange of one commodity for another.'

In principle, many goods or assets could be accepted as media of exchange. As Keynes (1936) pointed out, the usefulness of an asset as money depends on its liquidity — that is, the ease with which that asset can be used as payment in exchange for other goods and services, without incurring significant loss:

(1) Broadly speaking, at present, the money-creating sector covers UK banks and building societies, whereas the money-holding sector consists of UK households and private companies.

'It is an essential difference between money and all (or most) other assets that in the case of money its liquidity premium exceeds its carrying cost, whereas in the case of other assets their carrying cost much exceeds their liquidity premium.'

Keynes considered both wheat and houses as examples of assets that could in principle be used as media of exchange. Although wheat may be a reasonably liquid asset, it has a high carrying cost, associated with storage and transportation, and is perishable. Houses are generally illiquid assets, requiring significant effort and cost to convert them into other assets, and have prohibitively high carrying costs. So neither is particularly suitable as a medium of exchange.

Friedman (1956) spelt out in more detail what type of liquidity services money provides to its holders: 'Money may yield a return in the form of money, for example, interest on demand deposits. It will simplify matters, however, and entail no essential loss of generality, to suppose that money yields its return solely in kind, in the usual form of convenience, security, *etc*.' So the key liquidity characteristics of assets that serve as money can be summarised as follows: they need to be generally accepted as means of exchange for goods and services, they should be non-perishable, and provide convenience and security in carrying out transactions. Which specific assets are ultimately used as money largely depends on national and historical circumstances.(1) Nevertheless, the above criteria are, in principle, still applicable to modern economies with a wide range of financial assets of varying degrees of liquidity.

Defining money in practice

Money plays an important role in the economy and in the Bank's monetary policy analysis (for details on the relationship between money and inflation, see Berry *et al* (2007) on pages 376–88 in this *Quarterly Bulletin*). That analysis benefits from having a definition of money that captures the theoretical concept as closely as possible. Despite the strong consensus about money as a *concept*, there has traditionally been little agreement about its measurement *in practice*. As the Bank's then Deputy Governor explained in 1973: '...no matter what concept of money we adopt, it cannot in practice be measured directly' (Bank of England (1973)). In economies in their early stages of financial development, a narrow measure of money, such as the amount of currency in circulation, usually gives a reasonably comprehensive picture of those assets that can be used as media of exchange in transactions. Employees in such economies are typically paid in currency (in the form of banknotes and/or coins) and use cash to pay for their expenditure.

As financial systems become more sophisticated, the range of financial assets accepted as means of exchange for transactions expands. Correspondingly, it becomes more difficult to determine which assets should be included in the definition of money and which should not. In response, many developed countries have broadened their measures of money to include some financial assets (eg time deposits) that are held for savings as well as transactions purposes. As a result, most definitions of broad money, except so-called Divisia measures, have gone beyond capturing the pure medium of exchange role of financial assets. Divisia measures have been designed specifically for that purpose, as they attempt to weight the component assets of a broad money aggregate according to an estimate of the extent to which they provide transactions services.(2)

Although interest rates on financial assets may help to draw a distinction between broad money and illiquid assets — by providing an estimate of the degree to which these assets are used as media of exchange — substitution between the two types of assets is likely to take place.(3) So any definition of money (including Divisia) is arbitrary, to an extent, and can only be an imperfect approximation to the underlying concept. Many countries have undertaken various redefinitions of their broad monetary aggregates over the past three decades, largely reflecting the difficulty in finding a measure of money that captures its medium of exchange role.(4)

UK broad money definitions

The UK experience in this respect is typical (see the box on page 404 for a history of broad money definitions in the United Kingdom). On several occasions, the definitions of the various monetary aggregates were amended in response to changes in the financial system. For example, as restrictions on access to building society shares and deposits were lifted in the 1980s, building society deposits became very similar to bank deposits. Building society shares and deposits were therefore included in the new M4 aggregate, having not been part of the earlier M3 measure. This increased substitutability culminated in the first building society (Abbey National) converting to bank status in 1989, and M3 was discontinued not long after.

Another striking example also occurred in the 1980s. Previously clear distinctions between short-term bank deposits (which were often non interest-bearing and used for transactions purposes) and longer-term bank deposits (mainly used for saving) became blurred, as many savings accounts began to offer instant withdrawal and chequing facilities, making them more likely to be used for transactions purposes.

(1) For example, the inhabitants of the Pacific island of Yap have used limestones (brought in from the neighbouring island of Palau) as means of exchange for several centuries.
(2) The lower the interest rate on a component asset, the more transactions services that asset provides. See Hancock (2005) for details about the construction of the Bank's measure of Divisia money.
(3) This is particularly true in technologically advanced financial systems, where savings accounts can be transferred into cash easily and at low cost, and current accounts earn interest close to the rate on savings accounts. In other words, interest rates then become less useful as an indicator of the degree of 'moneyness' of financial assets.
(4) For a detailed history of UK and US monetary aggregates, see Clews *et al* (1990) and Anderson and Kavajecz (1994) respectively.

History of UK broad money aggregates

The definitions of UK broad money aggregates have changed frequently since 1970, in response to innovations and structural changes in the financial system.(1) The institutions considered to issue 'money', those holding it, and the types of financial instrument considered 'money' have all changed over time.

M3

- M3 was introduced in 1970 alongside the narrower measures M1 and M2. It comprised notes and coin in circulation with the public, and all public and private sector deposits with UK banks. There was no explicit maturity cut-off, no currency restriction, and public sector entities and building societies were considered to be money holders. In 1977 £M3 was introduced, excluding foreign currency deposits from M3.

- In 1982 the UK banking sector (and hence the M3-issuing sector) was redefined. The new 'monetary sector' comprised: all recognised banks and licensed deposit takers; banking institutions in the Channel Islands and the Isle of Man which had agreed to comply with UK monetary control arrangements; the National Girobank; the trustee savings banks; and the Banking Department of the Bank of England.

