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WHY HAVE LONG-TERM INTEREST RATES BEEN SO LOW? IS THE GLOBAL INTEREST RATE CYCLE BEGINNING TO TURN?

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May 12, 2006

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Why have long-term interest rates been so low? Is the Global Interest Rate Cycle beginning to turn?

I am delighted to be here today. According to the most macroeconomic forecasts, prospects for strong global growth in 2006 are good. So far, the world economy has been firing on all cylinders (and using a lot of fossil fuel to do so!). The consensus forecast for global GDP growth in 2006 was recently revised upwards to 4.5%. And yet, despite the benign projections for growth and inflation in 2006 – which has until recently been fully priced into financial markets – there are potential risks for the global economy and financial system.

Today I want to focus on just one element of this picture: the surprising decline in real long-term interest rates in financial markets throughout the world that has taken place since the mid-1990s, the recent rise in longer-term yields in financial markets, and the risks to the global economy and financial system that might materialize if market

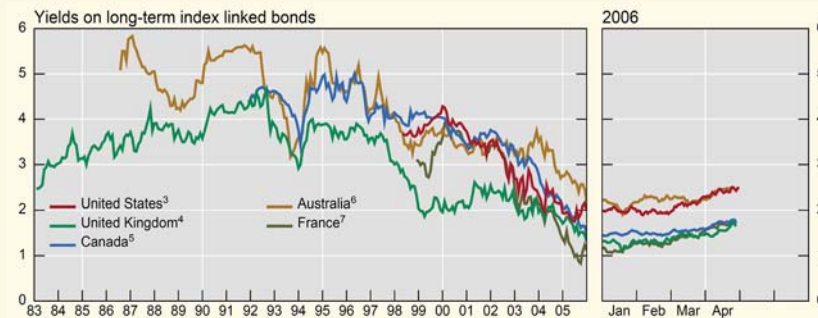
yields were to rise markedly from their current levels. As I will show you in a minute, global interest rates have basically been on a declining trend for over a decade. They began falling in 1995, and had reached very low levels in both nominal and real terms by 2005. Since the beginning of March of this year, however, market determined nominal interest rates in the 10-year maturity have backed up by about 70 basis points in Japan, 90 basis points in the euro zone and 110 basis points in the US since their troughs (I will comment on indexed yields in a moment). Is this the beginning of a move to higher long-term interest rates? What would be the implications? These are the questions I want to address today.

But first, why focus on the behavior of long-term yields? The reason is that they are linked to other recent developments that appear rather ominous - at least if we look out into the medium term, beyond 2006. Recent years have been marked by three important developments: rapid growth of credit and monetary aggregates across the world; a marked rise in certain asset prices in a number of countries; and a pattern of large global current account imbalances. Of course, whenever economic developments coincide, the question of cause and effect arises. I will turn to that in a couple of minutes.

The main question that interests me today is whether policymakers and market participants should be concerned about these developments. If so, should they be principally concerned by the risk of instability in the international financial system or by the prospect of protracted macroeconomic weakness in the global economy?



Indexed-linked yields



¹ In per cent. ² As a percentage of GDP. ³ TIPS 3.625% 2028. ⁴ Inflation linked Gilt, 2.5% 2016. ⁵ 4.25% 2021. ⁶ Australian index linked, 2020. ⁷ OATi Generic 10Y.
Sources: Bloomberg; national data.

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It is useful to start this analysis by looking at **Chart 1**, which **shows the behavior of index-linked yields – that is, real interest rates - in the markets for longer-term fixed income instruments in some key countries**. Two aspects of this graph are noteworthy.

First, index-linked yields, like nominal yields, have been on a gradually declining trend since the mid-1990s, and the rate of decline seems to have picked up after the end of 2003. Yields reached their lowest levels between June 2005 (in the US) and January 2006 (in Australia), and have backed up by between 30 basis points (in Australia) and 90 basis points (in France) since their troughs. Whether these very recent increases will continue is of course difficult to say, but I would argue that the prospect of them doing so is a key concern at the current juncture.

