Measured wealth, real wealth and the illusion of saving

Keynote speech by Mr William R White, Economic Adviser and Head of Monetary and Economic Department of the BIS, at the Irving Fisher Committee Conference on "Measuring the financial position of the household sector", Basel, 30-31 August 2006.

Abstract:

Aggregate household saving rates have been declining in many industrial countries. In part, this has been a by-product of rising house prices which have, not only given house owners the illusion of increased wealth (saving the easy way), but have also been a source of increased collateral to allow higher levels of borrowing to support consumption. Yet such a decline in the aggregate rate of household saving remains puzzling since increases in house prices do not generally constitute an increase in wealth for the country as a whole. Wealth as conventionally measured by statisticians will have gone up, but its capacity to increase the stream of future consumption ("real wealth" in the view of Robert Merton) must be exactly offset by the expected future cost of living in a house. Real wealth, absent any increase in either saving or productivity growth, must be unchanged. This said, it is true that sellers of housing services (home owners) benefit at the expense of the consumers of housing services (essentially all the population, including home owners who choose to live in their homes). While gainers seem from recent experience to adjust their spending patterns relatively quickly, the losers must eventually react and the household saving rate will, in consequence, first fall but then rise. This asymmetry of reaction increases inherent pro-cyclical tendencies in the economy and might pose particular challenge for policy makers.

Full speech:

A. Introduction

As the Economic Adviser and Head of the Monetary and Economic Department of the BIS, let me begin by extending a warm welcome to all the participants at this conference, the third to be organised at the BIS under the auspices of the Irving Fisher Committee. Let me also thank the participants for attending, and the organisers for all the hard work they have put into making this conference as successful as its predecessors.

There are a number of reasons why I am pleased that the Irving Fisher Committee, which brings together central bank statisticians from around the globe, is now receiving secretariat support from the BIS. Perhaps the first reason is the importance of the work itself. Good policy can only be conducted on the basis of good analytical work, based in turn on good data. While good data may not be sufficient to ensure good policy, it must surely be necessary. A second reason for being pleased that the BIS can make a contribution in this area, is that it conforms entirely to the mission of the BIS to foster cooperation among central banks. The BIS has for many years collected cross-border financial statistics from central bank sources, and has in the process confronted many interesting methodological issues. Through this process we have succeeded in assembling databases, particularly creditor-based measures of external debt, that policymakers have found extremely useful.

Nevertheless, our cooperation on issues of statistical methodology in other areas has been much less notable. Both this conference and the projected work program of the IFC are clearly aimed at rectifying that deficiency, thus providing further support to the difficult task of policymaking.

If I am generally pleased that you are here, I am particularly pleased at the choice of topic for this conference: "Measuring the financial position of the household sector". This is an extremely important topic, since the behaviour of the household sector has conditioned, and will continue to condition, global growth prospects. Over the last few years, the household saving rate in many industrial counties has fallen sharply, with the lowest level of savings being recorded in the English-speaking countries. What seems to have had a big influence is increases in house prices, which in turn have led to perceptions of increased wealth and household spending. It is only a slight exaggeration to say that consumers in such countries, particularly the United States, have provided the primary impetus to global growth in GDP, which achieved record levels in both 2004 and 2005. It is important to understand why this occurred and the extent to which it will be sustained in the future. Having a better grasp of how the financial position of the household sector has evolved will help economists address these deeper questions.

It should be noted that it is not only the behaviour of the household sector in the industrial countries that is of interest. In many emerging market economies, especially in Asia, household saving rates have stayed resolutely high or even risen. In contrast to the industrial countries, where the focus of households has been on how assets are mounting, in some important emerging market economies the focus has rather been on liabilities, or at least contingent liabilities. China provides a good example. As the state has withdrawn from its earlier role of cradle to grave protection, people have come to realise they must save for housing, medical care, education and pensions. And at the same time as the public safety net has been withdrawn, the full implications of the "one child" policy are also becoming more apparent; the private safety net provided by the family has become seriously attenuated. It is important to know how such considerations might play out over time. An eventual decline in household saving rates in such countries might be a welcome development to complement increases in saving in key industrial countries, like the United States, thus fending off global recession. Conversely, were the former to occur without the latter, the end result might be a resurgence in global inflationary pressures which would have to be resisted through policy.

