

STRATEGY OBSERVATIONS

HEURISTIC INVESTMENT SYSTEMS
Generating Intelligence for Investment Decision Makers



28 JULY 2016

Market Extremes & Divergence

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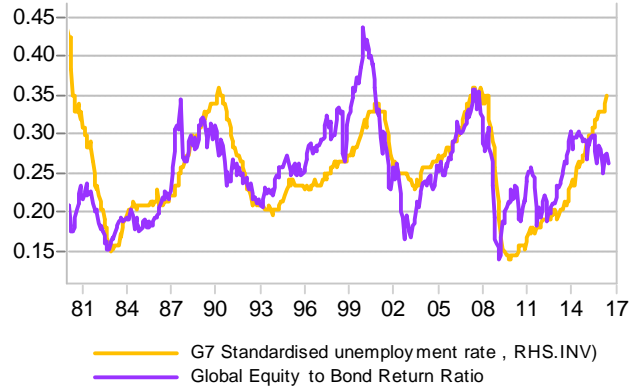
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EQUITY MARKET DRIVERS

- Over the past 35 years (the period of declining inflation and declining interest rates) the ratio of global equity market to bond return performance has broadly followed the big swings in key economic indicators such as the G7 unemployment rate. Markets clearly lead the unemployment indicator but the divergence is now startling.

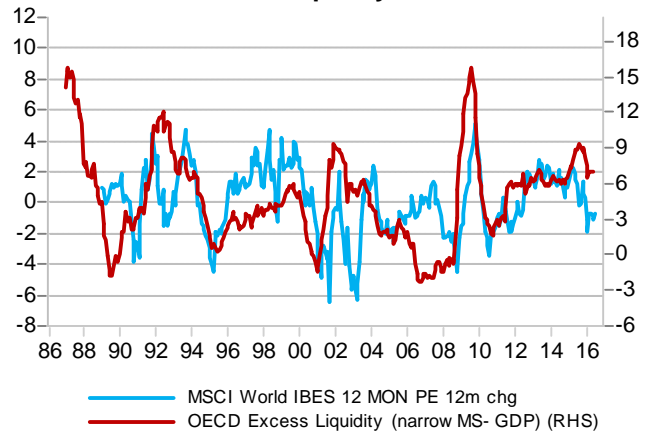
Global Equity to Bond Return Ratio & Global unemployment



Source: FED, St Louis Fed

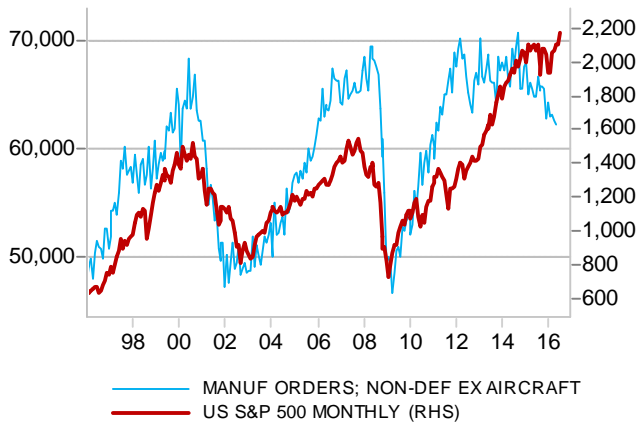
- Our measure of excess liquidity (narrow money supply growth relative to nominal GDP growth across the OECD), although slightly lower, is still consistent with PE expansion.
- Below we show that the performance of US equities has diverged quite sharply from the trends in capex indicators. As seen over recent cycles, business confidence and investment spending has generally mirrored equity market performance but on this occasion a focus on buybacks and/or a lack of confidence to invest has led to a significant disparity.
- Clearly, bond yields are at extreme levels, particularly following the recent rally.

Global PE's & Excess liquidity



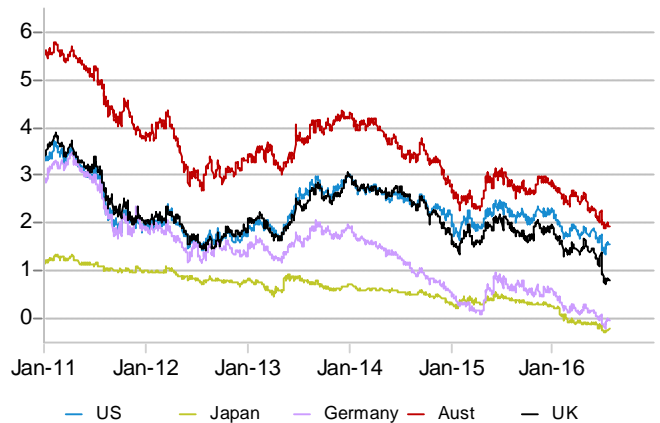
Source: IBES, OECD

US CAPITAL GOODS ORDERS & EQUITIES



Source: Census Bureau, IRESS, using proxy updates

Global 10yr yields

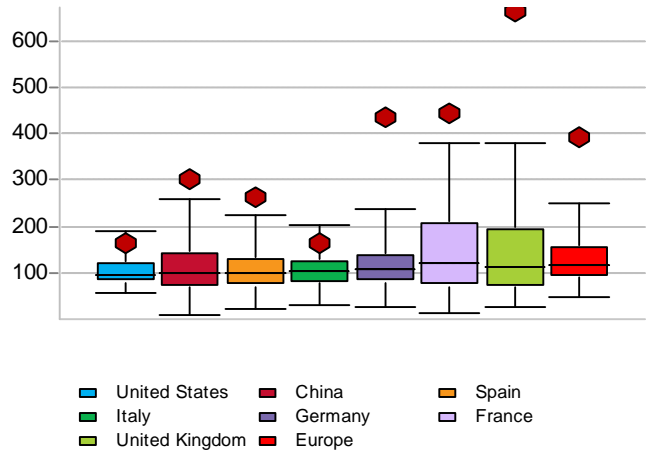


Source: IRESS

ERP & POLICY UNCERTAINTY

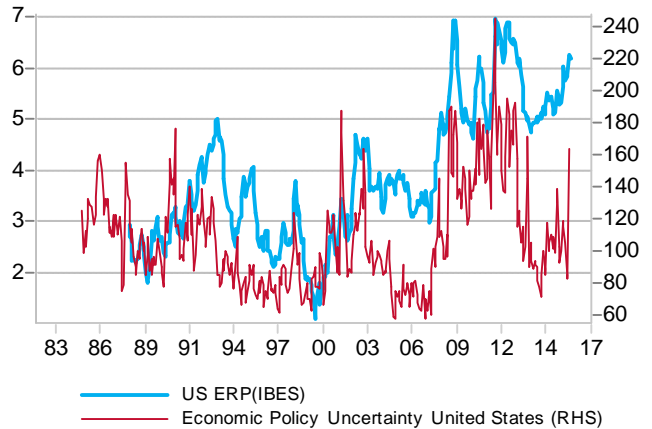
- Based on the economic policy uncertainty indices developed by Scott R. Baker, Nicholas Bloom and Steven J. Davis at www.PolicyUncertainty.com we can see that as at the end of June policy uncertainty was elevated everywhere, particularly in the UK, Germany, Spain and France.
- The indices are based on the number of newspaper articles regarding policy uncertainty (i.e. containing the terms uncertain (ty), economic or economy and one or more policy relevant terms). Dispersion of growth forecasts is also a component.

Economic Policy Uncertainty Globally



- The Brexit, concern over other European countries following suite and the upcoming US election may have finally caught up in the US measure of policy uncertainty. Here we chart this measure alongside a measure of the US equity risk premium based on IBES consensus earnings forecasts.

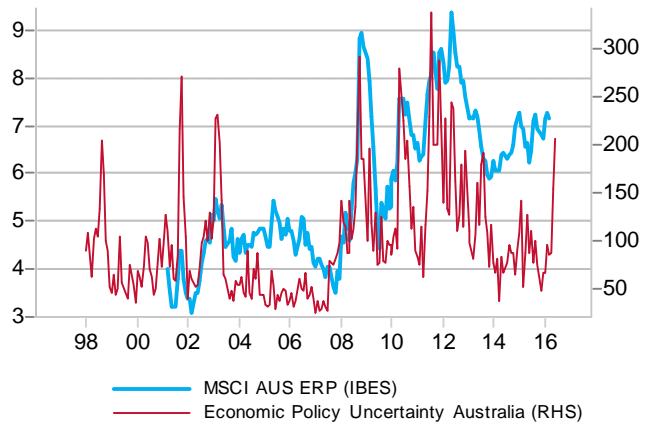
US ERP & Policy Uncertainty



Source:RBA,FED, using proxy updates

- The recently produced uncertainty measure for Australia also shows a jump in uncertainty, presumably reflecting Brexit but also, at the time, the uncertainty around the election outcome.

