Government Actuary's Department

Issue 12 - December 2019

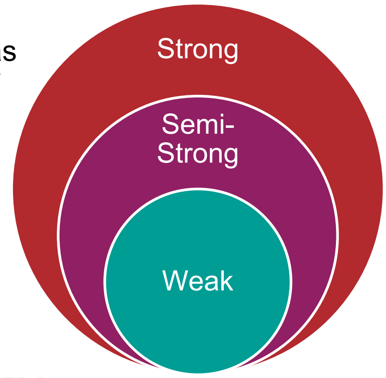
Investment Bulletin

In this bulletin we introduce the Efficient Markets Hypothesis – a theory of financial economics – discussing its purpose and any evidence surrounding it.

Background

Since stock markets came into existence, trying to earn excess returns by strategically investing funds has been a popular venture for many – including institutional investors. Traditionally, economists assume markets to be efficient, meaning that the market price of an investment reflects all relevant information and thus is the fair value.

The Efficient Markets Hypothesis (EMH) was developed to provide a broader definition of what it means for a market to be efficient and was developed in the 1960's by the economist Eugene Fama. He hypothesised that market efficiency can be specified in 3 forms, representing increasing levels of information being reflected in prices (shown in the diagram).



Strong EMH: Price incorporates all information; both public, and information available only to insiders.

In this case insider trading cannot be used to produce excess profits.

Semi-strong EMH: Price incorporates same information as weak EMH and all public information

In this case investment techniques such as fundamental analysis – using public information such as financial accounts – cannot be used to produce excess profits.

Weak EMH: Price incorporates all historic information. In this case any investment technique which analyses historical prices to spot patterns cannot be used to produce excess profits

Evidence for and against EMH

Although it commonly underpins many economic models, the assumption that EMH holds is often a contentious one and hard to assess. For example, studies suggest that stocks display short-run momentum and medium-run mean-reversion, ostensibly discrediting even weak-form EMH. However, different studies suggest randomly picked stocks perform similarly to those picked using price history analysis techniques – supporting weak-form EMH. Testing strong-form EMH is challenging due to the fact that many developed markets have insider trading regulations that limit trading in stocks on the basis of material non-public information. If strong-form EMH held then this might suggest no need for such regulations.

Finally, EMH states that asset prices reflect current information, but it does not explain the impact of new information. Studies have shown that the market can over-, or under-react, to certain events. Traders may take advantage of the relatively slow pace with which the market corrects itself. This would mean EMH doesn't hold - discrediting all 3 forms. Supporters of EMH refer to such cases as simply being anomalies or point to the field of behavioural finance which links evidence of market inefficiency to investor (ie human) behaviour.

Practical applications of EMH

While EMH may sound theoretical and academic – its principles do read across into real decisions that institutional investors face. In particular the decision on whether to invest passively, in a representative index, or actively is to some extent expressing a view on whether EMH holds. An active investor is more likely to believe that markets are not efficient and there are opportunities to earn excess returns. On the other hand, a passive investor is more likely to believe that it is not possible to beat the market and that there is no benefit from paying for the extra costs that active managers typically charge.

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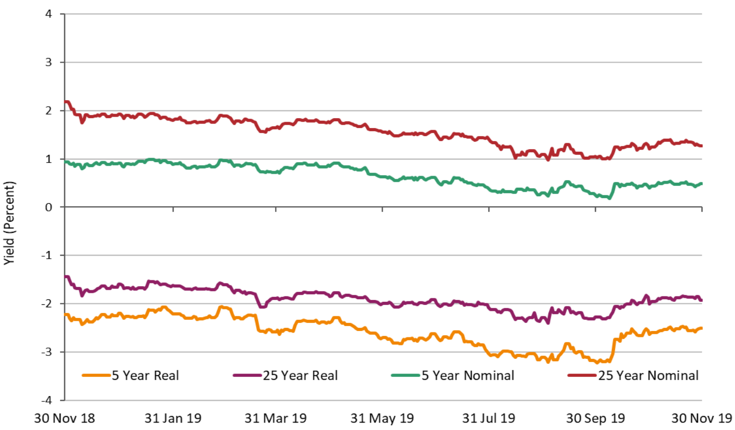
This month in brief

Over the course of November the pound continued to rise against the dollar and euro, ending at an exchange rate of $1.30 and €1.18 to the pound. One driver is likely to be a perceived lower chance of a no-deal Brexit however, the US and European economies' growth slow down also helped to contribute to the stronger pound. Inflation dropped to 1.5% after drops in the price of fuel and energy. The cost of cultural and recreation activities have also been cut, further contributing to the decrease in inflation.

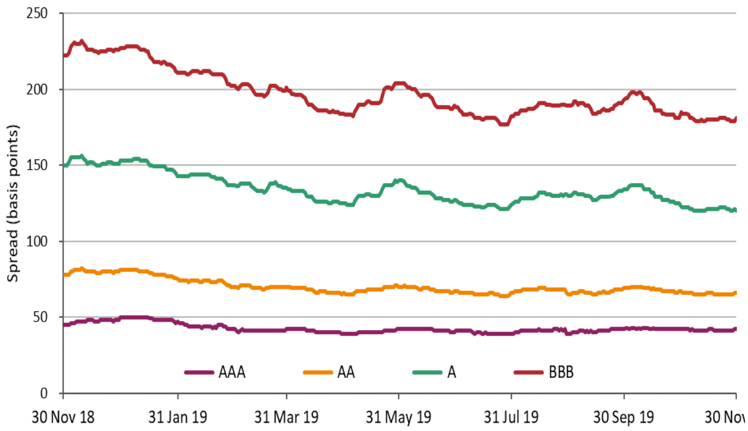
Britain's private sector has shown contraction according to figures from the IHS Markit/CIPS purchasing managers index. The private sector has seen the sharpest drop in activity since the EU referendum, as the 2019 General Election continued to add to the uncertainty relating to Brexit. November saw a marginal increase in house prices. The Nationwide House Price Index saw a 0.8% increase in house prices, increasing from 0.4% in October.

Figures released by the Office for National Statistics in November estimated that for the period July to September 2019 employment was 0.1 percentage point lower than in the previous quarter but 0.5 points higher than at this point last year at 76%.

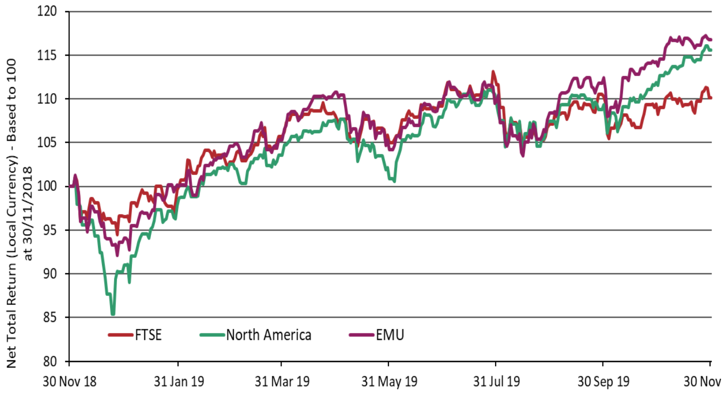
Nominal yields ended the month at a similar level to last month. Real yields saw higher returns.



Credit spreads of lower rated bonds continue to fall over the month.



North American and EMU markets rose over the month. While the FTSE 100 ended in a similar position.



Real and Nominal yields are largely the same as last month.