And finally, by way of underlining the importance of this topic, the disparity between household saving rates in different groups of countries is responsible in large part for global trade imbalances. In particular, fluctuations in the US household saving rate, around a steadily declining trend, almost perfectly match movements in the US current account deficit. While some people also point to the recent re-emergence of a fiscal deficit in the United States (the "twin deficits" problem), in fact this seems to be a relatively minor part of the problem. These imbalances could in the limit lead to a full-blown currency crisis, with feedback effects on a number of financial markets with what seem to be overstretched prices, or perhaps even more dangerously to a resurgence of protectionism. Evidently, having a better handle on how household behaviour might evolve could give welcome clues as to the need for policy interventions to try to avoid such problems. While today is not the time to go into what those policies might be, suffice it to say that this is an important area for discussion.

What is less clear is how the changing financial position of the household sector influences the willingness of consumers to spend on currently produced goods and services, thus influencing the big macro variables like GDP, inflation and unemployment. Two puzzling issues present themselves. The first is how "wealth" should properly be measured, and whether serious mistakes are now being made in this regard by consumers in many countries. The second is how changes in wealth, and indeed the underlying constellation of assets and liabilities, might affect consumption levels.

B. How should wealth and savings be measured?

Let me begin somewhat provocatively by saying that I agree with the recent statement by Bob Merton [1] that "even for measuring economic welfare, wealth is not a sufficient statistic... What matters to people is not how much wealth they have, but the standard of living they can enjoy. The standard of living is much better represented as a lifetime flow or a perpetuity rather than as a stock of (measured) wealth".

Merton further supports his point by noting that those who save for retirement, for example, are influenced not only by the amount of wealth they have at a moment in time, but the rate of return at which that wealth might be expected to accumulate over time. We see practical applications of this insight when we hear baby boomers complain about recent low rates of interest. An implication of this insight is that changes in interest rates do not have any effect on this lifetime flow, in the same way that a purchase of a long-term bond provides a given yield, if held to maturity, regardless of what happens to interest rates in the interim. If interest rates fall, you receive a capital gain, but this is offset by the lower rate of interest you will now earn on that larger stock of capital. Or, to put it another way, if interest rates fall, you need a greater initial source of wealth to generate the same income stream.

As a corollary, I also agree with M J Bailey, who stated much earlier [2] that this lifetime flow of produced goods and services depends on the production possibilities of the society and that "when no change at all has occurred in physical capital, land or labour or in their present or prospect productivities,... no new productivity or wealth has appeared to make possible any increase in future consumption".

If these are the slowly changing sources of "real wealth", how then is it possible that "measured wealth", drawn from balance sheet statistics, can fluctuate as much as it does in our estimates? Similarly, how is it possible that estimates of wealth in a number of industrial countries have recently risen as much as they have?

One important part of the answer could be perceptions of increased productivity, and therefore increased future output to support future consumption. This was the story told in the United States in the late 1990s, as manifested in the higher prices of equities, particularly for "New Era" stocks in the media, technology and telecommunications sectors. At the level of principle, this would constitute wealth for Merton and Bailey, although at the level of practice we can now see that there was actually less there than met the eye.

But I think another important part of the answer is that we are much more accurate in measuring assets than in measuring liabilities, particularly contingent ones. Pensions, for example, while clearly "wealth" to individuals who are promised them, should properly be

offset by the liabilities of those who have to pay out. Increases in house prices constitute "wealth" to those who own a house, but there is an associated liability in the form of the increased cost of housing services.

