DSG*Asia*'s Analytical Philosophy

"*The study of economics does not seem to require any specialised gifts of an unusually high order. Is it not intellectually regarded, a very easy subject compared with the higher branches of philosophy or pure science? An easy subject, at which very few excel! The paradox finds its explanation, perhaps, in that the master-economist must possess a rare combination of gifts. He must be mathematician, historian, statesman, philosopher – in some degree. He must understand symbols and speak in words. He must contemplate the particular in terms of the general, and touch abstract and concrete in the same flight of thought. He must study the present in the light of the past for the purposes of the future. No part of man's nature or his institutions must lie entirely outside his regard. He must be purposeful and disinterested in a simultaneous mood; as aloof and incorruptible as an artist, yet sometimes a near the earth as a politician."*

John Maynard Keynes 1883-1946

When Lord Keynes penned these inspiring words to describe Alfred Marshall, his own teacher, he hit the nail right on the head. Economics is, and has always been, as much of an art as a science, and it is to the discipline's eternal shame that the subject has moved so far towards the arcane and detached world of the mathematical formula. Far too often it seems that the be all and end all for the contemporary academic community, has become the formulation of ever more complicated compositions of Greek symbols, related to ever more specialised microeconomic minutiae, in order to gain entry to the perplexing publications that ensure promotion and tenure. When the citation game becomes the endgame itself, the paucity of worthy successors to the multi-disciplinary intellectual giants of yesteryear should not be surprising.

This is not to say, of course, that economists should not try to model the world about them. For it is only via the construction of statistical models of theories, that one can test their accordance with reality. However, as much is the reductive appeal of man as a rational economic agent, clearly other behavioural drivers conspire to shape human action, and ignoring these drivers can often have disastrous policy or investment implications. Moreover, the whole rationale for investing in economies and financial markets – especially in the developing world – is to take advantage of structural change that has yet to be fully priced in. Econometrics, by contrast, rests firmly on a foundation of a lack of structural change.

DSG*Asia*'s analysis has always tried to straddle the academic and the real worlds. And although we have always attempted to incorporate theoretical rigour and the latest statistical techniques into our analyses – we can shake our Chebysheffs and co-integrate with the best of 'em if needs be – we have also retained a healthy scepticism of relying on black boxes for the perfect solution and recommendation. This does not imply that we lack a framework for analysing economies and asset markets. Rather it means we try to use models as a reality check on our forecasts and scenarios – especially when they are

indicating extreme (two or more standard deviation) events – and we then incorporate these readings into our broader assessments of individual and institutional motivation. In a similar vein, we believe it unnecessary to offer pages of forecasts for every economic variable available on the view that if we are at consensus or thereabouts, such minor deviations have little explanatory value. Hence we tend to work off consensus numbers except when we believe consensus is significantly wrong. In such cases we holler loudly.

Fundamentally, we believe that economics is a pretty simple subject – it is all about supply and demand and their interactions. However, as with any profession, the purveyors of the dismal science have a tendency to put up walls of jargon as a barrier to entry. The trick, therefore, is to try to strike a balance between over-simplification and excessively technical exposés when trying to convey arguments and analyses to recipients with varying degrees knowledge. Accordingly, the following can be seen as a layman's interpretation of the way we try to look at the world.

"The only problem with Milton [Friedman] is that everything reminds him of the money supply. Well everything reminds me of sex, but I try to keep it out of my articles."

Nobel Laureate, Robert Solow

With apologies to one of the twentieth century's great polymaths (it is a good quote though!), we would describe ourselves as *balance sheet* economists – an approach that stems broadly from Friedman's monetarist school – in that we believe that liquidity creation (and reduction) is the prime determinant of asset and goods price cycles. We fully accept that the demand for money is far from stable – especially in dynamic Asia – and hence we are reluctant to rely heavily on pure quantity theory to make spot inflation and growth forecasts. However, we firmly believe that excessive or insufficient money in an economy, allowing for some tolerance in demand for money (velocity) and lag variations, is the key medium term driver of internal and external price trends. A second, more pragmatic argument to support our approach is to point to the paucity, tardiness and often-downright unreliability of real economic data in the region that hinders alternative methods of analysis. A thorough understanding of the economy's balance sheets is therefore crucial when timely (and believable) data are restricted to exchange rates, interest rates, monetary measures and trade figures. For reliance on other types of data is akin to trying to drive a car using only the rear-view mirror.

