Market Extremes and Divergence

Contents

In this report we highlight some of the major imbalances and excesses in economies, as well as extreme readings for economic and financial market variables and the relationships between them.

Disclaimer and Disclosure

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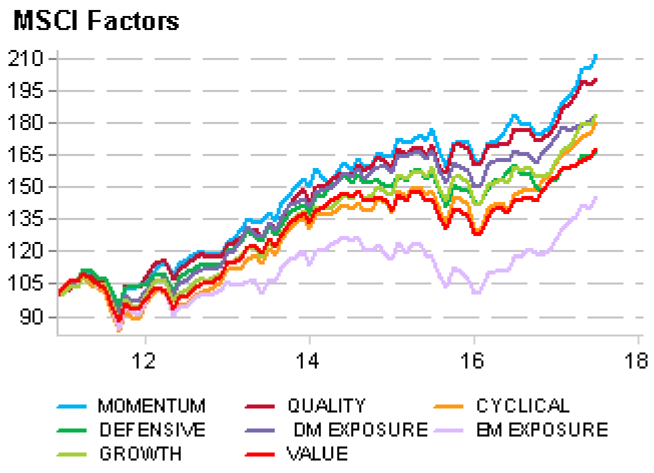
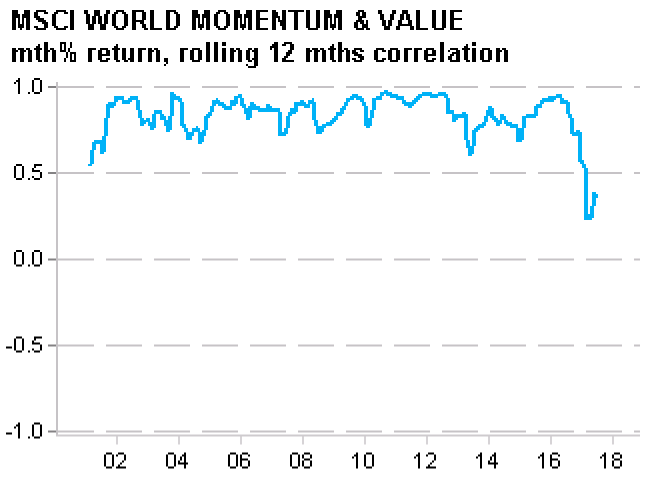
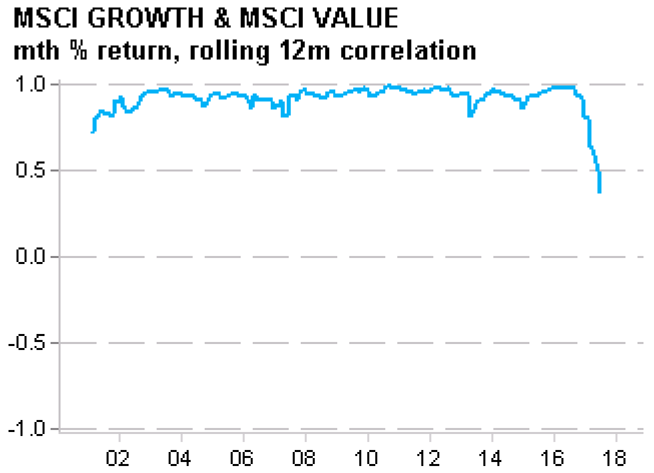
1. Equity Market Factors

- Momentum and quality factors have provided the strongest returns since 2010. Value, cyclicality and EM exposure have been amongst the weakest factors. Since the election of Donald Trump, however, cyclical and EM have been the best performers with defensive and DM factors underperforming.
- Over the long term the correlation between value and momentum and value and growth has been high but over the past 12 months the correlation has dropped sharply. Over the past 6 months the value factor has underperformed.
- Movements in bond yields seemed to support the outperformance of growth and momentum. The sell-off in bond yields late 2016-early 2017 saw value outperform briefly.
- Finally global cyclicals have outperformed defensives by around 20% over the past 12 months. This would ordinarily be consistent with a very strong lift in global growth indicators such as the G3 PMI.

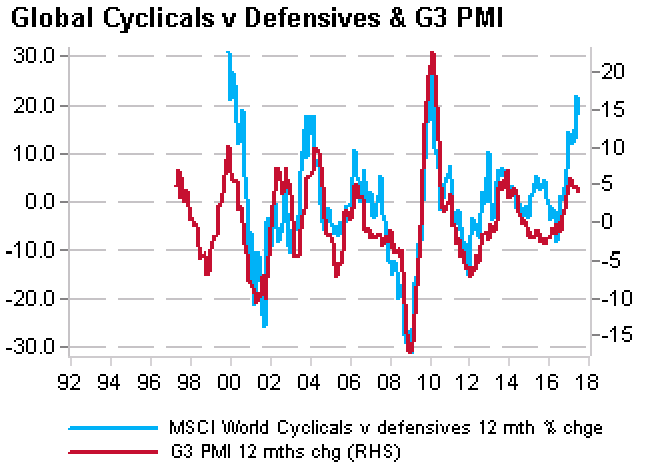


Source:MSCI





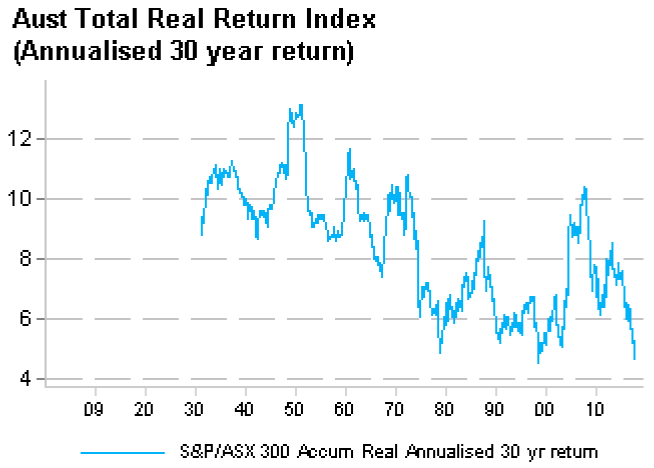
Source: MSCI



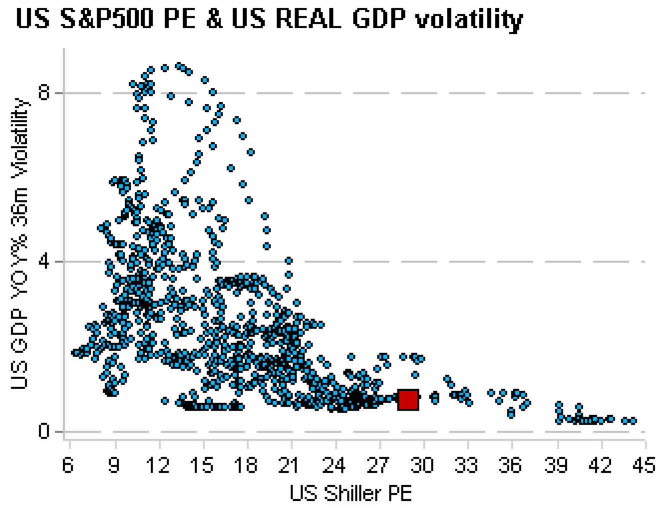
Source:Markit,ISM

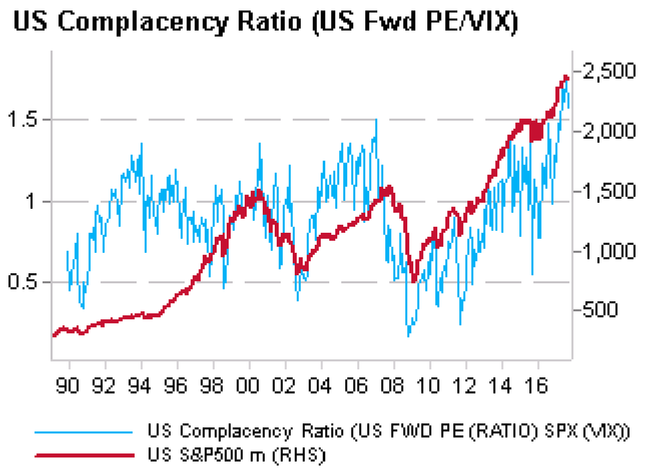
2. Returns, volatility & uncertainty

- The long term real return from Australian equities sunk to its lowest level in August. Obviously there is a strong base effect here (i.e. the peak before the 1987 market crash) but the real annualised return from Australian equities over the 30 years to August is estimated to be just 4.6% pa.
- Much has been said about the low levels of volatility in equity markets. The VIX has declined to sub-10 levels recently. At the same time the Shiller PE is around 30 times, giving the appearance of "complacency". Furthermore, the low level of the VIX appears at odds with heightened levels of policy uncertainty.
- However, the volatility in the broader economy has declined significantly. Growth rates have been modest but generally steady within a range and without a recession since 2009. Low volatility in the economy may well be a factor contributing to higher valuations.

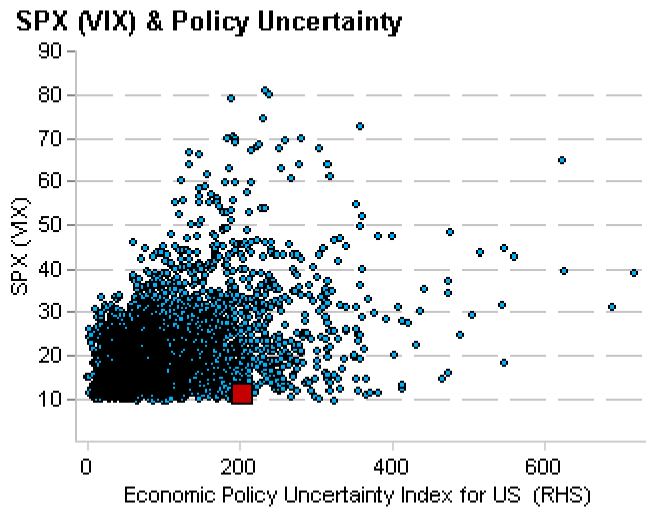


Source: ABS, RBA, IRESS, using proxy updates



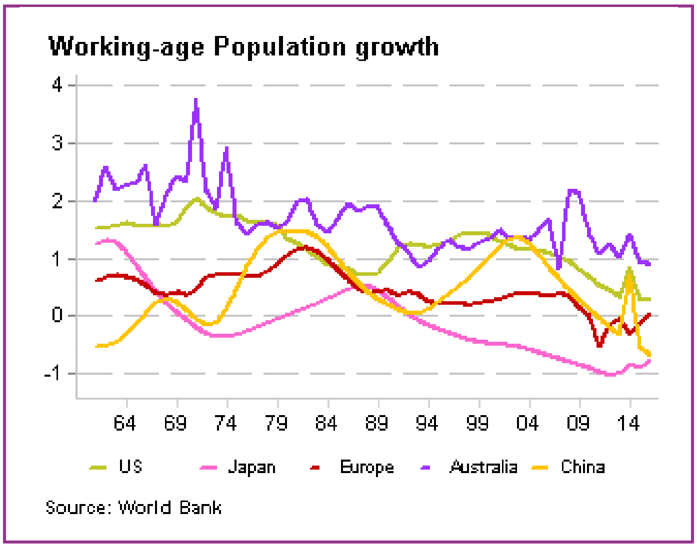


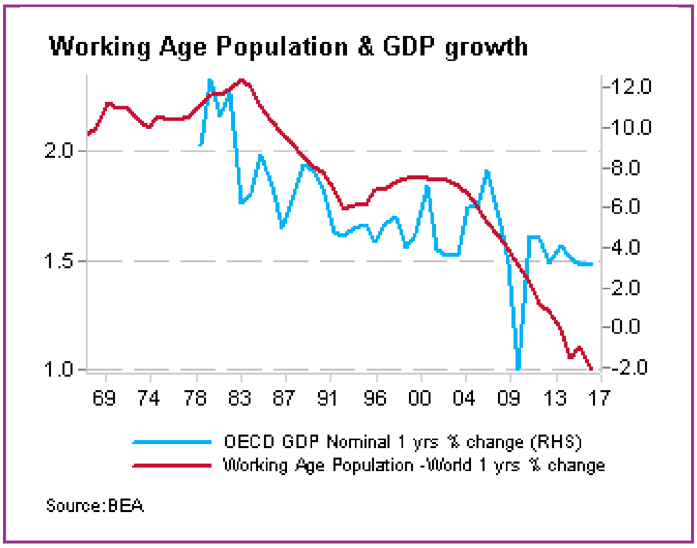
Source:IBES,CBOE,S&P, using proxy updates

