The Macroeconomic Effect of Brexit on the US

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Introduction

There has been a lot of uncertainty post-Brexit, and investors are concerned with the United States' connection with the United Kingdom. This paper highlights the key indicators of their relationship: exchange rates, growth rates, trade, labor, investment, and foreign-held assets.

There has been little published research about the implications Brexit will have upon the US. A paper by Oliver and Williams acknowledges the US-UK relationship and how that relationship impacts the US-EU relationship. In the "bad" scenario of the paper it states that post-Brexit, the UK and the EU would become more difficult to negotiate with since the UK is, as the author states, a "transatlantic bridge" in terms of relationships between the US and EU. In the "ugly" section the authors propose that after post-Brexit, other countries may be inclined to leave the EU as well, thereby causing an unraveling of the EU. This is not considered in this paper as it would seem rather unlikely for this to occur.

More research has been into the effects on the UK post-Brexit. Dhingra *et al.* state that under the dynamic case, Brexit will cause a decline in household income by 6.3% in the optimistic case and 9.5% in the pessimistic case in the long run. The paper also shows that there would not be a decrease in living standards for the US. Begg and Mushövel state that similar predictions such as the one by Dhingra et al. do not account for the growth rate of the UK, which is projected to be 30% larger by 2030 based on the current trend rate. This paper also finds that there will be no significant impact of Brexit on the US.

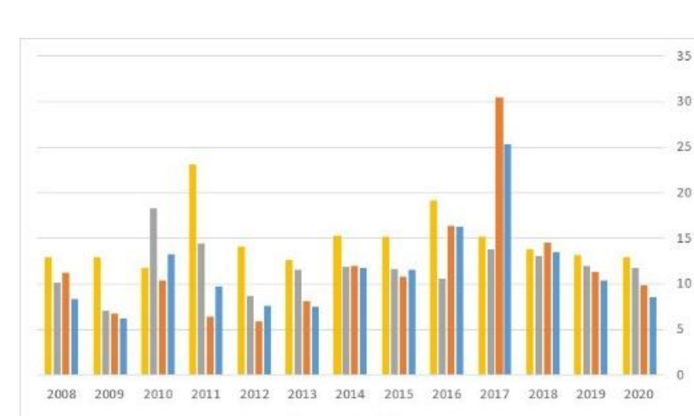
Methods

Two basic tools are implemented in this paper to observe how the market perceives future growth: the yields on UK government bonds and the price-to-earning ratio. Data was collected from Bloomberg on the UK and US government bonds for 1, 5, 10, 15, and 30 year generic bid yield. Data was also collected on the yearly reported price-to-earnings ratios of the top four British companies in terms of market cap in 2008: Shell, BP, HSBC, and GlaxoSmithKline from the Bloomberg database.

If investors believed that the UK was headed towards a recession, the yield on a one-year bond would increase by a greater amount than the long term bond yields. Another measure of the economy is the price-to-earning ratio for British corporations. A drop in the P/E ratio would signal that the market expects to have less earnings on those investments.

The correlation of GDP growth rates and the variance of the exchange rates were calculated in two time periods; before the forming of the EMU and after. Additionally a "control" factor was implemented to compensate for variation. Using the trade and foreign-held assets information, the extreme cases in terms of trade and foreign-held assets are presented. Lastly, a vector auto regressive model is built and shocks are implemented to UK growth rates and US/UK exchange rates to observe how the US's growth, inflation, and interest rates are affected.

Figures 1 & 2



Results

The yield curve was not "flattening" as shown in Figure 1 and the P/E ratio did not seem to fall. This indicates that the market does not seem to anticipate a recession in the UK.

The variance of exchange rates were higher before the forming of the EMU than after. This suggests that the exchange rate may have a higher variance after Brexit.

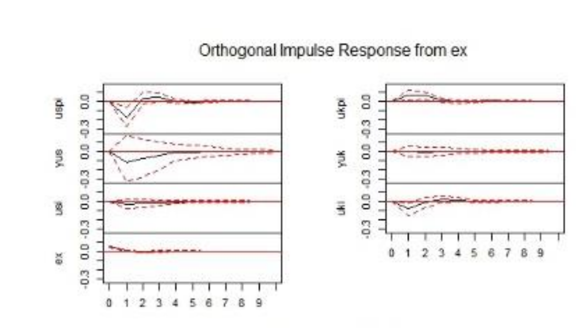
The correlation of GDP growth rates was smaller before Britain joined the EMU, this would indicate that there will be a weaker influence in growth rates between both countries.

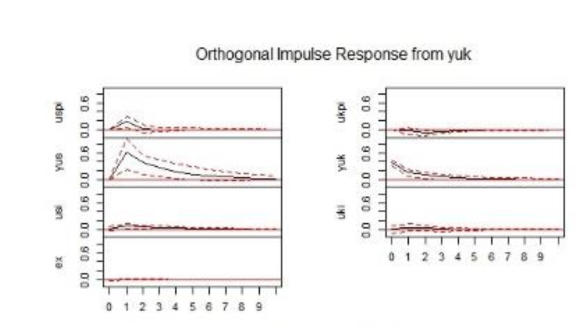
If the UK stopped importing from members in the EU entirely and strictly imported from the US, this would increase US GDP by 2.15%. If all exports stopped with the EU and the UK due to Brexit, it would only impact the US GDP by less than 1%. If the UK were to suddenly default on all of it's debt held by the US, it would only decrease the US's portfolio by 3.6%

The variance decomposition shows that in 2 years, 10% of the forecasting error in US GDP growth rates can be explained by an exogenous shock to UK GDP growth rates. Additionally, only .4% of the variance in the forecast error can be explained by a shock to the exchange rates.

As Figure 3 shows, an increase in the exchange rates has no significant impact on US GDP growth rates; it will slightly decrease US inflation but increases UK inflation. In Figure 4, an increase to UK GDP growth does have a significant impact to US GDP growth rates and inflation in the same direction

Figures 3 & 4





Conclusions

There does not seem to be any evidence to suggest that Brexit will have a significant impact on the US at this time. In Corsetti and Müeller, one of the main concerns post-Brexit is a currency collapse. In the VAR, the pound to US exchange rate did not have a significant impact on US GDP. Additionally, although the VAR does show that a negative output gap could impact the US in future time periods, the market does not expect a reduction in UK GDP growth.

References

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