Update on Oil Prices

Looking at the market's response as the oil price has fallen

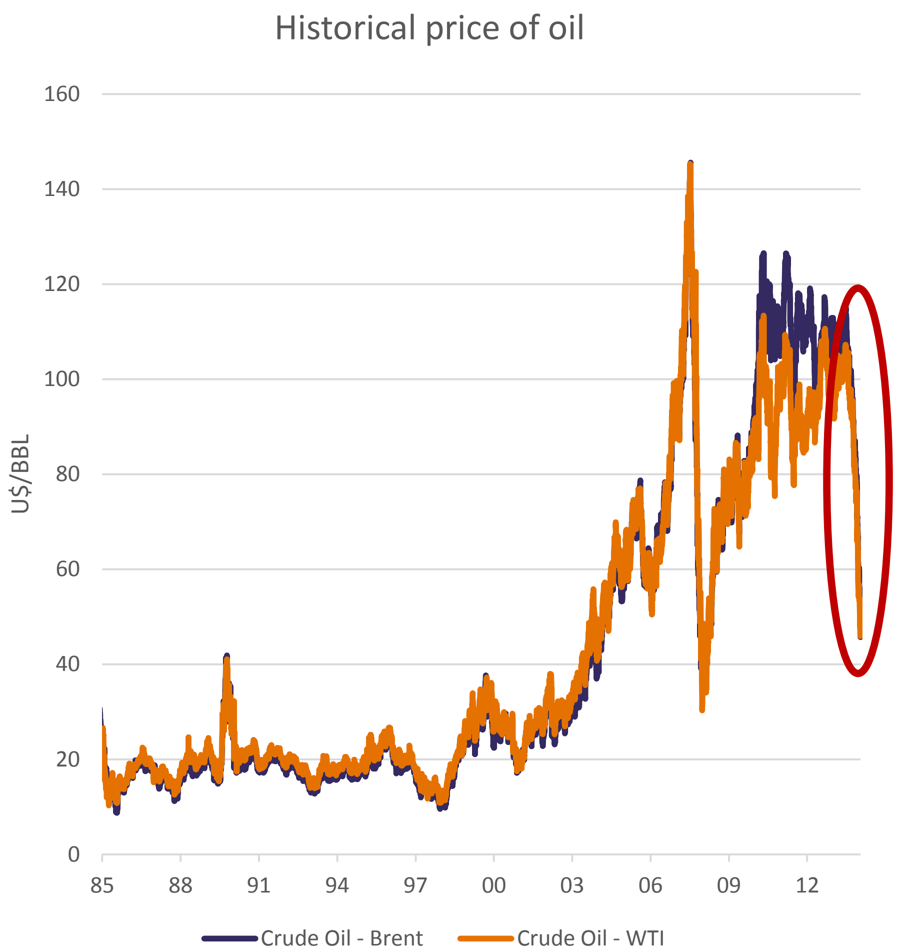
Introduction and recap

- Frontier's Capital Markets and Asset Allocation Team (CMAAT) released a publication on oil in December of last year ("Recent developments in oil prices") covering the fall in oil prices. Our key conclusions were:
  - The decline in oil prices (that began in June 2014) seemed mainly to be driven by a positive supply shock with softer oil demand likely only playing a small part in causing the oil price fall
  - Although the impact of the oil price fall is likely to vary across countries (oil importers versus oil exports), we expected that it would be positive for global growth prospects and growth assets (equity prices were expected to rise) because:
    - Lower oil prices acts not unlike a tax cut
    - Lower oil prices would enable central banks to maintain "lower-for-longer" policy rates
  - The expectations were supported by our modelling of historical market relationships and oil price falls
- However, so far, the market's response to the lower oil price has generally been to downwardly revise global growth prospects
  - So far equity markets have not responded as positively as would be usual (in the case of oil price declines that are driven by positive supply shocks), instead trading more as though the oil price fall has been caused by a negative demand shock. Bond markets have continued to rally as inflation expectations have eased
- In this update, we assess the market's reaction so far, by reviewing the latest global oil supply and demand trends, comparing this episode with historic episodes

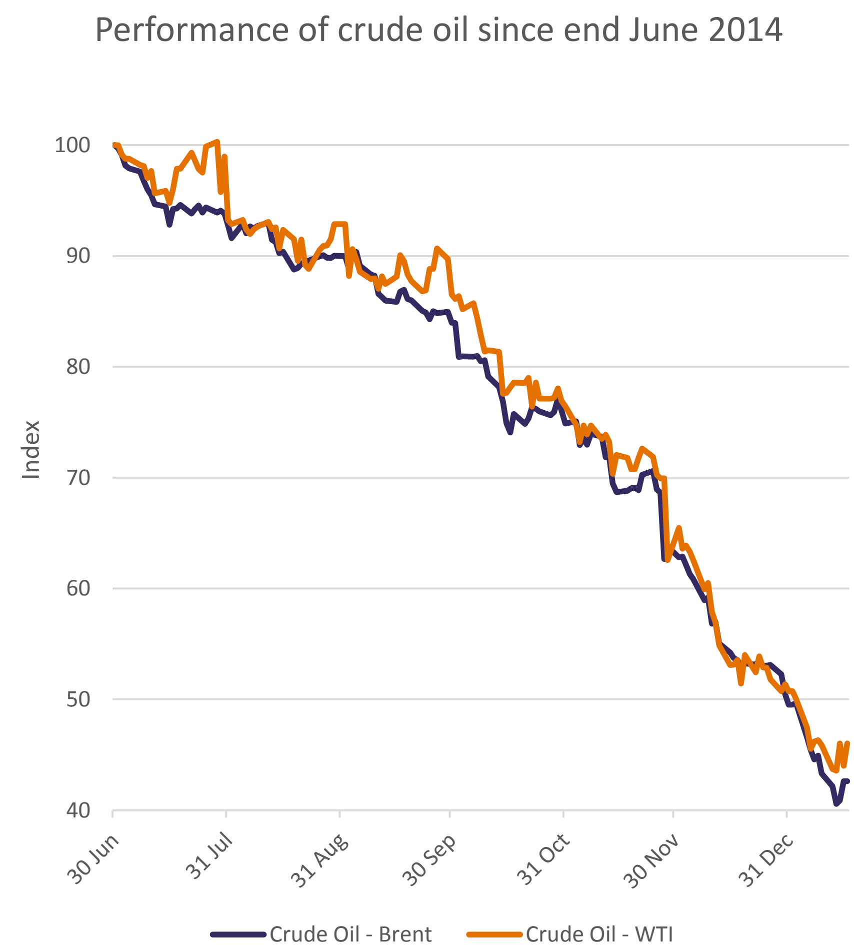
Equity market response to falling oil prices

