

Robert Lieber's response (8/14/13) to my comments (7/30/13) on the H-Diplo Roundtable discussion of his book, *Power and Willpower in the American Future*, raises several interesting questions about two important issues: (1) how best to measure the true size of China's economy and (2) the place of the BRICS in current global governance. Given that I have written about the BRICS elsewhere and in my first post, I focus here only on the measurement issue, specifically Prof. Lieber's assertion that economists prefer GDP measurements in market exchange rates (MER) to those in purchasing power parity (PPP) for the purposes of international comparison. My first post noted that work by economists from academia, international institutions (IMF, World Bank, OECD) and private sector banks shows pluralism in methods and the lack of a universal standard, reflecting the strengths and weaknesses inherent in both approaches.

The economists cited by Lieber reasonably point out the disadvantages of using PPP, notably that the economic components are harder to measure and exaggerate the productivity and output of poor countries.¹ Indeed, these economists were both writing in 2007 during the period of particularly heated debate over the 2005 price levels estimated for China by the International Comparison Program (with China's participation for the first time.) A World Bank lead economist, Branko Milanovic, who recently reviewed the measurement issues and revised PPP levels, finds the PPP forecasts that China will overtake the US around 2015 to be accurate.² Milanovic underscores not the measurement method so much as the impact of differential growth rates narrowing the gap in favor of the US; between 2011-mid-2013, China's GDP increased about 10 percent, while US GDP grew by 3 percent.

Although Lieber doesn't mention it, both of the economists he cites also point out problems with market rate estimates, such as volatility and distortions caused by deviations of MER from equilibrium values. To my point about pluralism of methods, Tim Cullen, the IMF economist cited by Lieber, acknowledges that "international organizations use different approaches" and that "each methodology has its advantages and disadvantages." Also worth noting in this respect is that the IMF allocates shares in its own institution on the basis of a formula that includes both MER & PPP measurements of the GDP of its members.

When poor, fast growing countries get on a development trajectory and begin to create a sizeable middle income group, as in China's case, MER and PPP estimates start to converge, reducing the extent to which PPP exaggerates output. By any measure, China has experienced spectacular growth in the last 30 years, despite uncertainty whether it will escape the middle-income trap and move into the upper-income status. Economists have had to update their growth forecasts – also taking account of currency appreciation and inflation – or be blown away by their initial assumptions. This is true on both the upside and downside. Given its relevance to debates about the future of US primacy, political scientists also need to be careful about the assumptions underpinning time series analyses³, not simply whether they employ market exchange rates or PPP conversions. Two examples from recent publications illustrate why even granting Prof. Lieber's preference for MER does not necessarily lead to accurate forecasts:

In a 2005 article,⁴ the distinguished scholar Richard Cooper forecast that China's economy would almost equal Japan's in real terms by 2025. However, recent IMF data show that in 2010 China surpassed Japan in GDP (measured in current US\$) to become the world's second largest economy. Cooper rejected the PPP conversion method, but using MER did not lead to a more accurate forecast of the size of the Chinese economy because his assumptions (7.2 % growth rate and appreciation of 1% per year in China's currency) did not hold.

[Table 1: GDP in trillions 2005 US\$ (from Cooper, 2005, p. 11)]

	2000	2025
China	1.30	7.40
Japan	5.09	7.61
USA	10.87	21.90

Cooper allows that China’s estimated GDP would be larger if rmb appreciation is greater but evidently he didn’t expect such a large divergence in just 5 years. When Cooper wrote his paper the Chinese currency was fixed against the dollar. However, the yuan was finally allowed to appreciate about 25% cumulatively in 2006-2008 and again after 2010.⁵ In 2011, then Treasury Secretary Timothy Geithner said that taking inflation into account, the yuan was rising at a rate of about 10 % per year.

