

## RESEARCH STATEMENT

My main research agenda is focused on understanding the consequences of the Great Reserve Accumulation, Bretton Woods II, and the rise of China. What is the relation between these developments and the concomitant decline of American Manufacturing and the “secular stagnation” experienced in the US since 2000? And what is the optimal policy response to these challenges? In my dissertation I seek to answer aspects of these key questions in open-economy macroeconomics by isolating useful historical quasi-experiments using disaggregated data and methods familiar to applied microeconomists, trade economists and economic historians.

When I was working as a Staff Economist at the CEA, I was tasked with making a slide deck on the decline in American manufacturing for a Presidential cabinet meeting. At first, I believed, like most economists, that the decline in the manufacturing employment level in the early 2000s could be explained by productivity growth in manufacturing and a sectoral shift toward services. But the data clearly pointed toward relative prices. In my job market paper “Relative Prices, Hysteresis, and the Decline of American Manufacturing” (Campbell, 2013b), I find that the shock to manufacturing caused by the appreciation in relative unit labor costs (using a new measure) is large enough to explain at least two-thirds of the collapse in American manufacturing employment in the early 2000s. US manufacturing sectors with greater initial exposure to international trade were disproportionately affected by increases in relative unit labor costs in manufacturing in both the 1980s and early 2000s. I present evidence that temporary changes in relative prices have long-lasting effects on the most tradable sectors, a striking display of the extent to which current economic relationships are the product of history.

During the course of this research, I quickly saw problems with widely-used real exchange rate measures produced by the Federal Reserve and the IMF, noticing that they are computed as indices-of-indices, in which the base year values are arbitrary. Thus these real exchange rate measures do not reflect rising trade with developing countries, such as China, which tend to have lower price levels. In fact, Fahle *et al.* (2008) introduced an alternative, a simple weighted average of relative prices. However, this index does not account for productivity differences between rich and poor countries. In “Through the Looking Glass: A WARPed View of Real Exchange Rate History” (Campbell and Pyun, 2013b), we solve this problem by proposing two new measures of relative prices.

First we propose a Balassa-Samuelson productivity adjustment to weighted average relative price indices (BS-WARP). Secondly, we introduce a Weighted Average Relative Unit Labor Cost index (WARULC) for manufacturing and show that this measure differs sharply from the IMF’s Relative ULC measure created as an index-of-indices. We extend both WARP and Divisia (the Fed’s indexing method) over space and time (1820-2011 for the US). Compared to the IMF’s series, we find a much larger appreciation for southern European nations such as Italy and Greece relative to Germany. On a Balassa-Samuelson-adjusted basis, we found that China’s real exchange rate was undervalued by only 21% as of 2011, with a price level on average 35% less than that of its trading partners. Japan’s two decades in a liquidity trap were spent with a

domestic price level on average nearly twice that of its trading partners.

Early drafts of my job market paper contained a chapter on the local labor market effects of real exchange rate movements (turned into a separate paper due to length). The basic idea is that since manufacturing is geographically concentrated the effects of real exchange rate movements should affect some local labor markets disproportionately. Consider that my home state of Indiana was the number one state in terms of import-competing manufacturing in 1979, when it had a per-capita GDP close to that of New York, and substantially higher income than any southern state. By 1986, after the dollar appreciated 45%, Indiana had become much poorer than New York, and several southern states had closed the gap considerably. In fact, the key midwestern states of the rust belt, including Indiana, Illinois, Ohio, Michigan and Wisconsin, had all been adversely affected by the dollar's appreciation in the mid-1980s. These states suffered large relative employment declines when the dollar appreciated, but after the dollar returned to fundamentals, the return to the prior trend was very slow and still incomplete when US prices relative to trading partners began to appreciate again in the 2000s. Thus, I envision this paper as an extension to the 1980s of Autor, Dorn, and Hanson's (forthcoming) "The China Syndrome" research, gauging both the contemporaneous and *lagged* impacts of relative price movements.

Another natural extension of this line of research is a theoretical paper showing that capital controls, which are generally thought to be harmless to trading partners, can lead to both trade imbalances and the overaccumulation of debt, which may increase the likelihood of balance sheet recessions, financial crises and liquidity traps. In addition, having trading partners who use capital controls to undervalue their currencies can subtract directly from aggregate demand if the monetary authorities cannot or will not offset the impact with looser policy, either due to the liquidity trap or due to unfamiliarity with non-traditional tools of monetary policy at the zero lower bound. Importantly, overvalued currencies can make the job of deleveraging in a liquidity trap more difficult. Lastly, all of these impacts are likely to be exacerbated when tradable sectors exhibit hysteresis. This paper will aim to provide an optimal theoretical response of central banking authorities to trading-partner capital controls and official reserve accumulation in the context of a depressed economy with a tradables sector in which sunk costs matter.