- Since June 2014, oil prices have fallen by more than 50%
- Over the same period, in local currency terms, global equities have been broadly flat
  - Specifically, developed market equities are mostly unchanged
  - Emerging market and Australian equities have weakened
  - Australian equities have performed worst, driven by:
    - Australia's larger exposure to commodity sectors (Energy and Materials) relative to the MSCI World and Emerging Market indexes
    - The fall in the Australian dollar (to which Australian equities are highly correlated)
    - A reduction in investors' Australian growth expectations (as reflected in the fall in Australian "real" yields)
- On a sector basis, defensive sectors outperformed cyclical sectors in both developed market and Australian equities
  - Suggesting negative market sentiment and, potentially, that the market is viewing the fall in the oil price as having been caused by a negative demand shock
  - For the overall equity market, it was expected that the positive impact on cyclical sectors from the fall in the oil price would outweigh the negative impact on the Energy sector

Historical price of oil – current episode is one of the sharpest falls ever

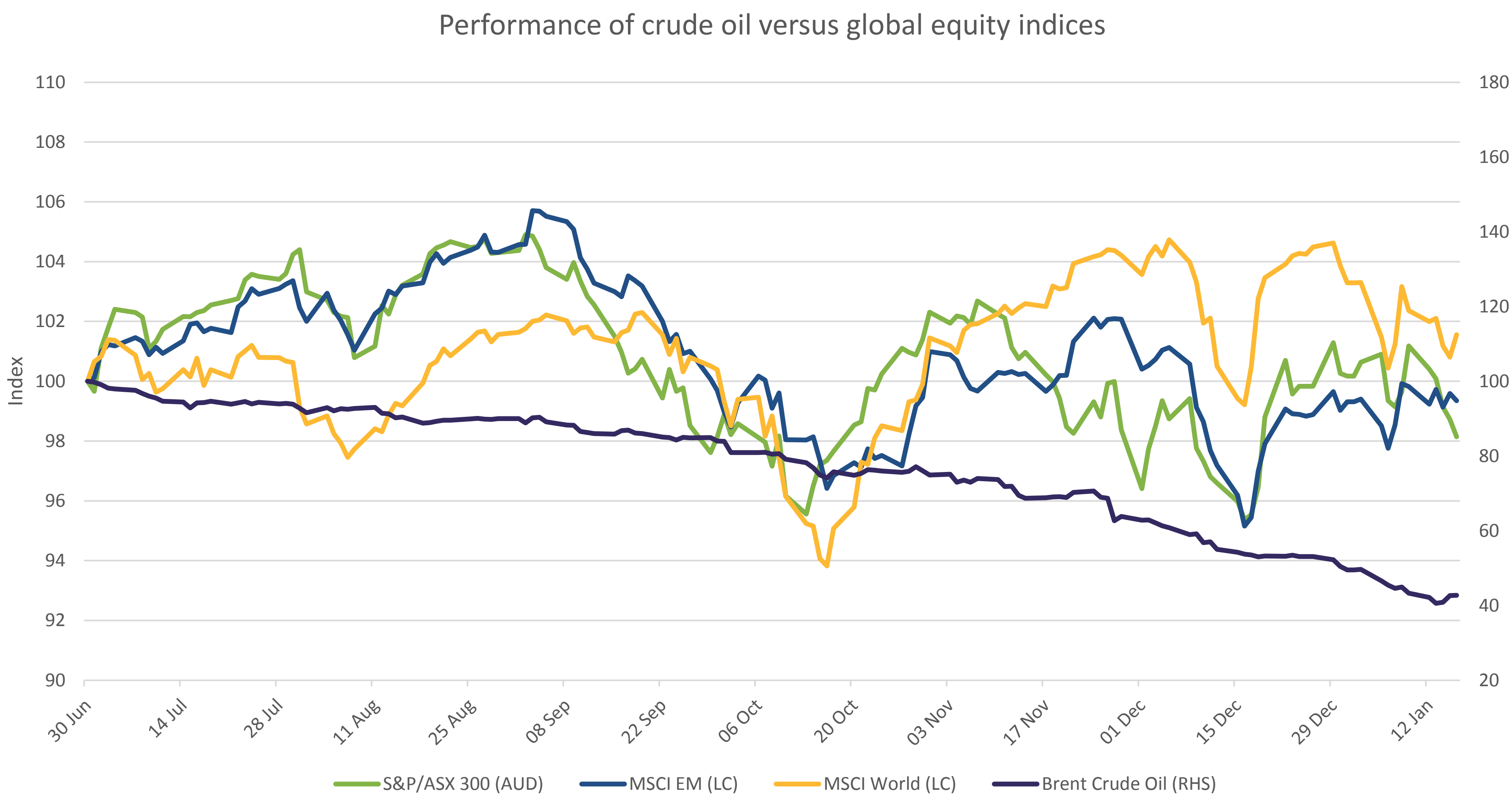


Source: DataStream, Frontier



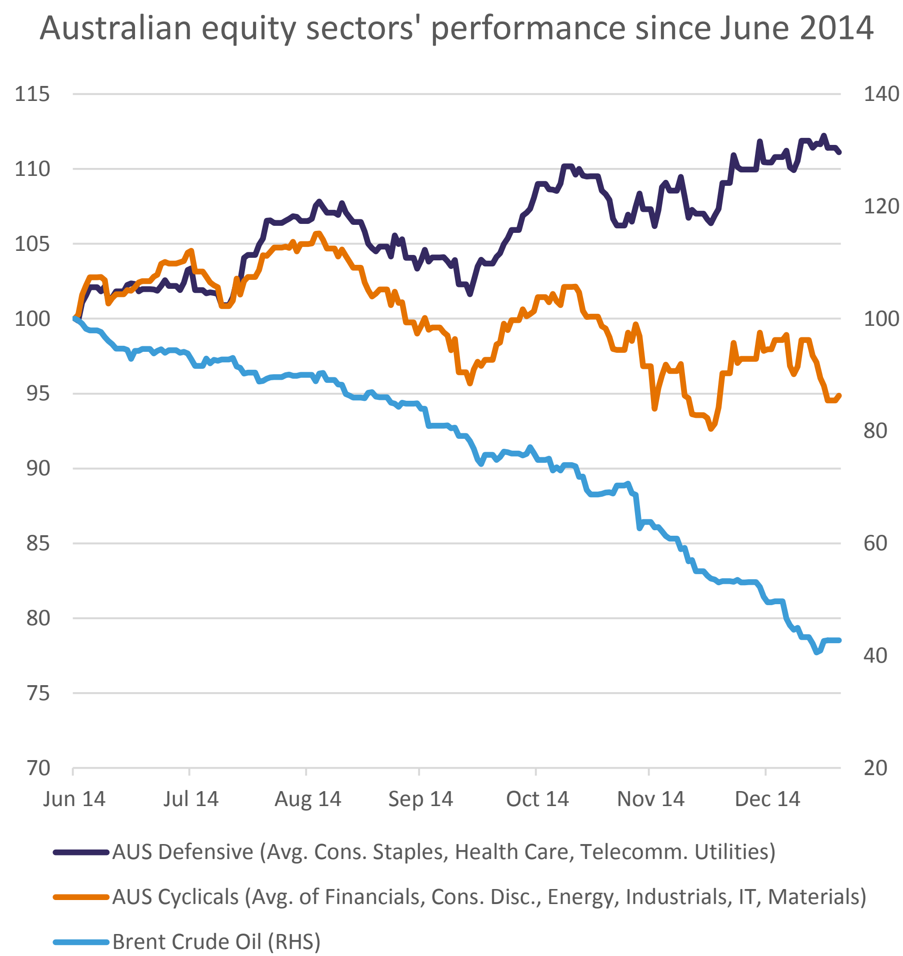
Source: DataStream, Frontier

Crude oil price and global equity indices – share prices haven't rallied

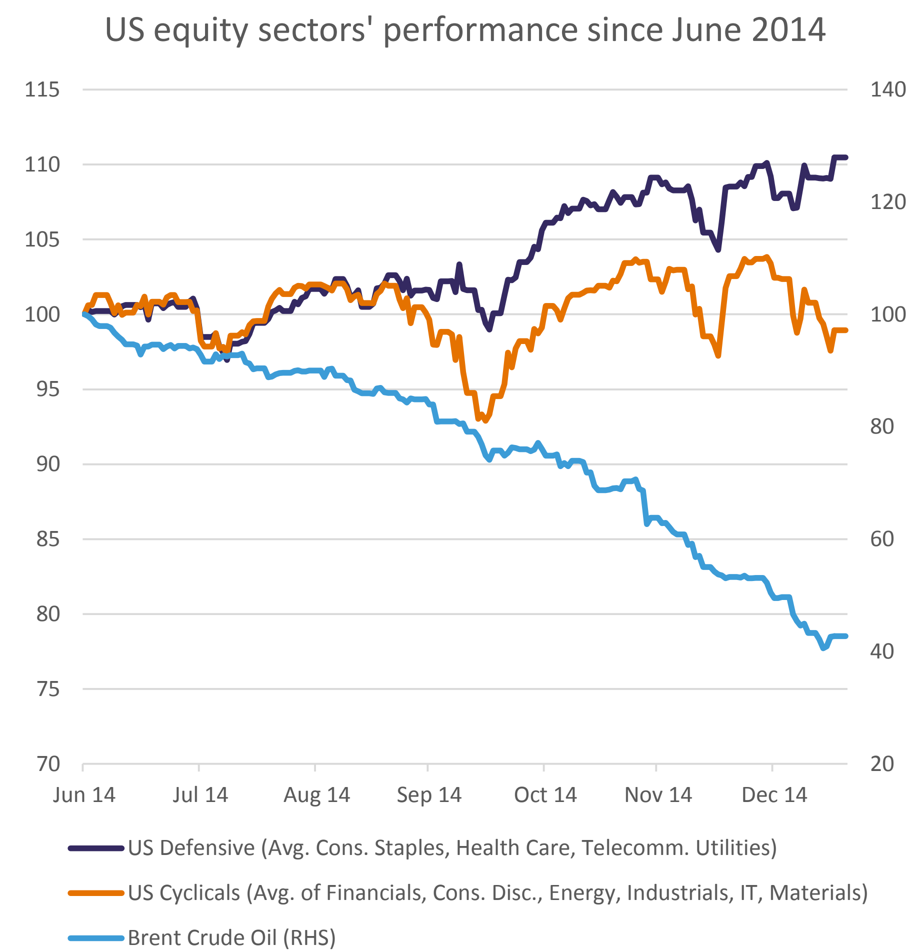


Source: DataStream, Frontier