Similarly, Michael Beckley, in his important recent work on the US-China competition contends that China’s GDP over the last 20 years has increased relative to US GDP when measured in PPP, but declined in real terms.⁶ This claim is true until 2006, but not any longer. From 2000 – 2006 the US edge (MER in current US\$) increases until 2006 and then the American lead relative to China starts to diminish. By 2010, China is steadily closing the gap, but does not surpass US GDP by 2018 (when the IMF projections end), according to my calculations using the IMF’s World Economic Outlook database (April 2013). If one uses instead Goldman Sachs data⁷ in real 2010 dollars with projections to 2050, the same trend is evident and China passes the US in real dollar terms by about 2026. A third database [Euromonitor International] that reports GDP in real 2012 dollars and fixed 2012 exchange rates suggests the Goldman projection has a high confidence level (see my charts below).

Figure 1

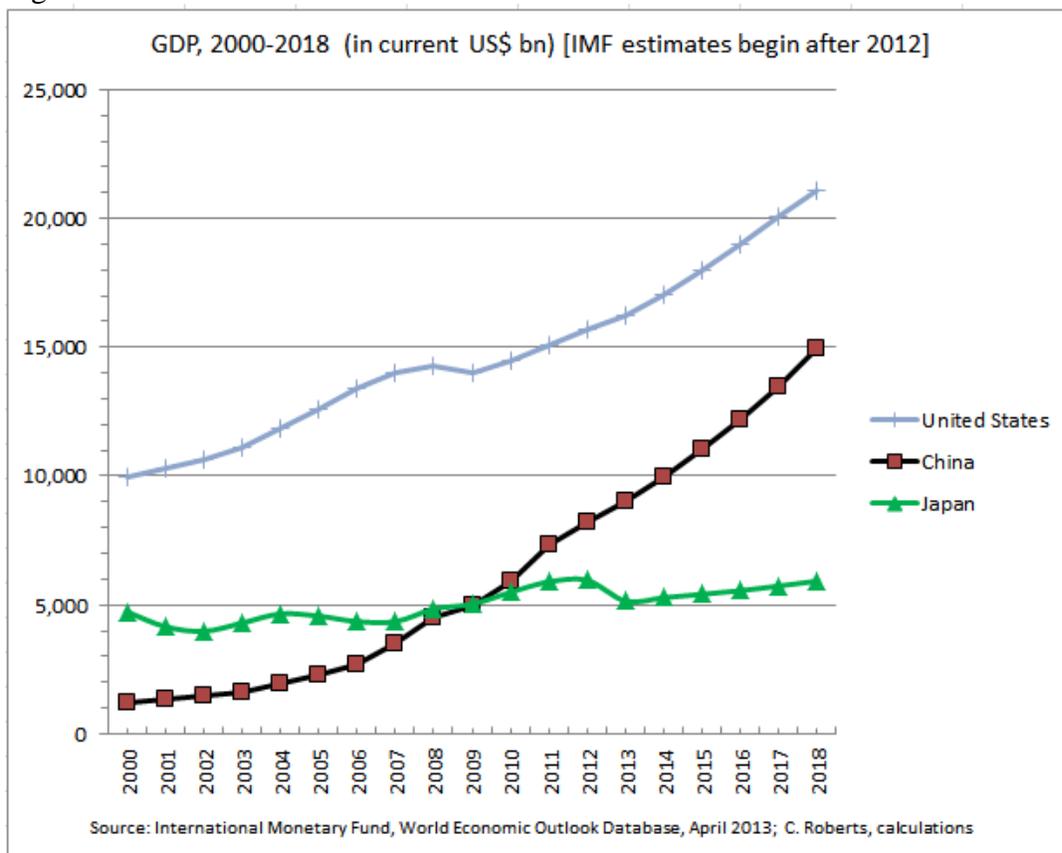


Figure 2

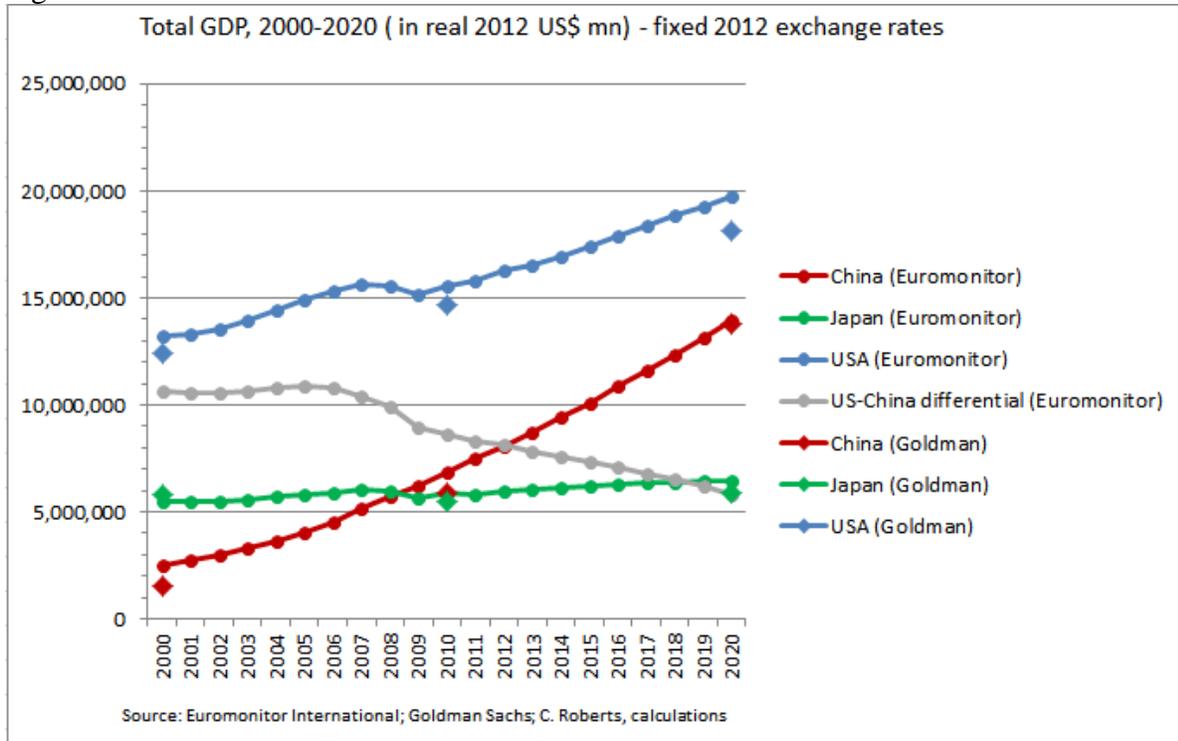
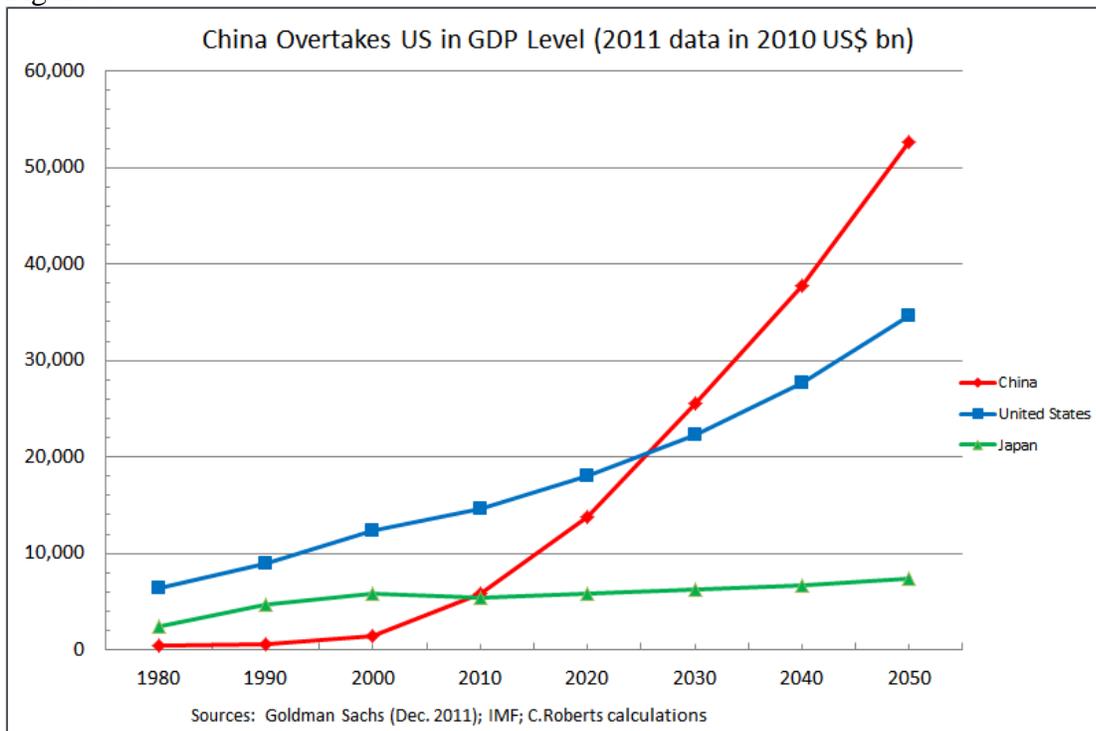