Viewed from this perspective, the suggestion that countries benefiting from large increases in measured wealth, largely because of asset price increases, need no longer save out of income in the traditional way look not only questionable but dangerous. Saving associated with illusory wealth increases is illusory savings. The end result must be a lower level of domestically owned capital and an associated lower standard of living over time. Moreover, such spending can contribute to current account deficits, with all the associated potential for mischief noted above. And to this must be added the diminished political authority associated with countries that become increasingly indebted. History has many lessons to teach us in this regard. [3]

A closely related problem with the measurement of wealth has to do with the sectoral disaggregations we use in the integrated national income accounts. We treat the liabilities and assets of other sectors as counterparties to the liabilities and assets of the household sector, and as factors influencing household wealth. The assumption that government was "separate" also underpinned the distinction between "inside money" and "outside money" in Patinkin's well regarded macroeconomic textbook of the 1960s. [4] Following on Pigou's earlier insights, Patinkin showed how deflation would raise real wealth (essentially the liabilities of governments) such that spending would increase and the deflationary process brought to an end.

Yet, today, economists are more likely to refer to the "Ricardian equivalence" issue. This starts with the diametrically opposed assumption that the household sector can see through the veil of government (and indeed of the corporation) and recognises that, in the end, domestic households and foreign sector are all there is. Government spending increases wealth in the form of increased government debt, but it is exactly offset by the future discounted value of the household's associated tax liabilities. My later remarks will indicate that I find this concept of "superrationality" on the part of households extremely far-fetched, but it is nonetheless interesting to reflect on how economists' assumptions can have implications for measurement issues.

What are we to make of all this when assessing how wealth affects consumer spending and the production associated with such spending? Perhaps the central point is that it is perceptions that drive the assessment of "wealth" and the future living standard it is thought to provide. Moreover, in the short or even the medium run these perceptions can differ widely from the underlying realities determined by an economy's productive capacities. In the following sections of this paper, I focus on the challenges these issues can pose for both monetary and fiscal policymakers. I finish with some reflections on associated challenges for statisticians.

C. House prices, real wealth and consumption

Over the last few years, we have witnessed an almost global phenomenon of low real interest rates, rapid increases in credit, rising prices for longer-term financial assets, sharply rising prices for such real assets as property and commodities, heavy physical investment in

such sectors, and record high levels of global economic growth. Insofar as property in the industrial countries is concerned, only Japan, Germany and Switzerland have avoided sharply higher prices for residential property in recent years. This perhaps reflects the severity of the boom-bust cycle they experienced in the late 1980s and early 1990s, from which they are only now showing signs of recovery.

Today, I wish to investigate further the links between interest rates, house prices, wealth and consumption patterns, to determine the extent to which what we have recently observed might be thought more or less sustainable. In this evaluation, the distinction between real wealth and perceived/measured wealth is of crucial importance. A number of linkages can be looked at in turn. First, what is the presumed link between interest rates and house prices? Second, do higher house prices constitute an increase in aggregate wealth? And third, how might lower interest rates and higher wealth affect consumption?

Lower interest rates will increase the demand for all longer-lived assets of similar duration and push up their prices. This applies to residential property as well as to financial and other real assets. However, without changes in the underlying productive potential of the economy, this implies an increase in measured wealth, or perceived wealth, but not a permanent increase in the underlying income stream ("real wealth"). The key point is that as house prices rise, the cost of housing services also rise. Indeed, if the cause of the decline in interest rates were a decline in the potential rate of growth in the economy, it could even be asserted that real wealth had fallen as measured wealth increased.

This said, homeowners are very likely to "feel" richer. Moreover, because there is now more collateral available up front, and monthly payments at lower interest rates now look more affordable, lenders will now find it easier to provide credit which will allow homeowners to borrow more to invest still more in housing. Should the past increase in house prices generate extrapolated expectations of still further increases, this can create a dynamic of higher house prices which, in the end, bears little relationship with the initial interest rate shock. Speculative price increases of this sort (separable from those associated with lower interest rates) also fail to increase the aggregate real wealth of the nation.