Aus ERP & Policy Uncertainty

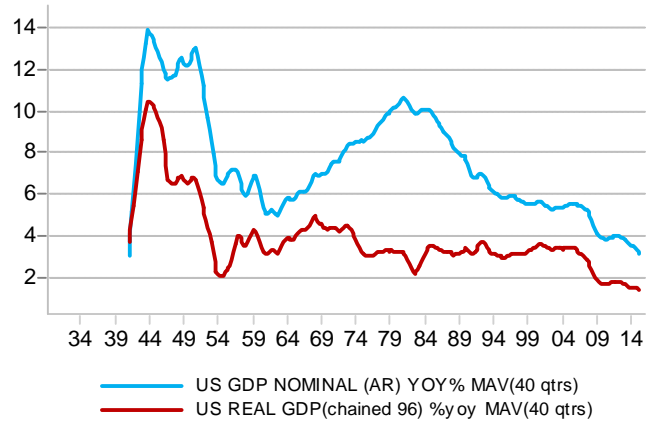


Source:RBA,FED

GLOBAL GROWTH

- The 10 year annualised growth rate for US nominal and real GDP are at their lowest levels since the depression period.

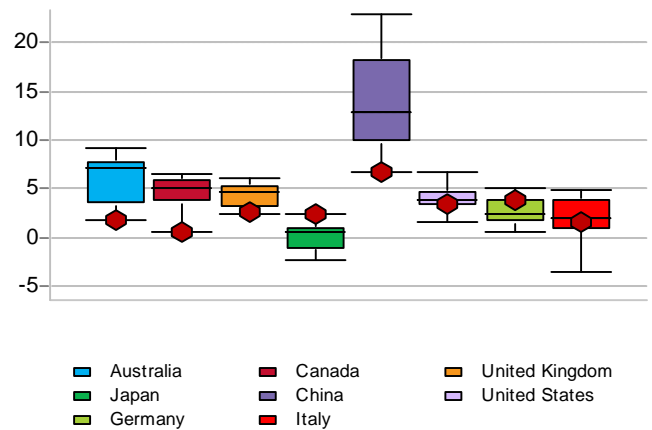
US GDP yoy 10yr ave



Source: BEA

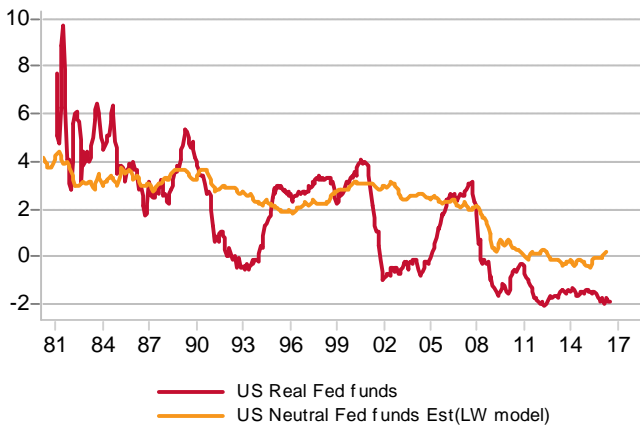
- Global nominal GDP growth is at extreme lows across most countries although Japan and Germany are towards the upper end of what are very low benchmarks.
- Below we show that the real Fed funds rate, at -1.8%, is significantly below real GDP growth and while that divergence is common at the beginning of an upturn, the duration of the divergence is most unusual.
- The estimated neutral rate for the real US Fed funds rate is currently 0.2%, compared to the current “actual” real Fed funds rate of -1.8%.

Nominal GDP trends 2000- 2016



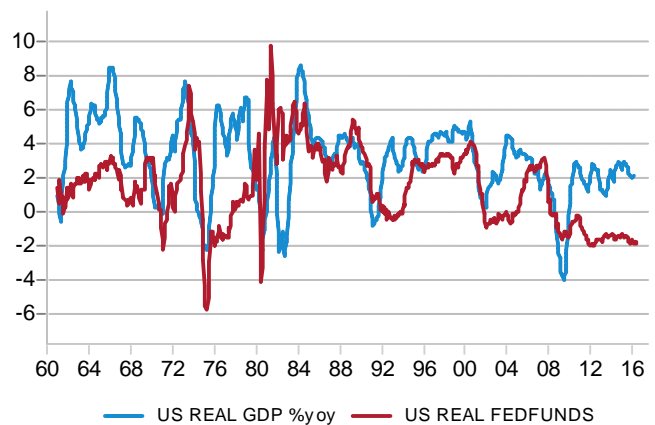
Source: IMF

Neutral Fed funds rate (LW model) v real Fed funds



Source: FED, BLS, FED

US GDP v Real Fed funds

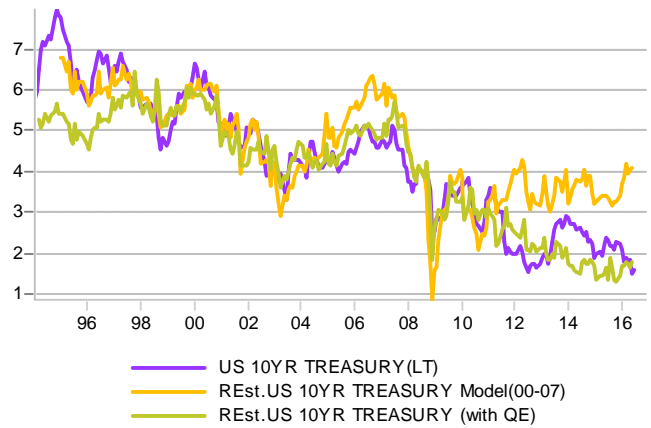


Source: BEA, BLS, Fed, using proxy updates

BONDS

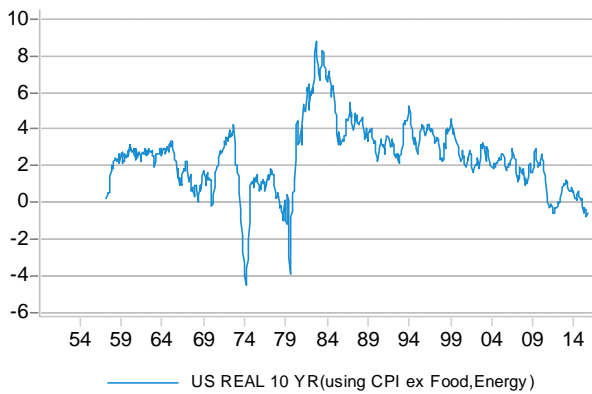
- Our US 10 year treasury model(s), even the model that incorporates the level of US QE, suggest the US bond market is overpriced. The “old” model, based on the Fed funds rate, core CPI and the ISM, suggests bond yields should be close to 4% while the model incorporating the Fed balance sheet, as well as the above, suggests around 1.8%.
- US bond yields have diverged sharply from the ISM new orders index over recent months.
- US real 10 year yields are now below GFC levels.
- At sub-2% levels Australian 10 year yields are close to overbought.
- Our US-Aus 10 year differential model suggests a fair value spread (based on forward cash rate and inflation differentials) should be around 80 bpts compared with the current 50 bpts.

US 10YR TREASURY Model



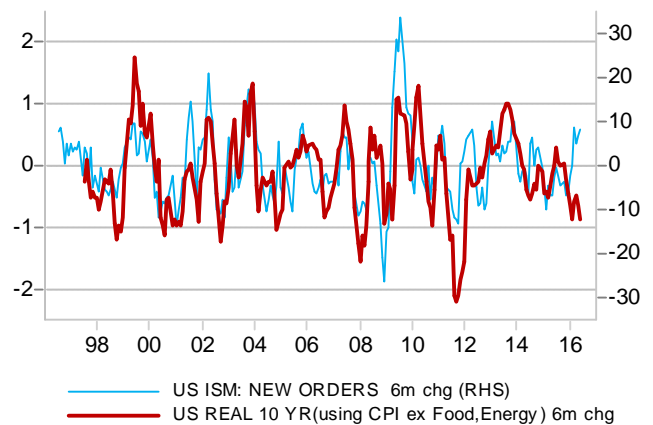
Source: IRESS, HIS est., using proxy updates

US REAL 10 YR



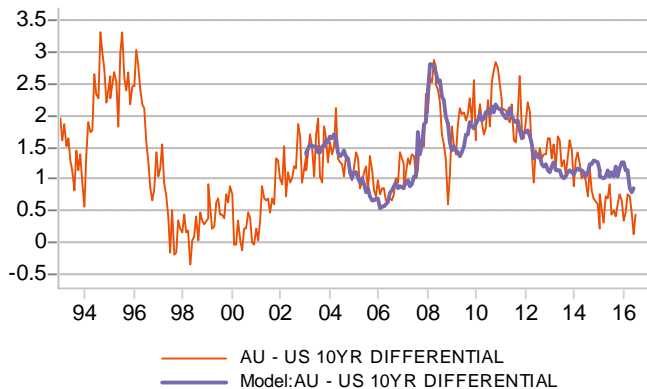
Source: US Fed, BLS, using proxy updates