- In 1984 the public sector was excluded from the M3-holding sector.

- In 1987 M3 and £M3 were renamed M3c and M3 respectively.

- In 1989 the first conversion of a building society (Abbey National) into a bank caused a major break in the M3 series, which was therefore discontinued in 1990, along with M1. The broader measure of money, M4, included both bank and building society deposits and was not affected by the conversion.

M4

- M4 was introduced in 1987; its definition has changed little since its inception. It covers private sector holdings of sterling notes and coin, sterling deposits with banks and building societies, and sterling shares issued by building societies. (Deposits are understood to include both certificates of deposit and other debt securities of up to and including five years' original maturity issued by banks and building societies.)

- A broader aggregate, M4c, which included similar foreign currency assets, was introduced in 1990, but discontinued in 1991.

- The UK monetary sector was redefined in 1997. Banks in the Channel Islands and the Isle of Man were reclassified as non-residents and therefore excluded from the money-issuing sector.

PSL1 (Private Sector Liquidity 1)

- The components of PSL1 were published between 1980 and 1987 in a statistical annex to the *Quarterly Bulletin*, as a broader measure of private sector holdings of liquidity. PSL1 included time deposits with banks with an original maturity of up to two years, as well as instruments that were not issued by monetary financial institutions (MFIs), such as bank bills, Treasury bills and certificates of tax deposit, and was discontinued in 1987.

PSL2 (Private Sector Liquidity 2)/M5

- Like PSL1, the components of PSL2 were published in the *Quarterly Bulletin* between 1980 and 1987. The PSL2 aggregate comprised PSL1, as well as private sector holdings of building society deposits, with a one-year maturity cut-off, and private sector holdings of short-term National Savings instruments. Building society term shares, SAYE (Save As You Earn) deposits and some long-term deposits were excluded, as were building societies' holdings of bank deposits and money market instruments.

- PSL2 was broadened in 1986 in the light of increasing flexibility in the withdrawal terms on building society term shares. All building society term shares and SAYE deposits were added, and the two-year maturity cut-off on time deposits with banks (which was maintained for PSL1) was eliminated.

- In 1987 PSL2 was renamed M5. Liquid assets previously considered to be non-money were now included in this wider definition of money.

- In 1991 M5 was discontinued. Following a consultation,(2) the Bank decided to publish the non-M4 components of M5 separately, so that users could construct their own broader monetary aggregates if they wished to. These series are still published as 'Liquid assets outside M4' in Table A7.1 of the Bank's *Monetary and Financial Statistics* publication.

(1) For more details on the evolution of these and other (narrower) monetary aggregates, see Bank of England (2003).
(2) See Clews *et al* (1990).

Ultimately, all these bank deposits were included in M4, and narrower aggregates such as M1 were discontinued. The narrow monetary aggregates that remained (M0, which was discontinued in 2006, and notes and coin) did not contain any bank deposits held by the private sector at all.

The United Kingdom currently has one broad money aggregate, M4. Broadly speaking, M4 measures the amount of cash (in sterling) held by the public, together with their sterling deposits held at banks and building societies. The Bank defines M4 as the UK private sector's(1) holdings of:

- sterling notes and coin in circulation;
- sterling deposits with UK-resident banks and building societies;
- sterling holdings of certificates of deposit, commercial paper and debt securities of up to and including five years' original maturity issued by UK-resident banks and building societies; and
- claims on UK-resident banks and building societies arising from sale and repurchase agreements in sterling.

Building blocks of broad money definitions: a re-assessment of UK M4

It is clear that M4, like its predecessors, cannot and does not aim to measure all sources of liquidity in the UK economy. Like any definition of broad money, it is based on three building blocks: the type of institutions creating or issuing money; the type of people and institutions holding money; and the characteristics of financial instruments considered to be money. By defining each of these elements in a particular order, the range of financial instruments included in broad money can be narrowed down. This section considers the three elements in turn, to assess whether the current M4 definition is still appropriate, in a financial environment that has changed markedly in recent years. The analysis below brings out a few proposals for change, which are further explained in subsequent sections.

The money-creating sector

Although the first element in any definition of broad money is to determine which institutions are considered to be creators of money, international statistical standards provide little guidance on the precise definition of this sector. The International Monetary Fund (2006) defines the money-creating sector as those financial institutions that issue liabilities that are included in the national definition of broad money — in other words, as those institutions whose liabilities are used as means of exchange in the economy. The box on page 406 describes the current definitions of the money-creating sector and of broad money in some major economies. Given the current definition of M4, the money-creating sector in the United Kingdom consists of resident banks (including the Bank of England) and building societies(2) — which together form the so-called monetary financial institutions (MFIs) sector.(3)

The distinguishing feature of banks and building societies in the United Kingdom is that they have been authorised by the Financial Services Authority to accept deposits. In other words, the UK money-creating sector is defined on an *institutional* or *legal* basis. Such a definition provides clarity from the outset with respect to the institutions from which data need to be collected to construct broad monetary aggregates. But an institutional definition may also appear arbitrary and rigid from an economic point of view, as various other financial intermediaries may undertake activities that are similar to those of MFIs. In particular, some other intermediaries may issue liabilities that are in practice close substitutes for money but, because they do not (and may not want to) have permission to accept deposits, they fall outside the current UK definition of the money-creating sector.

In economies that have adopted a *functional* definition of the money-creating sector, such as the euro area and the United States, such financial intermediaries are part of the money-creating sector. The functional approach focuses on the specific roles of the liabilities issued by different types of financial intermediaries, rather than the intermediaries' legal status. So in principle, any financial institution issuing liabilities with similar characteristics to bank deposits (in the sense of being easily transferable into a medium of exchange) could be part of the money-creating sector. Those liabilities would then be included in the national broad money measure.