We generally analyse a standard set of indicators for each economy in order to build a logical, consistent structure for looking at and comparing economic developments across the region. For ease of illustration, these indicators are charted for each country we follow, and across relevant groups of countries. **DSG*Asia*** Clients can access our Chart Gallery by clicking on the *Research Library* icon on the left of our home webpage. Some comments are warranted on data analysis and its graphical representation. Economic variables can be fraught with problems of seasonality and volatility so to allow for such distortions, we try to smooth the raw data. Moreover, the common methodology of expressing data in % year-on-year terms can often conceal more recent developments. We

therefore also look at monthly changes annualised for comparison with the year-on-year numbers, and then again smooth or seasonally adjust these series to avoid excessive volatility. The simplest way to interpret such variables is to consider them an illustration of month-to-month changes in the underlying data, and to compare them to the same period in the previous year. Allowing for seasonal factors, which should be readily apparent, the charts should illustrate whether the monthly data is accelerating or decelerating relative to recent trends; trends that may not be captured by the longer dated oscillators. Such an analysis can often serve as an early warning instrument.

What variables to look at first though? Our starting point is to analyse the balance sheet of the banking system, specifically that of the central bank. The central bank determines the level of reserve money or monetary base in the banking system. This in turn is an important determinant of the ability of banks to create assets, matched by deposit liabilities or money. The monetary base is one of a central bank's prime discretionary variables, which can be used to influence liquidity creation (or reduction). Its growth trend, therefore, often provides a useful indication of the stance of monetary policy.

The monetary base is defined as the sum of notes and coins circulating outside of the banking system plus commercial bank deposits at the central bank. Traditionally we have been content to decompose the monetary base into its foreign and overall domestic components. However, in the aftermath of the Asian Crisis, a number of the countries across the region racked up substantial fiscal liabilities which represented an additional significant influence on central bank behaviour. The last few years have seen a general trend of fiscal reconsolidation but nevertheless, it is still useful, where possible, to decompose the domestic components of the monetary base into their private and public sector drivers.

It should be recognised that, with the exception of 1997-98, the FX contribution has tended to be significantly positive throughout Asia overtime. The general rule of thumb is that the larger the economy, the greater the influence of the domestic components on liquidity since the primary driver of deposit creation is domestic credit, not FX reserve accumulation. Our Monetary Conditions Indexes (MCIs) – a composite of the trade weighted or effective exchange rate and the domestic cost of borrowing – reflect this tendency. Exchange rate influences are given far lower weightings in larger economies with lower ratios of total trade to output and conversely, higher weightings in the case of small open economies. In a similar vein, we also incorporate the importance of equity and property holdings in the national balance sheet to try to capture wealth effects in our Financial Conditions and Financial & Property Conditions Indexes (FCIs and FPCIs).

Monetary base is the match that ignites the fuel of an economy – the broader monetary aggregates. It should be noted, however, that post the collapse of an asset bubble and/or a banking crisis – especially one that is not cleaned up properly – this transmission mechanism tends to sputter and central banks can be required to provide

liquidity far more aggressively than normal to generate an equivalent amount of broad money growth. In economics parlance, the money multiplier – the ratio of broader money aggregates to the base – tends to fall. This was the situation seen for a number of years in the region in the aftermath of the Asian Crisis, and is now the phenomenon being witnessed in America and Europe where aggressive central bank balance sheet expansion continues to be swamped by the collapse in the demand for broader money.

A very different distortion has come to characterise the money multiplier in countries where the banking system has become an increasingly small part of the overall monetary system. Asia remains bank dominated – unhealthily so in the opinion of many – so central banks in the region still retain considerable influence over domestic credit creation. However, in economies such as the USA and the UK, central banks have increasingly struggled to influence overall liquidity trends. One of the consequences of the explosion of new forms of non-bank credit and derivatives is that monetary authorities' actions to influence lending behaviour via adjustments in reserves provision and changes in the cost of funds may have lost some or all of their traction. And with the credit soufflé continuing to deflate, the ability of central banks to offset the broader liquidity collapse is being similarly compromised. We return to these issues in due course.