Cumulative sectoral performance – “defensive” sectors have outperformed



Source: Bloomberg, Frontier

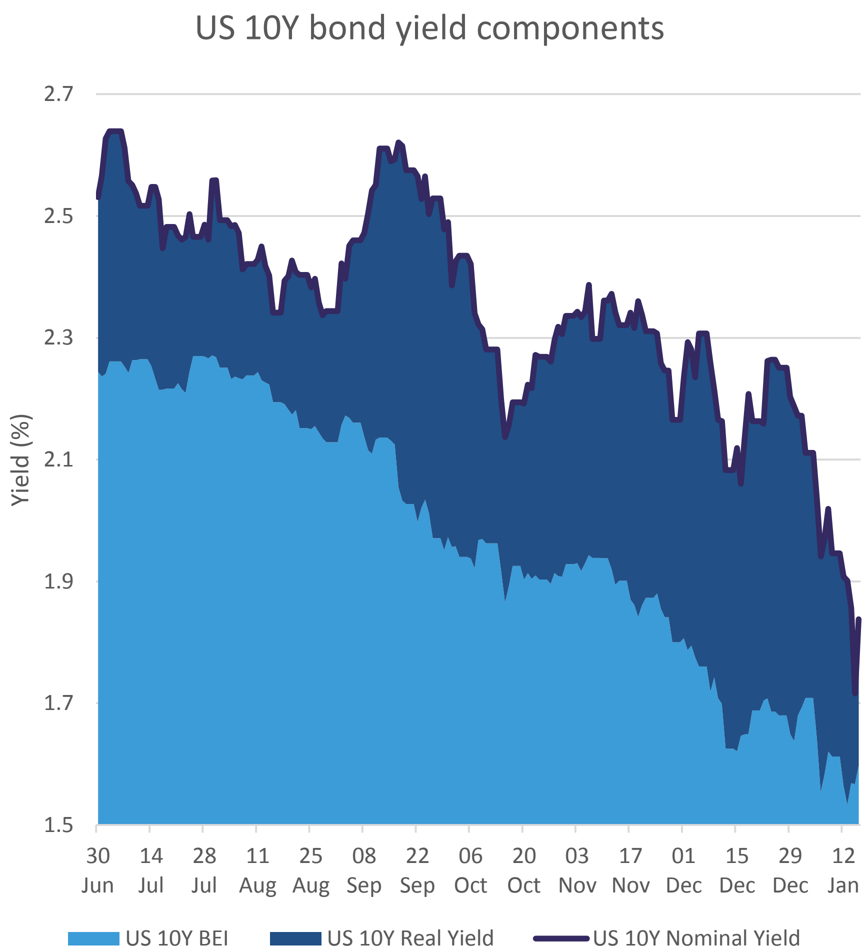


Source: Bloomberg, Frontier

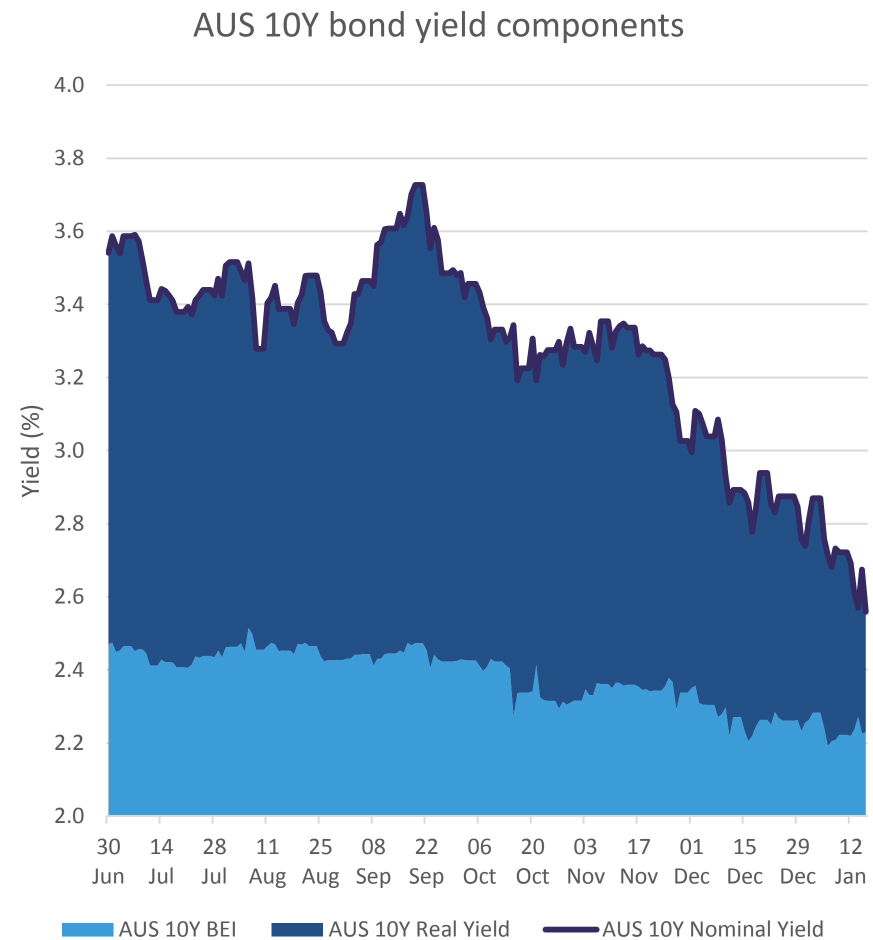
Reactions in bond, foreign currency and commodities markets

- Both US and Australian 10 year government bond yields have declined since June 2014
  - In the US, this is largely due to the breakeven inflation component (inflation expectations)
    - Likely to be driven by the fall in oil price, as inflation expectations have fallen globally
  - In Australia, this is mainly from the decline in the real yield component (growth expectations)
    - Surprisingly, Australia is one of the few cases where inflation expectations have not fallen materially
- The US dollar has appreciated over the same period against other major currencies
  - Particularly the Japanese Yen, initially as its central bank and government announced further stimulatory policies; more recently the Euro has softened due to speculation of full-blown quantitative easing by the European Central Bank (ECB)
  - The appreciation in the US dollar is also a contributor to the fall in oil (and other commodity) prices
- Oil was not the only commodity that saw its price go lower
  - Both (Dr.) copper and iron ore prices have fallen as well, further indicating pessimism widespread in the market

Reaction in sovereign bond markets – largest reaction has been falling inflation expectations