While I have shown in my research that exchange rate movements affect trade, in a recently published paper (Campbell, 2013a), I show that currency unions themselves do not have a measurable impact on trade. This finding is policy relevant, since several Eastern European countries are now in the process of joining, or considering joining, the Euro. In part, the actions of these countries may be predicated on the findings of previous academic research that purported to show that currency unions lead to large increases in trade. Indeed, this finding, which Harvard economist Jeffrey Frankel called the most significant in *International Macroeconomics* in the preceding 10 years, was taught to me in three different graduate courses. The key problem with the earlier research was that it relied on a "static gravity equation" when the reality is that trade flows are persistent, and that dynamics are crucially important for trade.

This insight, discovered while trying to understand what was wrong with previous estimates of the impact of currency unions on trade, spawned a second paper (Campbell, 2010) in which

I sketch a simple model where either habit persistence in consumer tastes or learning-by-doing in production yield a “dynamic gravity equation” by which trade is a function of GDP, current trade costs, and the past history of trade costs. (In my job market paper, I also derive a dynamic gravity equation from a Melitz model where sunk costs lead to the same end.) In this paper I show that shocks to trade have persistent effects. Before World War I, London was the world’s financial center British manufacturing firms dominated global markets. During the war, with the path from export markets to Wigan Pier made more treacherous by German U-boats, New York became the center of the financial world and US manufacturers took over Britain’s market share in terms of world manufacturing exports. After the war, Britain never came close to regaining what was lost.

My job market paper strives to understand one source of the on-going economic weakness. A second major cause of the ongoing “Lesser Depression” in Japan, Europe, and the US has been the inadequate response of central banking authorities. Since the Federal Reserve shrank its balance sheet in 2009, when the US labor force was contracting by 800,000 workers per month and there was deflation in the headline CPI, I have become keenly interested in monetary policy and the Federal Reserve. (While at the White House in 2011, I circulated a memo among senior staff highlighting the critical importance of making smart appointments to long-vacant seats on the Fed Board.) In future research I plan to study how often central banks alter policy in response to surprises in inflation, output, unemployment, and uncertainty over the effectiveness of policy, such as due to the zero lower bound. In the 1920s and from 1955 to 2008, there was never a two-year period when the Federal Reserve did not alter the Federal Funds rate. By contrast, from the end of 2008 to the end of 2010, and during long stretches of the Great Depression, there were no changes in the federal funds rate and only very modest changes in other policy measures. This paper will document that when central banks operate near the zero lower bound, the rate of policy innovations slows dramatically as central banks become less aggressive.

My secondary line of research began with a short paper coauthored with Ju Hyun Pyun titled “The Diffusion of Development: Along Genetic or Geographic Lines?” Recently, the field of economic growth has seen an explosion of research linking economic development to genetic variables. In our view, much of the research in this literature involves confusing causality and correlation between the variables “genetic distance to the US” and GDP per capita, even though we see no compelling reasons for believing that a strong causal relationship should exist after controlling for geographic factors.<sup>1</sup> In our paper, we show that the correlation between genetic distance to the US and GDP per capita disappears when we include two standard controls in cross-country GDP regressions – latitude and a dummy for Sub-Saharan Africa (the first regression we ran). This paper is currently under review. Further research in this vein would first involve testing the Diamond observation (which can be traced to Andrew Kamarck and Alfred Crosby) that agricultural technology spreads more easily east-and-west than it does north-and-south, using

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<sup>1</sup>Although I do not generally believe it is a good publishing strategy to write “comment papers”, in this case my coauthor and I believed that the importance of the topic warranted a response. My coauthor and I entered academia to search for truth, not to have three month summer vacations.

county-level agricultural data and other micro datasets. Second, I also have a working paper that shows that in a human-capital augmented Malthusian growth model, where productivity growth is a function of nutrition, agricultural technology plays a crucial role. This model combined with the Diamond observation can help explain why latitude and GDP are so highly correlated.

*Research Philosophy:* My preference is to do research that helps answer policy questions by writing down parsimonious theoretical models that yield insights not already obvious to an intelligent person, by mining economic history for illustrative quasi-experiments, and by thinking very hard about research design, identification, and measurement issues. If hired, this is the type of research I will continue and will encourage in my students.

## References

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