US 10YR & US ISM NEW ORDERS



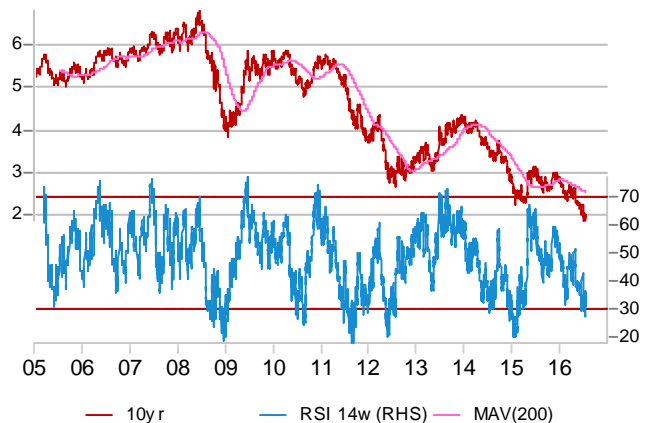
Source: ISM, IRESS

**Aus- US 10 year spread
Model: Aus-US 10 yr spread**



Source: FED, IRESS, using proxy updates

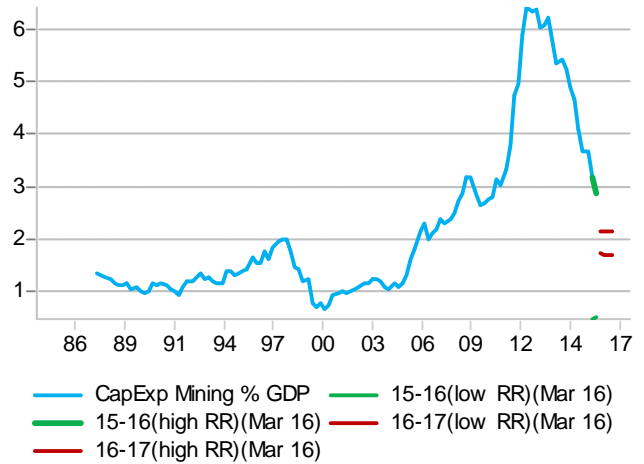
Au 10-Year Bond & (RSI(14w))



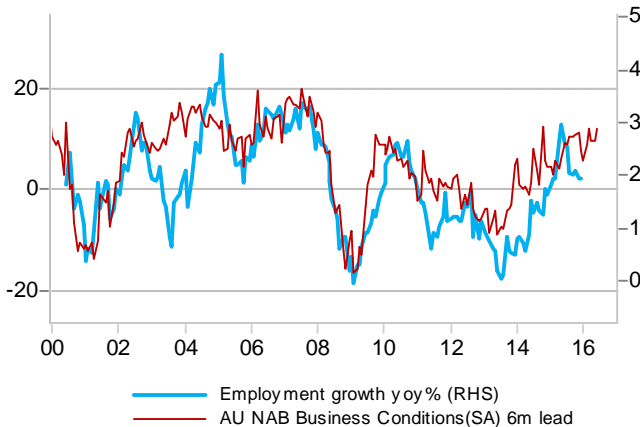
AUSTRALIAN GROWTH & EPS

- Based on the March ABS capex release mining sector capex as a proportion of GDP is expected to decline to around 2% over the next 12 months from the current 3% of GDP and 6.5% peak. Pre-2006 the average was around 1.5% of GDP.
- Real net national disposable income declined by 1.5% pa over the past 3 years on the back of the 7-8% annualised decline in the terms of trade over the period.
- The NAB business conditions index is consistent with an improved employment growth rate.
- EPS is at the bottom of the channel witnessed since 1975 and recent weak growth is inconsistent with the NAB business conditions series.

Aust Capital Expenditure- Mining % of GDP

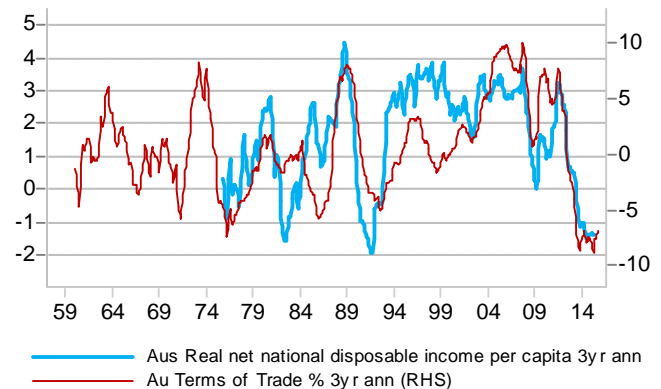


Business Conditions & Employment



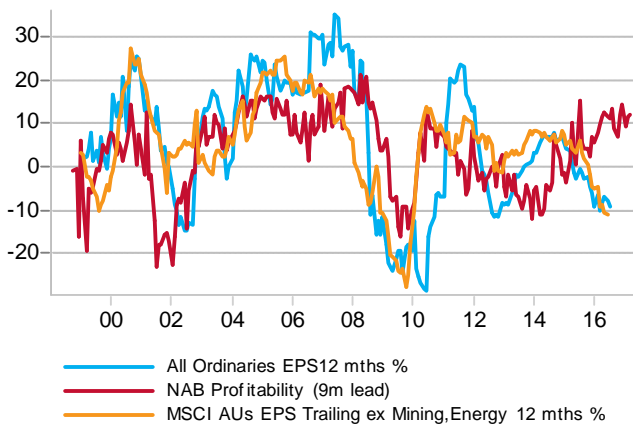
Source: NAB, ABS

Aus Real net national disposable income per capita growth



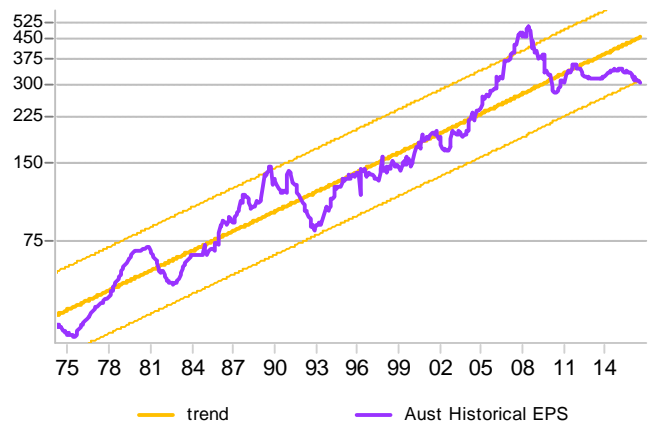
using proxy updates

Earnings growth and NAB Profitability index



Source: IBES, NAB

AUST Nominal Earnings Trend

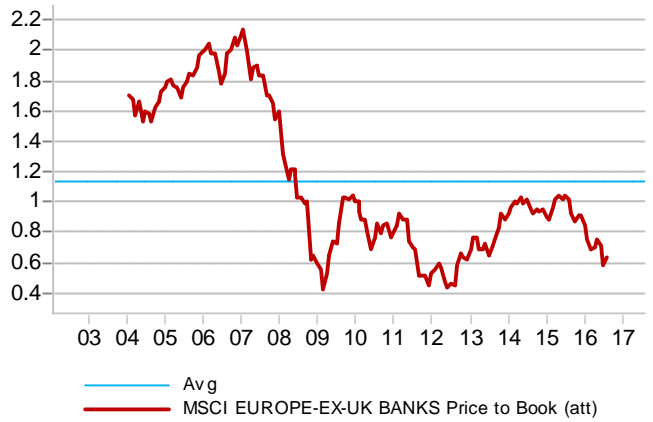


Source: IBES, IRESS, RBA

EUROPE: BANKS, DEBT & INFLATION

- European ex-UK banks price to book is at 0.6, not far from the 0.4 lows of 2009 and 2011-12.
- Relative to Europe overall the bank sector PE is at a 45% discount to the market, in line with the lows of 2000, 2009 and 2011-12.