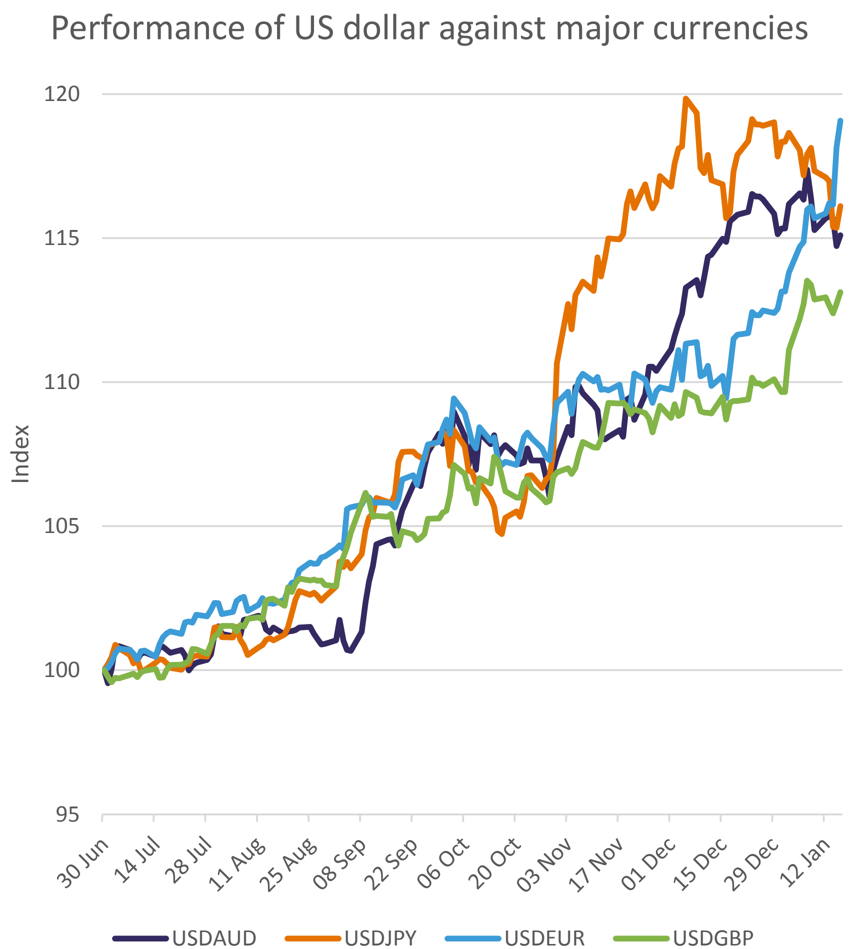


Source: Bloomberg, Frontier

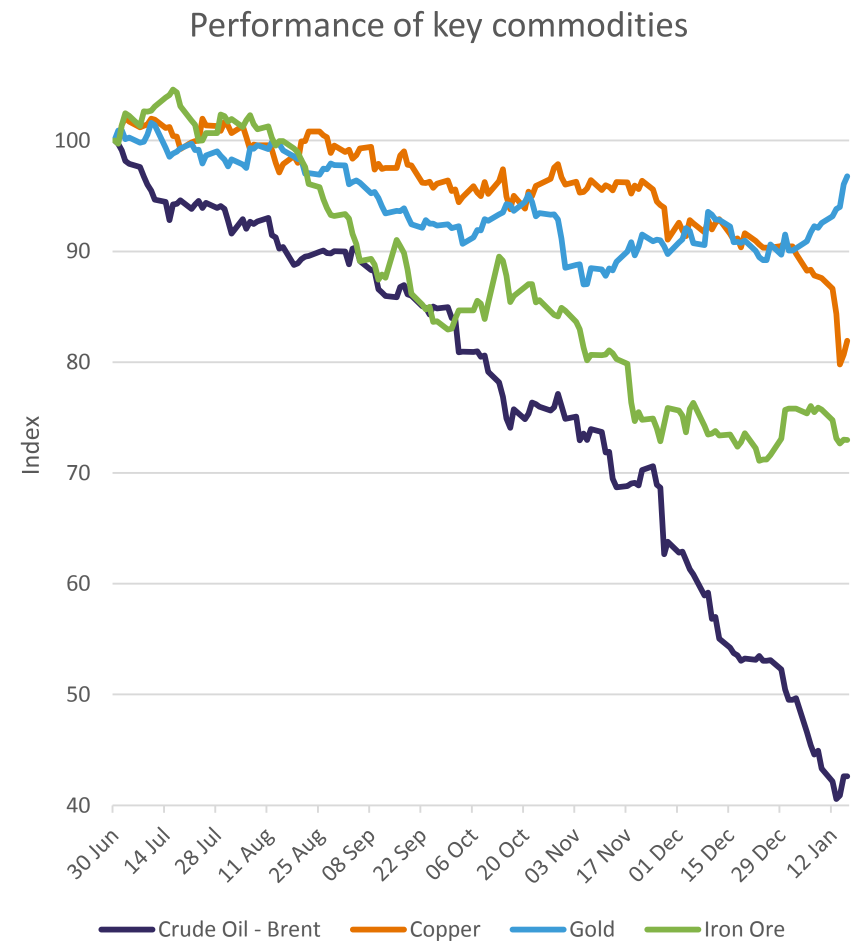


Source: Bloomberg, Frontier

Reaction in the foreign currency and commodities markets
US dollar has rallied, most commodity prices have weakened



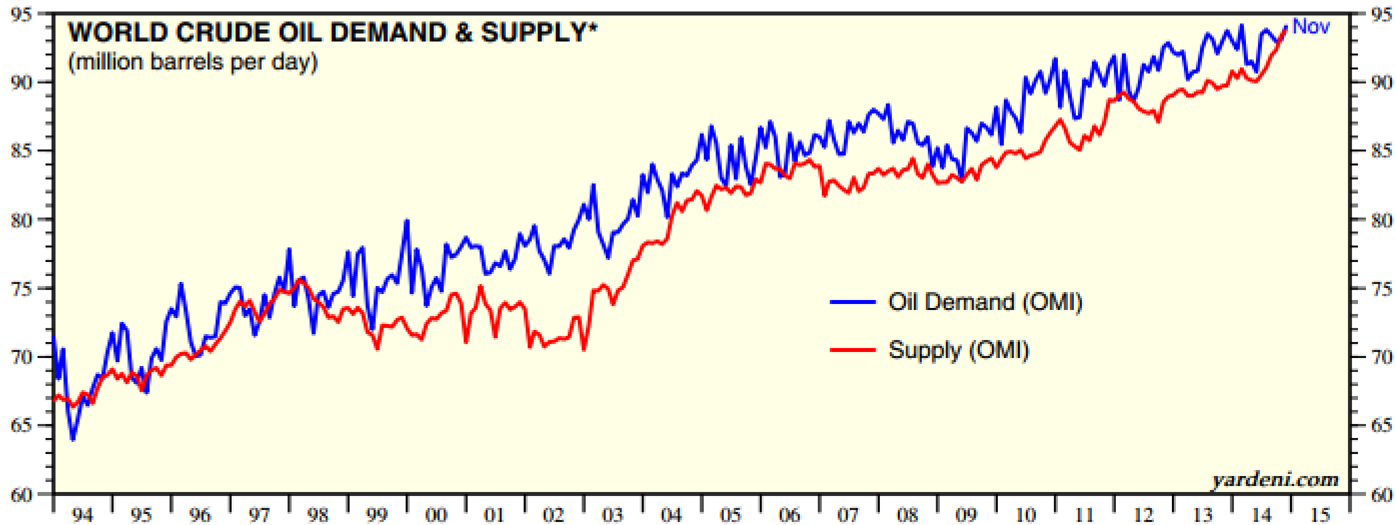
Source: DataStream, Frontier



Source: DataStream, Frontier

Changes in oil demand and supply have driven the oil price weakness

World crude oil demand and supply

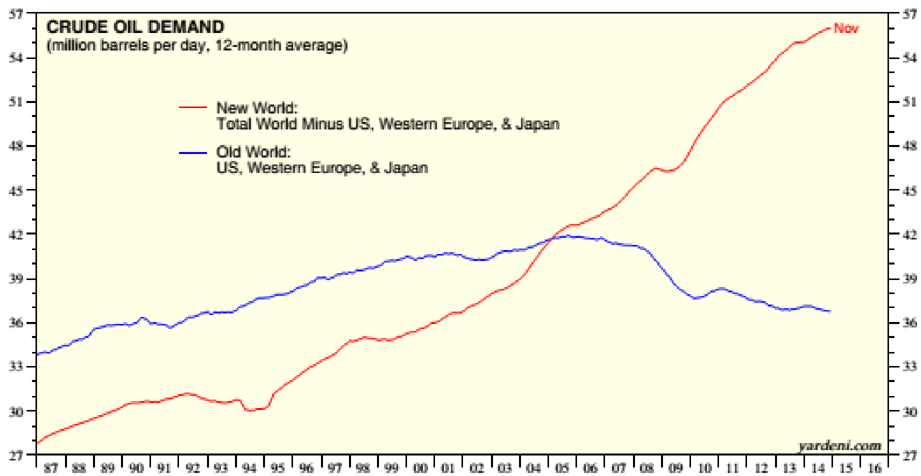


Sources: Yardeni Research, Oil Market Intelligence and Department of Energy