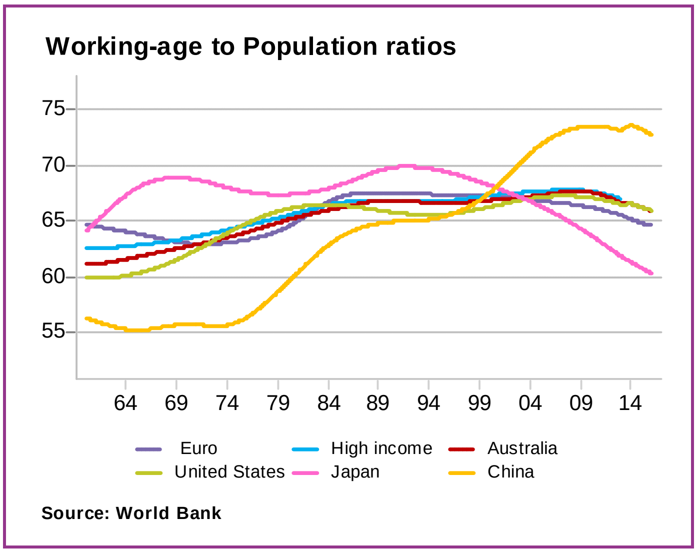


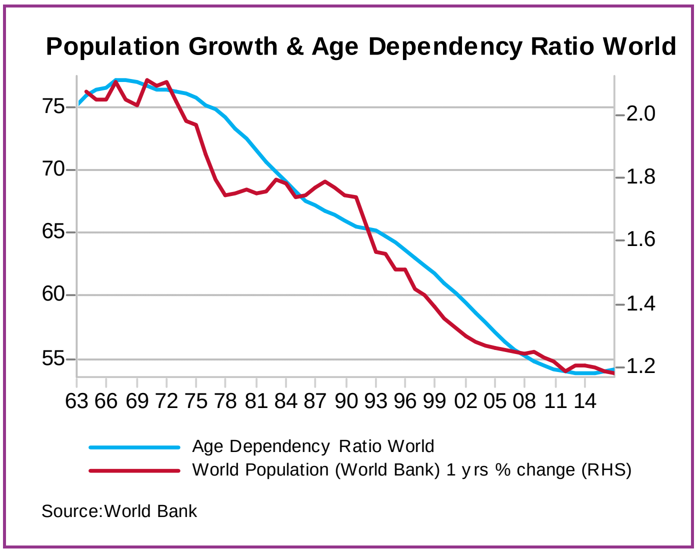
3. Demographics

- Working age population growth has slowed quite sharply since 2005. It is negative 1% in Japan and is flat to negative in Europe and China. In the US working age population growth has slowed to around 0.5%. In Australia that number is around 1%. Working age population (15 to 64 yo's) to total population ratios have been declining in Japan since the mid-1990's and more recently in many other major economies.
- In the OECD region working age population growth is now just under 1% after being around 1.75% pa between 1990 and 2005 and above 2% pre-1990's. Slower working age population growth provides a major headwind to generating nominal GDP growth, which has slowed to around 3% for the OECD.
- The so-called dependency ratio (i.e. those aged below 15yo and above 64yo compared to the working age population) has been declining since the 1960's, from around 77% to under 55% recently. It now appears to be climbing and is expected to be on a rising trend over coming years.
- The BIS, in a recent working paper, noted the strong growth in the work-force up until 2005, a declining dependency ratio and an expanding China contributed to a suppression of wages and interest rates by boosting desired savings relative to investment. The paper notes the rising dependency ratio (and an ageing population) combined with a declining working age population growth will contribute to slower growth and a reduced size of the workforce but with desired savings falling faster (an ageing population) than desired investment, real interest rates will tend to rise. Wages and inflation are projected to lift.



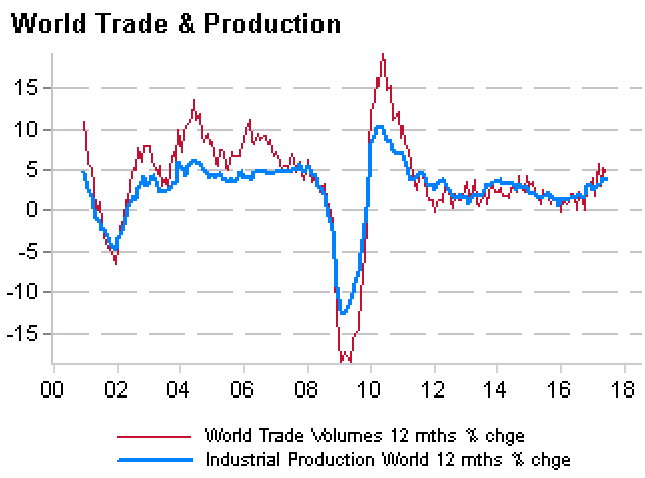




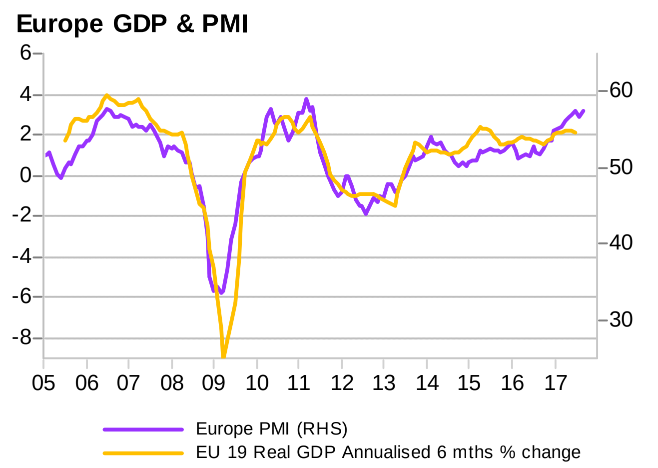


4. Growth

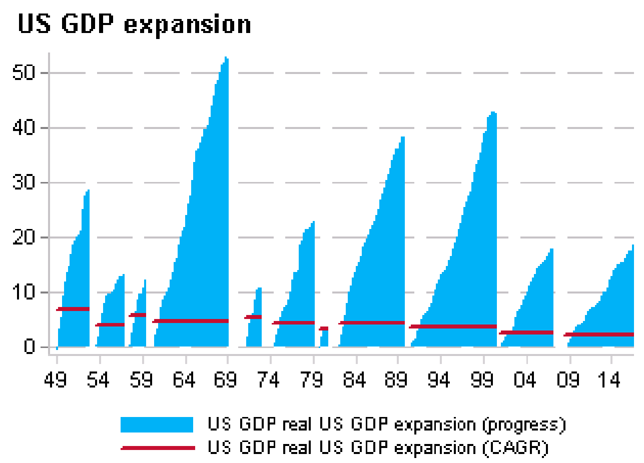
- Since 2012 global industrial production growth has remained in a range of 1-4% with an average of 2.4% compared with an average of 4.5% during 2003-2007. The global economy is currently challenging the upper end of the 2012-2017 range and indeed, global trade growth has already pushed to the upside.
- In Europe the manufacturing PMI was at 57.4 in August and has been higher only 6% of the time.
- The US economy has now been in expansion mode for 96 months. Of the 11 expansions since WW2 this is the 3rd longest but the weakest in terms of annualised growth (2.2% pa) and mid-range in terms of cumulative growth (19%).
- Japanese nominal GDP growth has averaged close to 2% over the past three years, near the best since the mid-1990's.
- Australia's GDP growth of around 2% is significantly below the level expected based on the NAB business conditions index which is at post-GFC highs.



