Chinese Yuan vs US Dollar Valuation

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United States trade with China is an important economic activity for both countries; in 2011, more than $500 million in trade was shared between the two countries (“Trade in Goods with China,” 2012). However, of that $500 million, nearly $400 million of it went from China to the United States, leaving the U.S. with a trade deficit with China of nearly $300 million (“Trade in Goods with China,” 2012). In fact, the trade deficit with China has been greater than $200 million since 2005 (“Trade in Goods with China,” 2012).

Due in large part to this trade imbalance and the fact that the Chinese yuan has historically been pegged to the U.S. Dollar, there are many in the United States who believe that China is purposefully keeping the yuan undervalued. If the yuan were purposefully kept undervalued, it would have the effect of keeping Chinese exports to the United States cheap, giving these Chinese exports “an unfair advantage in the international market” (Rooney, 2011, “Senators Talk Tough”).

In his article written February 7, 2011, Ben Rooney discusses the concept of China artificially undervaluing its currency, despite the U.S. Treasury Department not officially declaring China a currency manipulator. Instead, the Treasury Department chose a more tactful route of arguing that “it is in China’s interest to allow the nominal exchange rate to appreciate more rapidly” (Rooney, 2011, “Geithner’s subtle dig at China”). In fact, Rooney even explains that the yuan has risen in value against the dollar from June 2010 through January 2011 (Rooney, 2011, “Geithner’s subtle dig at China”).

The idea that the yuan is undervalued, and purposefully so, is widespread in U.S.

business and politics. A bill introduced in the U.S. Senate "would impose penalties, including possible tariffs, on nations that manipulate their currencies – particularly China" (Rooney, 2011, "Senators Talk Tough"). According to one of the Senators who introduced the bill, Senator Charles Schumer, "China's currency is like a boot on the throat of America's economic recovery," and that the yuan is undervalued by up to 40% (Rooney, 2011, "Senators Talk Tough"). These are views shared by both economists and business leaders alike:

- "Nobel laureate economist Paul Krugman [favors a U.S. tariff] of 25 percent on Chinese imports" (Thornton, 2011, p. 14).
- "American manufacturers and workers cannot compete when Chinese products enjoy a subsidy of up to 40 percent … by the incredibly cheap yuan" (Robertson, 2005, p. 2).
- "Economists estimate that current Chinese government controls on the yuan keep it undervalued by more than 30 percent…" (Clark, 2006, p. 3).
- "American firms contend that the Chinese yuan is undervalued by as much as 40 percent as a way of making Chinese goods much cheaper in the United States and American products more expensive in Chine" ("Currency report to be issued Wednesday", 2006).
- "The reason that the G7 are worried about the yuan is that many believe the Chinese currency is undervalued" (Theunissen, 2005, p. 48).

The list goes on: Ramstad, Sparshott, Bater, and Luhnow (2011), Talley, Barkley, and Di Leo (2011), Phillips (2009) and Batson (2008) all argue that the yuan is undervalued.

A group of researchers at Santa Clara University - Jo, Chionbian, Fremd, Kholiya, and

Sethu (2010) – perform a regression analysis of the yuan against the Australian Dollar, Euro, U.K. Pound, and U.S. Dollar from 2000 through 2008. They argue that “The currency value of a country is determined by the country’s economic growth, productivity, foreign exchange surplus, foreign investments, political stability, and interest rate” (Jo, Chionbian, Fremd, Kholiya, and Sethu, 2010, p. 109) and that all of these factors indicate that the yuan should have been appreciating. Further, by analyzing the data between the years 1999 to 2005 – when the value of the yuan was pegged to the U.S. Dollar – and then again between 2005 to 2008 – when the value of the yuan was allowed to float – the authors prove that there model of regression analysis provides valid results; their model predicts perfectly what occurred in the marketplace. By taking their model and extrapolating forward after 2008 when the yuan was again pegged, they show that the yuan should have appreciated in value when, in fact, it did not, resulting in a currency value that is, indeed, undervalued due to Chinese currency manipulation (Jo, Chionbian, Fremd, Kholiya, and Sethu, 2010).