- The fall in the oil price appears to be largely driven by an increase in supply
  - Supply has risen further since the December publication
- Oil demand initially softened in 2014 but has since recovered
  - As can be seen in the next couple of slides which show the global oil demand
    - Demand in developed markets have remained relatively flat with the exception of Japan
    - Demand in emerging markets have been accelerating

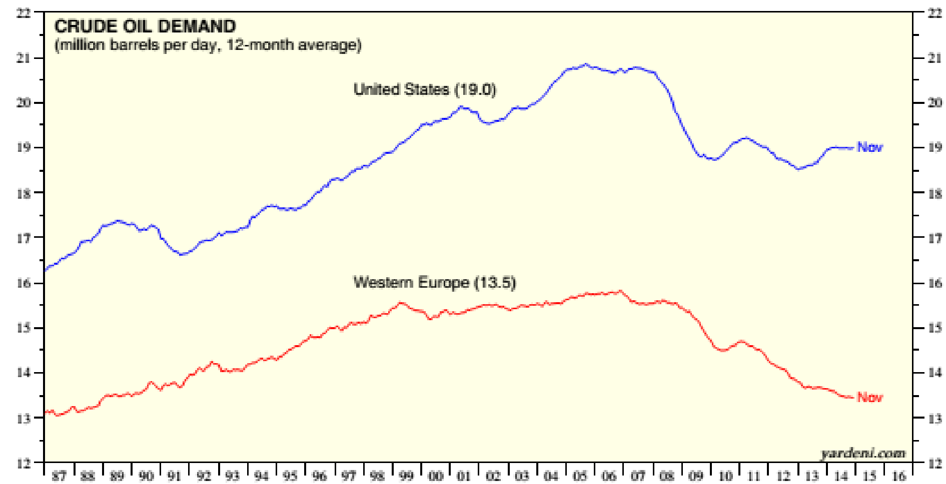
Breakdown of global crude oil demand – "New" world demand rising