What is true is that some citizens (homeowners) will benefit at the expense of those that do not own property. Homeowners gain at the expense of others in that they have an offset to the assumed higher future costs of housing services whereas renters do not. In perfectly functioning markets, house prices and rents would rise commensurately. In reality, rents often fail to keep up with the spiralling costs of houses. [5] Indeed, at the current moment, house price to rental ratios are at record highs in many countries. Whether house prices will eventually fall to establish a more normal relationship with rents, or whether rents will rise to the same end, will have distributional consequences (of which more below) but it in no way affects the reality that no aggregate real wealth has been created by these price changes.

The third issue is how lower interest rates and increased wealth might lower saving out of current income and increase spending. There was a long debate in the economic literature as to the effect of lower interest rates on saving. On the one hand, lower interest rates lower the price of current goods and services relative to future goods and services. Some argued that this would lead people to substitute current consumption for future consumption, leading to less saving. Others, however, argued that lower interest rates meant wealth would

increase more slowly, and that people would have to save more to achieve a predefined target for accumulated wealth. Broadly put, the general conclusion this debate led to was that the result was indeterminate. However, in retrospect, [6] it is now clear that the latter approach implicitly assumed that interest rate changes do have wealth effects and that the final conclusion of indeterminacy reflects the joint influence of substitution and wealth effects. But since it was argued above that interest rate changes do not affect real wealth, it must then be concluded that the only channel through which interest rates affect consumption should be the substitution affect.

This is an important conclusion pertaining to consumption and saving levels looking forward. First, to the extent that recent exceptionally high levels of consumption in some countries have been driven by substitution effects, there is likely to be some form of payback required in terms of lower future consumption. This remains the basic reality, even if higher house prices and improved collateral have been welfare-enhancing through facilitating intertemporal substitution. Second, if consumption has risen in response to perceived wealth gains, while real wealth has remained unchanged, the magnitude of the consumption payback may be materially enhanced. Illusory saving will have to be reconstituted out of current disposable income, perhaps with significant effects on domestic economic activity.

The likelihood of increased house prices having "wealth" effects on consumption will be affected by the distributional effects of house price increases and by developments within the financial sector. Concerning the former, older house owners gain at the expense of largely younger renters. If the former choose to consume more in consequence, influenced in part by the intention to "trade down" after retirement, but the latter fail to consume less, then net consumption will rise. [7] Traditional econometric work in the United States, where wealth variables include the market value of housing, confirms that such a relationship is commonly observed. [8] Concerning the latter, some national financial markets not only allow, but even encourage, homeowners to withdraw equity from their homes in the form of cash and higher mortgages. While some of this money may be used for the settlement of other debts, or the purchase of more housing-related services, the evidence indicates that a significant amount of such cash is used to increase consumption of other goods and services. How the excesses associated with such behaviour might unwind, and which economic agents might be affected, is discussed in the following section.

Finally, it is worth noting that a combination of low interest rates and higher house prices is also likely to generate a supply side response. In a number of countries, investment in residential construction has increased significantly, and there has been an equally marked increase in sectoral employment. While there is nothing wrong with this in principal, it can accentuate current account problems. Consider the United States, for example, with its massive current account deficit. As noted above, the lower household saving rate seems primarily responsible for this. In effect, domestic saving is inadequate to finance domestic investment. Were the higher level of investment directed to increasing the capacity to export, this deficit might be thought only a temporary phenomenon. In contrast, housing services are not internationally tradable (unless foreigners arrive in mass) and the sunk capital cannot be adapted for other purposes. Looking ahead, the external adjustment process will be more difficult in the light of the housing boom than it would otherwise have been.