For example, the European Central Bank's functional definition of the money-creating sector covers all financial institutions whose business is to receive deposits *and/or close substitutes for deposits*, and to grant credits and/or to invest in securities. The main practical difference with the UK definition is that money market funds (MMFs) are classified as MFIs (and therefore money creators) in the euro area. MMFs are financial intermediaries that do not have a licence to receive deposits, and they issue shares or units that — just like some deposits — can easily be converted into means of exchange, although their nominal value can fluctuate. So units or shares issued by MMFs are part of the euro area's broad money

(1) This refers to the non-bank, non building society private sector, which comprises households (including unincorporated businesses) and companies (excluding public corporations).
(2) Coins in circulation are a liability of the central government and (as far as they are held by the UK private sector) are part of M4, so to that extent the central government is also part of the money-creating sector. But in general, the public sector (defined in a broad sense as central government, local government and public corporations except the Bank of England) is neither part of the money-creating nor the money-holding sector, so its bank deposits are excluded from M4.
(3) All banks resident in the United Kingdom report statistical data to the Bank of England: if their business exceeds specific minimum thresholds (available at www.bankofengland.co.uk/statistics/reporters/defs/newrepthresholds.pdf) they report on a monthly basis; banks with business below these thresholds report on a quarterly basis and in less detail. Building societies currently report to the Financial Services Authority, but from January 2008 they will report their statistical data directly to the Bank and become subject to the same reporting thresholds as banks.

Current definitions of broad money in four major economies

Table 1 compares the definitions of the main broad money aggregates currently compiled in other major economies with that adopted in the United Kingdom. Despite trends towards international harmonisation in many other areas of statistics, international statistical standards generally leave national authorities free to define broad money as they see fit. For instance, the International Monetary Fund's *Monetary and Financial Statistics Manual* (2000) '...does not contain prescriptions for national definitions of money, credit and debt, which are left to the discretion of the national authorities' (paragraph 283). So there is no 'global' definition of broad money, mainly because financial institutions and instruments differ considerably between countries, making the use of national definitions more appropriate.

UK M4 excludes all financial instrument holdings by non-residents and all assets not denominated in sterling. The boundary of the money-creating sector is more flexible in the euro area, the United States and Japan than it is in the United Kingdom. In Japan some financial institutions are neither issuers nor holders of money.

Table 1 Current definitions of broad money in four major economies[(a)]

	United Kingdom (M4)	United States (M2)[(b)]	Euro area (M3)	Japan (M3 + CDs)[(c)]
Money creators	Banks and building societies licensed by the Financial Services Authority to receive deposits.	All depository institutions: this includes banks, non-bank thrift institutions[(d)] and money market mutual funds.	Banks and other credit institutions, money market funds[(e)] and central government (Post Office, national savings and Treasury accounts only).	All banks and credit co-operatives, including Shinkin banks,[(f)] Shoko Chukin Bank, Norinchukin Bank and Japan Post.
Money holders (including residency concept)	Private sector (UK residents other than public sector and money creators). Non-residents' holdings are excluded.	All US residents except money creators and federal government. Non-residents' holdings are excluded.	All non-MFIs resident in the euro area, except central government. State and local governments, public corporations and social security funds are included.	Individuals, non-financial corporations, local and municipal government and public corporations. 'Non-financial corporations' includes securities brokers and other institutions that are considered financial corporations in the United Kingdom, but it excludes insurance companies and investment trusts. Non-residents' deposits at Japanese money-creating institutions are included.
Currency concept	National currency only.	National currency only.	Both euro-denominated and foreign currency-denominated instruments are included.	Both yen-denominated and foreign currency-denominated instruments are included.
Types of instrument included (including maturity cut-offs)	Currency in circulation, all deposits (including repos)[(g)] and holdings of certificates of deposit, holdings of other debt securities of up to and including five years' original maturity issued by MFIs.	Currency in circulation, demand deposits, savings deposits, time deposits (under US$100,000) and retail money market mutual funds (under US$50,000). Repos and debt securities are excluded. There is no maturity cut-off.	Currency in circulation, all deposits and debt securities with original maturity of up to and including two years, repo agreements and money market fund shares.	Currency in circulation, deposits and certificates of deposit of any maturity. Repos, debt securities and commercial paper are excluded.

(a) Similar information for all OECD countries is available in Organisation for Economic Co-operation and Development (2007).
(b) This is now the broadest measure of money published by the US Federal Reserve Board. Publication of the broader measure, M3, was discontinued in March 2006. For the precise definition of M2 see www.federalreserve.gov/releases/h6/Current/h6.pdf.
(c) Japan also has a broader money measure (L), which is not considered here. The money-creating sector is broader for M3 + CDs than for M2 + CDs and M1. See www.boj.or.jp/en/type/stat/dlong/fin_stat/money/notice/notest31.htm#cdab0020 for the precise definition of M3 + CDs.
(d) These are similar to building societies in the United Kingdom.
(e) For more information about the European Central Bank's specification of the money-issuing sector for the euro area, see European Central Bank (1999) and Lim and Sriram (2003).
(f) These are co-operative regional financial institutions serving small and medium enterprises and local residents. There is also a Shinkin Central Bank.
(g) Sale and repurchase agreements.

measure (M3), but not of UK M4. Accordingly, any bank deposits held by MMFs are excluded from euro-area M3 (as they reflect inter-MFI business), but included in UK M4. If the United Kingdom were to adopt a functional definition of the money-creating sector — thereby adding MMFs — the impact on M4 would be limited. The inclusion of MMFs' shares issued to the UK private sector would raise the level of M4 by around 0.25% (end-July 2007 data), which would be partly offset by the removal from M4 of bank deposits held by the MMF sector.

At present, most individual MMFs would probably have private sector business below the minimum reporting thresholds for UK MFIs (see footnote 3 on page 405), so they would only report a narrow range of data to the Bank on a quarterly basis.[(1)]

(1) Although shares issued by MMFs account for a larger proportion of broad money in other economies (such as the euro area and the United States) than in the United Kingdom, MMFs are among the so-called 'tail reporters' in several euro-area countries. That means they only provide a limited range of data, in some cases at an annual frequency only.