New world and old world crude oil demand



Sources: Yardeni Research, Oil Market Intelligence and Department of Energy

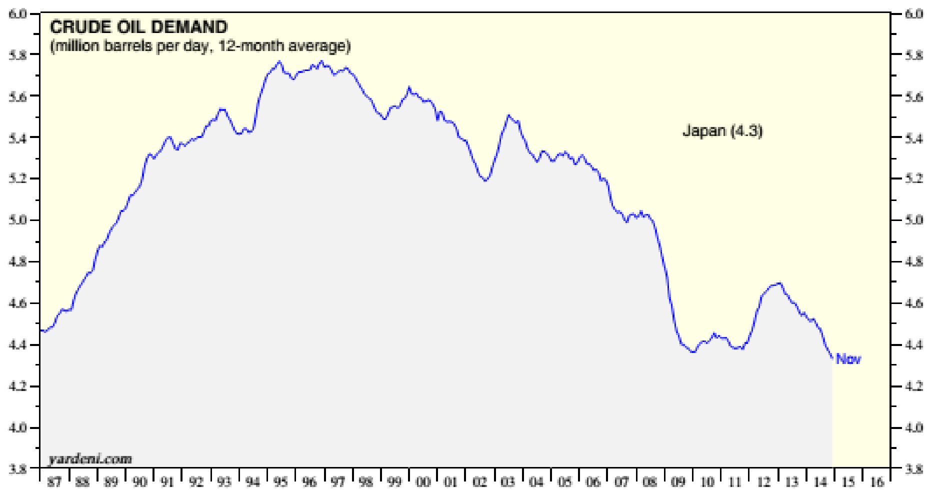
US and Western Europe crude oil demand



Sources: Yardeni Research, Oil Market Intelligence and Department of Energy

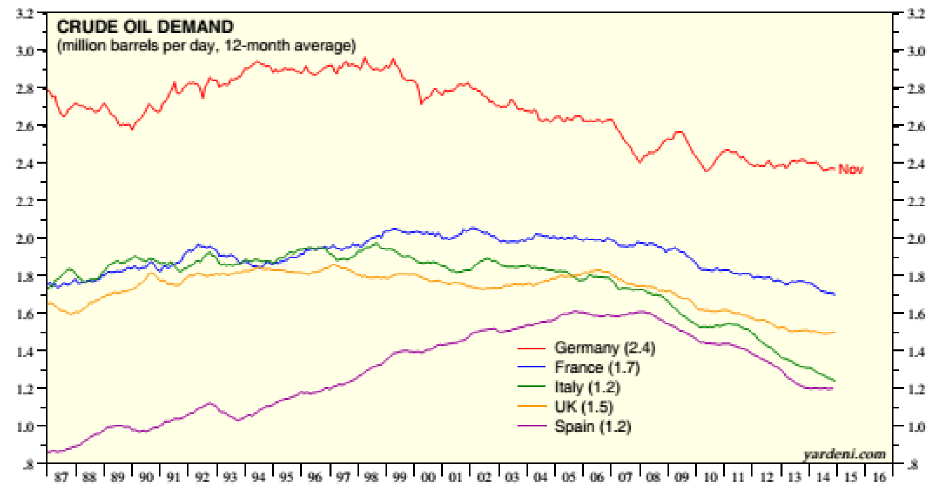
Breakdown of global crude oil demand

Japan crude oil demand



Sources: Yardeni Research, Oil Market Intelligence and Department of Energy

Breakdown of European crude oil demand



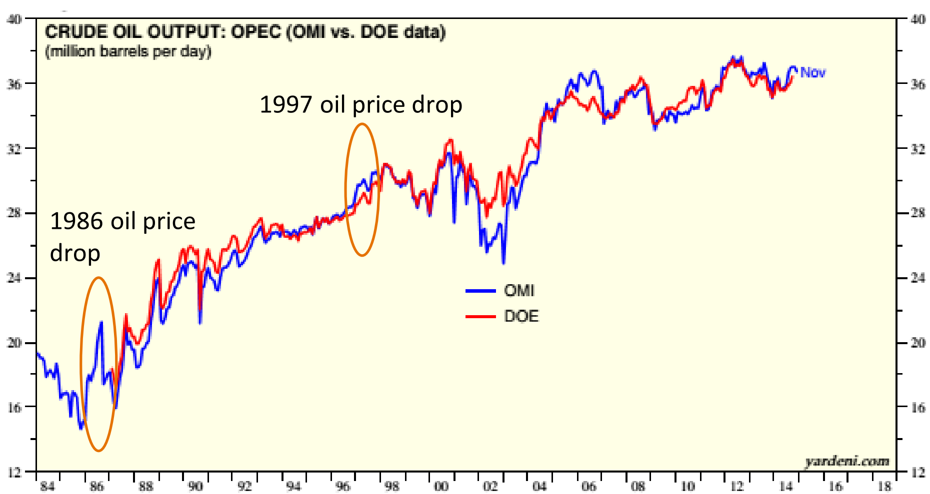
Sources: Yardeni Research, Oil Market Intelligence and Department of Energy

Historical analysis of positive oil price falls

- We re-confirm that the recent fall in oil prices seems largely to have been supply driven
- But "growth" markets have not reacted positively to date
  - as such we have conducted some additional historical analysis to retest our thesis
- We have re-tested our analysis in historical episodes where, like the current episode, the oil price decline seems to have been supply-driven
- As mentioned in our previous memo, there have been two episodes in the past 30 years when sharp oil price drops were not associated with global recessions (1986 and 1997-8) – i.e. <u>two prior episodes of sharp oil price falls that, like the current episode, were driven by positive supply shocks, not negative demand shocks</u>
- As can be seen on the next slide, similarly to the current period, OPEC did not cut supply in either the 1986 or 1997 oil price episodes
- In the instance of 1997, it took OPEC almost two years after the initial decline in oil price before supply was reduced