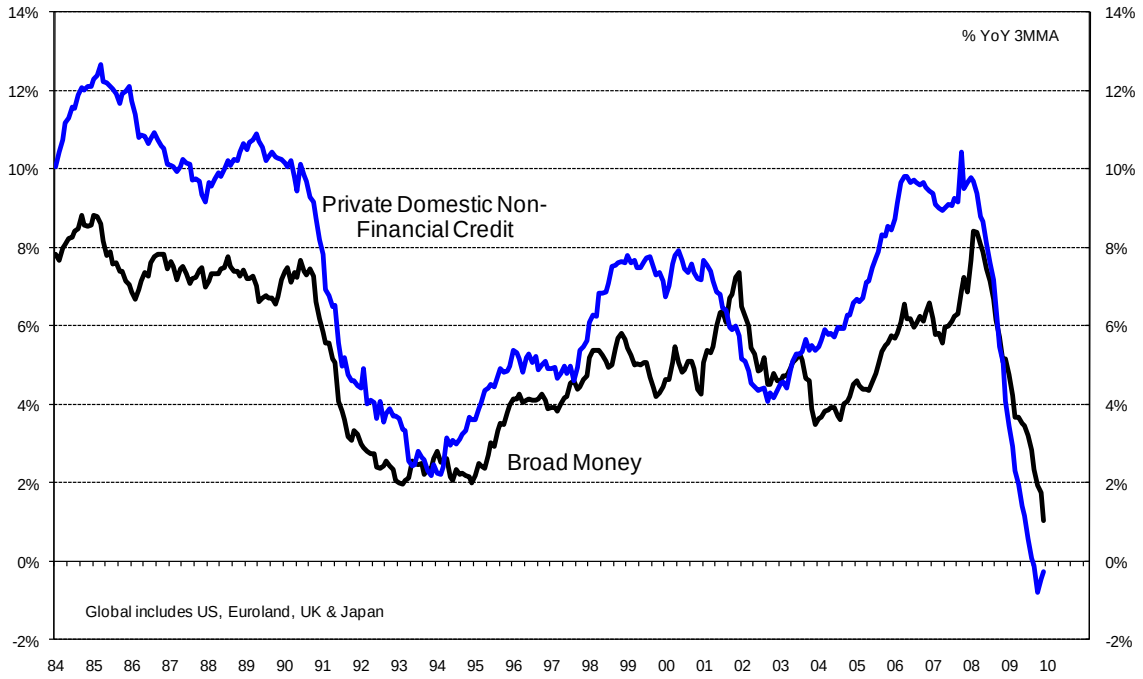
Following on from our examination of monetary base trends, we then analyse the growth rates of lending to the private sector, broad money and its subset, narrow money. We include both broad and narrow money measures since a rise in the narrow/broad money ratio tends to be associated with a fall in real interest rates. And this in turn raises the opportunity cost of holding bank deposits and is often a precursor to increased spending on financial and/or real assets. Lending growth rates are also analysed relative to monetary base and money growth rates, and where appropriate, the fiscal balance. Low growth of loans relative to money can, amongst other factors, often imply a dysfunctional banking system, rising government borrowing to fund a widening fiscal deficit, or a policy of sterilisation in an environment of rising FX reserves. Conversely, high rates of credit creation relative to money often reflect improved fiscal conduct and high rates of private sector confidence.

At a global level,[1] money and credit growth rates historically moved pretty much in tandem but in more recent times, additional drivers emerged that produced an unprecedented and sustained divergence between the two metrics. Our first chart overleaf illustrates this divergence which, until the bubble burst, had principally been a consequence of financial innovation, and distorted incentive structures that encouraged economic agents, especially those playing with other people's money, to double their bets

[1] We look at a weighted (in SDR terms) measure of the growth of these liquidity aggregates in the US, Japan, euroland and the UK. Some might argue that China and even India should now be incorporated into such measures. For now we disagree since neither has a convertible currency. Their area of greatest influence in global liquidity trends is their foreign exchange reserve purchases which are captured when we analyse proxies of global monetary base – US reserve money plus global FX reserves. For sure they are highly influential in international trade and increasingly international capital account flows, but these are overwhelmingly denominated, for now, in major convertible currencies.

even as rates were rising. We have to admit that such developments caused us to struggle intellectually with the efficacy of the monetarist versus the creditist (horrible word) approach. Our traditional process was always to place greater emphasis on the money or the liability side of the financial system balance sheet since this was historically cleaner and offered better leads. Nevertheless, in an environment where the financial economy was becoming less and less sensitive to central bank attempts to influence overall borrowing costs and credit availability, a greater focus on credit developments seemed warranted. The last couple of years have seen the whole process go savagely into reverse and given the carnage wreaked on financial institution balance sheets, it would not be a surprise to see our real credit growth indicator remaining both moribund and below the rate of growth of money for an extended period of time. Set against this, central banks have been pumping up their own balance sheets while government borrowings have also surged. We therefore believe that a re-focus on the money side of the balance sheet will in due course reveal a more accurate reflection of overall liquidity conditions. For now, neither are painting a pretty picture.