- Since yields were falling over a number of years, explanations that focus on developments of only the past few years seem incomplete. In particular, while the efforts of pension funds and insurance companies to extend the duration of their

assets to better match that of their actuarial liabilities has been one factor exerting downward pressure on real long-term yields in several countries, the role of these actions has most likely been to amplify and perhaps to speed up, but not to trigger, the decline.

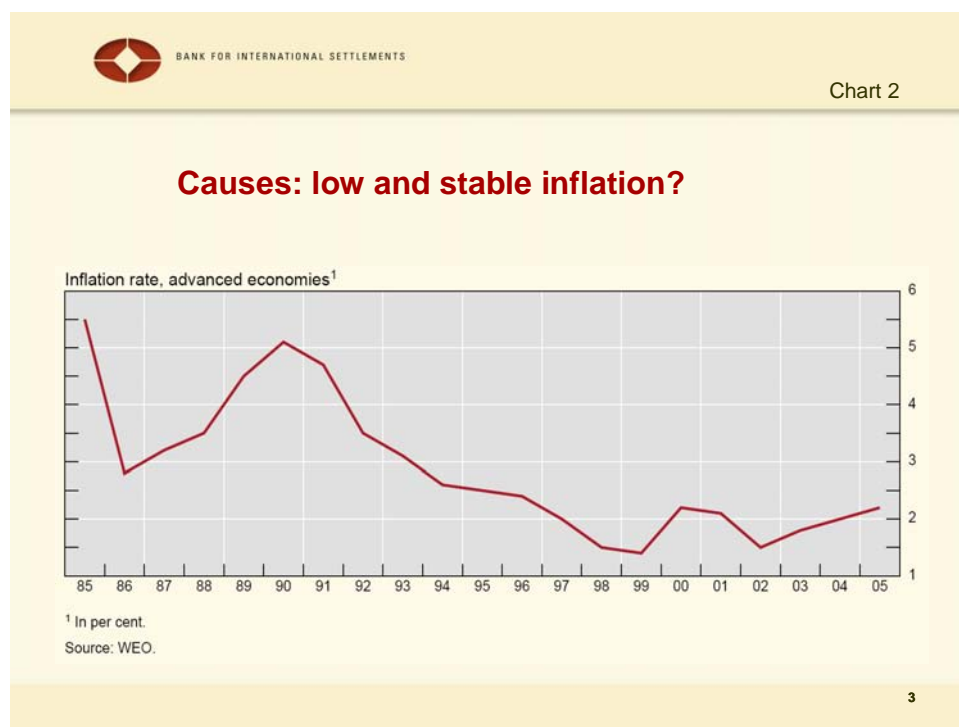
- Second, the decline in real long-term yields is evident across a number of countries. So this phenomenon is both a secular one and an international one – it is broadly consistent for the US, France, the UK, Canada, Australia, and many other countries. Of course, although the pattern is different, the story of very low long-term interest rates also applies to Japan.

Explanations that focus on a single economy may therefore also be incomplete. The secular decline in indexed long-term yields in financial markets across a broad spectrum of countries shown in Chart 1 suggests that some common factors must have been at work, both across countries and over time.

It is also important to emphasise that long-term nominal and real interest rates are determined by markets. Thus their linkages to short-term policy-determined interest rates are complex. This point is emphasised by the fact that nominal and real US long-term interest rates were still on a declining trend in January 2006, almost two years after the US Federal Reserve began its consistent monetary policy tightening path, which has raised the Federal Funds rate in 16 quarter percentage points, steps to 5% since June 2004.

Of course, low market-determined real long-term yields are in themselves not an issue (it has been a great time to build major infrastructure projects, as the Chinese – but not Indian – authorities have discovered); the issue is whether there is a risk that real yields will rise closer to their historical averages and what that would do to the international economy and the global financial system. In order to think about the

potential risks arising from this conjuncture, we first need to try to understand more about why real yields have experienced this marked decade-long decline.



I think there are three main possible causes, or potential explanations, for the recent decline in real long-term interest rates.