Because a functional definition of the money-creating sector provides more flexibility than an institutional definition, it is, in theory, better at ensuring that broad money measures maintain their relevance as proxies for all financial instruments that act as media of exchange. But in practice, determining which financial institutions to incorporate in a functional definition of the money-creating sector also involves some pragmatic decisions. In addition, when the services provided by some financial institutions change, a functional definition may lead to breaks in time series of monetary data. The US experience with broad monetary aggregates in the 1980s and 1990s helps to illustrate this.(1) Until around 1980, the US money-creating sector was defined on an institutional basis, consisting of commercial banks and non-bank thrifts (similar to UK building societies). Since then, the definition has moved to a functional basis, as money market mutual funds were added to the money-issuing sector. But as some of these funds changed their investment policy, their shares became less substitutable for bank deposits and so less useful as media of exchange. That was particularly the case for institutional money market funds (with initial investments of US$50,000 or more), which were included in US M3, but not in M2. Consequently, US broad money has been redefined frequently, culminating in the discontinuation of M3 in March 2006, when its level was around 50% higher than that of M2.(2)

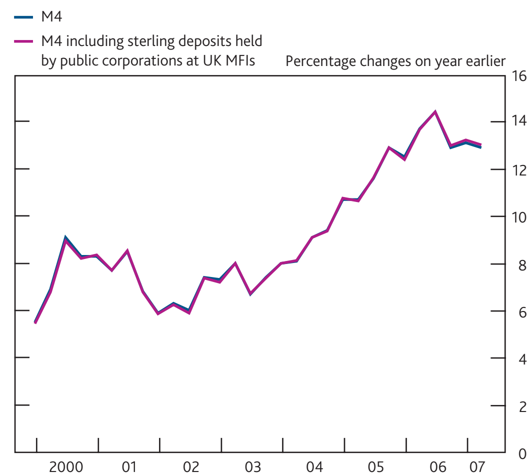
Overall, taking into account the additional costs for reporters and the limited additional benefits to users of moving to a functional definition of the UK money-creating sector, it is the Bank's view that the principle of an institutional approach to the money-creating sector remains appropriate.

The money-holding sector

Once the money-creating sector has been defined — whether on a functional or an institutional basis — a decision regarding the people and institutions which are considered to be holders of money is needed. MFIs are generally defined as lying outside the money-holding sector, as one bank's liability to another bank (so-called interbank lending) cancels out across the whole MFI sector. Although the money-holding sector can be determined as all people and institutions that are not MFIs, it tends to be defined more narrowly in practice. The UK money-holding sector is currently defined as the UK *private* sector other than MFIs, covering: households (including unincorporated businesses, such as sole traders); non-profit institutions serving households (eg charities and universities); non-financial corporations; and all financial corporations except banks and building societies. Some so-called 'other financial corporations' (OFCs) specialise in financial activities that closely resemble those undertaken by banks and building societies. That raises questions about the appropriate boundary between the money-creating and the money-holding sectors, which are explored in more detail in the next section.

Under the current UK definitions of money creators and money holders, the public sector and non-residents are excluded from both.(3) But the behaviour of public corporations in particular does not appear to be significantly different from that of private sector corporations. Using data on MFIs' business with public corporations, **Chart 1** shows that inclusion of public corporations in the money-holding sector would have made no material difference to the annual growth rate of broad money in the past decade or so. Despite this negligible impact, the Bank proposes to consider public corporations as part of the money-holding sector in the future, as that treatment now appears more appropriate, without imposing any additional costs on reporting banks or building societies. Under this proposal, MFIs' lending to public corporations would become part of M4 lending,(4) which is the credit counterpart to M4.

Chart 1 Adding public corporations to money-holding sector(a)



(a) Quarterly data. Data are not seasonally adjusted.

Non-residents' sterling deposits held at UK MFIs (around £530 billion at end-July 2007) are less likely to be used as a medium of exchange in the United Kingdom than private sector residents' deposits. It is possible that they have some influence: for example, reflecting an increasingly globalised financial system, several hedge funds and other financial institutions are now managed from London on behalf of UK

(1) See Anderson and Kavajecz (1994) for an historical overview of US monetary aggregates.
(2) The Federal Reserve Board argued that: 'M3 does not appear to convey any additional information about economic activity that is not already embodied in M2 and has not played a role in the monetary policy process for many years. Consequently, the Board judged that the costs of collecting the underlying data and publishing M3 outweighed the benefits.' (See www.federalreserve.gov/releases/h6/discm3.htm.)
(3) As noted in the box on page 404, public sector deposits were excluded from broad money (M3) in 1984, to make the M3-holding sector consistent with the holding sectors for narrower measures of money. At that time, it was thought to be unclear whether the economic behaviour of public sector institutions was related to their money holdings in the same way as private sector entities' behaviour. At end-July 2007, public sector sterling deposits were nearly £55 billion (or just over 3% of the level of M4) (see also footnote 2 on page 405). The box on page 406 shows that other economies (eg Japan and the euro area) treat some public sector institutions as money holders.
(4) M4 lending measures bank and building society lending to the UK private sector.

residents, with the institutions themselves remaining non-resident. But since it is not clear to what extent these institutions' deposits at UK MFIs may be used as media of exchange in the UK economy, the Bank intends to continue to exclude non-residents from the money-holding (and the money-creating) sector.

Financial liabilities included in broad money

Despite the United Kingdom's institutional definition of the money-creating sector, functional considerations determine to some extent which liabilities are included in the definition of money. There are three dimensions to consider, namely: the currency, maturity, and geographical origin of these liabilities.

At present, the definition of UK M4 covers MFIs' liabilities in sterling only (as far as these are held by the money-holding sector). Although foreign currency deposits can easily be exchanged into sterling, their nominal value in sterling fluctuates as a result of exchange rate movements, making them less likely to be used as a medium of exchange in the UK economy. The Bank therefore sees no reasons to change the currency coverage of its measure of broad money.