Chart 1: Global Money and Credit Growth



Central banks may be struggling to gauge what are the appropriate monetary policy settings and levers for the contemporary financial system, but this does not excuse their willingness to tolerate for far too long the explosive growth of the largest credit Ponzi scheme the world has ever seen. Some central bankers were long warning about the dangers of and the need to rein in excessive credit creation, but the most important central bank of all, the Fed, was wilfully oblivious to such arguments (and still refuses to admit culpability!). As a result, the Fed's asymmetric policy actions for more than two

decades – in essence it apparently could not identify bubbles when they were inflating but stood ready to ease aggressively whenever asset prices started to fall – created serial moral hazard. For this we principally blame former Chairman, Alan Greenspan's half correct diagnosis of a structural step-up in returns on capital, without any allowance for there to be a matching rise in capital costs. The tendency for monetary authorities to continue to focus on core inflation – there was no inflation unless one ate, drove a car or lived in a house – was also asymmetric. It stripped out one structural supply side shock – commodities – while emphasising the benefits of another – tradable manufactureds. The result was that market risk – at least as evidenced by volatility and credit spreads – remained near multi-decade lows despite the Fed's tepid attempts to price money more realistically.

Some observers were sanguine about the explosion of new forms of non-bank credit and derivatives in the face of a higher base cost of capital as signalled by central banks. They argued that the increased securitisation of debt had allowed risks to be dispersed far more widely across the global financial system. Moreover, since new credit instruments were being issued to repackage existing credit, there was double counting at work which overstated the degree of new credit being created. To an extent this may have been true but such arguments ignored the consequences of unimpairing existing financial institution balance sheets allowing them to extend additional new credit. The result was that Fed actions to influence lending behaviour via adjustments in reserves provision and changes in the cost of funds lost their efficacy.

We were always far less relaxed than the proponents of the new-age financial system. Aside from the dilutionary impact on monetary policy traction, we believed that the mushrooming of such instruments had encouraged a binary mis-pricing of global event risk: "nothing had happened and the alternatives were so horrendous that we could not even start to price them." More mundanely, we also highlighted issues of settlement and counterparty risk in the event that someone wants to redeem a decent chunk of change from illiquid fancy structures traded between prop desks and hedge funds. Unfortunately our long-standing fears have proved to be all too real.

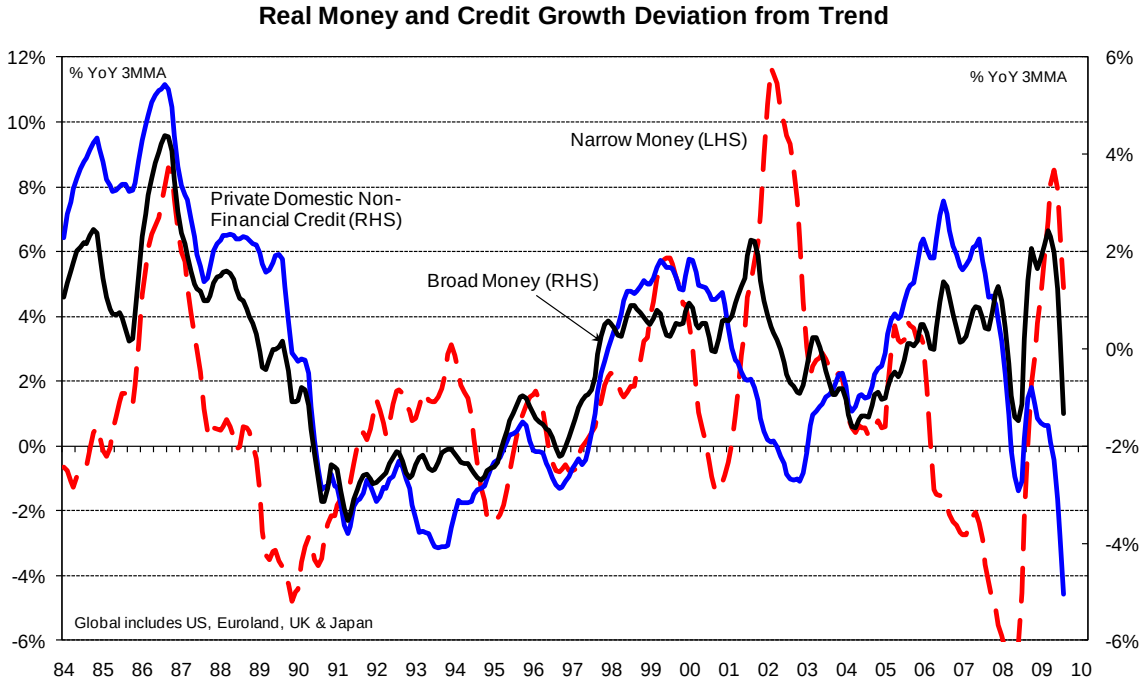
A statistical consequence of the explosion in new forms of on- and off-balance sheet credit instruments has been that classic monetary aggregate measures have become a diminishing subset of total financial liquidity. We would argue that the response of central banks should have been to attempt to produce expanded and timely money measures to reflect such changes. There should also have been better efforts to monitor, to report and to ensure settlement of OTC derivative contracts. The mushrooming of such new forms of liquidity led to gross exposures that dwarfed traditional money and credit aggregates. After the event, such measures are now being discussed but the damage has already been done. Let us hope that the belated response of monetary authorities and regulators will not be one of overkill.