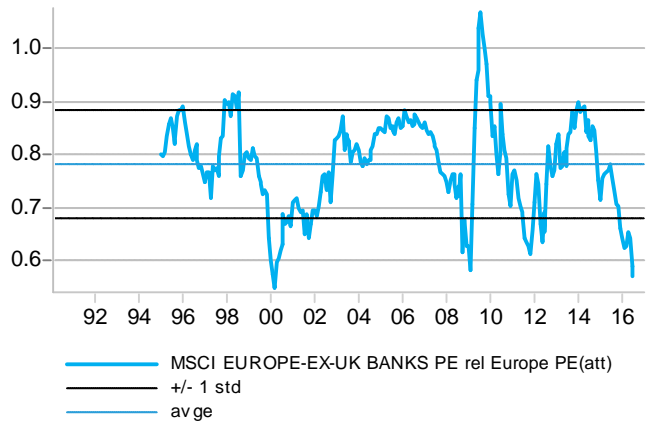
Europe ex-UK Banks Price to Book



Source: IBES

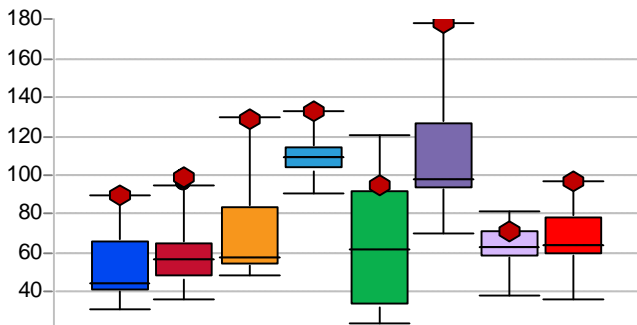
- Below we show recent inflation trends across Europe (at/near extreme lows) and Government debt to GDP trends (at/near extreme highs).

MSCI EUROPE-EX-UK BANKS PE rel Europe



Source:IBES

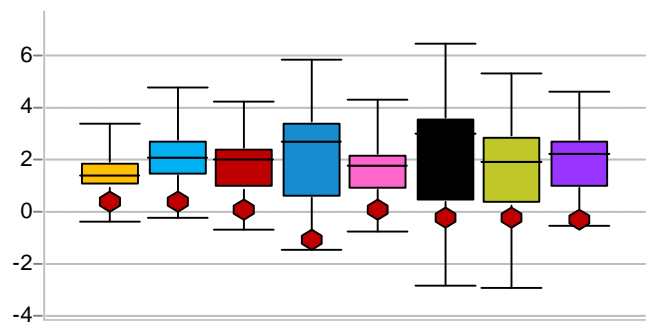
EU Debt to GDP



■ UK ■ Spain ■ Portugal ■ Italy ■ Ireland
■ Greece ■ Germany ■ France

Source:IMF

Europe Inflation



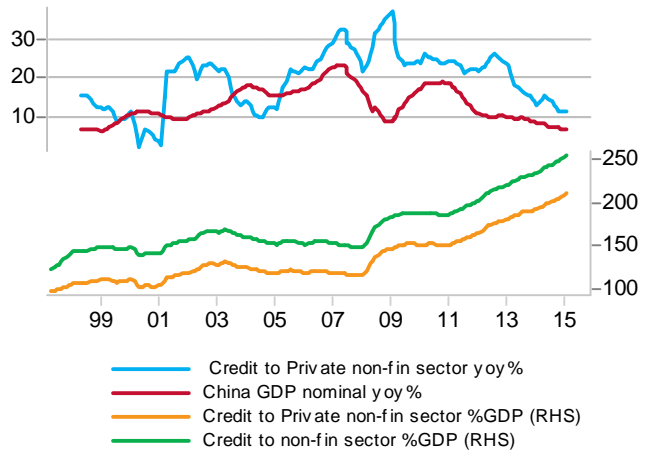
■ GERMANY ■ UK ■ EU - CPI ■ Spain
■ France ■ Greece ■ Ireland ■ Italy

Source:ABS, St Louis Fed

CHINESE DEBT LEVELS

- Money supply and credit growth, although slower, continue to exceed nominal GDP growth leading to a further increase in the debt to GDP ratios. Overall credit to GDP is around 250%.
- With investment still accounting for over 40% of GDP it is taking around 6 units of additional investment to generate one unit of GDP growth. The longer term average is around 3.75.

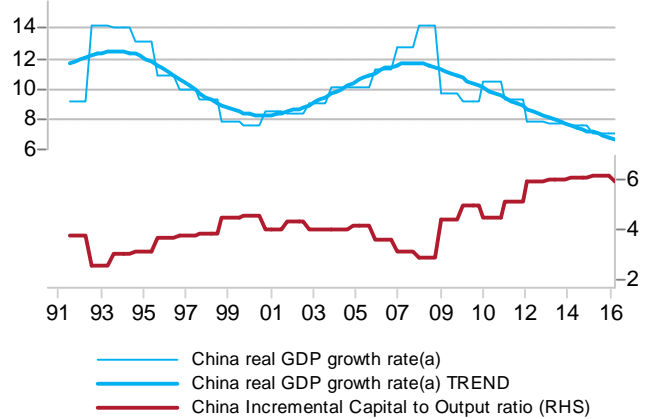
China's Credit to GDP ratio



Source: BIS

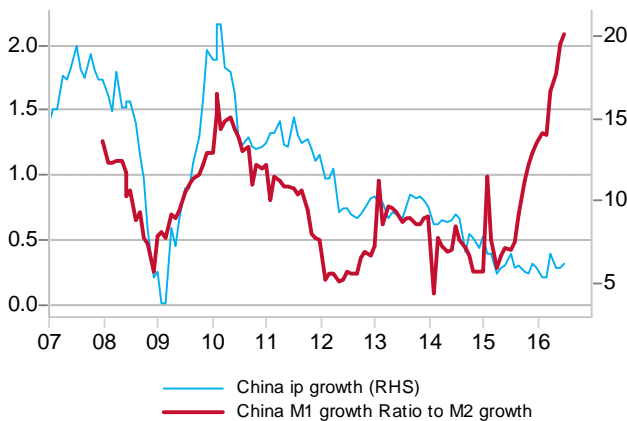
- Below we show that M1 money supply growth has surged to over 23% and is growing at more than twice the growth in M2. This "stimulus" would have been associated with improvement (or at least stabilisation) in measures of growth.
- We find that it is now taking 3 units of credit growth to produce one unit of GDP growth. The longer term average is around 1.75.

China GDP Growth rate & trend



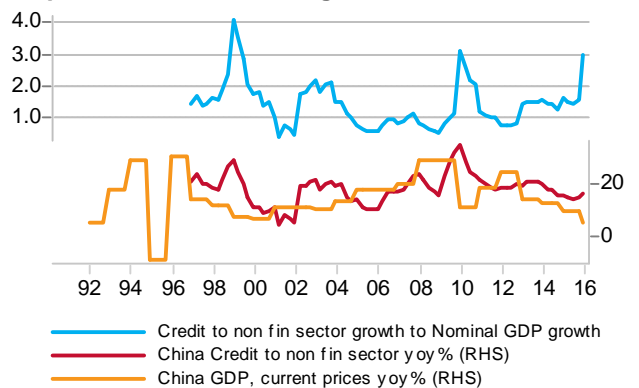
Source: IMF

China Money growth & China ip growth



Source: NBS

China Credit to non financial sector and impact on Nominal GDP growth

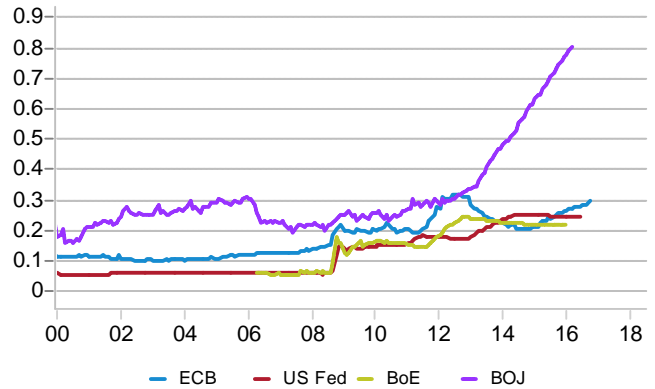


Source: BIS

POLICY & DEBT

- Central bank balance sheets have ballooned since the GFC and continue to grow in Japan and in Europe, and potentially in the UK.

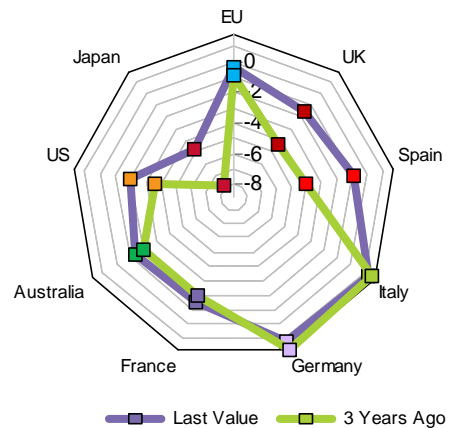
**Central Bank Balance Sheets
% of GDP**



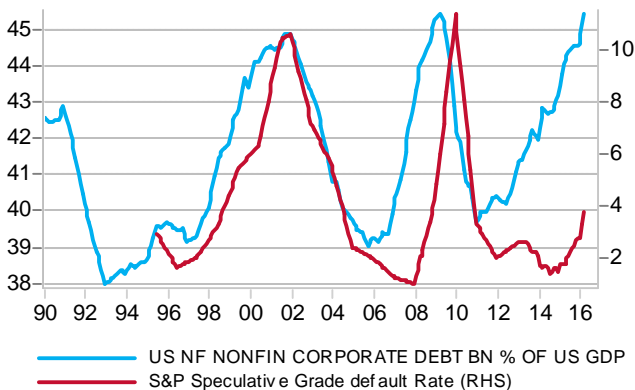
Source: US Fed, ECB, BOJ, BoE, using proxy updates

- Fiscal policy, however, has generally tightened over the past few years, in the UK, Spain, Japan and the US. The primary general government fiscal positions have improved somewhat in those countries but been steady in Germany and Italy, who both run primary surpluses around 1% of GDP.
- Japanese government debt to GDP is over 250% yet as we have seen bond yields have continued to decline.
- The US corporate sector is once again borrowing. Non-financial corporate sector debt to GDP is near the highs of 2000 and 2008.