The first possible cause is associated with the fact that inflation has been lower and more stable since the mid-1990s than it was in the preceding decade. **Chart 2 shows how much the average rate of inflation in “advanced economies” has declined over time.** Whereas the weighted average inflation rate for the advanced economies peaked at over 5% in 1990, since 1996 it has been under 2.5% and far less volatile than it was in preceding decades. If inflation is low and expected to remain so, then nominal interest rates will be low, since they incorporate lower expected inflation. But real rates will also be lower than they would be if high and volatile inflation was expected. This is because one major risk in holding nominal-fixed income assets is that inflation will rise, thereby giving savers less real return on

their savings than they expected and requiring central banks to increase policy interest rates sharply to regain control. Lower and more stable inflation has reduced that risk, so it may also have reduced the “risk premia” formerly embodied in real interest rates. To the extent this factor has been important, it has had unambiguously positive effects on the world economy.



The second possible cause of the decline in real yields is also, on balance, healthy. It focuses on the increased capacity of markets to bear risk in recent years, as a consequence of financial innovation. For instance, the establishment and rapid growth of risk transfer markets over the past three to four years may have resulted in a once-for-all increase in the degree of global diversification by international asset holders. As an illustration, **Chart 3 shows the notional amount of outstanding credit default swaps**, which has risen rapidly in recent years. Of course, this is merely one of a number of developments that have transformed the financial landscape. Overall, these opportunities for vastly increased diversification have reduced aggregate portfolio risk for many financial players, and have thereby raised

investors' demand for risky assets, which may have led to lower real returns on the existing asset stock. If so, one component of lower real yields could be permanent: the average level of real yields over a full interest rate cycle could well be lower in the future than it has been in the past.



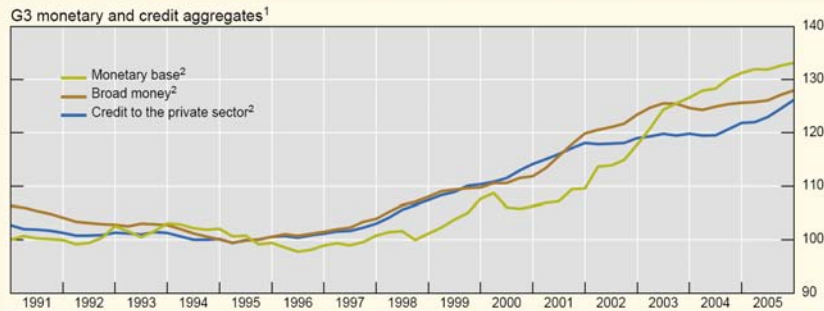
The third possible cause of low real long-term interest rates is that increases in desired saving have been responsible for the secular decline in long real yields. As you can see in **Chart 4, global savings declined sharply as a percentage of GDP during the episode of high energy prices and weak growth in the late 80s and early 90s.** But since 1993 the global savings rate has been gradually rising, and since 2002 it has risen quite steeply. Of course, it is the supply of savings relative to the demand for productive fixed capital formation that should put downward pressure on the real interest rate. There is no good measure of ex ante demand for private fixed investment for the global economy that is comparable to the measure of savings in Chart 4. But most national survey data, even in the US, show the private sector investment intentions were relatively weak from 2001 right through to the end of 2003

for the US and 2004 in Japan and Europe. The sharp rise in global savings since late 2002 is consistent with the acceleration in the interest rate decline that occurred up until early this year. While there is no consensus that this is the main factor causing lower real yields, I believe it is important.

Several factors may have played a role in increasing global saving so markedly since 2002. For instance, the growing relative importance of high-saving Asian economies, in particular China, where the population is aging rapidly and where the welfare/pension system has unraveled, has played a role. So has increased saving of oil exporters, which have recently been increasing their spending much less relative to the rise in their GDP than they did in the 1970s. Third, some economies with large current account surpluses have been unwilling to let their currencies appreciate, and have intervened in the foreign exchange markets. Undervalued currencies tend to depress consumption and raise saving. Growing difficulties sterilizing some increases suggest that this process may not continue for much longer.



Causes: Money/credit growth relative to nominal GDP?



¹ Weighted averages, based on 2000 GDP and PPP exchange rates. Prior to 1999, euro area data are calculated from member countries' statistics. ² Relative to nominal GDP; 1995 = 100.

Sources: IMF; OECD; national data.