No matter how one chooses to measure the concept, changes in liquidity result in changes in the ratio of money deposits relative to total assets in private sector balance

sheets. When the growth rates of broad money and credit are accelerating faster than nominal demand, relative holdings of money are increasing. The private sector has a desired ratio for money deposits relative to total assets in its balance sheets. When this ratio moves above the norm, people invest more in assets to reduce the ratio back towards equilibrium. The immediate asset classes that tend to benefit are paper assets such as stocks and bonds followed by real assets such as property. Accordingly, re-ratings of the equity market are often associated with a build-up of excess money growth and easing monetary conditions. This in turn creates a wealth effect leading to a further rebalancing of portfolios towards consumption goods. The symptoms of this process tend to be falling interest rates, rising earnings growth and aggregate demand, and ultimately goods price inflation.

Some further charts reveal this process. Chart 2 below shows the deviations from trend of the growth of our real credit and the broad and narrow money aggregates. Broadly speaking, when these measures are above the zero line and rising, monetary conditions are easy and getting easier and the outlook for asset prices and with a lag, economic activity should be improving. In a similar vein, if these indicators are pointing sharply south, the going for financial assets and activity is likely to be more difficult.

Chart 2: Global Free Liquidity

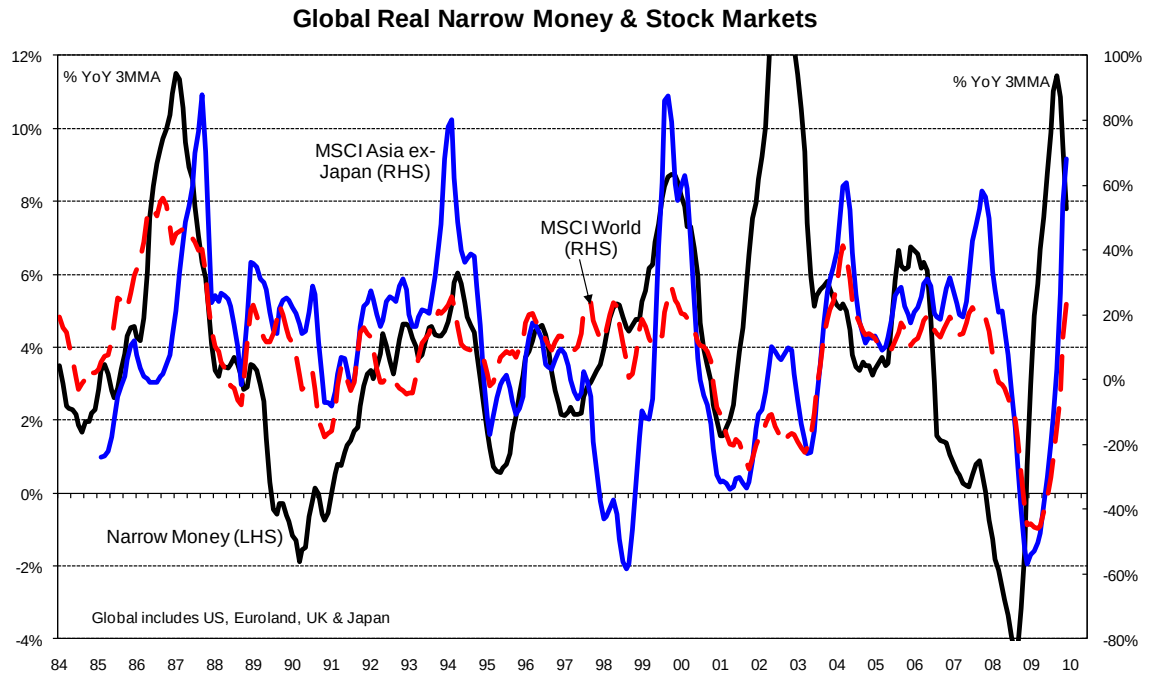


Trends in the narrow aggregates have tended to be somewhat coincidental with changes in global stock markets as Chart 3 on the next page suggests, although as noted earlier, in the aftermath of an asset bubble collapse or a banking crisis, this transmission mechanism tends to sputter. The distortions caused by Y2K-related monetary incontinence and the subsequent collapse of the tech bubble, and contemporary

developments in securitisation and derivatives markets, have weakened this relationship in recent years.