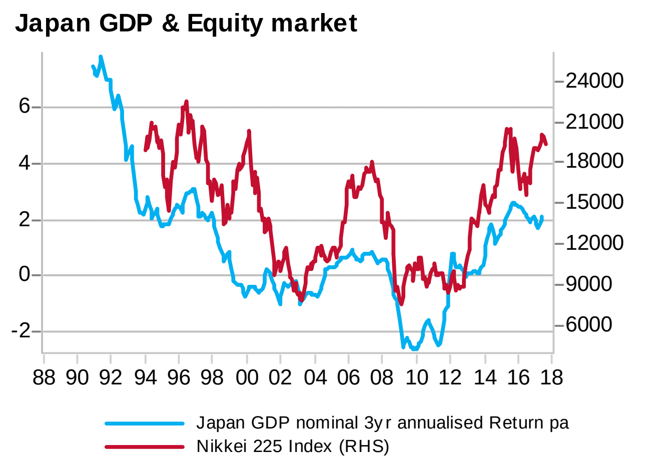
Source: World Bank



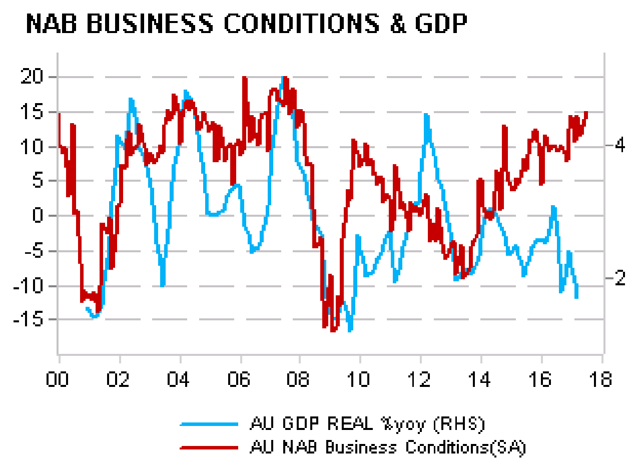
Source: ECB, Markit



Source:BEA



Source:Japan Cabinet Office

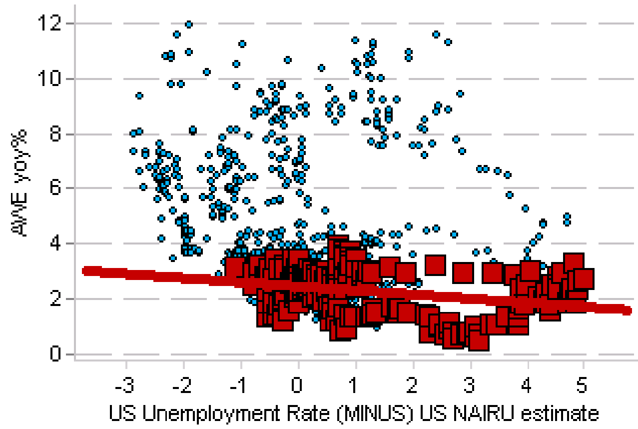


Source: NAB, ABS

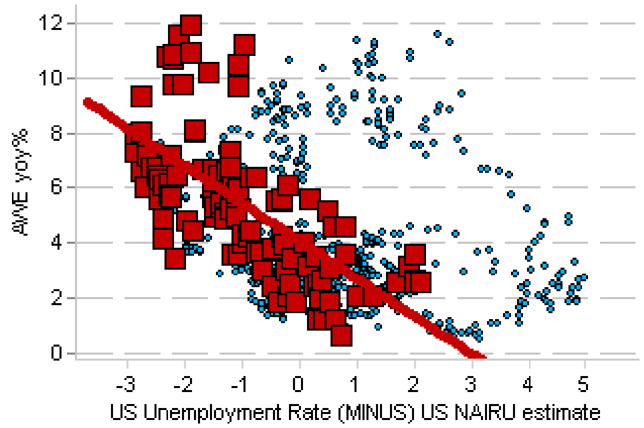
5. Wages & Inflation

- There has been much discussion around the so-called Phillips curve. The relationship between the tightness in the labour market (unemployment v the "natural" rate of unemployment or NAIRU) seemed particularly evident in the 1950's and 1960's but has weakened substantially since the 1990's. Reasons put forward include the growth of the global labour force, technological change, declining unionisation and lower inflation expectations.
- US wages are growing at a 2.5% rate overall despite unemployment arguably being below NAIRU.
- The situation is similar elsewhere. In Australia wages are growing at their slowest pace on record while in Japan wages growth is essentially flat despite the shrinking in the labour force (and a job to applicant ratio of above 1.5).

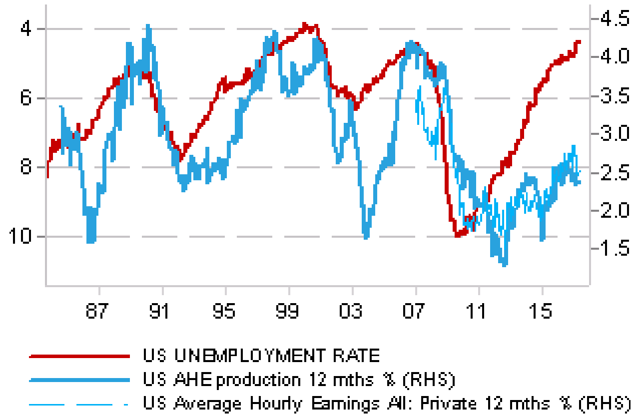
Phillips Curve
Regime: Post 2000



Phillips Curve
Regime: 1950's

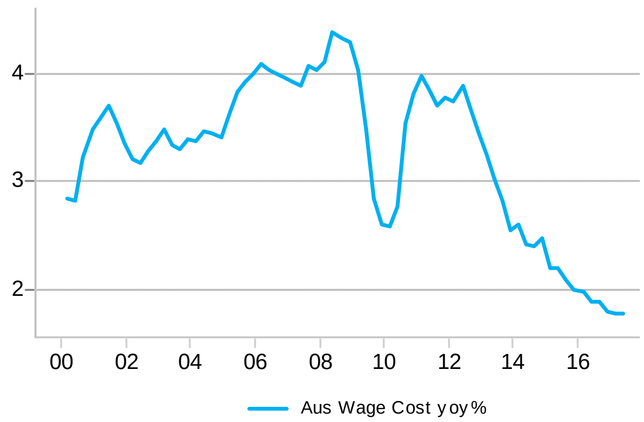


US Wages & unemployment



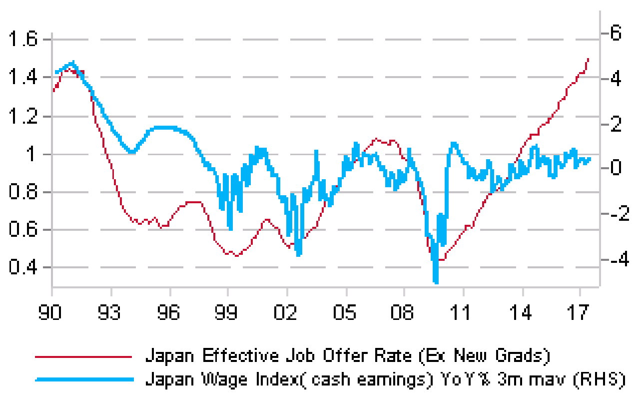
Source: NBER, Department of Labor

Australian wages growth



Source: RBA, ABS

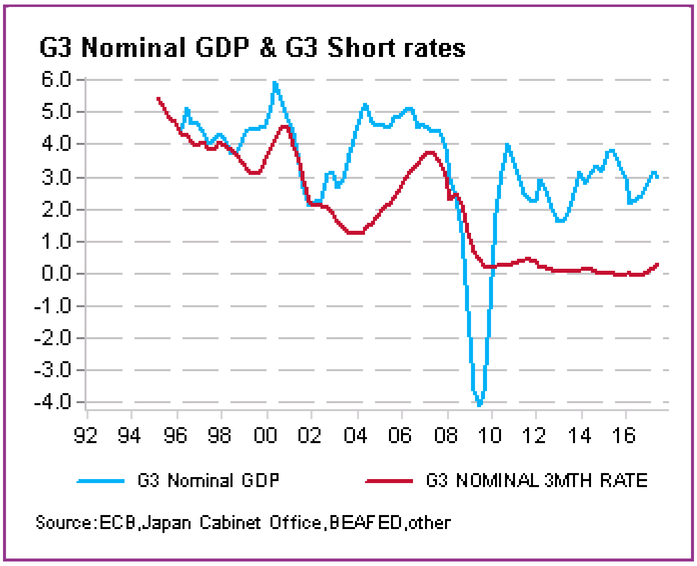
Japan Effective Job Offer Rate
& Wages

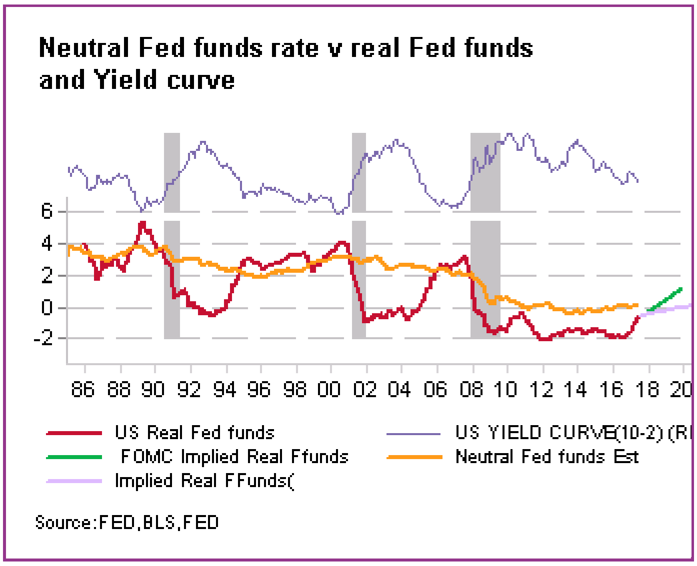


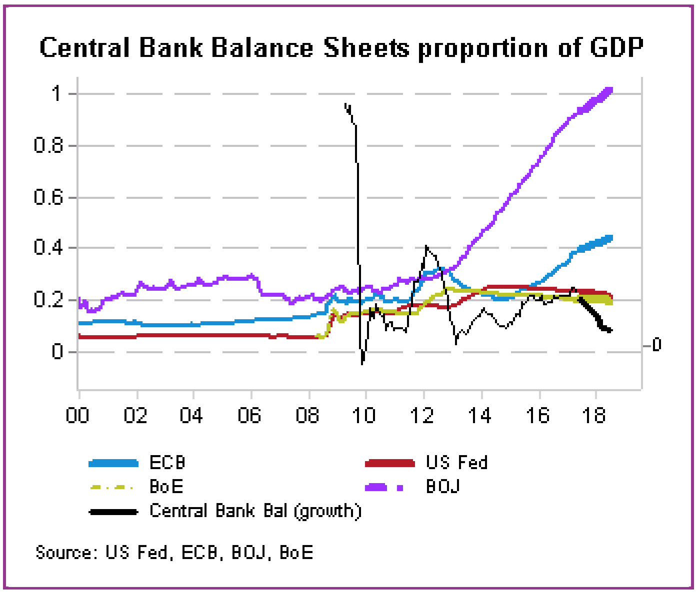
Source:Japan Cabinet Office

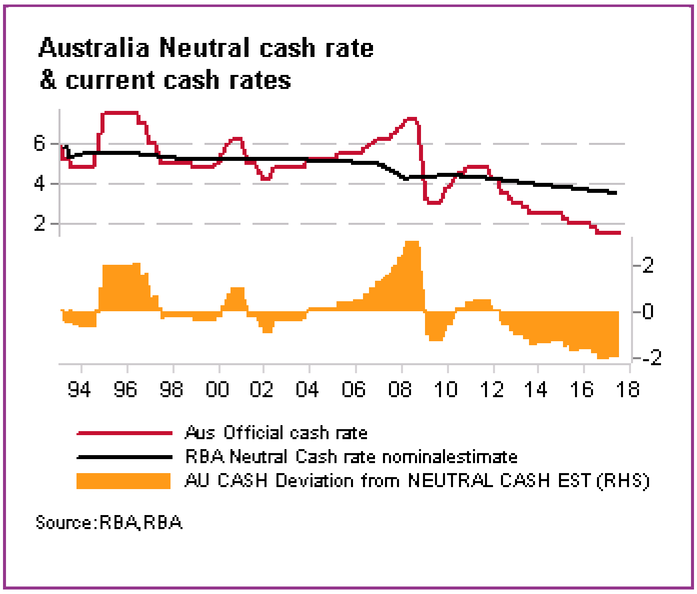
6. Central Bank Policy

- Clearly central banks have maintained extremely easy policy settings, partly due to the difficulty in generating higher inflation and the concern over a perceived fragile economic backdrop.
- G3 cash rates of just above zero compare with nominal GDP growth of around 3%.
- The Fed funds rate in real terms is still well below the so-called neutral rate and market pricing implies policy will not reach neutral until 2019-20.
- Meanwhile the Fed is about to wind back its balance sheet from the current US$4.2 trillion level. Even allowing for a moderation in growth in the ECB balance sheet and a 10% reduction in the Fed balance sheet over the next 12 months, overall central bank balance sheet growth is unlikely to go negative until later in 2018-2019. Nevertheless that will be a significant change.
- In Australia, the current 1.5% cash rate is a full 200 basis points below neutral.