Of the MFI sector's sterling liabilities, only those with an original maturity of five years or shorter are included in the definition of M4, reflecting the assumption that longer-term liabilities are used for savings rather than transactions purposes. So MFIs' debt instruments of over five years' original maturity and shares are excluded from the definition, the latter because money is generally assumed to be of fixed nominal value (at least if held to maturity). The five-year original maturity cut-off for debt securities may be somewhat arbitrary, as evidenced by the two-year maximum in the euro-area's definition of M3. Moreover, the *residual* maturity of debt securities (ie the time left until they reach maturity) is probably a better indicator of the likelihood that they will be used as a medium of exchange, but in practice it is easier for banks and building societies to classify their liabilities by original rather than by residual maturity. On balance, the Bank sees no compelling reasons to move away from the current five-year maturity cut-off point, nor from using the concept of original maturity in its definition of broad money.

Finally, sterling deposits held by the UK private sector at non-resident banks are not included in M4. That reflects the fact that such banks are not UK money creators, as well as uncertainty regarding the potential use of these deposits as media of exchange in the domestic economy. A practical reason for excluding such deposits from M4 is that any data would only become available with a delay of around five months, whereas the current M4 data are available before the end of the month following that to which they refer. For these reasons, the Bank intends to continue to exclude liabilities of non-resident banks from its definition of broad money, in line with the treatment in most other countries.

Proposals to change the boundary between the money-creating and the money-holding sectors

As outlined above, OFCs currently form part of the UK money-holding sector, in addition to households and private non-financial corporations. The OFC sector covers organisations undertaking a wide range of financial activities (see **Table A** for the contributions of various OFC categories to the recent growth in OFCs' sterling bank deposits).[1] For example, finance leasing companies provide funding for the purchase of tangible or real assets by households or other companies. Securities dealers typically assist other companies in issuing new securities, by underwriting the issues or arranging their sale to investors, or trade on their own account in existing securities. Deposits held by insurance companies and pension funds form an integral part of their investment portfolios and can be used to purchase other financial assets.

Table A Contributions to annual growth in OFCs' sterling bank deposits (percentage points)[(a)]

OFC category	2004	2005	2006	2007
Securities dealers	0.0	2.5	4.2	3.7
Finance leasing and factoring companies	0.5	0.4	0.1	0.0
Institutional investors[(b)]	6.1	7.9	1.8	5.2
Mortgage housing and credit corporations, non-bank credit grantors	3.1	0.5	2.6	-0.3
Bank holding companies	1.2	1.0	2.0	1.0
Other activities auxiliary to financial intermediation	8.7	9.6	-1.2	-1.5
Credit unions and financial intermediaries not classified elsewhere	-0.4	9.1	16.2	19.4
All OFCs (per cent)	**19.3**	**30.9**	**25.7**	**27.4**

(a) Figures are for the final quarter of each year, except 2007, which shows data for Q2. Contributions may not sum to totals due to rounding. Data are not seasonally adjusted.
(b) Insurance companies and pension funds; money market funds; investment and unit trusts; and fund managers.

The OFC sector also includes companies that are created or structured to facilitate the smooth functioning of the financial system. These OFCs mainly provide intermediation services to banks and building societies, effectively replacing transactions that would otherwise be undertaken between MFIs directly (ie inter-MFI business). That may argue for excluding these OFCs from the money-holding sector, and therefore removing their deposits, in line with inter-MFI deposits, from the monetary aggregates. Broadly speaking, three different types of OFCs can be considered for exclusion from the money-holding sector: central clearing counterparties; special purpose vehicles and limited liability partnerships used for securitisations; and bank holding companies.

(1) This breakdown by OFC category is only available for sterling deposits held at banks, not for M4 as a whole. Deposits held at building societies and debt instruments of five years' original maturity or shorter issued by MFIs are not included in the table, but their impact on OFCs' M4 is generally small (see Golcher and Walls (2005)).

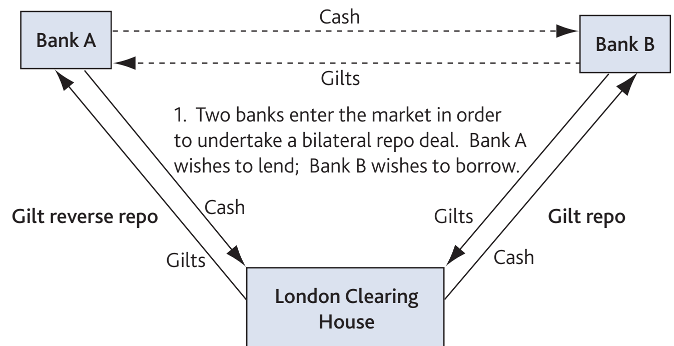
Central clearing counterparties

Central clearing counterparties mainly serve to facilitate the settlement of bilateral securities transactions (eg the sale and purchase of equities, bonds or other securities between two parties).[1] The LCH.Clearnet Group is the leading central clearing counterparty in Europe. Its UK operation (commonly known as the London Clearing House (LCH)) has been acting as an intermediary in the gilt repo market since August 2002,[2] through its RepoClear service. This service allows banks to net off their gilt repo and reverse repo transactions with LCH (essentially bank deposits and loans secured by collateral included in M4 and M4 lending respectively), thereby reducing both sides of their balance sheets. In addition, because banks deal with one counterparty only, rather than many different ones, their settlement risk and trading costs are likely to be lower.