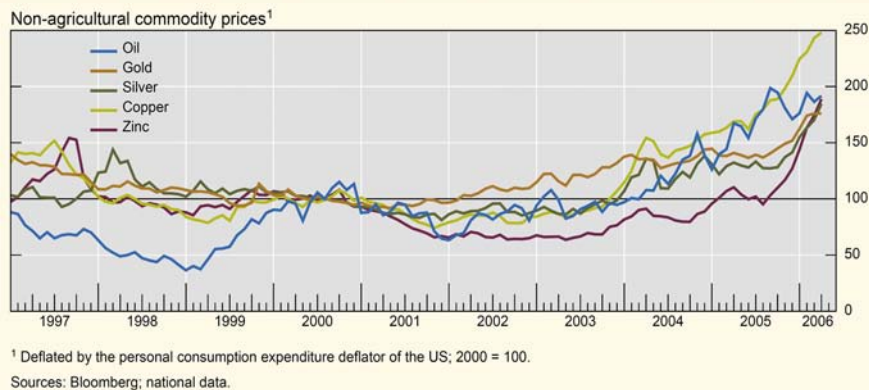
A final causal factor that appears to me to have consistently played a role in the decline in long-term real and nominal yields throughout the whole period since 1997 is more rapid money and credit growth relative to nominal GDP. **Chart 5 shows the weighted G3 monetary base (green line), broad money (brown), and credit to the private sector (blue) relative to nominal GDP since 1991. As the chart shows, these measures of liquidity consistently grew at about the same rate as nominal GDP until around 1997. But since then they have all grown much faster than nominal GDP. Yet this rapid growth of liquidity has not created inflationary pressures. The reason – I think – is that global inflation has been kept low largely by the downward pressure on wages, unit labour costs, and prices coming from the gradual entry of countries like China, India, Brazil and Russia into the world marketplace for internationally traded goods and services. As a result, this acceleration of money and credit growth has acted to push down real interest rates**

rather than to raise inflation. In fact, this could be the key reason why real interest rates have been declining. But it will also mean that the downward trend of real long-term interest rates may gradually reverse as monetary policies in a number of countries move to a less accommodative stance.

These are a few possible reasons why market-determined longer-term interest rates have been on a declining trend since the mid-1990s. Of course, these four explanations are not mutually exclusive. It is possible that each and all of them have played a role in the extraordinary phenomenon we have been witnessing over the past decade. Nevertheless, the fact that we really do not know why real long-term interest rates are so low is a concern. And it suggests that we cannot be confident that the recent rise in real interest rates will prove temporary.



Consequences: Commodity prices



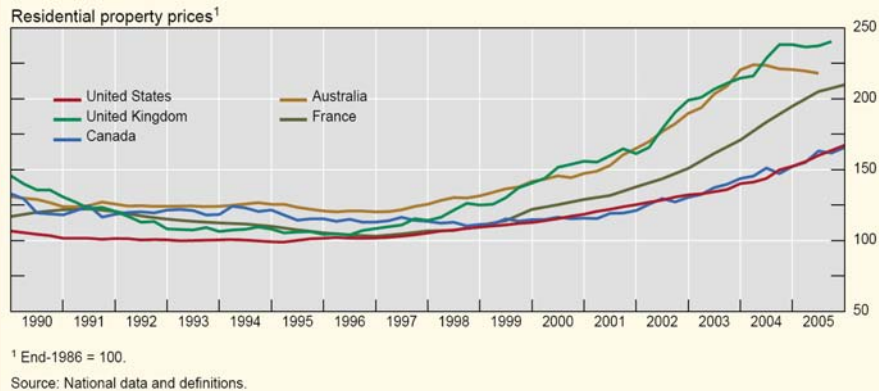
To assess the consequences and risks that a marked increase in yields might bring about, we need to think about what the impact of the lower yields in recent years on aggregate demand and economic activity and whether these effects would be likely to go into reverse if real interest rates continued to rise. What have been the consequences of low real interest rates for the current pattern of global economic developments?

Real yields are the other side of the coin in the pricing of durable real and financial assets, so one would expect the secular decline in real yields over the past decade to be associated with an increase in asset prices. This indeed seems to be the case.

Chart 6 shows that non-agricultural commodity prices started to rise relative to the PCE deflator between 2001 and 2003 when indexed yields started to decline rapidly. Of course I recognise that many factors, including the state of the global business cycle, have played a role.