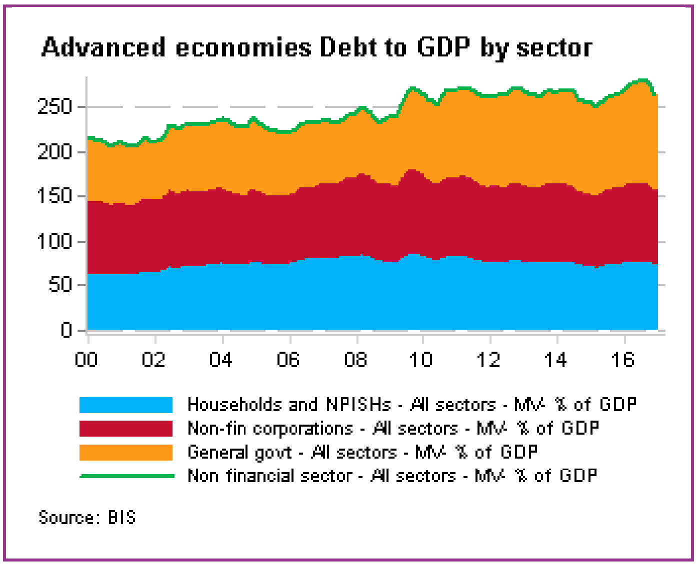


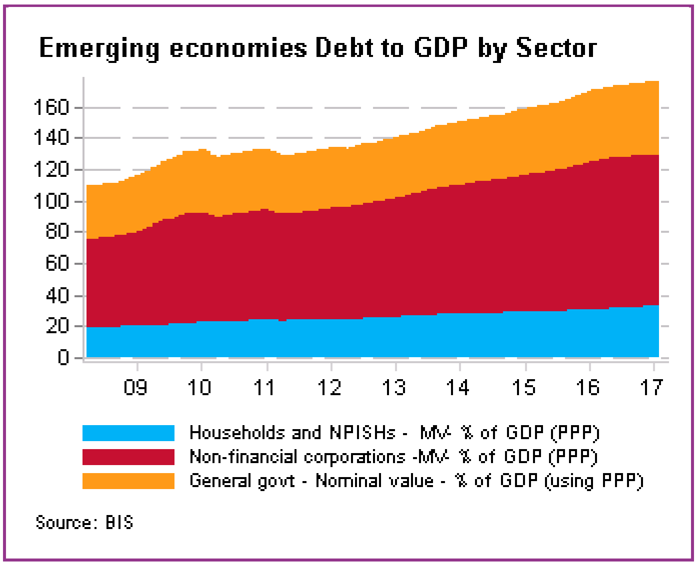


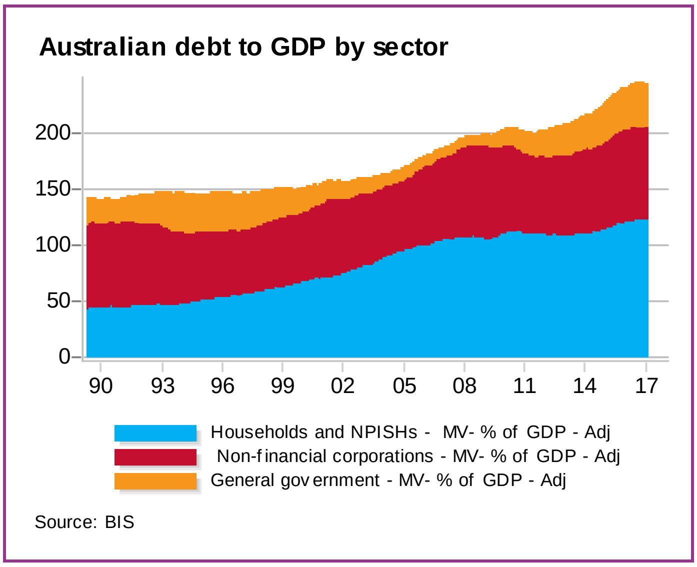


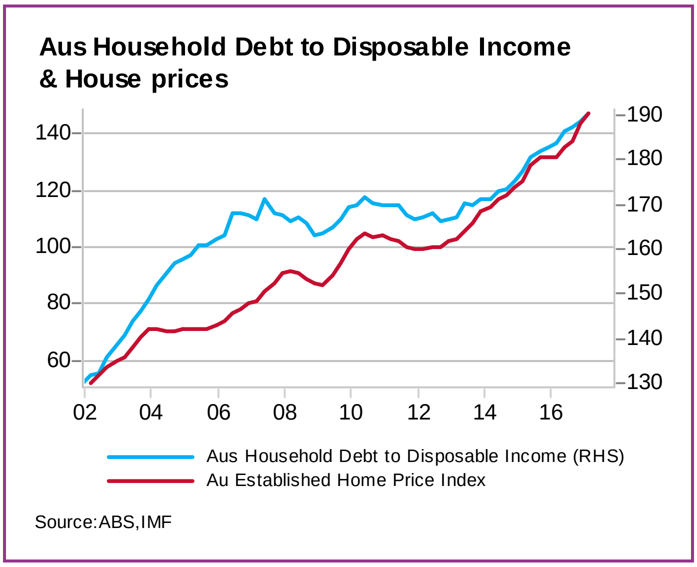
7. Debt

- Despite some deleveraging post the GFC, advanced economy debt to GDP is not far from its highs at 265% of GDP.
- Meanwhile EM debt to GDP continues to climb, reaching 175% of GDP, with much of the growth occurring in the corporate sector.
- Australian debt to GDP is estimated by the IMF to be almost 250% with most of that growth occurring in the household sector.
- Australian household debt to disposable income is now 190%, matching the lift in house prices over the period since 2002.



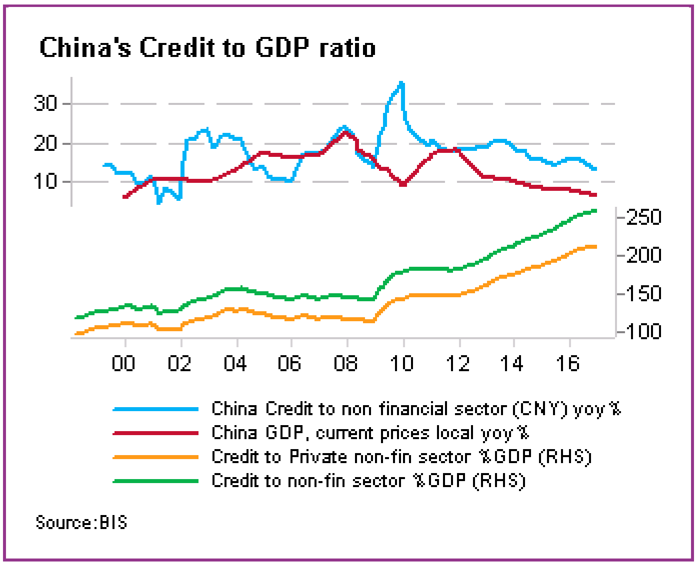


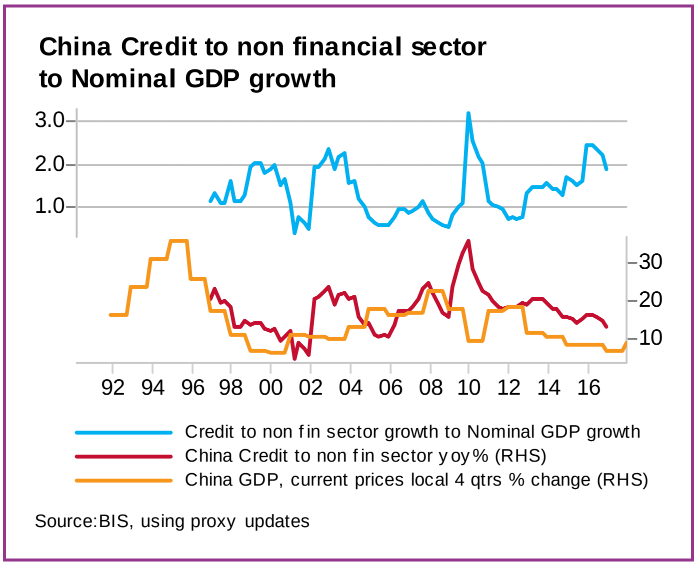


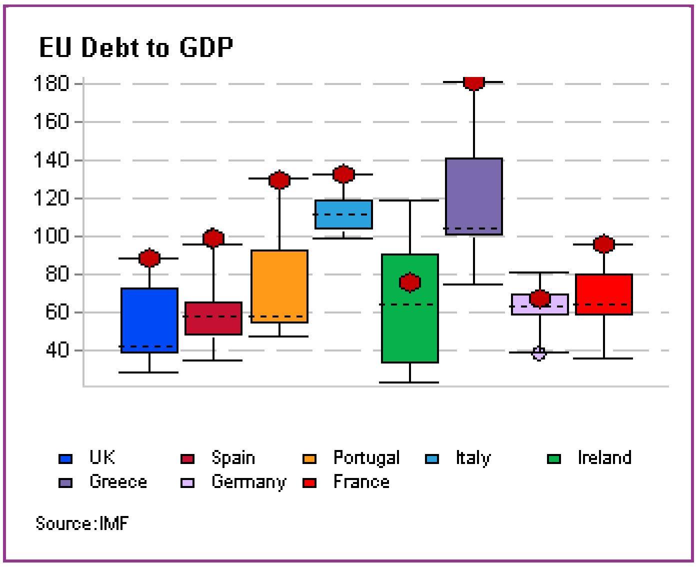


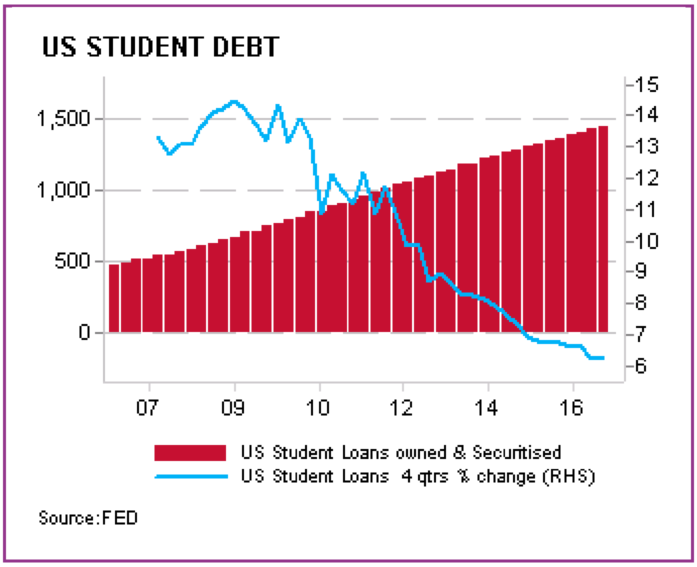
8. Debt

- In China, total debt to GDP is estimated to have risen to almost 260%. However credit growth still exceeds nominal GDP growth suggesting a stabilisation in the debt to GDP ratio is still some way off.
- The still rapid growth in credit relative to GDP growth suggests that the efficiency of "credit" is still poor. Almost two units of credit growth generate one unit of GDP growth.
- European government debt levels are still extremely high although they have improved for Germany and Ireland.
- The level of US student loans has attracted some attention recently. Overall household debt is around US$15 trillion with student debt rising to US$1.4 trillion in 2017 from around US$500 billion at the time of the GFC. The growth rate has slowed but is more rapid than other debt types.