Any organisation wishing to trade via RepoClear has to become a member. Currently, most members are banks resident in the United Kingdom, with the remainder consisting of banks resident in other countries and UK OFCs (such as securities dealers). So the majority of RepoClear's business is likely to reflect intermediation between UK banks. Before the introduction of RepoClear, banks would undertake gilt repos in a single transaction directly with other banks. That would reflect pure interbank lending, which should not and did not affect the monetary aggregates. Because LCH is currently treated as part of the (money-holding) OFC sector, its intermediary role in such gilt repo transactions affects both M4 and M4 lending. A typical transaction involving LCH is shown in **Diagram 1**. When two banks, which are both members of LCH, agree a gilt repo transaction, that transaction is replaced by two separate transactions: a reverse repo from Bank A to LCH (which leads to a rise in M4 lending), and a repo from Bank B to LCH (raising M4). So even though banks are the ultimate counterparties at both ends of these transactions, they are recorded in the monetary statistics as business between banks and the OFC sector. If banks were able to look through such transactions, they would be recorded as interbank business, without any impact on the monetary aggregates. The fact that banks cannot look through transactions with LCH is not an issue in cases where LCH acts as intermediary between a UK bank and a UK OFC as the ultimate counterparty: that type of business is (and should be) captured in M4 and M4 lending data.

In light of the above analysis, the Bank thinks that there are good reasons to exclude central clearing counterparties from the money-holding sector, at least as far as their business reflects interbank activities. That would require such central clearing counterparties to start reporting data to the Bank of England, in line with banks and building societies. Further work is, however, needed to assess the feasibility of this proposal, as there are likely to be various legal and practical constraints, as well as cost considerations.

Diagram 1



Special purpose vehicles used for securitisations and covered bond limited liability partnerships

A second candidate group for exclusion from the money-holding sector consists of securitisation special purpose vehicles (SPVs) and covered bond limited liability partnerships (LLPs). They are also classified as OFCs and have played a growing role in the financial system in recent years — in particular SPVs. Banks (and, to a lesser extent, building societies) have used such vehicles as a source of funding for assets they have originated and as a mechanism to transfer risk off their own balance sheets, thereby freeing up their own capital for other uses.[3] SPVs are separate bankruptcy-remote legal entities set up by a bank (and often operated by that bank under a service agreement), which typically issue bonds or shorter-term paper to investors to fund assets transferred from the originating bank's balance sheet. These bonds are secured by these assets, with the originator often retaining a residual equity stake. This whole process is referred to as securitisation. By transferring assets to the SPV, the bank frees up capital to support further lending and is typically able to fund the assets more cheaply than if they were held on its own balance sheet. The box on page 410 explains the different securitisation structures operating in the UK financial system as well as some typical SPV transactions in more detail.

In recent years, UK banks and building societies have increasingly chosen to use limited liability partnerships (LLPs) for funding and risk transfer of assets. The main difference between securitisations through SPVs and LLPs is that, in the

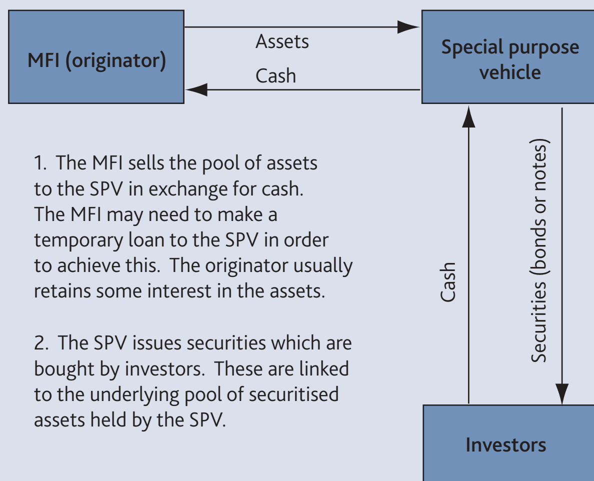
(1) See also Gieve (2007).
(2) The market for sale and repurchase of UK government bonds (gilts).
(3) In principle, SPVs can also be created to hold assets that have been removed from the balance sheets of non-financial corporations or government units, but in the United Kingdom most SPVs hold assets that were originated by MFIs. More recently, SPVs have also been set up to deal with securitisations where the assets remain on the bank's balance sheet.

Examples of effects of securitisation SPVs on monetary aggregates

Securitisation of assets in the United Kingdom has grown rapidly in recent years, with total gross issuance of asset-backed securities by MFIs increasing from around £15 billion in 2000 to around £120 billion in 2006. Securitisation activity has led to significant restructuring of MFI balance sheets. Because M4 and M4 lending are compiled directly from the consolidated balance sheet of MFIs, both have been affected by these developments. This box explains the broad mechanics of securitisation, setting out the potential impact on the monetary data.

In a conventional ('true sale') securitisation, the MFI creates a special purpose vehicle (SPV), to which it transfers a portfolio of assets: these may be residential mortgages, credit card loans, corporate loans, or more exotic assets (**Diagram A**). The SPV issues bonds or notes to investors, which are linked to the reference pool of assets, and passes on the cash raised to the originating MFI. This achieves a maturity transformation for the MFI, replacing some illiquid assets with cash, as well as reducing its market risk and entitling it to regulatory capital relief.

Diagram A



Securitised assets can be reported on or off the originator's balance sheet: the treatment depends on a combination of the structure used and the accounting standards applied in reporting the balance sheet.(1) Take the case when the securitised assets are reported off the balance sheet. In this instance, M4 lending is reduced because the assets (which would have counted as M4 lending if they had remained on the balance sheet) have left the consolidated balance sheet of the MFI sector and been transferred to the SPV (which is an OFC). In contrast, there is no corresponding impact on M4: any bonds issued by the SPV do not count as 'money' since SPVs are not part of the money-creating sector. That is the case even though in practice there may be little difference between these bonds and similar bonds issued by MFIs themselves, which are included in money when their original maturity is shorter than five years. In this respect, there is an asymmetry in the impact that securitisation has on the monetary data.