Consequences: Property prices



Proceeding to another well-known example of the consequences of low interest rates for asset prices, **Chart 7 shows that residential property prices relative to the PCE deflator were stable in the same group of countries that I used before, for the period up until the mid-1990s.** Thereafter, as money and credit growth rates began to rise and real interest rates fell, real property prices began to rise, and by very large amounts in countries such as Australia and the UK.



Consequences: Spread compression



¹ In basis points. ² Option-adjusted spreads over government bond yields; Merrill Lynch corporate bond indices. ³ EMBI Global Diversified; stripped spread over government bond yields; JPMorgan Chase emerging market bond indices.
Sources: Bloomberg; financial reports of individual institutions; JPMorgan Chase; Merrill Lynch.

Chart 8 shows another possible consequence of low real interest rates. Various risk spreads – whether they are on US corporates relative to treasuries (the red line), Euro corporates (green line) or emerging market sovereigns (blue line) – have also declined more or less steadily since mid-2002, together with long-term real (and nominal) yields.¹ This spread compression as rates have declined seems to be consistent with either better fundamentals for these borrowers, or with the phenomenon of a “reach for yield,” that is, investors becoming less risk averse to risk in these sectors over this period.

In sum, lower real yields seem to have been associated with recent increases in property and other asset prices and a compression in spreads. All of these developments have led many observers to express concern.

¹ Theory suggests that risk spreads may narrow or widen if nominal rates decline. However, it is easy to construct examples in which yields and spreads comove positively.

This analysis can help us to think about what would happen if real long-term yields were to rise significantly from their current levels. What would be the risks to the global economy? First, let me say that I don't believe there would be severe global financial stress, provided repricing in financial markets was not too abrupt. Large internationally-active financial institutions are generally well capitalized, they manage their risk actively, and they have much more diversified revenue streams than they did a decade ago. It therefore seems unlikely that a rise in yields could cause severe stress in this sector. We need to look elsewhere. Since many observers have been emphasizing the financial risks in the household sector, I will first turn to that.

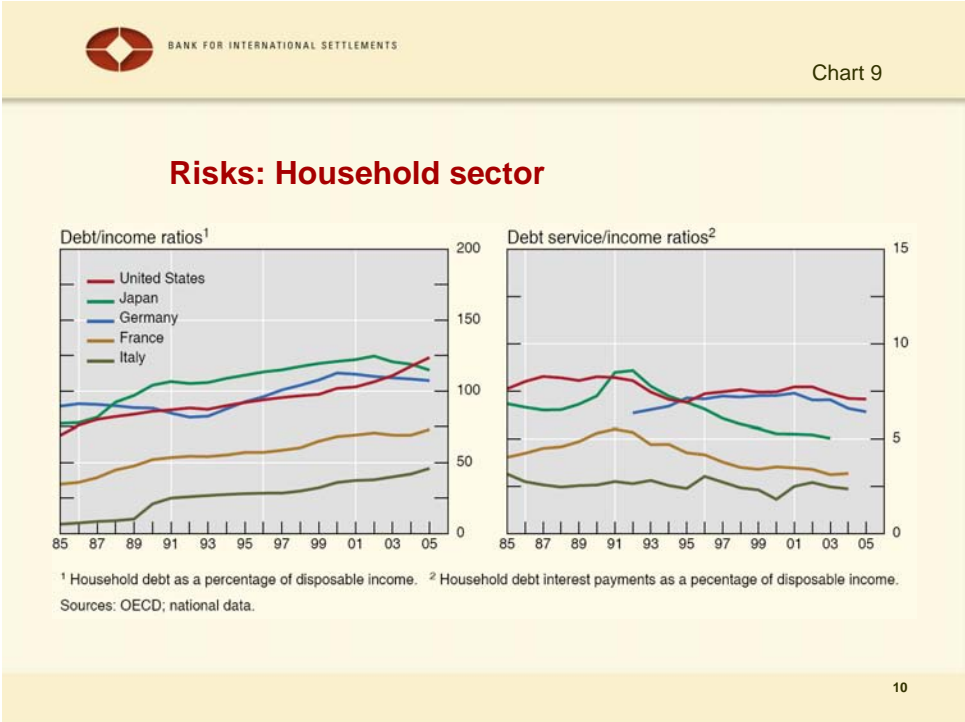


Chart 9 reflects the fact that the household sector has invested very heavily in residential real estate as borrowing costs have fallen and has become increasingly leveraged. As you can see from the left panel, **household debt to disposable income ratios have risen persistently since the beginning of the 1990s.** Nevertheless, **the right panel shows that, despite greater borrowing, debt service/income ratios have remained roughly constant or even declined**