Lipman, 2011, also performs historical analysis of the yuan to identify currency manipulation to keep it undervalued. In particular, Lipman performs a variety of Purchasing Power Parity (PPP) analyses, both RPPP and APPP, to determine the ‘true’ value of the yuan. By using a Relative Purchasing Power Parity analysis with a base exchange of 2.46 RMB/USD in 1978, the author is able to show that the yuan is, in fact, undervalued by 36% (Lipman, 2011, p. 67). However, by using different base years the author is also able to determine that the yuan is currently overvalued. 1978 is the preferred year, however, on the grounds that the Bretton Woods system had only recently been replaced, the price of gold was no longer fixed, and currencies globally were floating while China was at the time making an effort to open up economically to the rest of the world. This, Lipman argues, provides for a valid baseline (Lipman, 2011, p. 67).

A base year for an RPPP analysis can be argued, so Lipman also performs an APPP analysis by studying the GDP/capita of key countries, such as China and the United States, with data provided by the World Bank. According to this examination, the yuan is 42% undervalued (Lipman, 2011, p. 72).

The Economist magazine agrees that by using purchasing power parity as a base, the Big Mac index shows the yuan is undervalued between 40-59% ("Precisely wrong," 2005). However, using PPP as an index for countries which are less developed could be faulty ("Chinese yuan: undervaluation concerns overblown," 2011). Instead of looking at PPP as a valid indicator of correct currency exchange, *The Economist* instead examined China's productivity growth, budget balances, and net foreign assets in relation to other countries. With this new, different, analysis, economists from both Morgan Stanley and Goldman Sachs conclude that the yuan is only undervalued by as much as 10%, or as little as 7% ("Precisely wrong," 2005, p. 76).

According to *Emerging Markets Monitor*, one of the arguments to "prove" that China is manipulating its currency is to point to China's very large current account surplus. However, this surplus has declined from 10.7% of GDP in 2007 to 4.2% of GDP in 2010 ("Chinese yuan: undervaluation concerns overblown," 2011). Further, nations such as Norway and Switzerland also run large trade surpluses, and they are not accused of currency manipulation.

Instead, this article argues that by using minimum wage data relative to GDP per capita, it can be seen that China has very little undervaluation at all. As for the argument that China is artificially lowering the yuan's exchange, the article reminds that Chinese citizens are legally barred from investing and saving overseas and, if they did, the yuan would naturally weaken.

The Chinese government's intervention in the currency market serves only to make up for what this lack of international savings neglects and, in this way, allows the yuan to appreciate or depreciate in value as necessity and demand dictates ("Chinese yuan: undervaluation concerns overblown," 2011, p. 10).

Gu and Yang, 2009 analyze both the yuan and the Malaysian ringgit, as it is also pegged against a basket of currencies. They compare the yuan and ringgit against both their anchor currencies and non-anchor currencies to see if there is a discrepancy; when one of the other of the anchor/non anchor currencies appreciates or depreciates, the pegged currencies should follow suit. By comparing the dynamic behavior of real exchange rates against the floating currencies, the authors found that the pegged regime's currency acts consistently with the anchor currencies (Gu and Yang, 2009, p. 157). They summarize their findings succinctly: "The evidence from this study does not support the opinion that China has manipulated the value of its currency" (Gu and Yang, 2009, p. 157).

Conclusion

There are legit reasons for a nation to peg its currency either directly to another currency or a basket of stable currencies: Pegging the currency can control inflation and it can promote currency stability. However, the nation performing the pegging loses control of its own monetary policy and is at the mercy of market forces of where the anchor currency resides (Jo, Chionbian, Fremd, Kholiya, and Sethu, 2010, p. 107). If nothing else, it can be verified that by pegging the yuan so closely to the U.S. Dollar, the Chinese economy is very much dependent upon the U.S. economy to stay healthy.

Observationally it can be shown that between 2005 and 2008, when the yuan was allowed to float in a managed way, their exports dropped by 25.7% (Jo, Chionbian, Fremd, Kholiya, and Sethu, 2010, p. 107). The Chinese government is also attempting to combat inflation from an "overheated" economy, and allowing the yuan to float at this juncture could potentially lead to even higher inflation. Further, income inequality is great in China, and a rise in inflation coupled with a continued drop in exports could prove devastating to unemployment and the income equality gap. Though perhaps not an official policy or officially acknowledged by the U.S. Treasury Department, it can be safely assumed that the Chinese government is manipulating their currency to keep it, at the very least, slightly undervalued in an effort to cool their economy and maximize exports.

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