D. House prices, debt and consumption

If higher house prices do induce an increase in spending, then the households that have done so finish with fewer assets or more liabilities than they would otherwise have had. In practice, debt levels have trended sharply higher in recent years as consumers have remortgaged their existing house at higher levels or have traded up. In spite of record low interest rates in recent years, debt service levels (as a proportion of disposable income) have also risen sharply and now stand at record levels in a number of industrial countries.

Should house prices fall, which is one way to re-establish a more normal ratio of house prices to rents, then the payback referred to earlier will be primarily at the expense of homeowners. It will then be evident that the wealth they spent was illusory; the assets have disappeared but the liabilities linger on. This would have negative implications for spending. However, even were prices only to stop rising, the growth rate of consumption would be affected due to the absence of the earlier stimulus of rising prices.

Rising interest rates on higher debt levels would have similar negative effects on consumption, with the magnitudes strongly affected by the terms of the debt service on the higher debt levels. It is a fact that, in recent years, there has been a strong shift in the direction of flexible rate mortgages and other provisions that shift the risk of unforeseen events on to the shoulders of households. [9] Indeed, it is clear that much of the new debt would never have been made available to borrowers under traditional lending arrangements. One unfortunate implication is that, in less supportive financial circumstances, a larger proportion of households might find themselves effectively, and indeed legally, bankrupt. This latter tendency will be exacerbated to the extent that it has become both easier, and culturally more acceptable, to do so.

How far house prices might fall is hard to predict, as is the prospective pace of the decline. On the one hand, it is tempting to suggest that the "excessive" part of the increase should eventually reverse, but providing a measure of the "equilibrium" value of the housing stock is not easy. In particular, the underlying valuations will be much affected by what is going on in the economy (growth, jobs, financial developments), which in turn will be much affected by what is going on in the housing market. One possibility is that those who have become overindebted due to housing will try to trade down to more affordable levels. This of course raises the prospects of crowded trades and potentially sharper price movements.

Another possibility is that house prices could stay higher permanently. An implicit assumption behind the above discussion was that these increases were essentially due to lower interest rates and speculative forces rather than due to fundamentals. But it is not hard to tell a story about supply side (tight zoning regulations, little available land) or demand side (immigration, declining size of individual households) factors that could account for permanently higher house prices relative to those of other goods and services. In this case, the restoration of a more normal ratio of house prices to rents would occur through an increase in rents. The payback referred to above would then occur through diminished consumption of non-housing goods and services. This would reflect both higher rents themselves and the higher saving required to accumulate the down payment needed to purchase a more expensive house.

Two other potential problems can arise as the spending prompted by illusory wealth unwinds. How serious those problems might become will depend to some degree on the level to which the saving rate rebounds. One possibility is that households have a target level of saving. In

this case, the explicit saving rate out of disposable income will rise to the target level from the current level, artificially depressed because of the existence of illusory savings associated with house price increases. Another possibility is that households have a target level for wealth. In this case, the saving rate must rise even more to compensate for the real saving that did not take place during the years when saving was depressed. This would evidently have more serious consequences on spending, income and the whole cumulative process affecting GDP and employment. Keynes described this as the "the paradox of thrift": if we collectively try to save more, we may in the short run wind up saving less in aggregate.

One complication could be the effect of a housing-induced downturn on the financial system. Fortunately, at the current juncture, the banking system in virtually every industrial country seems well placed. Profit levels are historically high, the sources of income on the income statement are well diversified, and capital levels are also high. Yet the full effects of a household-induced slowdown might still prove serious. A number of different revenue sources on banks' income statements, of growing importance, are in fact derived from household spending. The fact that most householders will try desperately to service their mortgages could still leave these other income sources vulnerable. Moreover, any serious form of downturn would affect the corporate sector in turn, and increase the expected losses associated with corporate loans.