**Underlying Fiscal position
(primary deficit/GDP) 2016 v 2013**

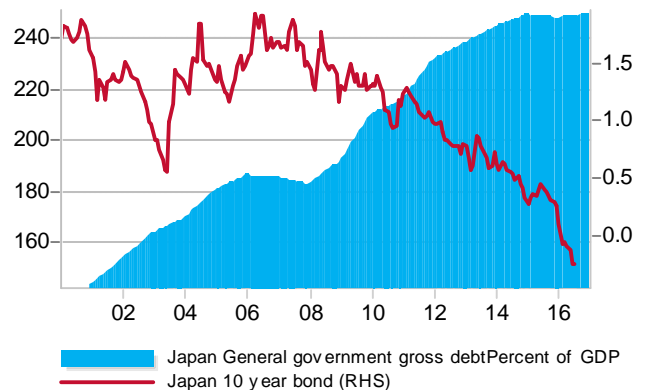


**US Non Fin Corp Debt/GDP
& Default rate**



Source: FED, FED

**Japan General government gross debt/GDP
& 10 year bond**

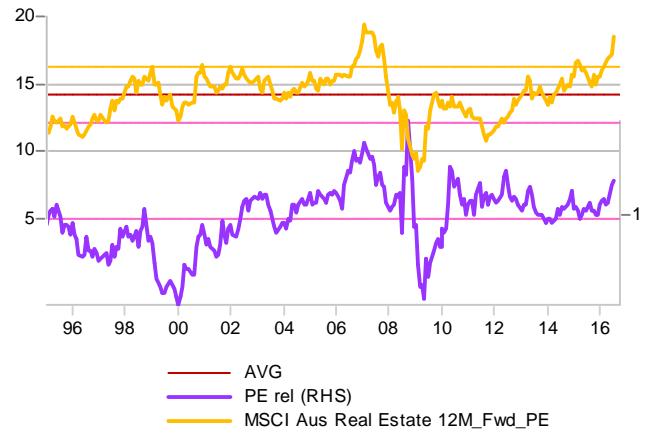


Source: IMF, IRESS, using proxy updates

AUSTRALIAN SECTORS

- REITs are expensive in absolute terms and relative to the market. In fact REIT's are in the 12th percentile in terms of relative PE. Utilities are in the 6th percentile on a relative basis using data from 1996.

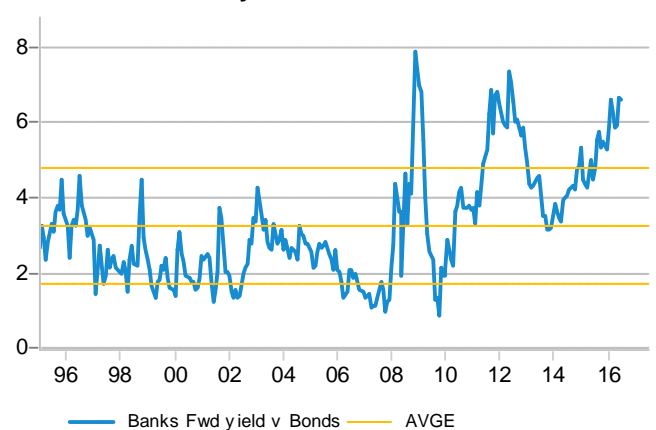
MSCI Aust Real Estate Forward PE



Source: IBES, using proxy updates

- Banks would appear to be extremely cheap relative to bonds with the yield pick-up being about 6.7%.

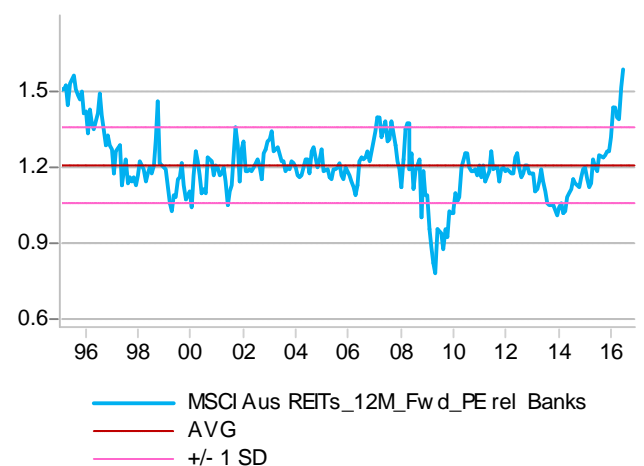
MSCI Aust Banks yield v bonds



Source: IBES, using proxy updates

- REIT's are very expensive relative to banks.

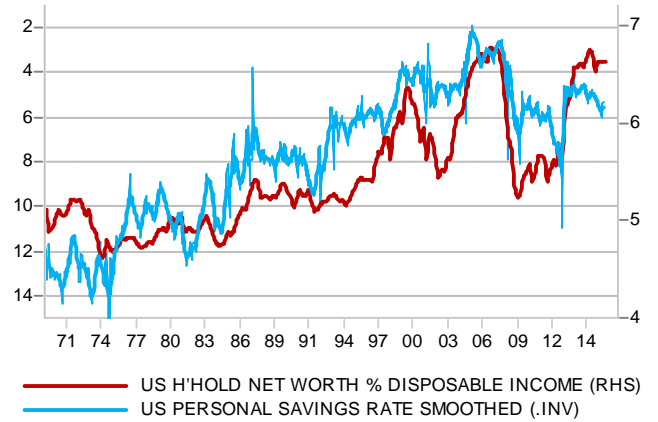
LPT's Forward PE rel Banks



SAVINGS & HOUSE PRICES

- The US personal savings ratio has been climbing towards 6%, which is relatively high considering household wealth relative to income is more than 6.5 times.

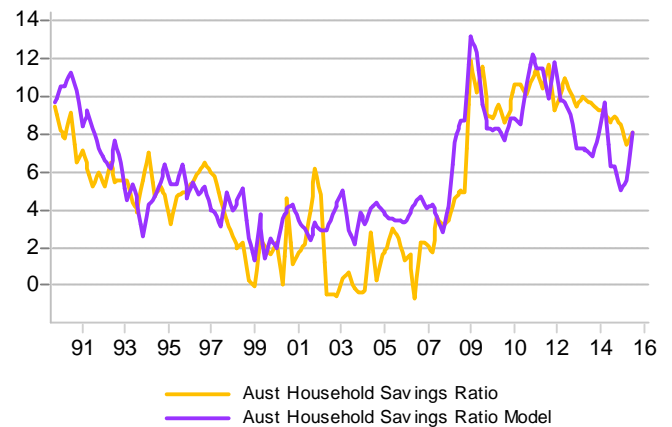
US Wealth & Savings



Source: BEA, using proxy updates

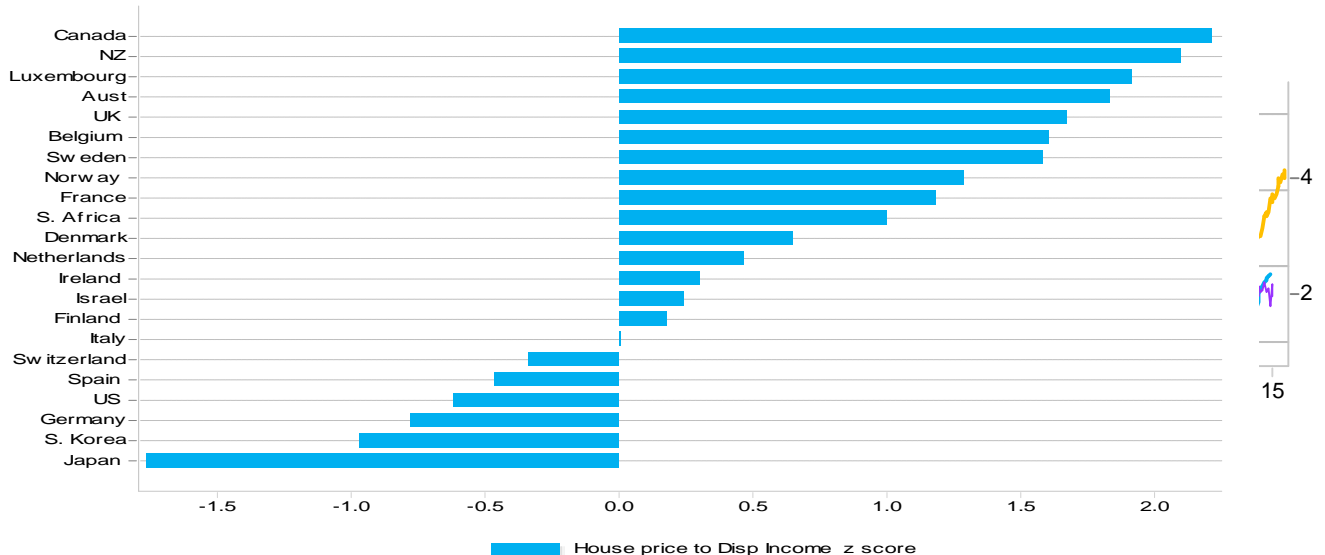
- The Australian household savings ratio has declined to around 8% in line with our model, based on household wealth and a measure of consumer “caution”.
- Below we look at the house price to disposable income ratio as z-scores across various countries. Canada, NZ, Australia are amongst the most expensive while Japan and South Korea are the “cheapest”.