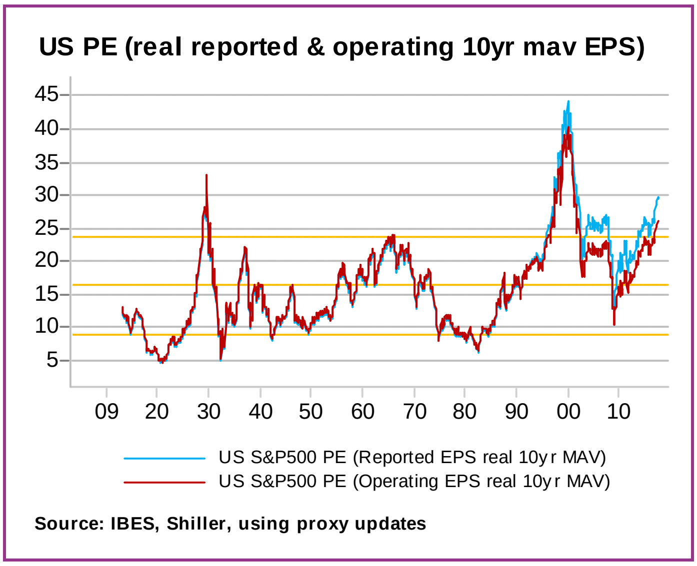


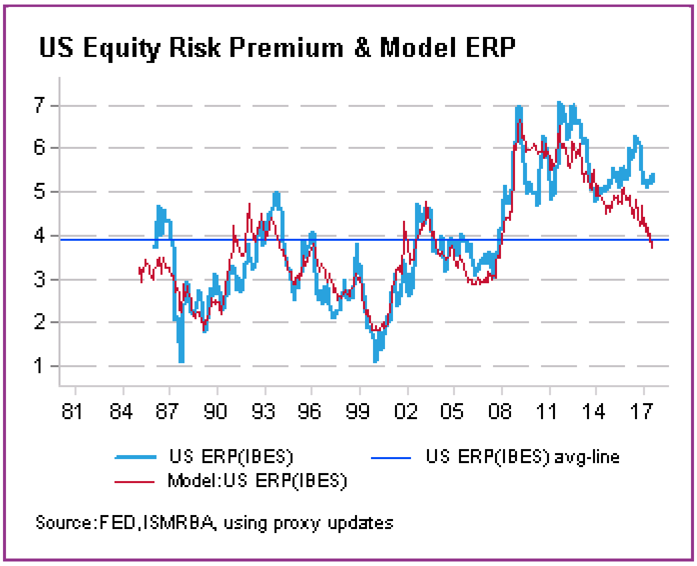


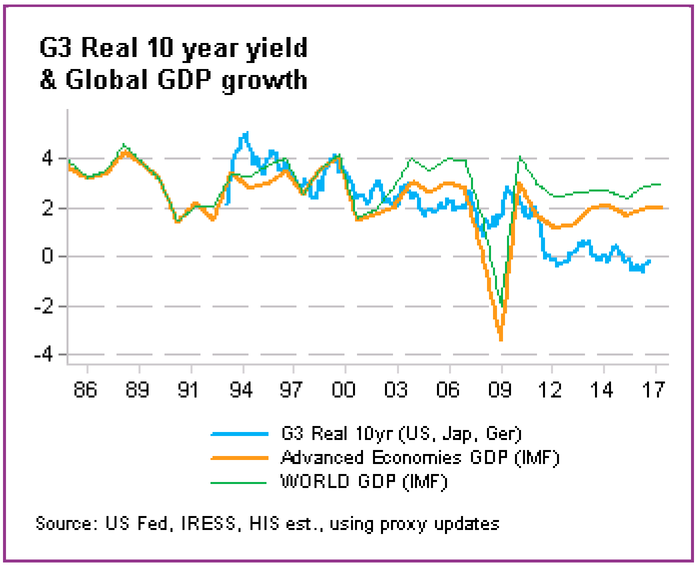


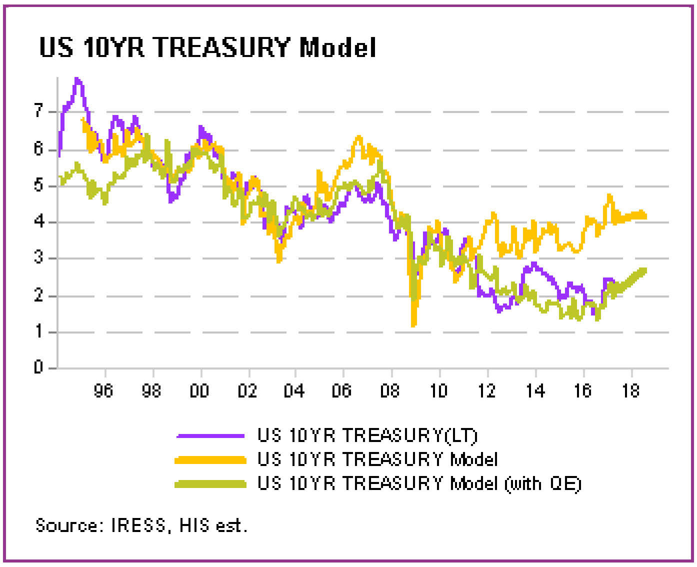
9. Valuations

- The US Shiller PE is almost 30 times using reported EPS and almost 27 times based on operating EPS. Other absolute valuations models (Tobin Q, PE to GDP) are also expensive.
- Based on consensus EPS projections the US Equity risk premium is around 5.2%, well above the 30 year average of 4% and our model fair value of around 4%.This 1.2% gap or divergence could be narrowed by equity market strength, a bond sell-off or a combination of both.
- Our bond model (including the impact of the Fed balance sheet and allowing for a reduction in the balance sheet over the next 12 months) suggests fair value at around 2.75%. The older model (based on Fed funds, ISM, inflation, but excluding the impact of the Fed balance sheet) suggests close to 4%.
- Real bond yields across the G3 remain at extreme lows in real terms (around 0%) compared with real GDP growth of 2%.



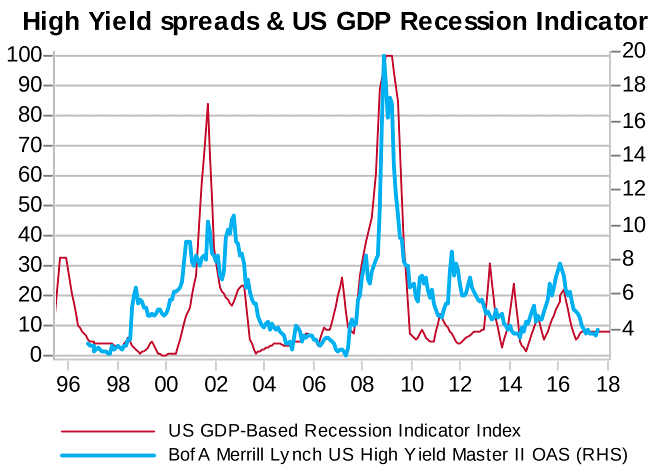




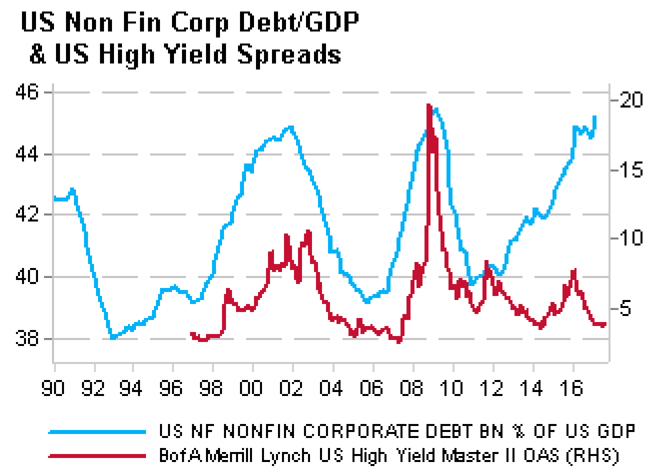


10. Valuations

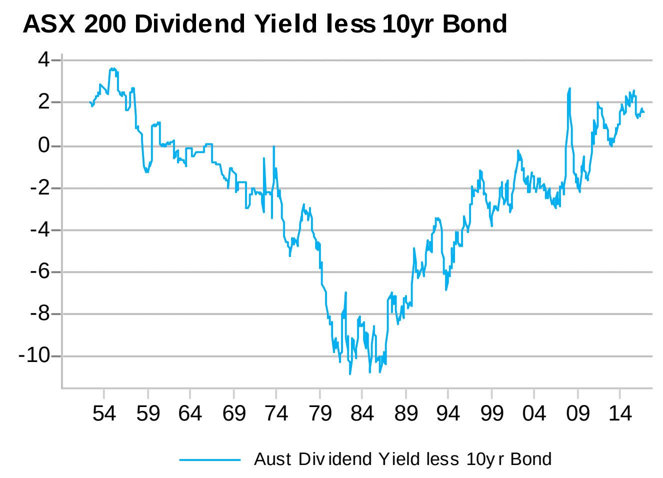
- US high spreads at less than 400 basis points essentially imply a less than 2% default rate and a negligible probability of recession.
- At the same time the US corporate sector has expanded debt, taking the corporate debt to GDP ratio to around 45%, near its previous peaks in 2000 and 2008.
- Dividend yields in Australia are around 2% over the10 year bond yield, a level not seen since the 1950's.
- Meanwhile the ratio of the equity market yield (based on trend EPS) remains well above long term averages.