When securitised assets are left *on* the originator's balance sheet, broad money may be affected. In these so-called synthetic securitisations, the originating MFI chooses not to undertake a true sale of the securitised assets, usually to avoid legal costs associated with a true sale. Although the assets remain on the MFI's balance sheet, the main aim of such securitisations is to achieve risk transfer and therefore obtain regulatory capital relief for the MFI. The SPV issues credit-linked notes or bonds, and the risk transfer from the MFI to the SPV is carried out using credit derivatives, usually a credit default swap.(2) The SPV may place the proceeds from the issuance of the credit-linked notes on deposit with the MFI, thus affecting M4 directly. That deposit may be used to pay the SPV's liabilities to the holders of the notes as they fall due.

(1) One important aspect to note here is the recent shift in banks' reporting from UK Generally Accepted Accounting Principles (GAAP) to International Financial Reporting Standards (IFRS). Within IFRS, IAS 39 has a tendency to encourage greater recognition of securitised assets on the balance sheet. As a result, there has been some grossing up of MFI balance sheets as IFRS reporting has become more common in the United Kingdom over the past few years.
(2) Through a credit default swap, the originating bank transfers its credit risk on a portfolio of assets to the SPV, without the assets themselves being transferred to the SPV. The bank effectively obtains an insurance policy from the SPV, which makes a payment to the bank when so-called credit events take place, such as some (or all) of the assets going into arrears or defaulting.

latter structure, the banks themselves (rather than the SPVs) continue to hold the assets and issue the so-called covered bonds which are secured against them. The LLP effectively only comes into operation in case the issuing bank defaults, thereby providing additional security to investors in the bonds.

Due to their close relationship with banks, securitisation SPVs and covered bond LLPs undertake many transactions with banks, which directly feed through to the money and credit aggregates in the United Kingdom. Viewed in isolation, securitisation SPVs can affect the monetary aggregates in four main ways. First, the transfer of loans from the originating bank's balance sheet to that of an SPV leads to a fall in M4 lending. Second, an SPV may place the interest receipts on the assets purchased from its bank on deposit (raising M4), until the SPV's interest payments to bondholders are due. Third, an SPV or a covered bond LLP can fund (part of) the purchase of bank assets with a loan from the same bank (included in M4 lending), which would partly offset the fall in M4 lending caused by the transfer of the assets to the SPV.[1] Once the SPV has issued its bonds, the loan can be repaid. Finally, in so-called synthetic securitisations, assets are not transferred from a bank's balance sheet to that of an SPV. Instead, an SPV issues bonds to investors, and gains credit exposure via a credit default swap with its parent bank.[2] The SPV may then hold the proceeds of the bond issuance in the form of a high-quality liquid asset, for example a bank deposit (leading to a rise in M4), which can be used to pay interest on the bonds.

In general, although both securitisation SPVs and covered bond LLPs purchase loan portfolios from banks, the Bank's analysis over the past year or so has shown that neither undertake any independent lending activity. They do not transform portfolios of assets, nor do they directly provide financial services to units other than the banks or building societies they deal with. The Bank proposes to exclude securitisation SPVs and covered bond LLPs from the money-holding sector. Further work on the practical feasibility of this proposal will be necessary.

Bank holding companies

This OFC category covers holding companies which are not themselves part of the UK banking sector, but whose main subsidiaries are UK banks. The main purpose of these holding companies is to control the activities of their bank group members, and they generally do not undertake much business outside their group. Deposits held by such holding companies at their bank subsidiaries probably reflect transfers of funds around the group. It is not clear that they reflect an immediate intention to finance transactions. The Bank therefore proposes to exclude bank holding companies from the money-holding sector.

The impact of OFCs that intermediate between MFIs

Overall, the Bank's review of the definition of M4 undertaken over the past year suggests that these three types of OFCs should be excluded from both the money-holding and the money-creating sectors. That would bring the UK approach more in line with that adopted in Japan (see the box on page 406). Currently, separate data on deposits held by central clearing counterparties, securitisation SPVs and covered bond LLPs are not available. But the Bank does collect quarterly data on bank deposits from (and bank lending to) over 40 financial and non-financial industries; bank holding companies are identified as a separate industry.[3] That industrial breakdown can be used to give a rough guide to the importance of deposits held by OFCs that intermediate between MFIs.

Banks' business with central clearing counterparties (including LCH) is covered in the industrial category 'other activities auxiliary to financial intermediation', which consists of 'financial corporations that engage in activities closely related to financial intermediation, but do not act as intermediaries themselves' (International Monetary Fund (2006)). For illustrative purposes, this article assumes that *all* deposits held by companies in the 'other activities auxiliary to financial intermediation' category represent deposits reflecting interbank business by central clearing counterparties. But because not all gilt repos between banks and LCH ultimately reflect interbank business, this is likely to be an overestimate. Further work would be needed to ensure that the Bank obtains better estimates of central clearing counterparties' deposits that reflect interbank intermediation.

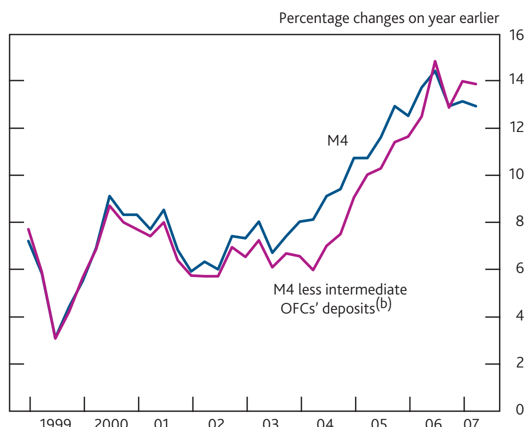
Securitisation SPVs and covered bond LLPs are also not distinguished as a separate industry in the Bank's current data-collection systems. Those entities involved in the transfer of mortgages are part of the industrial category 'mortgage and housing credit corporations'. Similarly, SPVs and LLPs that engage in securitisations of consumer credit are part of the category 'non-bank credit grantors'.[4] So again, for illustrative purposes, this article assumes that all deposits held by mortgage and housing credit corporations, as well as by non-bank credit grantors, capture the intermediary role of SPVs and LLPs. In contrast, the Bank has good data on deposits held by bank holding companies, as they are a

(1) A similar effect occurs when the bank transferring assets off its balance sheet to an SPV maintains a small ownership in the portfolio. That ownership is usually obtained via an investment in the SPV.
(2) See Tucker (2007) and the box on page 410 for more elaborate analysis of such synthetic securitisations.
(3) See www.bankofengland.co.uk/statistics/abl/current/index.htm for the latest statistical release of these data.
(4) Due to the smaller size of securitisations of corporate loans in the United Kingdom, SPVs used for these securitisations are likely to form only a small part of 'other financial intermediaries not classified elsewhere'. So that category is not considered further in this article.

separate category in the Bank's industrial deposit breakdown already.