Furthermore, using liquidity as the sole variable to call equities can be a dangerous game since many other determinants – valuation, technical analysis, momentum, regulatory risk, etc. – all play different roles and have different influences at different times. As a result, we also pay attention to other equity market measures – mainly to check for extremes in valuation and momentum that might suggest a major turning point coming – but we in no way would claim the expertise to extend this to specific stock calls. This is not because of any intellectual inferiority complex. Your correspondent has a master degree in finance and has lectured a course on the subject in the past, so feels he can more than hold his own with the CFA (Corporate Finance Advertisers?) holder out there. Rather, as Adam Smith demonstrated over 200 years ago, there are great advantages to be gleaned from specialisation and **DSG*Asia***'s comparative advantage lies, we believe, with the macro rather than the micro.

Chart 3: Free Liquidity Proxies Stock Market Performance



But we digress. While trends in the narrow aggregates have traditionally tended to be somewhat coincidental with changes in global stock markets – post bubble collapse periods excepted – trends in the broader aggregates tend to lead economic activity by up to 18 months (the transmission mechanism tends to be shorter in less developed and more cash based economies). Chart 4 overleaf illustrates this relationship. Again we would note that just as in the early-1990s, the traditional lags and transmission mechanisms have been misfiring somewhat in recent years. However, as Chart 5 shows, the relationship between global growth and the Asian export cycle continues to hold.

Chart 4: Free Liquidity Leads Economic Activity

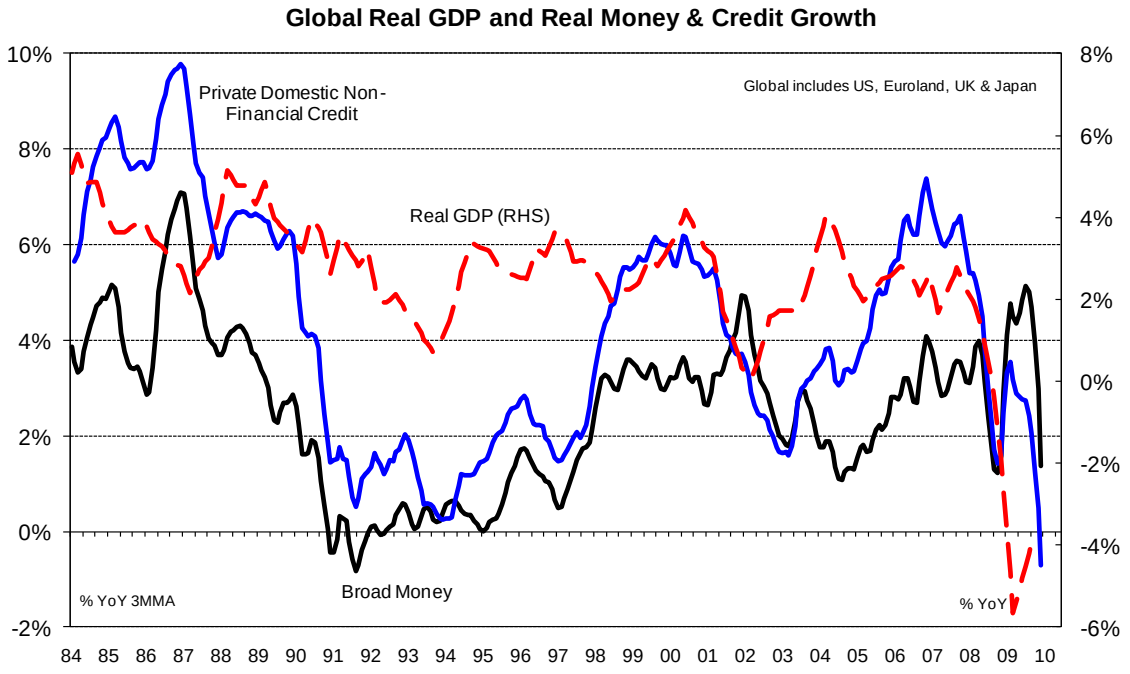
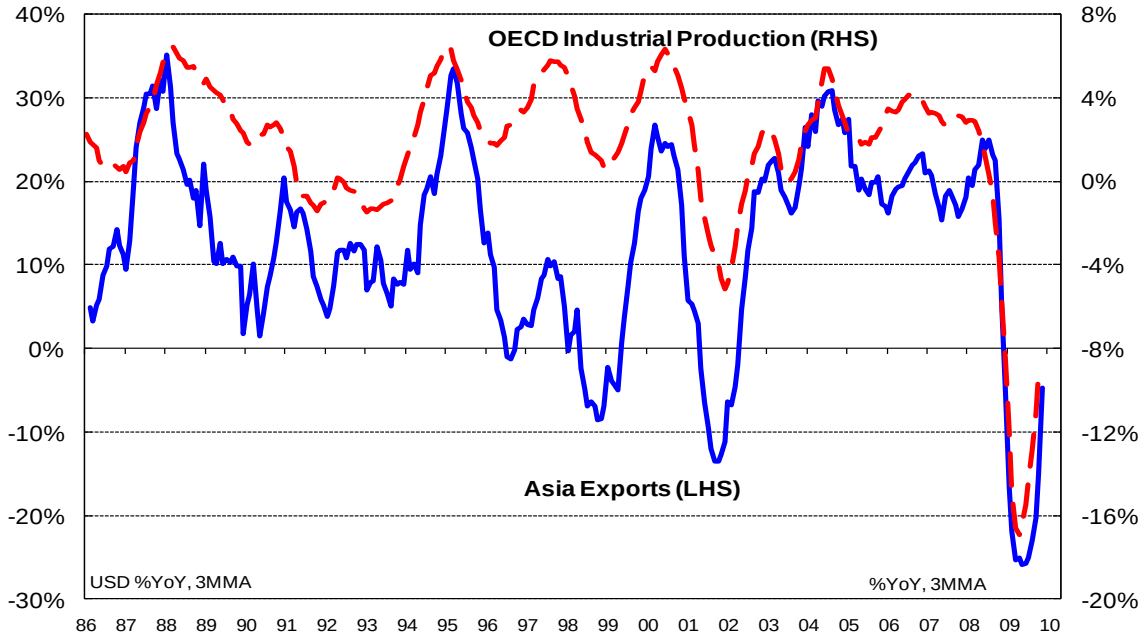