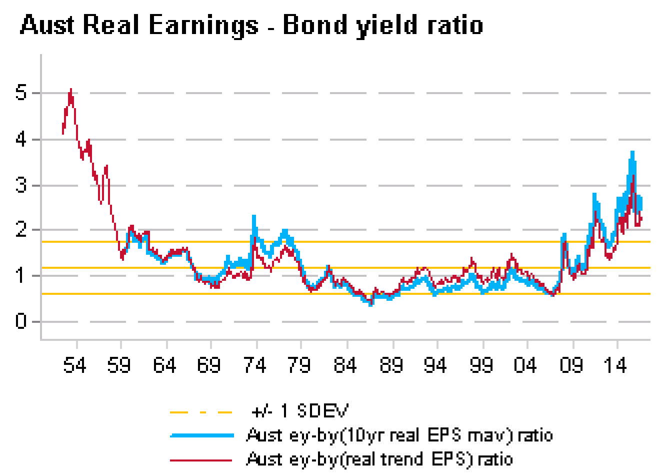
Source:FED,St Loius Fed, using proxy updates



Source:FED,FED



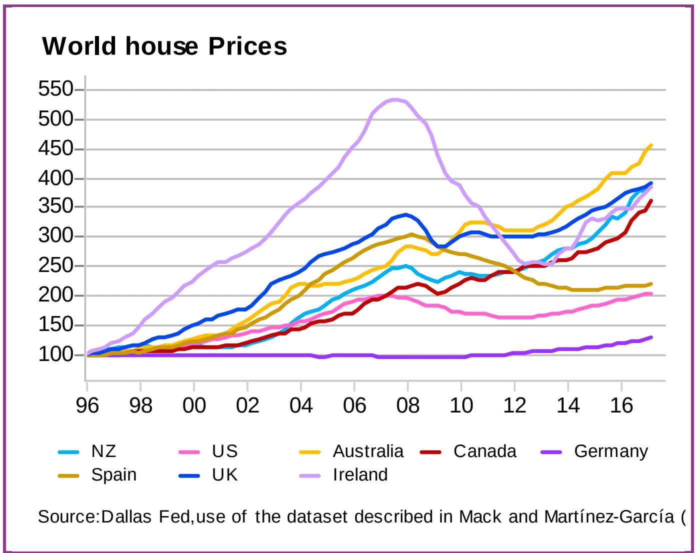
Source: IRESS, RBA, using proxy updates

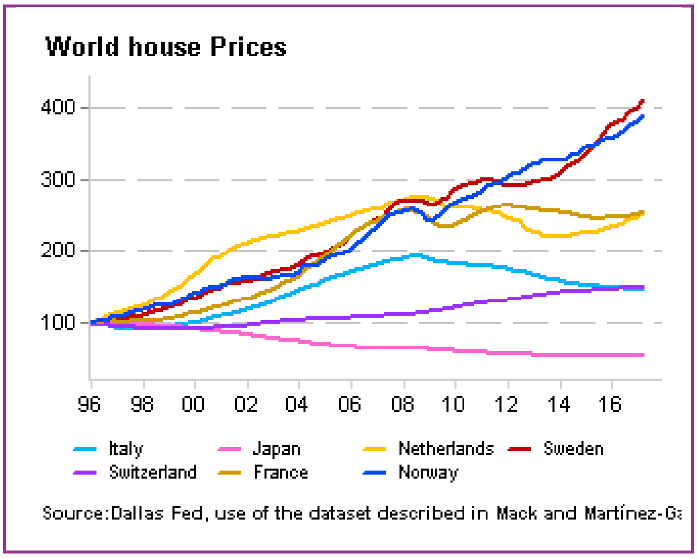


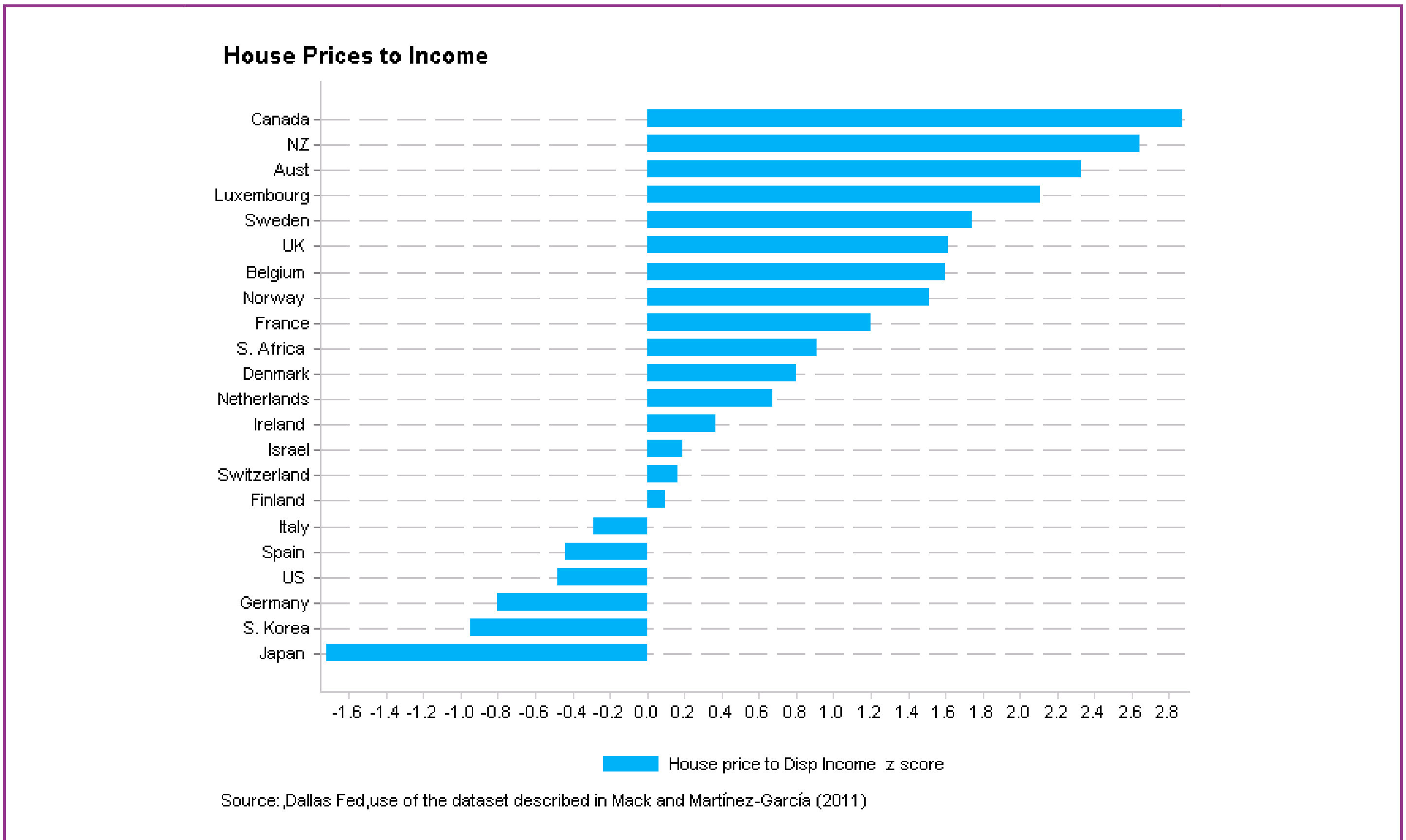
Source: IBES, IRESS,RBA, using proxy updates

11. House Prices

- House prices have risen 4.5 times in Australia since 1996 with the next strongest being Sweden, NZ, Ireland, UK and Norway. Japan, Germany, US, Italy, Switzerland have lagged.
- Relative to disposable incomes and compared with the dataset going back to the 1970's Canada, NZ, Australia and Sweden have become the most expensive (more than 1.8 sdev from the average) while Japan, South Korea and Germany are all well below averages.
- Below we look at the house price to disposable income ratio as z-scores across various countries. Canada, NZ, Australia are amongst the most expensive while Japan and South Korea are the "cheapest".

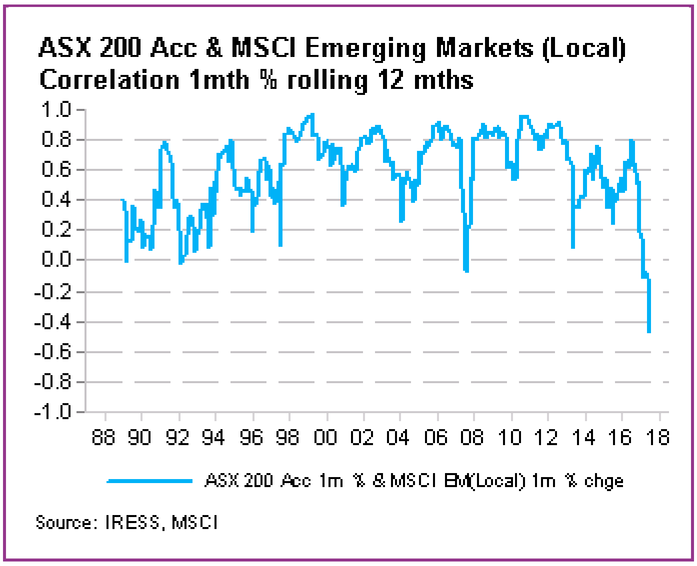


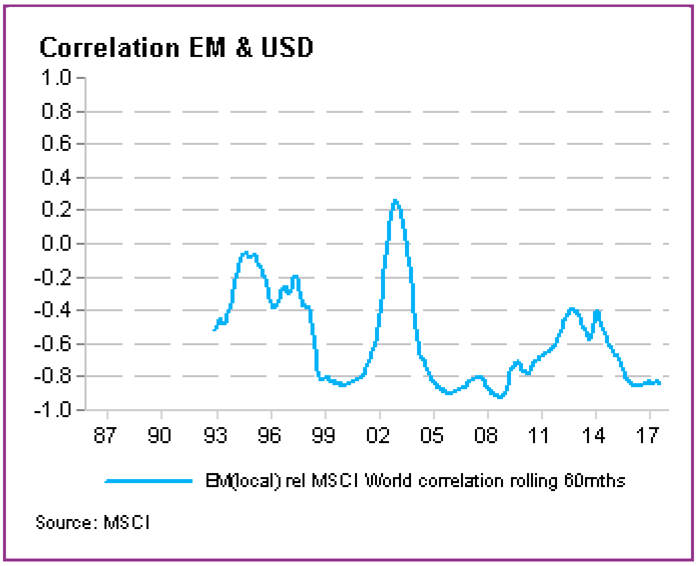


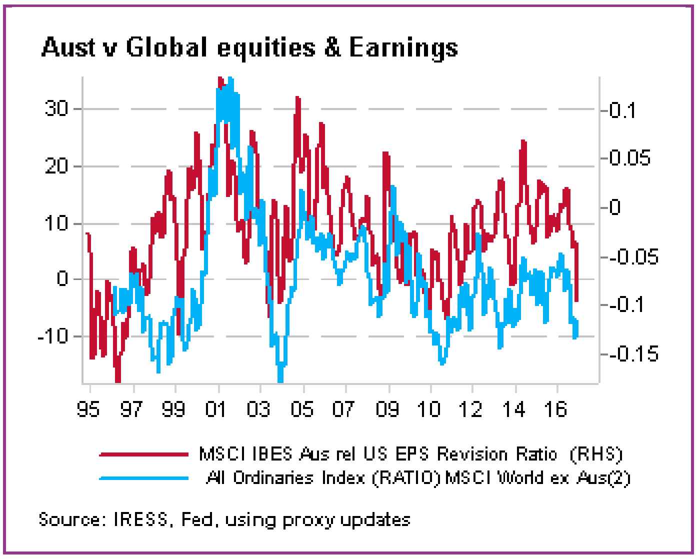


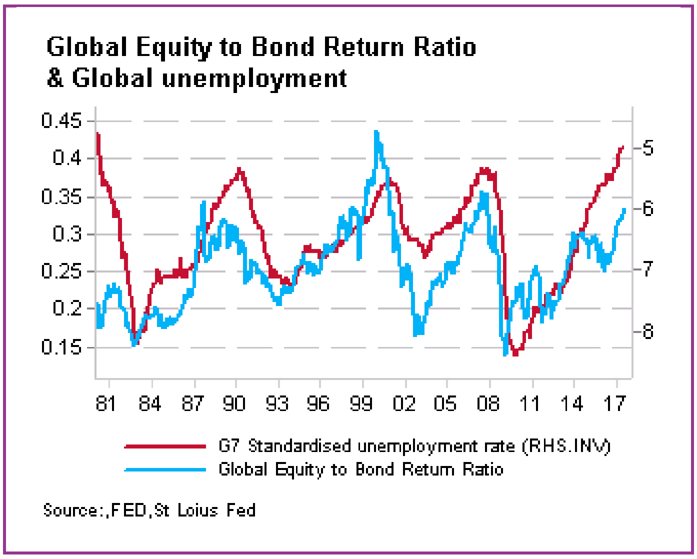
12. Relative performance

- Over the longer term there has been a reasonably high correlation between Australian equities and EM equities. However, over the past 12 months this correlation has turned decisively negative.
- At the same time the correlation between the USD and EM equities (local FX) relative to developed equities has been extremely negative. USD weakness has been positive for EM equities.
- Australia's EPS revision ratio has turned lower over recent months just as global and US EPS revision ratios have climbed. This is typically associated with underperformance of Australian equities relative to developed equities.
- Global equities continue to outperform global bonds, as one would expect given the continued improvement in the global business cycle as measured by the G7 unemployment rate.