To complete the analysis of the whole dynamic process, were the financial system to become seriously threatened, it is likely that the normal process of credit creation would be impeded with further negative implications for economic activity. This is what happened in the United States in the 1930s and in Japan in the 1990s, though in both those cases, there was a much heavier reliance on bank lending. Fortunately, in most countries today the sources of credit are much more widely diversified. This is the good news to go along with the bad news that it was the increased diversity of the credit sources that contributed significantly to the problem of too little real saving in the first place.

The second complication that might arise, as saving rates increase, has to do with the trade account. If a country has a trade deficit (as is common when domestic saving rates are low), more domestic saving will help reduce that deficit. However, this will also imply an economic slowdown unless the exchange rate declines, backing in foreign demand to replace domestic demand. The problem arises because, as noted above, capital embodied in the form of housing is essentially non-tradable (cannot be easily sold to foreigners) and is non-fungible (cannot be easily adapted to produce something other than housing services). Thus, the degree of currency depreciation required to induce the required shift out of the production of non-tradables into tradables will be greater than would otherwise have been the case. This increases the likelihood of disruptive movements in exchange rates, with potential implications for other financial markets as well.

E. Challenges for policymakers

If, as hypothesised above, consumers' perceptions of their wealth can be wrong, then this implies cyclical movements in the economy will be exacerbated. What might the monetary and fiscal authorities do to prevent such problems emerging in the first place (moderating the "boom")? And what might they do to minimise the scale of the resulting downturn (moderating the "bust")?

In the upswing, both monetary and fiscal policy should tighten. This makes sense in terms of leaning against potential inflationary pressures. However, it also makes sense in terms of moderating the resulting bust, whose severity is very likely to be closely related to the magnitude of the boom which preceded it. Suggesting such policies is akin to saying that monetary and fiscal policies should be conducted with a rather longer-term view than is currently fashionable. In the case of monetary policy, it implies being concerned about the way that current credit creation might manifest itself, not solely in terms of near-term inflation, but prospectively in the form of deflation over a longer period as the full implications of the bust phase become evident. In the case of fiscal policy, having a longer-term policy horizon implies an increased focus on how the stock of government debt might evolve over time rather than the behaviour of the deficit as such.

This suggestion about the conduct of monetary policy remains highly controversial. One reason is that "inflation targeting" has become an increasingly accepted framework for the conduct of monetary policy, and in most cases this has been taken to mean hitting a target for inflation (say) one or two years out. Should the forecast indicate "no problem" over that horizon, then it becomes extremely difficult to justify raising interest rates. Another reason is that it is in fact difficult to identify with any certainty when problems of this nature are in fact building up.

There is, moreover, a particular problem in current circumstances where many real side developments have combined to keep a lid on global inflationary pressures. Deregulation and technological advances are raising productivity levels and keeping costs down. The re-entry into the global market economy of previously highly planned economies, China and India in particular, has massively increased the global supply of labour with implications for wages everywhere, especially for the relatively unskilled. The danger posed by the standard inflation targeting framework is that these positive supply side shocks can be misread as an absence of demand. This can lead in turn to a call for easier monetary conditions, rather than the tighter conditions consistent with moderating an upturn associated with illusory saving. Indeed, as we look at global monetary conditions worldwide, they have been and remain unusually expansionary.

The suggestion that fiscal policy should be tighter in upturns is less controversial at the level of principle. Increasingly, the fiscal authorities do focus on the level of debt rather than just the size of the deficit, and the associated need to create "room for manoeuvre" in response to downturns. But, in practice, as automatic stabilisers in the cyclical upturn reduce deficits, there is again a common tendency to say "no problem". The current large government deficits in the United States and many large European countries attest to the power of these tendencies.

A further justification for tighter fiscal policies in upswings, particularly those fuelled by illusionary saving, is that governments have so many liabilities that are not part of the official stock of government debt. The most obvious of these are obligations associated with social security; in particular, state pensions and medical care. A recent calculation of the obligations of the US federal government in this regard provides an estimate of over 500% of GDP. [10] While the specifics of the methodology might be questioned, no one would deny that this issue needs more practical attention than it is receiving. Moreover, governments have all sorts of explicit contingent liabilities as well (in particular, guarantees of various sorts,

including such financial guarantees as deposit insurance), to say nothing of implicit guarantees against the effects of such things as natural disasters.