Aust Household Savings Ratio Model



Source:ABS,,RBA,WBC, using proxy updates

House Prices to Income

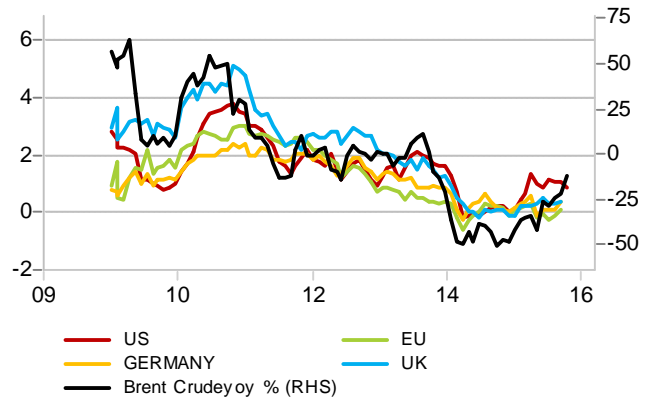


Source: ,Dallas Fed,use of the dataset described in Mack and Martínez-García (2011)

INFLATION & WAGES

- Inflation rates in the major economies have picked up slightly following the decline to around flat to slightly negative during 2014-15. The rise in the price of oil is a key driver.

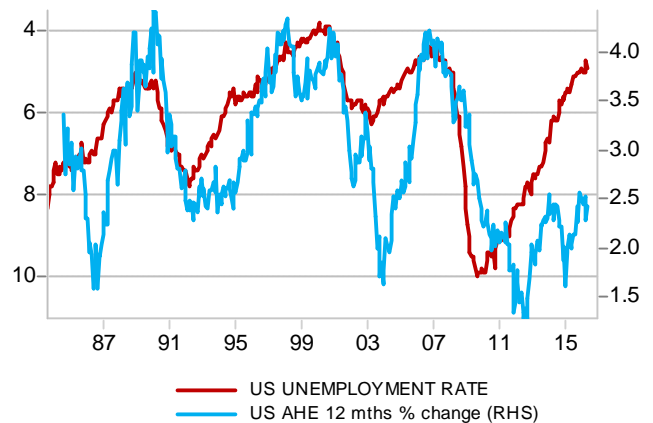
Global Inflation & Oil



Source: UK National Statistics, ECB, Bundesbank, BLS, using proxy updates

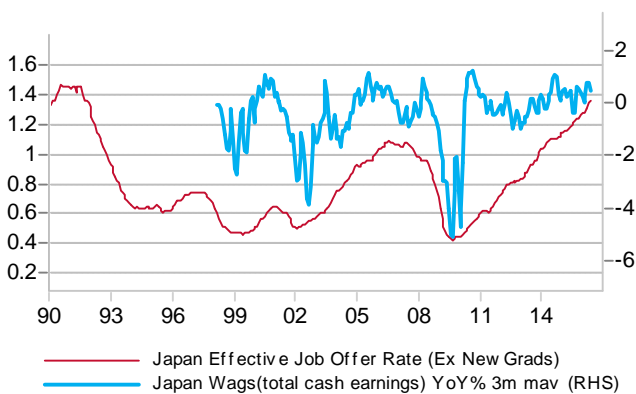
- Alongside we show the relationship between the US unemployment rate (inverted) and wages growth. It suggests further upside in wages growth from the recent 2.5% rate.
- Below we look at Australia’s wages growth rate and inflation in the non-tradeable sector. There, inflation has fallen to 1.6%
- In Japan, despite the “tightening” in the labour week (the job offer to applicant ratio is at its highest level since the early-1990’s), wages growth is still very modest.

US Wages & unemployment



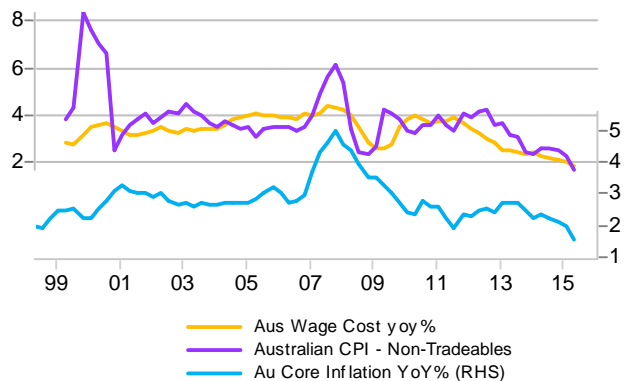
Source: NBER, Department of Labor

Japan Effective Job Offer Rate & Wages



Source: Japan Cabinet Office

Australia Inflation non-tradeables & wages

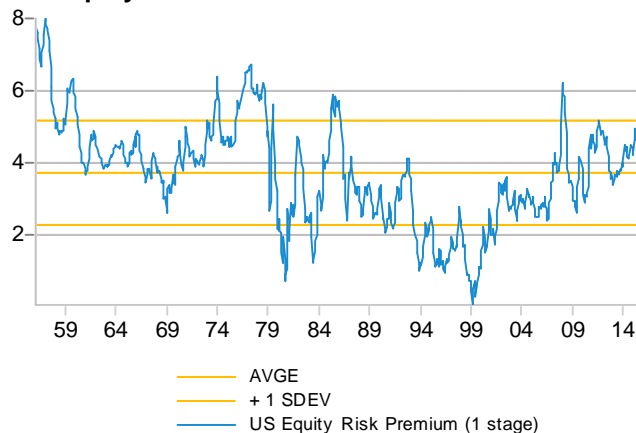


Source: RBA, ABS

MARKET VALUATIONS

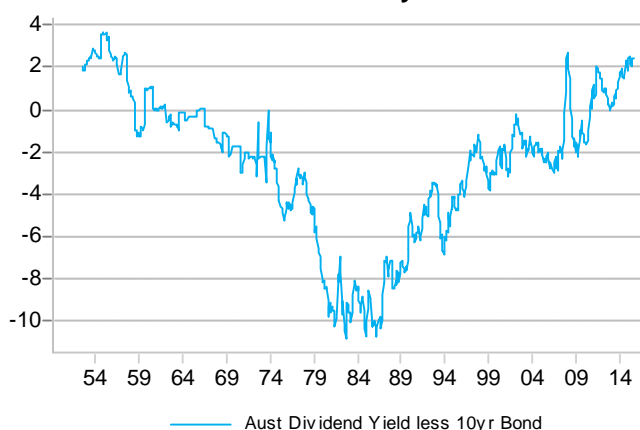
- The one-stage US equity risk premium is now 5%, around 1 sd above the average.
- Australia’s equity risk premium is almost 7.5% while the dividend yield relative to bond yields is near the highest since 1950.
- Below we show that while US equities appear expensive to global equities, Japan appears to be on the cheap side.