modestly. This suggests that as interest rates have declined, households have been able to borrow more without devoting a larger share of their income to debt servicing.

What sort of risk does this increased leverage of the household sector pose for financial stability? What would happen if interest rates rose sharply? Probably there is not much risk to broader financial stability. But two strong negative effects would operate over the medium term.

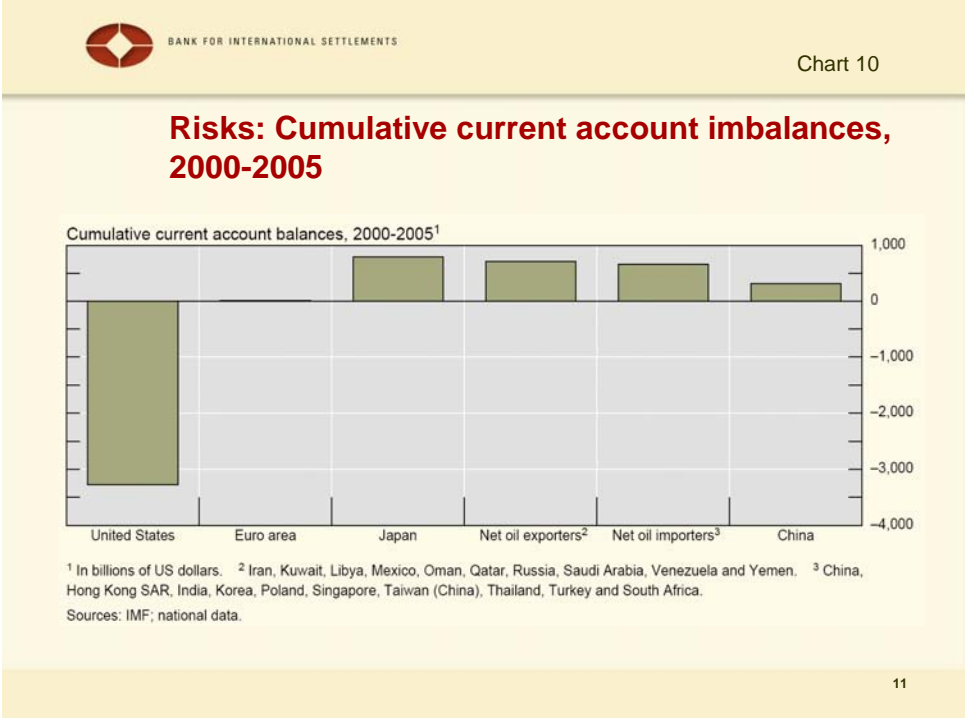
First, because higher interest rates would reduce the value of residential properties that households can buy relative to their income streams, they would cause demand for housing to weaken. In turn, this would put downward pressure on housing prices, reduce activity and employment in the residential construction sector, and in the broader economy.

Second, to the extent that mortgage interest rates are adjustable – which they increasingly are across the world – higher interest rates would leave households with lower disposable incomes net of debt service. Higher interest rates would therefore be an additional factor that would slow consumption growth through negative wealth effects and lower household disposable income net of debt service.

Since households would no longer be building wealth through house price appreciation, they would have a strong incentive to increase financial savings, perhaps markedly. Thus, an interest rate rise would cause a significant weakening of household consumption through at least three key channels. In turn, the multiplier effects of weaker consumption would reduce the growth rate of overall economic activity. This effect is likely to be global in scope and could persist.

Thus, while higher interest rates would not likely have systemic financial sector effects by triggering significant mortgage defaults, it seems to me the key risk is that

they would have important negative macroeconomic effects. The indirect impact on global economic activity and financial system, coming from a slowing world economy, would likely be more important than the direct effects.