It is important to note that government pensions are, in most countries, essentially transfers. To the extent that they are not funded through a true increase in saving (out of current consumption) they too are illusory saving, adding nothing to wealth at the level of the country as a whole. Moreover, given the magnitude of the tax increases needed in many countries to honour the government's commitments, in many cases against the backdrop of a declining population of working age, it may well be that those commitments cannot be honoured under the currently agreed terms. Thus, there may even be a degree of illusion at the level of the individual.

Governments have traditionally turned to inflation in such circumstances, but history also reveals the problems associated with such a solution. A better approach, and certainly better than an outright government default, would be to change the terms of the contracts to make them more viable. For example, raising the age barrier before paying out pensions would both raise government revenues (more workers) and reduce government expenditures (fewer pensioners). More transparency on the part of governments about these issues might also help to raise the saving rate of the private sector. Allied with smaller government deficits, the end result of more saving would be a larger domestically owned capital stock. This too would contribute to higher potential growth over time, the only true source of wealth and credible commitments.

Policies to avoid booms seem preferable to polices to mitigate the problems of busts. In large part, this is due to the inherent limitations of such policies. Easing monetary policy might run quite quickly into the "zero lower bound" problem (think of Japan for much of the last 10 years), might not stimulate demand as intended (Keynes's concern about "pushing on a string") and would in any event have many unwanted effects on the supply side of the economy. Contrast, for example, Schumpeter's call for "creative destruction" with the way in which "zombie companies" have been kept alive through super low interest rates in Japan. And as for easier fiscal policy, more government spending might just lead to a still sharper increase in the household saving rate and higher risk premia on government debt. This is not to say that these policies would not be recommended in the event of a saving-induced downswing, but that it would be better to avoid the need in the first place.

F. Challenges for statisticians

It is worth noting that the data requirements of central bankers have actually grown significantly in both frequency and complexity in recent years. This is due both to globalisation and to the growing role of financial variables in explaining economic behaviour in a world of increasingly liberalised and market-driven financial systems.

Begin with the fundamental assumption that central banks set interest rates in response to an assessment of the outlook for sustainable economic activity. An important question with respect to near-term inflation prospects, which might be viewed as the traditional threat to sustained growth, is whether the level of aggregate demand is above or below the economy's capacity to supply. A key difficulty is that we cannot observe the true values of many key macroeconomic variables such as aggregate demand. Estimating the supply potential of an

economy is fraught with even more hazard. And in recent years, as the process of globalisation has gathered pace, the adequacy of purely national data to inform about inflationary pressures have grown ever more suspect. [11] In sum, statisticians have their work cut out for them, even with respect to traditional endeavours.

But, as my remarks have tried to make clear, central bankers are increasingly aware that sustainable growth can be threatened in a second way. Financial imbalances of various sorts can build up and then unwind with significant effects on demand and output. Should such processes occur with inflation initially quite low, the outcome could be eventual deflation, bringing its own unique set of problems. Clearly, a challenge for statisticians in this world is to improve our measurement of all the relevant financial variables, not least those pertaining to the balance sheets of the household sector.

There is no doubt that much progress is being made in this regard. For example, the European Central Bank and Eurostat (the Statistical Office of the European Communities) on 31 May 2006 published for the first time a set of annual European accounts for institutional sectors covering the period 1999-2004. These integrated non-financial and financial accounts included financial balance sheets for households, non-financial corporations, financial corporations and governments, for individual member states and for the European Union as a whole. Use of these accounts will undoubtedly lead to a deepening of our understanding of the transmission mechanism of European monetary policy and related issues. Yet, in contrast, it must also be noted that many challenges remain. A general issue is that data on household financial asset holdings in developing countries remain particularly sparse. As for more particular challenges, let me make the following suggestions.