US Equity Risk Premium



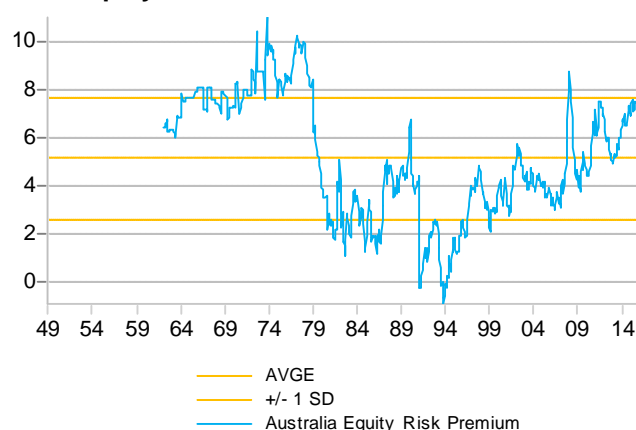
Source: IBES, BEA, Fed, using proxy updates

ASX 200 Dividend Yield less 10yr Bond



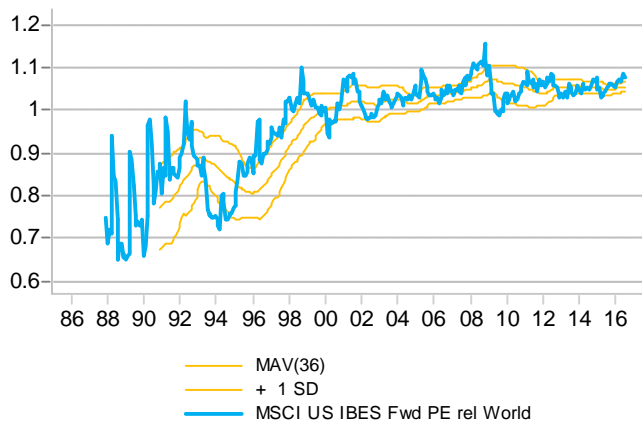
Source: IRESS, RBA, using proxy updates

Aust Equity Risk Premium



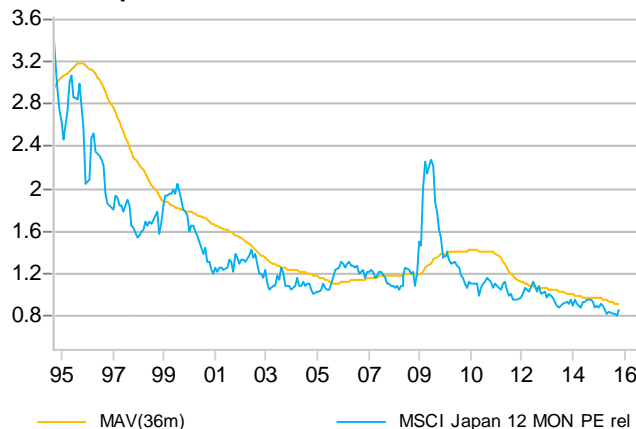
Source: IBES, RBA, using proxy updates

MSCI US PE rel World



Source: IBES, using proxy updates

MSCI Japan Forward PE rel World

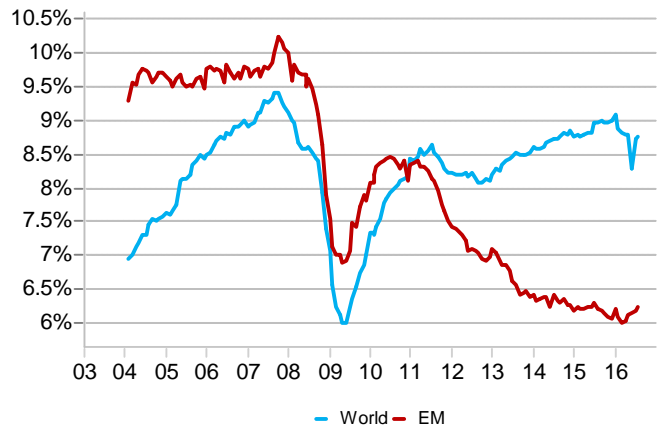


Source: IBES, using proxy updates

OTHER MARKET INDICATORS

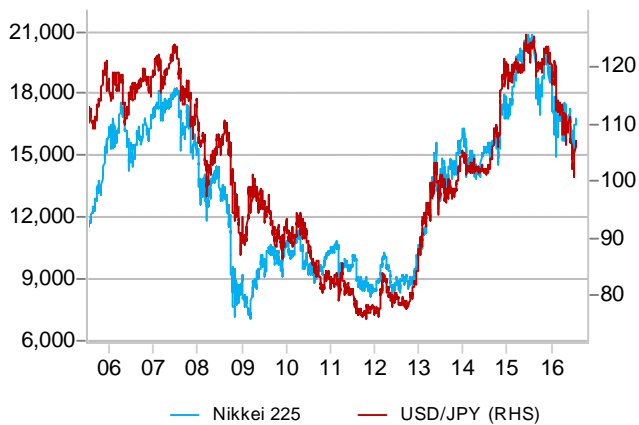
- Profit margins across the developed markets compared with emerging markets have widened to a near record (in favour of DM over EM) since 2011. For the first time since, the spread appears to be narrowing with EM margins improving slightly,
- The correlation between the yen and the Nikkei is extremely high.
- Over the past 5 years the correlation between the USD and the relative performance of EM v DM has become significantly negative.

Profit Margins EM v World



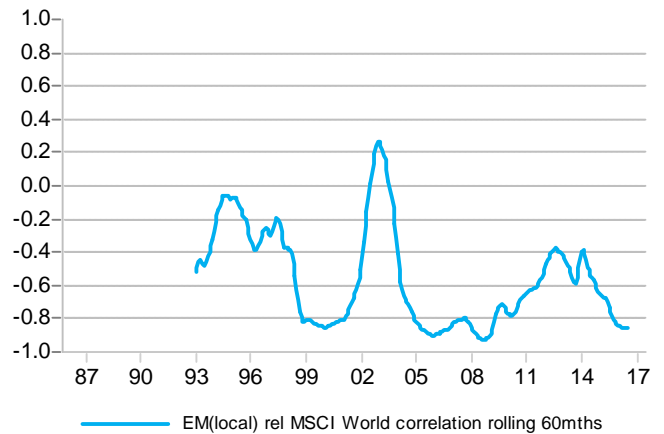
Source: IBES

Nikkei & the yen



Source: IRESS

Correlation EM & USD



Source: MSCI, US Fed

- M&A transaction in the US, relative to the size of the economy, are around 14% of GDP. This compares with the peak of more than 16% in the early-2000's and in 2007-08.

US M&A Transactions Value (rolling 12m) rel US Nominal GDP

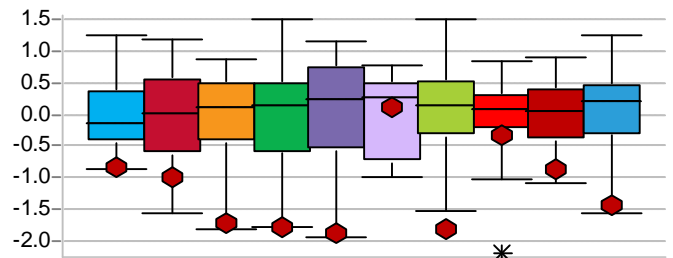


Source: BEA, Bloomberg

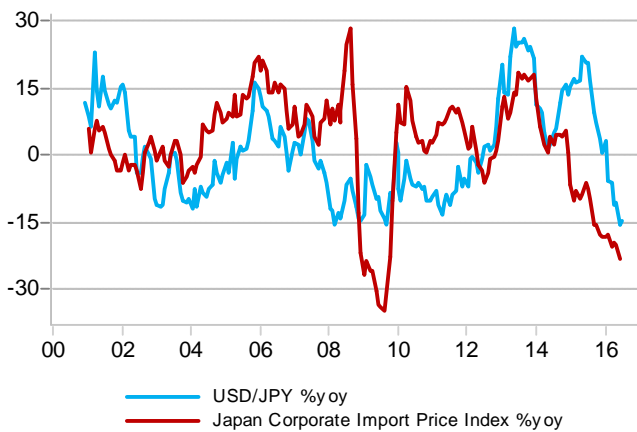
CURRENCIES

- On a PPP relative basis the EM currencies are broadly very cheap, with the exception of China.
- On a PPP relative basis the euro appears cheap as does the GBP.
- Meanwhile the recent strength in the yen has coincided with a sharp decline in corporate import prices.