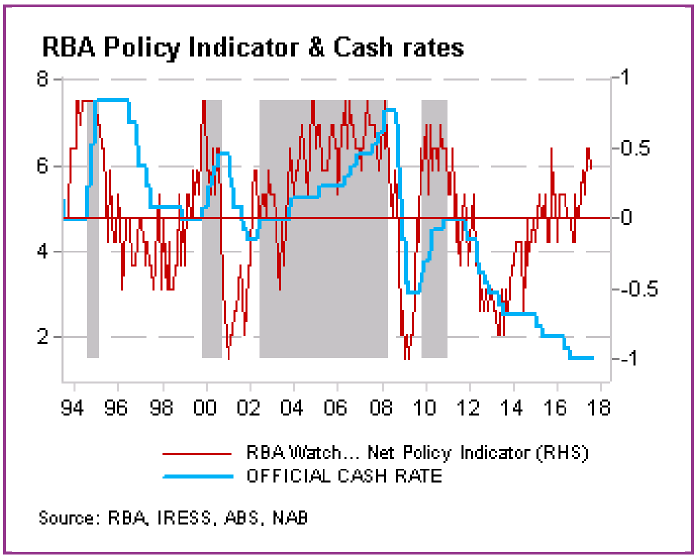


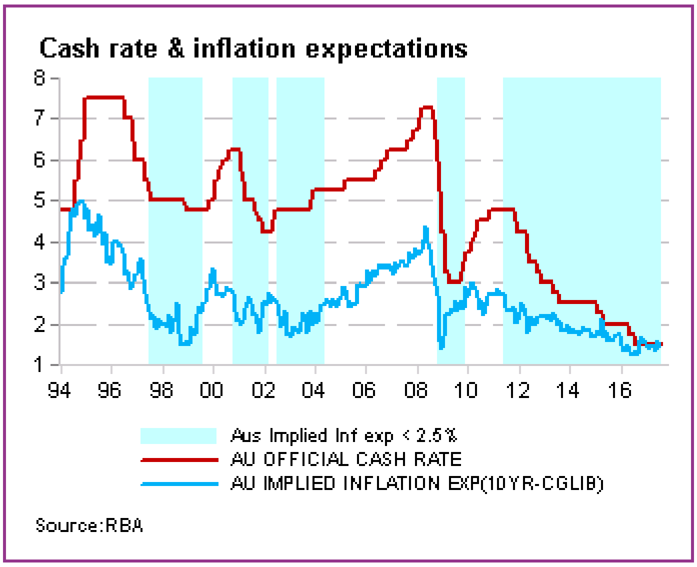


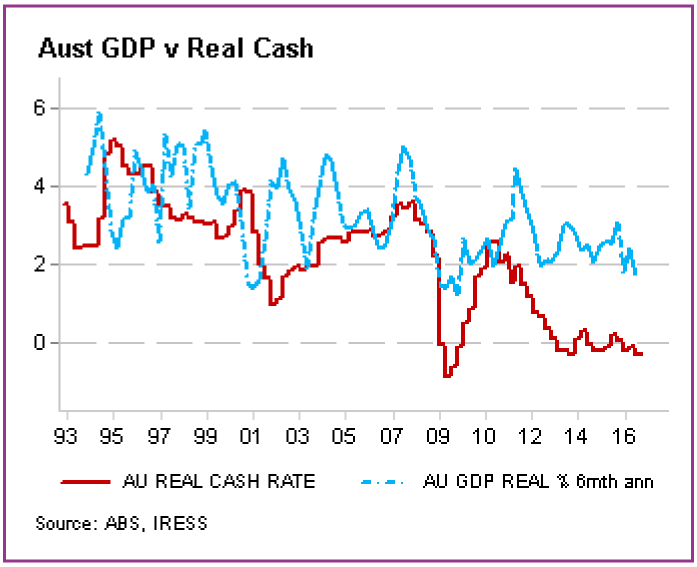


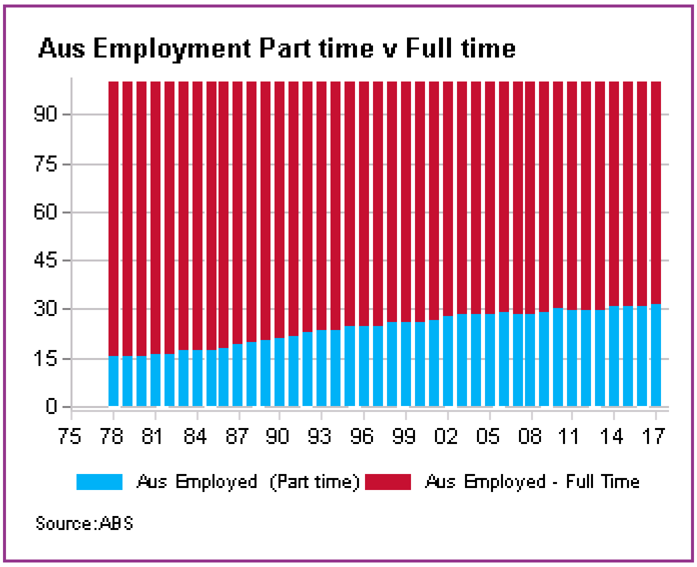
13. RBA policy

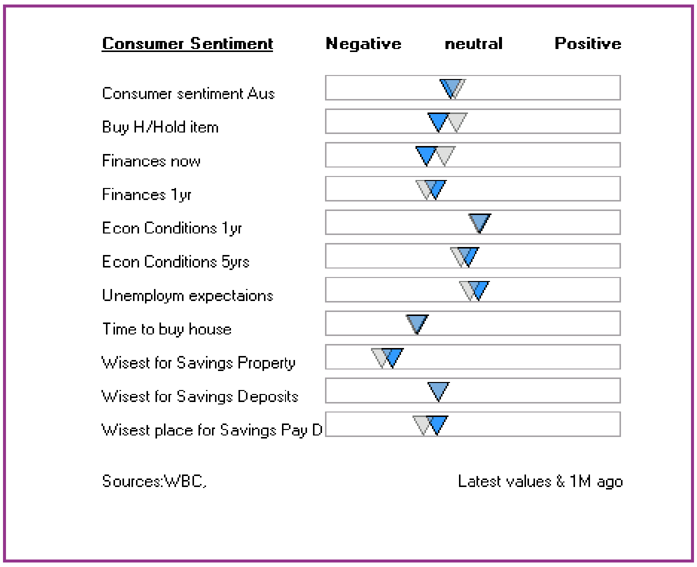
- Our RBA indicator suggests the RBA should have a tightening bias. It is based on six indicators and at present the NAB business conditions, NAB capuse and global activity indicators are associated with tightening. The employment indicators are currently neutral while the implied inflation expectations indicator points to an easing bias.
- As is the case globally, Australia's cash rate is well below real GDP growth.
- The rise of part-time work relative to full-time work is clouding the picture somewhat. Part time work now accounts for more than 30% of employment compared with 15% in the late 1970's.
- Very subdued consumer sentiment, partly associated with low wages growth, is also acting as a policy restraint.







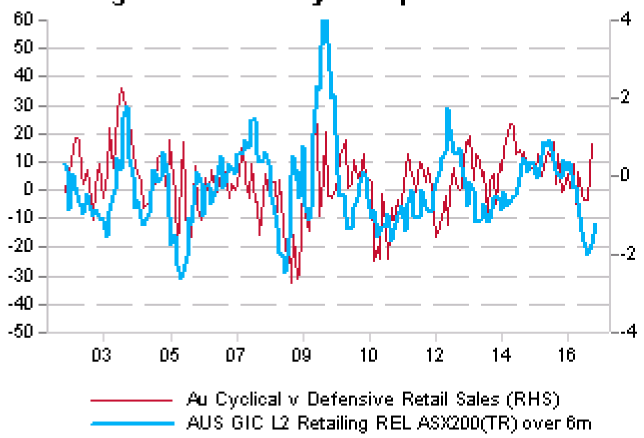




14. Australian sectors

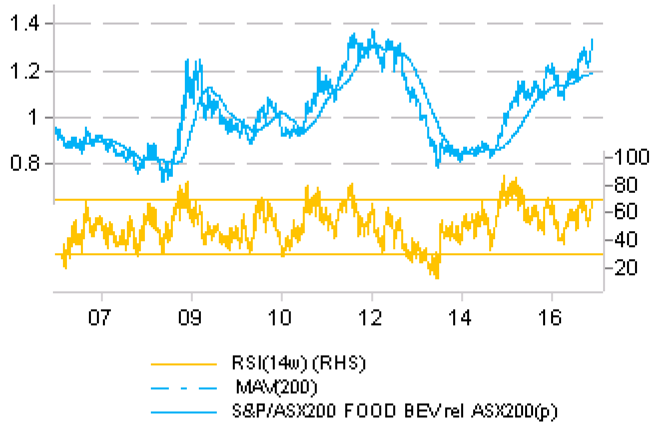
- At the equity sector level the retailers have been hit particularly hard over the past 12 months, partly due to the weak wages and income picture but also due to the threat from online and Amazon. However, discretionary retail sales (compared to staples) have actually improved over recent months, suggesting the sector is focussing in medium-longer term factors.
- The food and bev sector appears overbought as does the capital goods sector. Capital goods valuations have improved well in advance of the value of engineering work yet done series.
- Telco's appear oversold on a relative basis but clearly momentum is poor.