Could a rise in long-term interest rates unleash other dynamics in the international economy that would add to this sort of negative effect of global demand? Well...yes.

Chart 10 shows the cumulative current account balances for key countries and regions over the period 2000-2005. As you can see, the US has experienced a very large cumulative current account deficit over this six-year period, matched by cumulative surpluses in all regions of the world except the Eurozone. This roughly equals the cumulative increase in net dollar-denominated liabilities of US residents to residents of the rest of the world over this period. These imbalances are only sustainable as long as non-US residents are willing to purchase US debt. An adjustment process that involved a depreciation of the US dollar would lead to large wealth losses around the world, that would tend to depress aggregate global demand.

You can see that in the six years since 2000, the US has experienced a cumulative current account deficit of over 3 trillion dollars. This means about an equivalent amount of US dollar denominated external debt of US residents, which is distributed across surplus regions.

A combination of higher yields on US dollar investments and an associated slowing of the US economy would likely impact foreign US dollar holders' willingness to purchase US debt in several ways. Credit risk would become a more important issue as the economy slows. Higher long-term US rates would lead to capital losses on US securities, leading investors to reduce their US dollar exposures. The slowing of the US economy might lead investors to expect an adjustment of US monetary policy and lower short-term rates than otherwise. Since this would provide less support for the US dollar, long real and nominal yields might rise further. Furthermore, the rise in US external debt service associated with higher long-term interest rates would tend to swell the US current account deficit, which might raise concerns about its sustainability and make non-residents more hesitant to continue purchasing US debt.

Overall, there is, to my mind, a risk that a rise in long-term interest rates, particularly if associated with a slowing of the global economy, might trigger a general readjustment of exchange rates, including a marked decline in the real effective exchange rate of the US dollar. These large negative wealth effects would weaken aggregate demand growth in the trade and financial partners of the US, just at the time when the US economy was shifting its productive structure to produce higher net exports.



Conclusions

- Real yields are low and are poorly understood.
- Can not be confident that they will remain low.
- Financial markets and institutions are likely be resilient ...
- ... but the household sector is not.
- Risk of a slowing of the macro economy and a readjustment of the US dollar.
- If so, a bumpy ride may lie ahead and policy makers need to be forward looking.

In summary, chances are that 2006 will be very good year for the global economy. But if one looks out further, over the next five to seven years, the horizon darkens. Today I have looked at one possible risk related to the fact that real interest rates are low but rising. We don't really know why. Thus there is a risk that they will continue to rise, perhaps significantly.

Until very recently, financial markets have been "priced to perfection" (nominal yields, real yields, and spreads) and there is no reason to believe that large financial institutions are poorly positioned to weather a rise in yields. But the recent rise, if it continues, is likely at some stage to impact negatively on household consumption, and on residential construction, to weaken consumption growth, and lead to a significant and protracted retrenchment of final demand in a number of key economies. Because global current account imbalances are large and have persisted for so long, accumulated external debt stocks (mainly in US dollar) are large. Thus, this adjustment could be substantial and protracted. It would be a shame if market interest rates and exchange rates had to bear the full brunt of this adjustment without

supporting shifts in economic policies. Appropriate policy steps to increase demand in surplus countries as it falls in the United States will be necessary to mitigate these macroeconomic slowing effects.

Overall, the situation may be similar to the second half of the 1980s, but it may be worse for several reasons: the US current account deficit is larger, the likely adjustment is larger and the debt stock larger. Furthermore, US government finances are weaker than in the late 1980s, the US has a smaller industrial base on which to shift to the production of tradable goods and services, and the wealth effect on the rest of the world of a decline in the USD is likely to be quite large.

Thus, we could be in for a very challenging period in the world economy, which will require consistent macroeconomic and financial policies in surplus and deficit countries alike. To limit the adverse effects it is important for policy makers to think in a forward-looking manner. The key is to start now with the appropriate macroeconomic and structural policy responses. Even so, the adjustment process would be associated with weak output and employment growth. It would be a great shame if it was accompanied by increased protectionism, since this would risk undermining of European single market and cause a failure of the Doha trade round.