Real Exchange Rates – Recent US experience

Charles Engel – University of Wisconsin
Are these Real Exchange Rate Movements Excessive?

- Many economists believe that the US current account deficit is not sustainable and its correction requires a real depreciation.
- Does that mean there should be a 50+ percent real depreciation against the euro and Canadian dollar? And a 35% real depreciation against the euro?
- I want to ask whether these are “equilibrium” adjustments – what we would see if goods prices were flexible.
- If not, what are the implications?
Starting Point

- The BROKER view is that saving was too low in the US and investment too high.
  - (BROKER = Blanchard-Rogoff-Obstfeld-Krugman-Edwards-Roubini)
- CA = S – I
- The deficit is a result of a mistake. US was too optimistic about future growth, or did not understand risks.
- When this mistake is corrected, there is a loss in apparent wealth or an increase in apparent risk, which reduced US spending.
- I’ll take the BROKER view as given.
My Approach

- First, from a general equilibrium view, what relative price adjustments are needed?
  - Here, I will review (and disagree just slightly) with the Obstfeld – Rogoff analysis (Brookings Papers, 2005)
- Then I will try to put the Blanchard-Giavazzi, Krugman, Edwards risk premium story in perspective.
Let’s clear up one fallacy

- The press talks about the change in the real exchange rate that will balance the current account.
  - But economists neither think about exogenously changing real exchange rates
  - Nor do we think that the real exchange rate is determined by the trade balance

- The BROKER analysis is always couched as what real exchange rate will accompany the decline in spending required to reduce the US current account?
CPI Real Exchange Rates

- Another important point to understand is that these are CPI real exchange rates.
- A 50% real depreciation means that the cost of living in Canada has risen 50% relative to the cost of living in the US since 2002.
- The puzzle is that US and Canadian consumption baskets are quite similar. How could prices have gone up so much in Canada?
Suppose US wealth declines sufficiently to reduce US spending so that trade is balanced.

How will the US real exchange rate adjust?

It will depreciate for two reasons:

- Price of US-produced traded goods falls. We have a home bias in consumption of traded goods we produce, so that leads to a CPI real depreciation.
- Much of the decline in spending falls on nontraded goods. Their price must fall.
What Obstfeld – Rogoff conclude

- In a three-country (US, Europe, Asia) model, OR conclude that the US/Europe real depreciation must be 28.6%.
  - That is less than we have already seen. That is, even by this measure, the European and Canadian rates have depreciated too much.
- But I think that there are 2, possibly 3, reasons why OR’s calculations may overstate the needed equilibrium real exchange rate adjustment.
Elasticities

- OR assume the elasticity of substitution for traded goods among all three “countries” is equal to 2.
- This is probably (much) too low for US relative to other G7 countries.
  - Micro studies find much higher elasticities
  - US-emerging Asia elasticities are lower than US-G7
  - Short-run elasticities are lower, but I think this is because there are adjustment costs. However, it is reasonable to think the current account adjustment will occur over time, so long-run elasticities are more relevant.
Nontraded Goods

- OR assume nontraded consumption is 75% of the consumption basket
  - This is quite high relative to most calibrations.
- Much of the real exchange rate adjustment occurs because of a drop in the price of nontraded goods relative to traded goods – even domestically-produced traded goods.
- But crucially, they assume no reallocation of productive resources within the country in response to these price signals.
Incomplete Pass-Through

- Nobody has analyzed these same questions in a model with incomplete pass-through coming from endogenous mark-ups.
- The closest thing is the very nice paper by Atkeson-Burstein
- They show that even if there are large PPI real exchange rate changes, pass-through in equilibrium may be low.
- But their model takes the PPI real exchange rate as exogenous.
Conclusion

- I have not worked through a “recalibrated” version of Obstfeld-Rogoff with these adjustments.
- Based on similar models, I know these changes have dramatic effects on the predicted real exchange rate changes.
- I think that a reasonable conclusion is that a smaller equilibrium real depreciation than even the number calculated by OR will “balance” the US current account.
- Dekle, Eaton, Kortum (AEAP&P) conclude that rebalancing US current account requires only around a 10% depreciation relative to OECD.
Risk Premia

- Wouldn’t portfolio risk imply a real depreciation?
- The models which infer a large real depreciation from a portfolio effect are not fully articulated on the goods side.
- As I will explain, I think implicitly those models assume some sort of sticky goods prices.
Real Exchange Rates and Risk Premia

- The real interest rate differential (home less foreign) equals the expected real rate of depreciation plus the relative risk premium on home assets:
  \[ r(t) - r^*(t) = E(t)q(t+1) - q(t) + z(t) \]

- Real exchange rate:
  \[ q(t) = E(t)q(t+1) - [r(t)-r^*(t)] + z(t) \]

- Iterate forward:
  \[ q(t) = E(t)q(t+k+1) + E(t)[r(t)-r^*(t)+...+r(t+k)-r^*(t+k)] + E(t)[z(t) + ... + z(t+k)] \]
Risk Premia and Real Interest Rates

- Even if the long run real exchange rate is not changed much, the equation shows that, *ceteris paribus*, higher risk premia imply a real depreciation.

- *Ceteris paribus* here means holding real interest rates constant.

- But more plausibly, if US assets are riskier, that will show up in higher required real returns on US assets.
  - That is, if the risk is not real exchange rate risk per se, then it is not directly reflected in real exchange rates.
Monetary policy and risk premia

- If we buy the argument that US assets are riskier, then real US interest rates should rise.
- But monetary policy can keep US real interest rates low.
  - Then the risk does show up as a real depreciation.
  - But it is better to say that the real depreciation occurs because monetary policy eases to keep the real interest rate from rising with increasing risk.
Implications

- US relative real interest rates have risen over past few years. But the dollar has continued to depreciate.
- If the risk story is right, maybe US real rates have not risen fully to reflect this risk.
- The Fed has, in effect, provided liquidity to offset this increasing risk.
- That is probably wise policy – but it has led to an overvalued euro and Canadian dollar, and probably UK pound.
Costs of currency misalignment

- Are the costs of this currency misalignment large?
  - US is fairly closed.
  - A large fraction of trade is with Canada and Europe, but still trade is small overall.
  - But we also compete with these countries in other markets.

- We can think of large misalignments as distorting comparative advantage and destroying gains from trade.
  - But how do temporary misalignments affect trade?
Conclusions

- To put it perhaps too starkly – the Fed is combating the housing crisis to some extent by pumping up the export sector.
  - What is the cost of (temporarily) lowering US export prices in a distorted way?
- Or maybe a better way to put it is that the housing bubble led to an overly strong dollar.
  - One cost is that it (temporarily) made the export sector less competitive.
- How important are these sectoral misallocations?