Retailing & Discretionary v Staple Retail sales



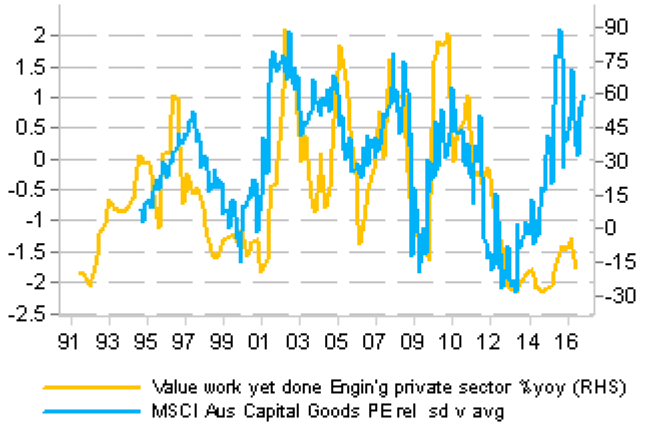
Source:ABS,IRESS

Food & Beverage rel Market



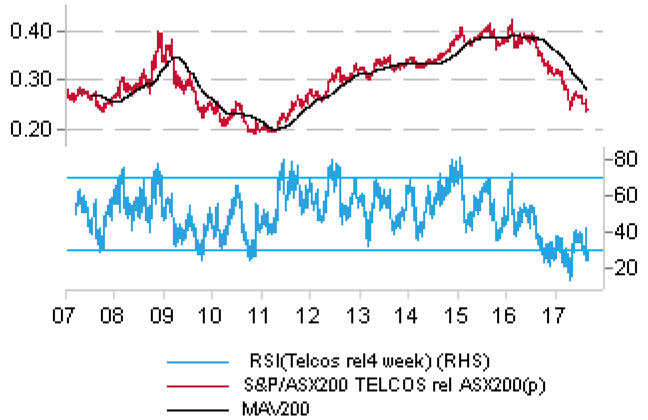
Source: IRESS

Capital Goods PE rel & Aust Value of work yet done



Source:,ABS, IBES

S&P/ASX200 TELCOS rel ASX200(p) + RSI

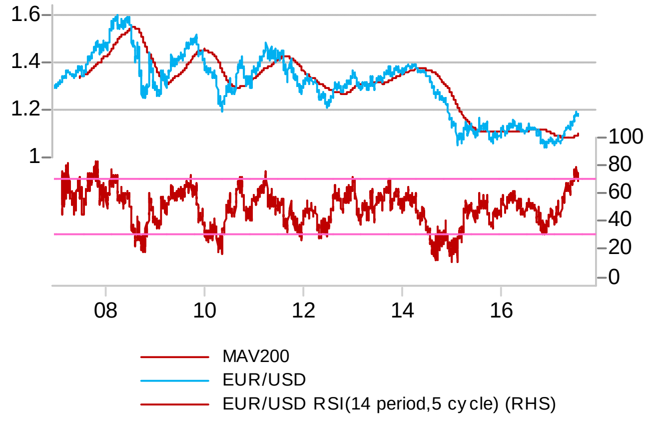


Source: IRESS

15. Relative strength

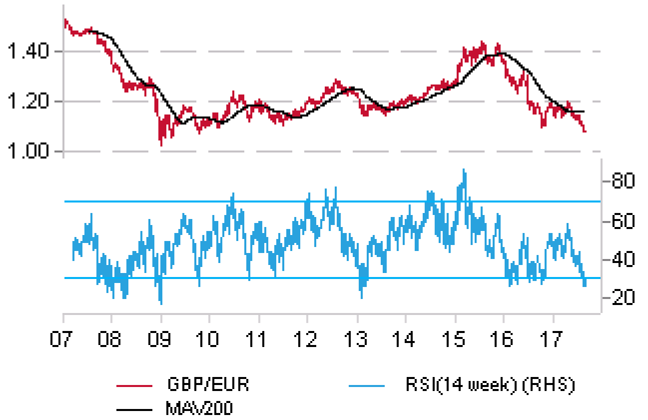
- The euro has advanced almost 13% against the USD this year to date and at 1.18 is technically overbought. Likewise the GBP appears oversold against the EUR.
- The MSCI BRICs ETF also appears overbought, as does copper.
- The copper to gold ratio, often used as a barometer of global growth and bond yields, has recently turned upwards, albeit from extremely low levels.

EUR-USD



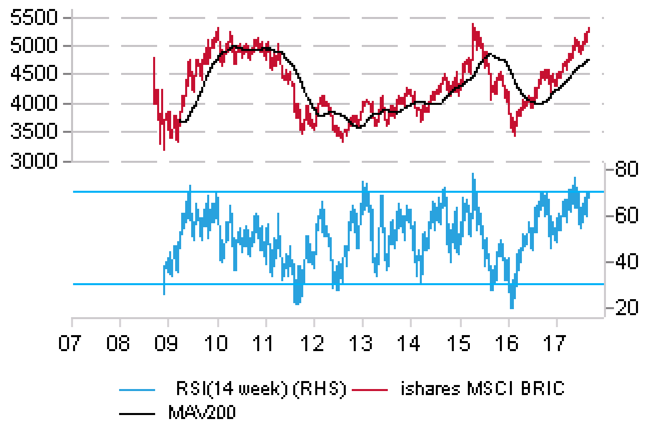
Source: IRESS

GBP/EUR + RSI(w)



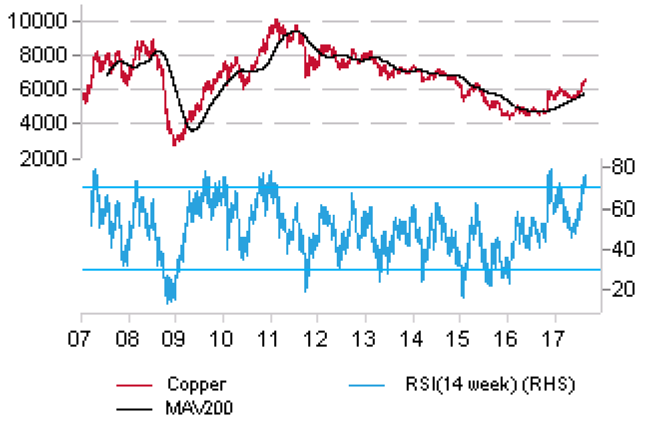
Source: IRESS

ishares MSCI BRIC + RSI(w)



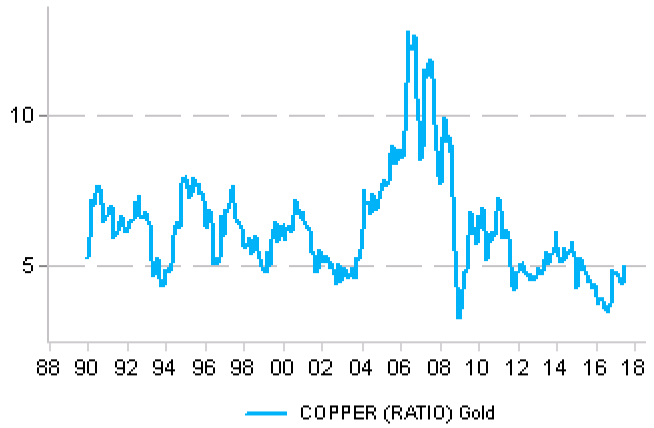
Source: IRESS

Copper + RSI



Source: IRESS

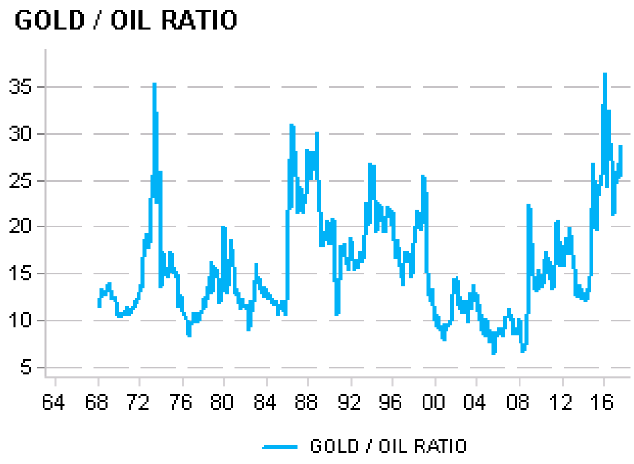
Copper to Gold ratio



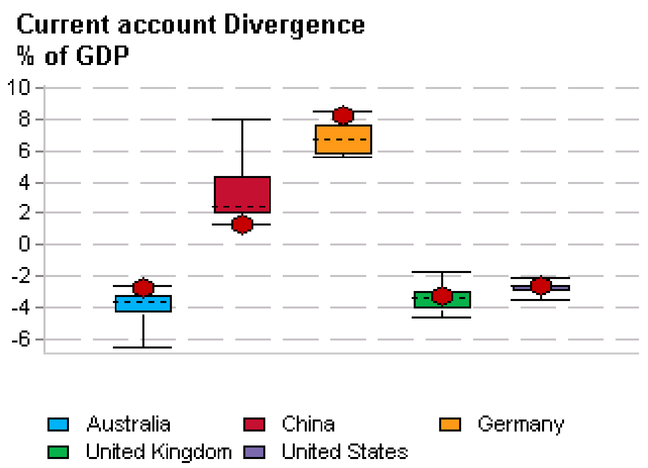
Source: IRESS, using proxy updates

16. Other Macro

- Another ratio used but more in terms of identifying periods of crisis is the Gold/Oil ratio. It shows that one ounce of gold currently buys 28 barrels of oil, a level surpassed only 4% of the time. Gold has benefitted from recent geopolitical concerns and a weak USD.
- Current account imbalances are often discussed in terms of which countries/regions are not stimulating their economy enough or which countries are benefitting from a low currency. Germany is running a current account surplus close to 8% of GDP, largely as a result of an ageing society and an excess of savings over investment. This excess capital goes abroad.
- In China, growth in credit (M2) has declined to its slowest pace in the last 12 years yet still exceeds nominal GDP growth.
- US capex intentions are at record highs suggesting an imminent lift in US investment while financial stress is at record lows.

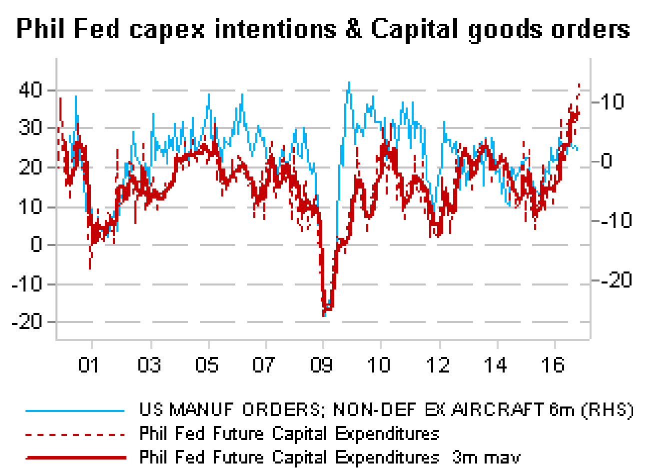


Source: IRESS, using proxy updates

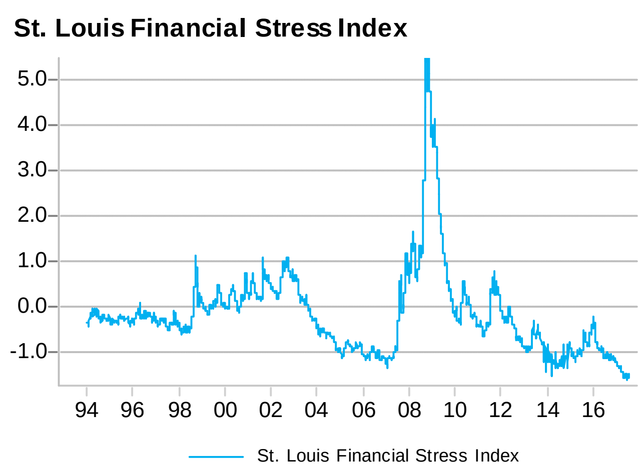


Source:IMF

Source:,NBS, using proxy updates



Source: Phil Fed, Census Bureau



Source: St Louis Fed