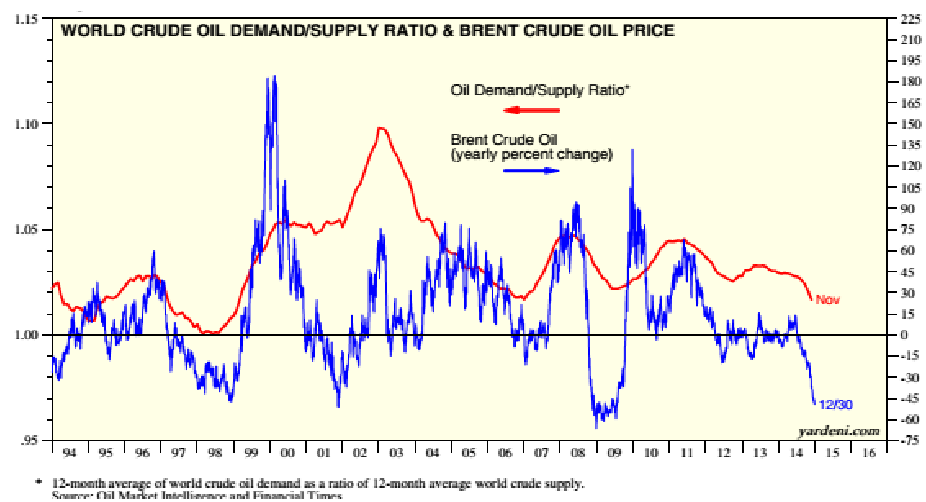
Historical analysis of supply-driven oil price falls

Historical OPEC oil output



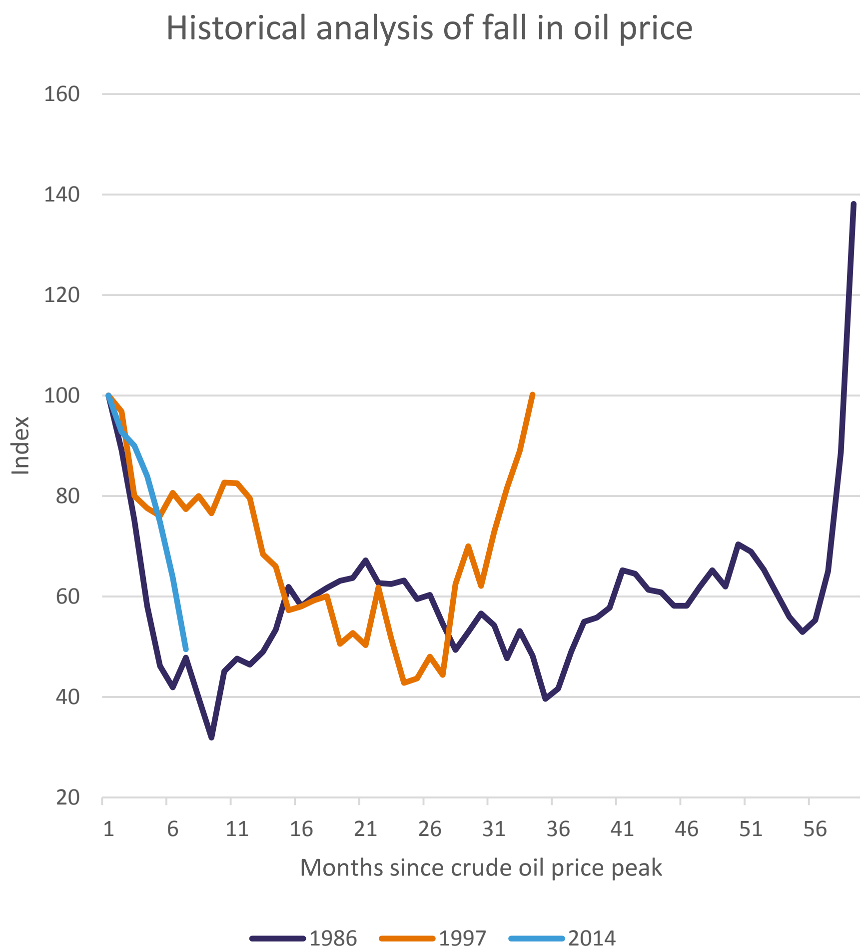
Source: Yardeni Research, US Department of Energy and Oil Market Intelligence

World crude oil demand/supply ratio and Brent crude oil price



Source: Yardeni Research, Oil Market Intelligence and Financial Times

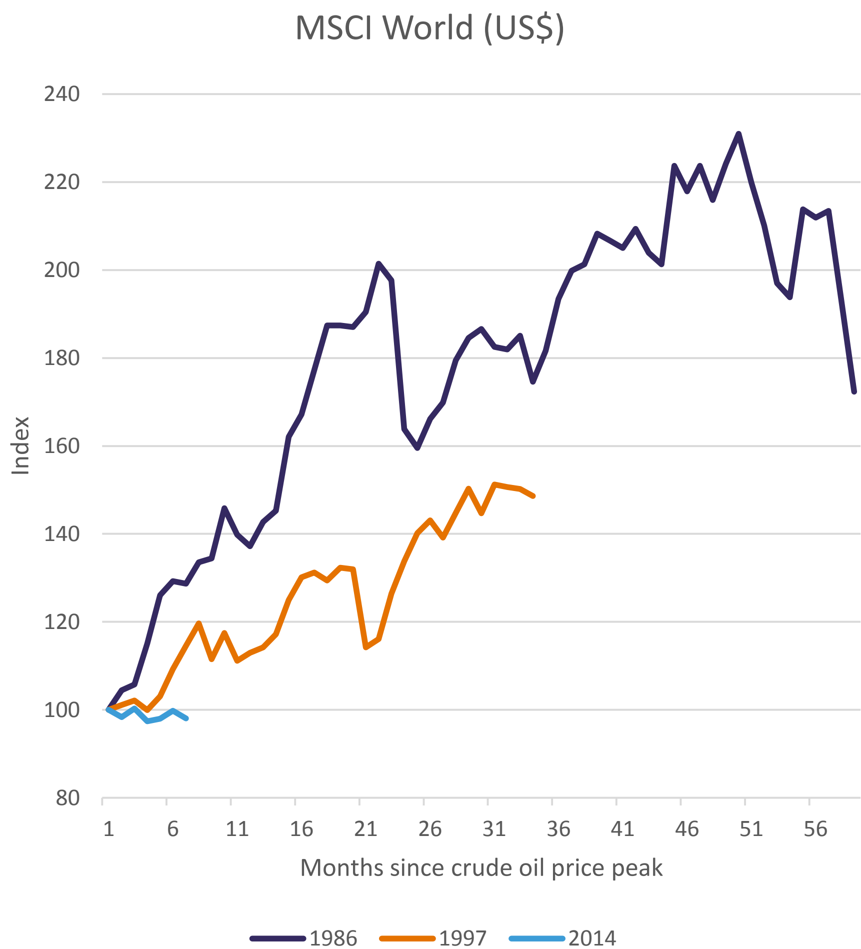
Historical analysis of supply-driven oil price falls