Chart 5: Asian Exports Remain Highly Dependent on Global Demand



Thus far we have focused on the supply and demand for money; its cost is determined internally by interest rates, and externally by the exchange rate. Turning first to the internal cost, we try to look at a variety of interest rates, such as key lending and money market rates, government and corporate debt yields, plus the offshore interest rate

implied by the forward foreign exchange market. Offshore and onshore interest rates are not always arbitrageable over the near term but should move much in line (in the absence of capital controls) due to the theory of covered interest parity. The deeper the domestic money markets, the closer will be the trends in onshore and offshore interest rates. Interest rate differentials over comparative overseas rates – normally those of the US – are also important since differentials above or below equilibrium can clearly affect the near term direction of domestic rates.

Yields on assets tend to move in the same direction when relatively stable inflationary expectations exist. When one buys a government bond, it is theoretically a risk-free asset and has a certain stream of earnings equivalent to the coupon on the bond. When one buys equity in a company, one is buying a yield on earnings. The earnings stream is usually volatile and unpredictable in the medium or long term. This uncertainty increases the risk, and risk has to be compensated by a higher return. The fundamental problem of trying to gauge a risk premium has been the historical lack of a real risk-free rate of return in many Asian countries. More recently this has been changing somewhat thanks to the increased need for government borrowing post Crisis, plus explicit attempts by many regional governments to develop deeper and longer duration sovereign and corporate bond markets.

Our most current benchmarks are the various domestic money market and government bond yields that are now quoted with increasing regularity. To create data series going further back in time, these have been grafted on to our historical calculation for synthetic long bond yields which has been to adjust the US 10 year bond yield by the forward interest rate premium implied by the forward foreign exchange markets. The assumption we have used is that over the longer term, expectations of inflation differentials constrain short-term interest rate differentials to track long-term bond yield differentials. Since longer term paper and interest rate swaps have tended to be priced off the forward foreign exchange curve in Asia, the forward premium or discount over the USD should be a good proxy for the implied premium or discount over USD bonds. Admittedly the yield curve is not flat going out over time but in practice, longer term interest rates have tended to be calculated by extrapolating the slope of the liquid part of the forward curve from the shorter dates to 1-year. Although our use of the implied 3-month premium (in the absence of longer-dated quotes) will therefore understate the implied premium for 10-year money, we believe it is a valid proxy given the latter is a relatively stable function of the former. Moreover, because our concern is with relative movements of yields on bonds and other asset classes, the shape of any relative curves over time based on different forward maturities should be the same.

As suggested above, if interest rates are the internal price of money, then the exchange rate can be thought of as the external price. Exchange rate targeting continues to play a major role in monetary policy throughout the region – even post Crisis, the majority of the new so-called floating rates are somewhat dirty at best – and there remains a mercantilist tendency to try to hold exchange rates below ‘fair value’ in order to

engender export competitiveness. If such a policy further again increases the attraction of the region to the foreign investor it will result in a tendency for money market interest rates to remain below domestic credit market equilibrium.

The greater is the degree of currency targeting at any one time, the lesser is the degree of domestic monetary control. Although real exchange and interest rates can remain below (or above) equilibrium for some time, such anomalies will result in structural pressures towards real exchange rate appreciation (or depreciation). When analysing currency valuations, we look at exchange rates against the USD and in some cases the JPY, plus the nominal and real effective exchange rates (NEER and REER, respectively). When analysed in conjunction with the other indicators outlined above, an idea of the degree of intervention can be ascertained. The table below gives an indication of the relationships and trade-offs between different monetary and fiscal policy choices.