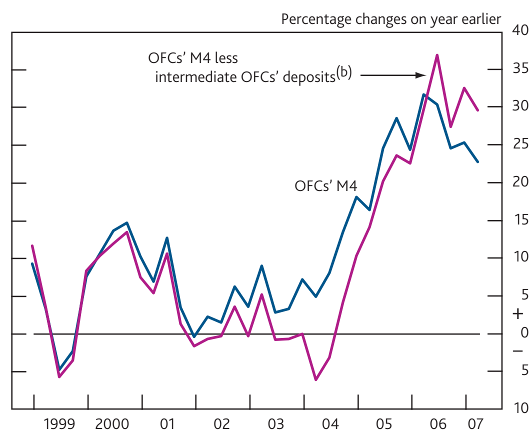
On the basis of these illustrative assumptions, **Charts 2** and **3** give a rough guide to the impact of deposits held by those OFCs that intermediate between MFIs on aggregate and OFCs' M4 respectively. Overall, the profile of accelerating M4 and OFCs' M4 over the past two years would still apply, though annual growth would generally have been slower if all deposits held by these OFC categories had been excluded from M4.

Chart 2 Impact of specific OFCs on broad money[(a)]



(a) Quarterly data. Data are not seasonally adjusted.
(b) Aggregate M4 excluding bank deposits held by: other activities auxiliary to financial intermediation; mortgage and housing credit corporations; non-bank credit grantors; and bank holding companies.

Chart 3 Impact of specific OFCs on OFCs' M4[(a)]



(a) Quarterly data. Data are not seasonally adjusted.
(b) OFCs' M4 excluding bank deposits held by: other activities auxiliary to financial intermediation; mortgage and housing credit corporations; non-bank credit grantors; and bank holding companies.

If, following the analysis over the past year and feedback from readers, the Bank decides to exclude the above three types of OFCs from the money-holding sector, the Bank would aim to collect separate data for them. That would imply significant changes to the Bank's data-compilation system. The Bank would assess any changes to the reporting burden against the benefits of collecting separate data for these OFCs.[(1)] Inevitably, that process would take some time to implement.

Conclusion

This article has explained that, although there is a broad consensus about the theoretical concept of money, measuring it in practice is not straightforward, as evidenced by frequent changes in the definition of money over time. To maintain its relevance, money should be defined in a way that approximates the theoretical concept of a medium of exchange as closely as possible. In a rapidly evolving financial system, there is a need to review regularly which financial instruments should be considered money and which ones should not. An important step in that process is to consider the boundary between the money-creating and the money-holding sectors. This article proposes to move that boundary by excluding some OFC categories from the money-holding sector and by adding public corporations to it, although additional work would be required before such changes could be implemented in the future. Other changes to the Bank's measure of broad money are not warranted at present, on cost-benefit grounds. **Table B** summarises the main issues discussed in this article, together with the Bank's proposals for dealing with them.

Table B Summary of Bank's proposals to modify its definition of broad money

Issue	Bank's proposal
1) Definition of the money-creating sector	Maintain the institutional approach to the definition, because moving to a functional approach would have a small impact on the data, which would not justify the additional cost.
2) Public corporations: money holders	Public corporations to become part of the money-holding sector, as they do not behave differently from private sector corporations.
3) Non-residents: money holders	Continue to exclude non-residents from the money-holding sector, since it is not clear whether their deposits at UK MFIs are to be used as media of exchange in the UK economy.
4) Non-resident banks: money creators	Continue to exclude non-resident banks from the money-creating sector, as that sector covers UK-resident institutions only. Deposits held by the UK private sector at non-resident banks are less likely to be used for transactions in the UK economy, and would mean longer time lags in data collection.
5) Currency coverage of broad money	Continue to exclude foreign currency deposits from broad money, given uncertainty about their use for UK transactions.
6) Maturity cut-off for liabilities in broad money	Maintain the five-year maturity cut-off point for sterling liabilities, as the benefits of making changes are unlikely to outweigh the costs.
7) Residual or original maturity of liabilities in broad money	Continue to use the original maturity concept, as the benefits of making changes are unlikely to outweigh the costs.
8) Central clearing counterparties: money holders	Exclude central clearing counterparties from the money-holding sector, subject to further work and legal constraints.
9) Securitisation SPVs and covered bond LLPs: money holders	Exclude securitisation SPVs and covered bond LLPs from the money-holding sector, subject to further work.
10) Bank holding companies: money holders	Exclude bank holding companies from the money-holding sector.

The Bank of England would like to receive feedback from readers of the *Quarterly Bulletin* on the proposals presented in

(1) For details of the Bank's statistical cost-benefit assessment framework, see Bank of England (2006).

this article, as well as on other issues discussed here. Readers are invited to send their views to: the Head of the Monetary and Financial Statistics Division, Bank of England, Threadneedle Street, London EC2R 8AH, or via email to: qbmoney@bankofengland.co.uk, by the end of December at the latest. Depending on the feedback received, the Bank will organise a workshop to discuss the proposals in 2008. Readers interested in attending such a workshop should contact the Bank at the address above.

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