EM currencies v PPP z-scores

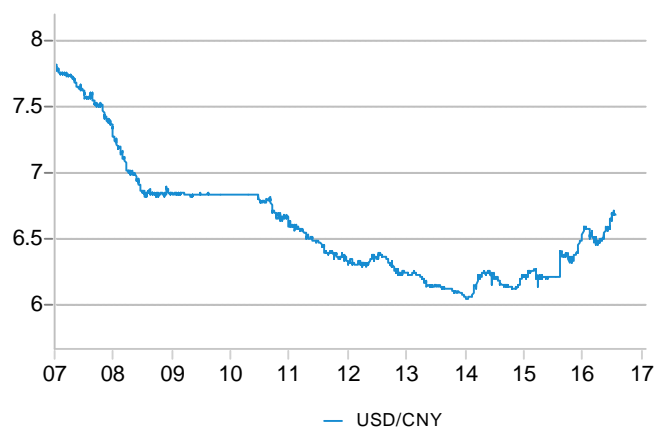


Japanese yen & import prices



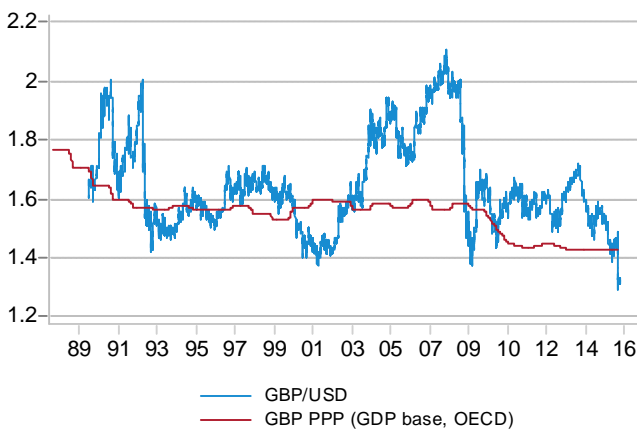
Source: BOJ, using proxy updates

USD- Yuan



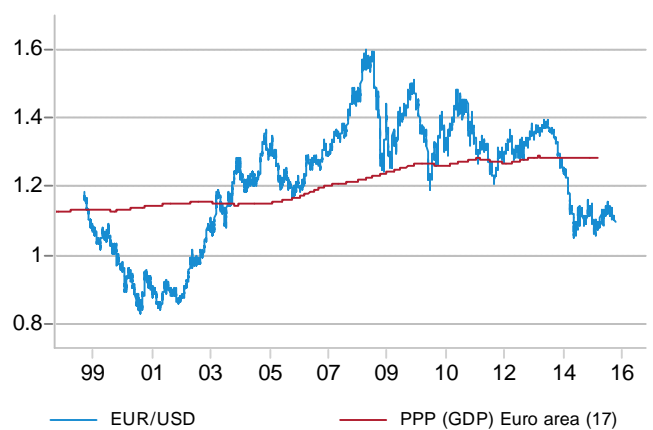
Source: IRESS, Fed

GBP PPP & GBP-USD



Source: OECD, IRESS

EUR PPP & EUR-USD

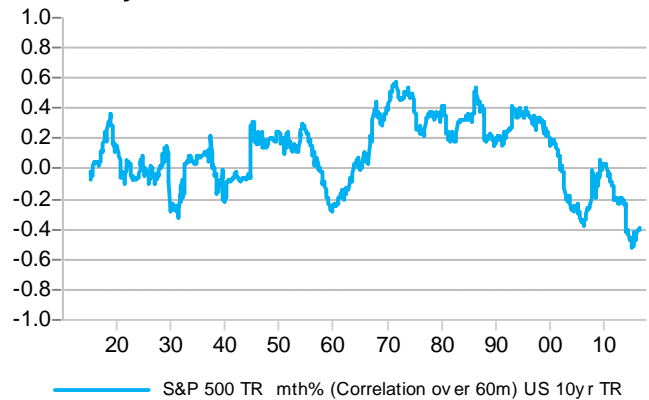


Source: OECD, IRESS

CORRELATIONS

- The correlation between monthly bond and US equity returns has been strongly negative over the past five years. That is bonds have been a good diversifier. More recently that negative correlation has been reduced.

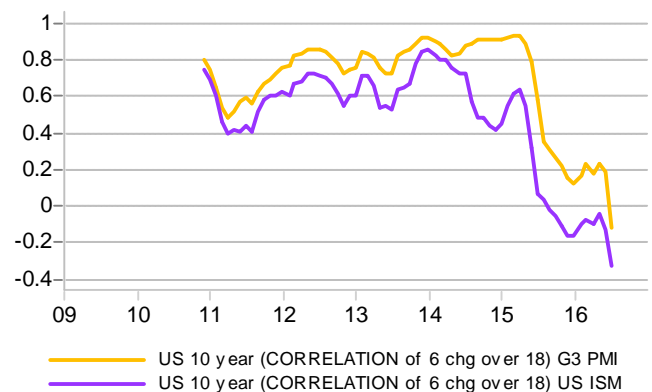
S&P 500 TR Index mth% (Correlation over 60m) & US 10yr TR



Source:RBA

- Interestingly the correlation between changes in bond yields and macro indicators such as the US ISM and the G3 PMI has turned from a very positive one to a negative one. In other words stronger data has been associated with declining yields rather than the typical rise in yields.

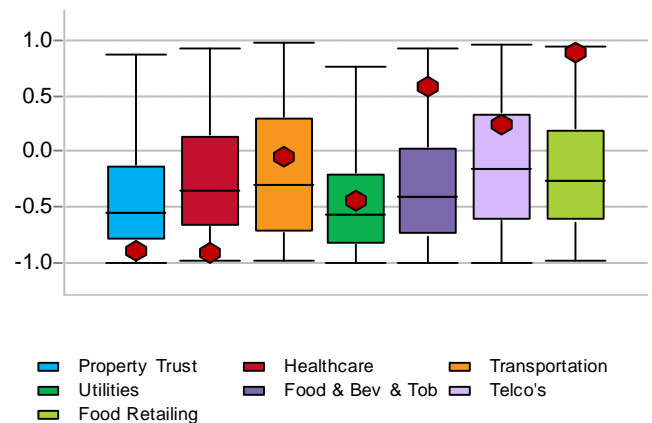
US 10 year (CORRELATION of 6m chg over 18m) with G3 PMI & US ISM



Source:RBA,ISM,,RBA,Markit,ISM

- In Australia REITs and utilities are showing the strongest negative correlation with bond yields, both in absolute terms and relative to history.
- Food and bev, food retailers and telco's have not been as negatively correlated with bonds in absolute terms or compared to their own history.
- Below we look at sector returns over the past 12 months and the longer term correlation of the sectors with bond yields for both the global and domestic market.
- The standout here is that globally the pharma and biotech sector has not performed as well despite its historical negative correlation with bond yields.
- Domestically, telco's, food retailers and insurers have not performed as well as their strong negative correlation with bonds would have suggested. Retail and media have probably performed better than expected. This shows the disconnect between growth and bond yields.

Sector correlations with Bonds (6m)



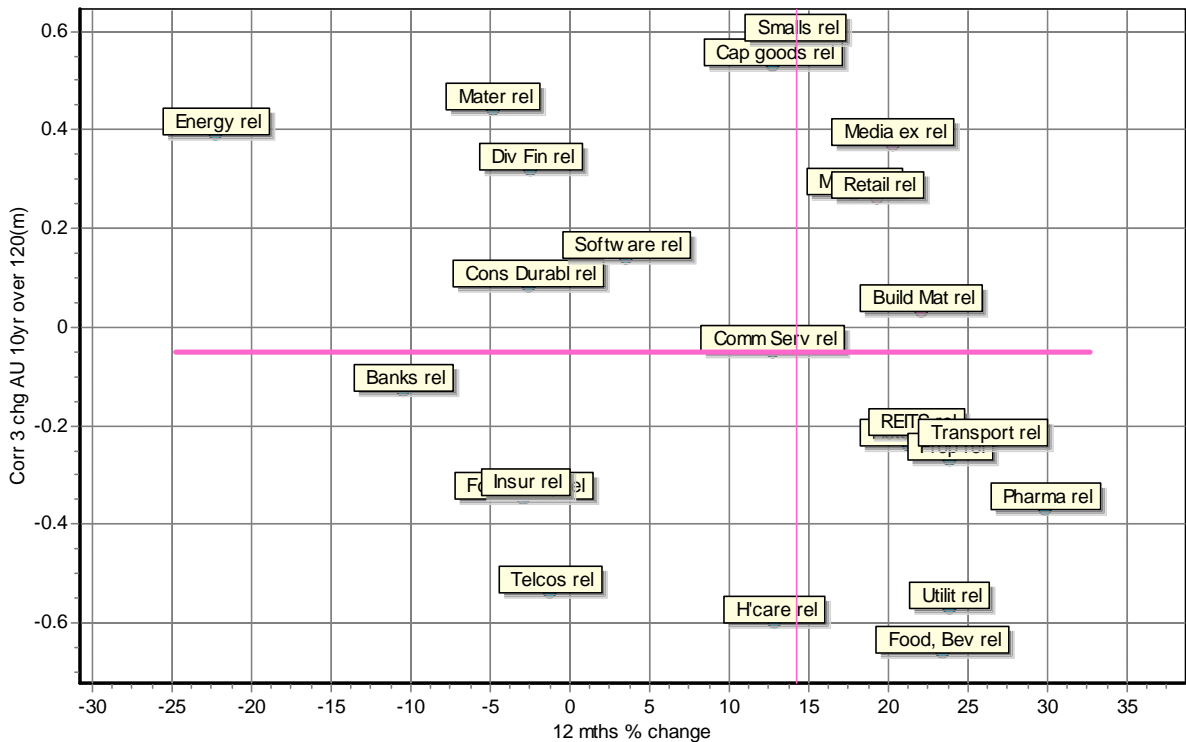
Source:IRESSIRESS,IBESS&P,IRESS

**Global Sectors 12m return
& Corr of relative return with US 10y over 120mths**



Source: MSCI,

**Aust sector returns
& Correlation of relative returns with 3m chg AU 10yr over 120m**



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