Guaging the Stance of Monetary Policy

Exchange Rate Changed and Interest Rate Unchanged and FX Reserves Unchanged	Exchange Rate Unchanged and Interest Rate Changed and FX Reserves Changed	Exchange Rate Unchanged and Interest Rate Unchanged and FX Reserves Changed
Free Float	**Unsterilised Intervention**	**Sterilised Intervention**

The NEER is simply a trade-weighted basket of an economy's major trading partners in terms of exports while the REER is a trade-weighted basket of real exchange rates, deflated by an appropriate price index. All our NEERs and REERs are re-based to 1990=100 so regional competitiveness comparisons can be made. Where the data is available (and timely) we tend to favour using wholesale, producer and/or corporate goods price as opposed to consumer price indices since the former tend to be less subject to politically inspired manipulation. An alternative calculation method we also employ is one based on manufacturing unit labour costs. However, although this would be our ultimate deflator of choice, timely and reliable data tend to be even harder to come by in many countries and therefore near term predictive power is absent. One final comment on inflation baskets; when analysing price changes we also tend to strip out food prices (though not in our REER calculations) or when these are reported, also track core inflation measures (generally ex food and energy). This is not to say headline movements should be ignored, especially in circumstances where food and/or energy prices remain elevated for extended periods of time. Food prices particularly clearly impact expectations but often distort the underlying position given their average 40% weighting in regional price baskets. Therefore when spikes can be judged to be temporary, it can

make sense to strip them out to avoid the problem of inflation seeming to be "always and everywhere a meteorological phenomenon".

So much for the financial economy; what though data from the real side? The Asian crisis has certainly helped in this respect, especially where the IMF has gotten involved and forced certain recipient countries to upgrade their reporting standards. However, greater availability and regularity of output and demand data does not necessarily imply greater reliability. Many of the region's countries have huge black economies, lack the resources to collate accurate data at best, and continue to manipulate and/or misreport the output provided to the market at worst. In *extremis*, China's diligent number crunchers at the National Bureau of Statistics used to manage to produce GDP numbers for an economy of 1.3 billion people often *before* the quarter had ended. At least now they have the decency to wait until a few weeks after even if the numbers are never subsequently revised. Our attitude remains one of marked scepticism and really the only assumption one can make is one of miscounting or misreporting on a consistent basis. This implies that second differentials – rates of change of the rates of change – are the key trends to look at.

To be fair to the bean counters, the task of capturing and recording accurate data in a world of ever more open capital accounts, and an increasing dominance of services in economic activity, is taxing statisticians in even the most advanced nations. Life was a good deal easier when trade both within and between countries, was dominated by physical goods that were easy to count. In some ways though, given Asia's comparatively high levels of primary and secondary sector output in total compared to higher income countries in Europe and North America (Hong Kong and Singapore aside), overall national income numbers should potentially be somewhat less distorted by issues of mismeasurement of service sector output and productivity. Nevertheless, when it comes to the balance of payments, issues of transfer pricing, capital flight, distorted invoicing of exports and imports, etc., all serve to make the reality of the region's external accounts somewhat hazy to read. Our base assumption is to start from the premise that the true level of a country's foreign exchange reserves (allowing for forward commitments) is difficult to hide over all but the very short-run. We also assume that the ability to cross-reference a country's exports and imports of goods against corresponding data produced by its trading partners will also lead to a partial check on deliberate, consistent fabrication. Hence, with the two variables of reserves and the trade balance, one can make some relatively educated assessments of the net attitudes of local and foreign capital.

Nonetheless, a pure reliance on real economy data is akin to a blustery micturition. We therefore conclude with a return to our starting premise of liquidity creation or reduction being the prime determinant of asset and goods price cycles, and tend to interpret real economy data as (lagged) symptoms of the various trade-offs involved in implementing different monetary policies. This line of reasoning even extends to the realm of fiscal policy given that the impact of any change in budgetary stance needs to be analysed in the context of how such changes are funded and how, as a result, they impact on the balance sheets of the financial system and the non-bank private sector. This is not

to say that other variables – inventory cycles, exogenous and endogenous shocks, supply disruptions, socio-political and human behavioural factors, etc. – do not play their part in determining short- and even medium-term fluctuations and distortions in the economic cycle. Indeed, where such information is available, we always try to incorporate it into our analysis. However, over longer periods, nominal output fluctuations are always monetary phenomena and a rigorous framework for analysing financial system balance sheets remains the best starting point, in our opinion, to develop forecasts of the future direction of policy based on developments in inflation, the real economy and the external accounts.