Figure 3



For a simpler approach, it is possible to vary the assumptions somewhat using the interactive chart posted on *The Economist* website⁸ (still using real dollars as opposed to PPP) and reasonably forecast a transition earlier in the 2020s. Alternatively, if one expects a sharper decline in China's GDP growth, different assumptions can be plugged in, which lead to a turnover somewhat later in the decade. This outcome is still considerably before Goldman's original forecast of 2035, although Goldman economists have been careful to issue periodic updates.

All of this matters because the time when China is likely to become the world's largest economy is closer to the present than the end of the Cold War, an event in the active memory of most IR scholars. No serious scholar thinks that China will instantly become more *powerful* when its economy surpasses US total GDP. But neither should this event be dismissed as a remote possibility far into the future beyond most scholars' professional lifespans, if ever. Since a Chinese economy ranked "number 1" in dollar terms is likely to influence perceptions, emotions, and policies on both sides, perhaps some of our other assumptions and hypotheses also need rethinking.

¹ Tim Callen, "PPP Versus the Market: Which Weight Matters?" *Finance and Development*, Vol. 44, No. 1 (March 2007),); Patrick Honohan, "Stop misusing PPP calculations," *Finance and Development*, Vol. 44, No. 3 (September 2007).

² Branko Milanovic, "The end of a long era," *Let's Talk Development* (<http://blogs.worldbank.org/developmenttalk>), July 19, 2013. See also the extensive discussion in Arvind Subramanian, *Eclipse: Living in the Shadow of China's Economic Dominance* (Peterson Institute, 2011).

³ William Wohlforth also warns that calculations are dependent on initial conditions, noting various PPP and MER forecasts. See his "The Stability of a Unipolar World," *International Security*, vol. 24, no.1 (Summer 1999), p. 33, note 55.

⁴ Richard N. Cooper, "Whither China?" Japan Center for Economic Research Bulletin (September 2005).

⁵ Jeffrey Frankel, "China Adjusts," Project Syndicate, 23 March 2012.

⁶ Michael Beckley, "China's Century? Why America's Edge Will Endure," *International Security*, vol. 36, no. 3 (Winter 2011/12), p. 58. Beckley cites Cooper (2005) and Albert Keidel, *China Rising: Fact and Fiction*, Policy Brief, No. 61 (Washington, D.C.: Carnegie Endowment for International Peace, 2008). His data source is the IMF World Economic Outlook Database, October 2010.

⁷ Dominic Wilson, Kamakshya Trivedi, Stacy Carlson and José Ursúa, "The BRICs 10 Years On: Halfway Through the Great Transformation," Global Economics Paper No. 202, December 7, 2011.

⁸ Daily Chart, "The Dating Game," *The Economist* online, Dec. 27, 2011. The Economist forecasts that China will overtake the US in dollar GDP (in MER) in 2019 while The Economist Intelligence Unit, puts the date at 2021. "China will overtake America within a decade," *The Economist* online, March 30, 2012.