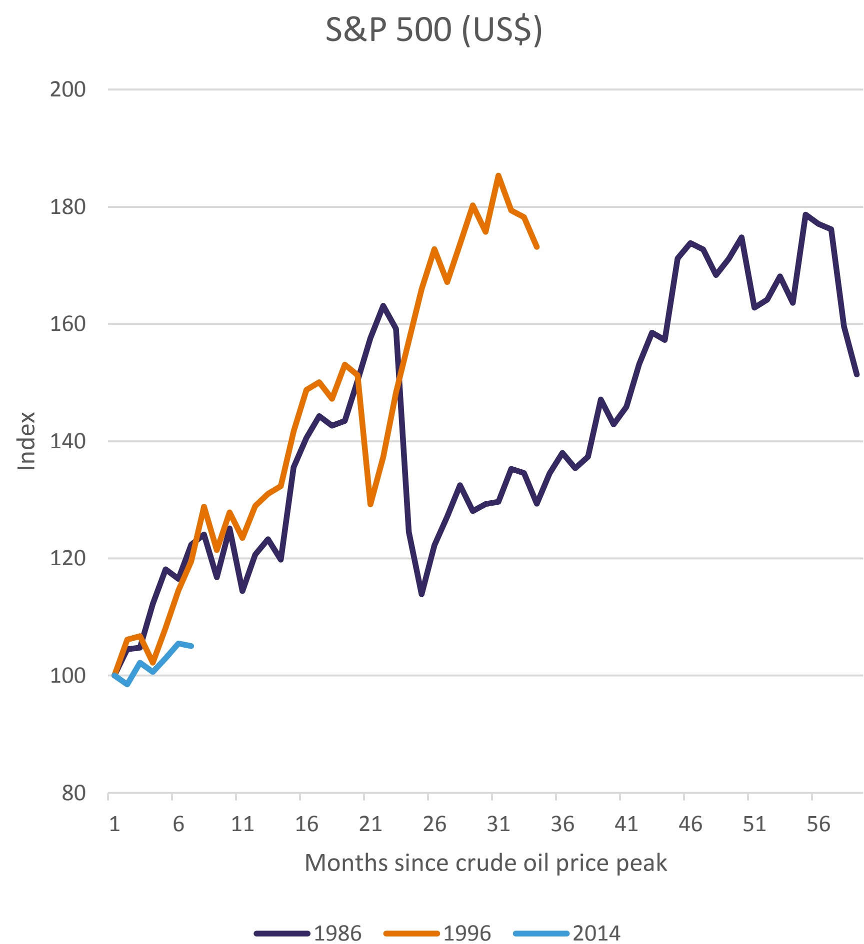
- The current episode is not the sharpest drop in oil price relative to history
- Previous episodes have seen oil prices remaining at depressed levels for years before recovering

Source: Bloomberg, Frontier

Historical analysis - MSCI World and S&P 500 performance



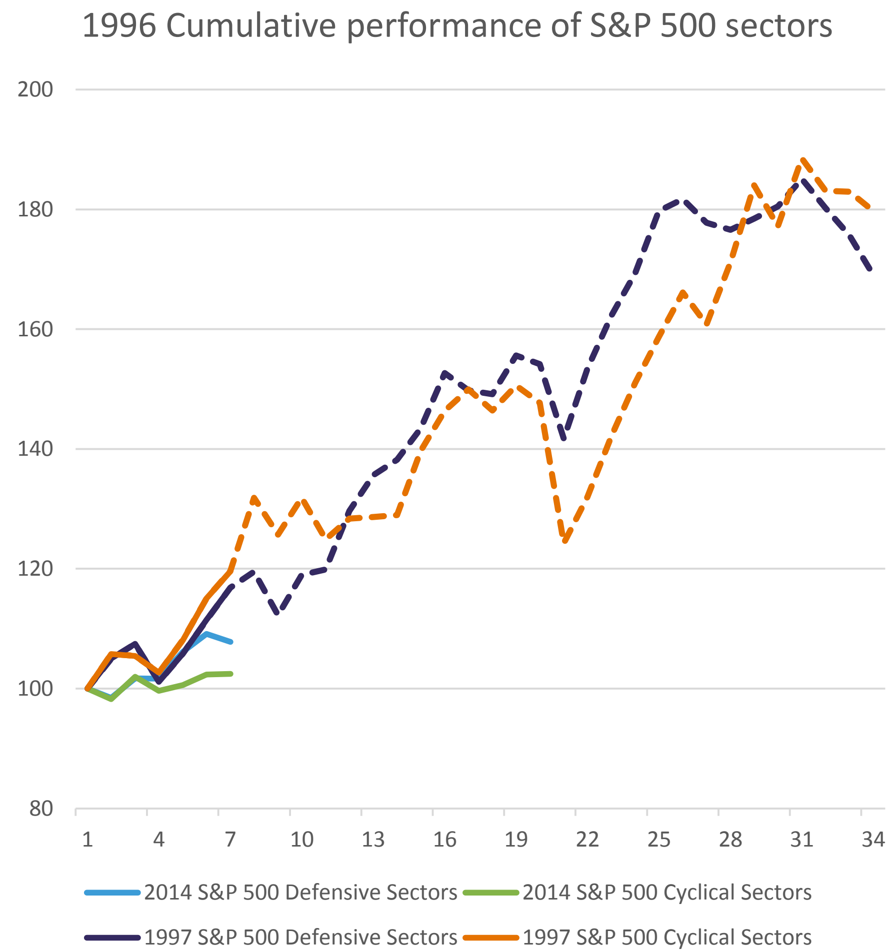
Source: Bloomberg, Frontier



Source: Bloomberg, Frontier

Historical analysis - S&P 500 sectoral performance

- The current equity market performance have been the meekest relative to historical episodes
- The chart opposite compares the sectoral performance of the S&P 500 Index to historical episodes
  - Unfortunately we do not have sectoral data for the 1986 episode
  - Contrary to the 1997 episode, defensive sectors have outperformed cyclical sectors
  - Additionally, it was a broad based rise in the 1997 episode with both defensive and cyclical sectors generating strong returns
  - Most surprising is that the Energy sector in the 1996 episode performed positively



Source: Bloomberg, Frontier

Conclusions

- The current episode still appears to be mainly as a result of a positive supply shock
- However, the market response to the fall in the oil price is clearly different to date this time round, so what's the difference?
  - Negative market sentiment can be seen across markets
    - Outperformance of defensive relative to cyclical sectors, lowering of Australian real yield, fall in copper price etc.
- There appear to be several potential reasons for what appears to be an anomalous market reaction
  - **External forces with greater influences on the market than the oil price are at work**
    - Issues such as US rates "lift off" and European deflation fears are front of mind for investors currently
  - The market is treating the fall in oil price as a demand shock despite evidence for the contrary
  - The market is too focussed on the downside
    - Potentially focussing on the deflation risk aspect of lower oil prices
      - But it is important to note that the fall in oil prices is a positive deflation impact as it is supply driven, it is only when deflation is caused by a demand shock that it becomes problematic
    - Perhaps the market is focussed on the stagnating oil demand by developed economies and neglecting the growing overall global demand for oil (driven by emerging market demand)

Conclusions

- Although the less-than-positive market movements have us wary, our review of the cause of the decline in oil price continues to suggest that this episode is supply driven
- As such, we remain unchanged on our original thesis that the fall in oil price is positive for growth prospects and growth assets

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