First, a stronger emphasis on balance sheet considerations in national income accounting (ie integrated flow and stock accounts) is required if the effects of changes in household balance sheets (particularly estimates of changes in wealth) on spending are to be better estimated. One source of improvement in this regard would be to treat the household sector less as a residual sector when compiling the national accounts. Moreover, we should try to establish greater consistency between bodies (and sectors) reporting financial statistics (such as the issuance of debt securities and FDI) and non-financial statistics (such as consumption and gross fixed capital formation) to facilitate analysis of how the former impinge on the latter.

Second, it would be useful to make clearer distinctions, as already envisaged in various SNA manuals, between volume changes and valuation changes in accounting for changes in the net worth positions of households. We should also aim for a more consistent treatment of valuation gains and losses by holding sector and by financial instrument. In the area of valuation, it must be noted that the statistics currently collected on the prices of both residential and non-residential structures are still inadequate in many ways. Moreover, in many countries, historical data is almost non-existent. When one considers the role played by such prices in economic cycles, the absence of such data is almost shocking.

Third, we should strengthen the data on the distributions of assets and liabilities. For example, we might wish to know the differences not only between rich and poor households, but also between homeowners and tenants, as well as between net receivers of government expenditures and those taxpayers who fund them.

Finally, it would seem desirable to take more account of contingent assets and liabilities in the household accounts. In this context, establishing complete, consistent and verifiable rules for the reporting of statistics on pensions and social security expenditures would seem to be a high priority.

It is one thing to determine conceptually what sorts of data are required to test economic hypotheses. However, it is quite another thing to determine how that data might best be collected. As will be discussed later today, an important issue is whether direct household surveys on financial wealth, indebtedness and expenditure add value in monitoring the household sector, in terms of both quality and timeliness. Another is whether such data could be used to cover current data gaps; for example, related to securities held by households. There are many practical issues for central banks concerning the design and stratification of surveys, to say nothing of the need to develop expertise in this area.

G. Concluding remark

Through the papers presented to this conference, central bank statisticians have confirmed that they are working closely with statistical offices to transform the quality of national official statistics. These efforts to improve the quality of national and global statistics on the household sector are certainly worthwhile. They will, in the fullness of time, ensure that policymakers have the high-quality and timely information needed to make good decisions in today's complex financial world. While no longer a policymaker, but still closely associated with them through my work at the BIS, may I thank you on their behalf for your dedication to this important objective.

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[1] See Merton (2006), p 62.

[2] See Bailey (1962), p 181.

[3] See Kennedy (1988) and Landes (1998).

[4] See Patinkin (1965).

[5] In such circumstances, renters will actually lose less, but they are still likely to feel worse off because their higher costs of housing services are explicit, while those of the homeowner are implicit.

[6] See Bailey (1962), pp 178-82.

[7] A significant factor affecting the behaviour of older house owners is their concern about providing "bequests" to their descendants. An unencumbered house that lasts longer than those living in it can be given to those that follow. If, however, the house is remortgaged and the proceeds spent, then the bequest will be reduced accordingly. Different cultures may respond differently to such considerations, implying different consumption propensities as house prices increase.

[8] This raises the issue of why the econometrics fails to pick up the "payback" in terms of lower consumption over time, in response to near-term increases in consumption driven by house price increases. Given the complexity of the lags involved, and the heterogeneity of the many agents, it might be that the econometric procedures have simply not been robust enough to do so.

[9] The household sector now bears more risk in the workforce, given that contracts and part-time work are increasingly replacing traditional long-term relationships. Defined benefit pensions are being increasingly replaced by those with defined contributions.

[10] Kotlikoff (2006).

[11] For an interesting empirical analysis of this phenomenon, see Borio and Filardo (2006).