

A U.S. Perspective on China's External Economic Disputes in the Past 40 Years and in the Coming 40 Years

Wing Thye Woo

University of California, Davis
Chinese Academy of Social Sciences, Beijing
Sunway University, Kuala Lumpur
Columbia University, New York City
Fudan University, Shanghai
Penang Institute, George Town

wtwoo@ucdavis.edu

June 26, 2018

JEL Codes: F13, F32, F41, F52, O19, O32, O34, P33

Key Words: Trade War, Currency Manipulation, Forced Technology Transfer, US-China Relation

This paper is an **expanded** version of the chapter with the same title that appears in the conference volume of the Australian National University prepared for the China Update 2018 – China's Forty Years of Reform and Development: 1978-2018 conference held in Canberra, 19-20 July 2018. I thank Jeremy Lim, Yu Miaojie, and Gao Kailin for their help on data gathering; and am most grateful to Andrew Fan, Xiaolan Fu, Ligang Song, Elizabeth Buchanan and Jan Borrie for their advice and patience.

A U.S. Perspective on China's External Economic Disputes in the Past 40 Years and in the Coming 40 Years

Wing Thye Woo
wtwoo@ucdavis.edu

Abstract

On the disputes over China's trade imbalance, (1) they were marked by analytical confusion over the meaning of the term "equilibrium exchange rate"; (2) China's trade imbalance reflects the economic conditions in both China and abroad, and that the efficient and fair solution of the problem requires policy changes not only by China but also by the US; (3) the dispute on exchange rate misalignment has been a diversion away from (a) addressing the underlying structural factors causing the trade imbalance, and (b) improving the inadequacy of US job transition programs that has exacerbated US unhappiness with trade imbalance.

On the industrial policy dispute, (1) the issue of forced technology transfer is largely a dispute about a large economy using its market power to benefit itself at the expense of its trade partners; (2) this use of market power is normally temporary because of the almost inevitable retaliation by other large countries; (3) notion of national security that is commonly adopted in the US trade policy debate is overly broad and short-sighted, and, unless these two aspects are corrected, they will hurt the US economy and weaken US national security in the long-run; (4) the US must reform the CFIUS (Committee on Foreign Investment in the United States) process of reviewing foreign acquisition of US technology by (a) making the process more comprehensive (e.g. setting up foreign-owned R&D centers in US) and (b) making the process more operational by a defining a list of technologies for CFIUS to cover, a list that is constantly updated.

On China's Belt Road Initiative (BRI), (1) as the number of BRI project grows and as the number of partner countries increases, the number of economic disputes that China will be involved in will grow; (2) China should ensure that the BRI projects in a country are beneficial to the general population of that country and not just politically-biased toward the government in power at that time because, unlike in China, most governments in other countries come and go more frequently; and (3) economic disputes are a systemic feature of the present uncoordinated multi-polar world.

Our principal policy suggestion to China is that, because China's economy in 2018 is very different from that in 1978, there should be more reciprocity in China's trade and investment relations with the advanced economies. China should not only give national treatment in the near future to foreign firms but should also set up a mechanism to start easing up on foreign acquisition of Chinese firms in a manner that is consistent with China's national security concerns.

Our principal policy suggestion to the US is to stop equating strategic competition with economic competition. Strategic competition is normally a zero-sum game while economic competition is usually a zero-sum game in the short-run, but generally creates a win-win outcome in the long-run. National economic dynamism and economic resilience emerge from international economic competition and not from sheltering domestic high-tech firms permanently.

JEL Codes: F13, F32, F41, F52, O19, O32, O34, P33

Key Words: Trade War, Currency Manipulation, Forced Technology Transfer, US-China Relation

A US Perspective on China's External Economic Disputes in the Past 40 Years and in the Coming 40 Years¹

Wing Thye Woo
wtwoo@ucdavis.edu

Introduction

There are many US perspectives on China. For our purpose here, the relevant distinction is between the US-first US perspective on China and the internationalist US perspective on China.² The US perspective given in this paper is the internationalist US perspective.

This clarification on the meaning of "US perspective" is important because recent discussions on the issue of US-China economic interaction has been increasingly conflated with the issue of US-China competition for global influence. This increasing conflation between economic competition and geo-strategic positioning is actually occurring in the world at large, resulting in the increasing weaponization of economic transactions around the world, e.g. China banned the export of rare earths to Japan in 2010³, the U.S. banned the export of high-technology to ZTE in 2018, and Western Europe is enforcing trade sanctions on Russia.

The analysis of economic interaction is normally predicated on coming up with a win-win outcome based on the principle of "willing-buyer willing-seller" operationalized through profit maximization. The analysis of geo-strategic contest, on the other hand, is usually predicated on a zero-sum outcome. The increasing conflation of these two analyzes is what that has motivated us to honestly title this paper as "A U.S. Perspective on China's External Economic Disputes" rather than as "An Economic Perspective of China's External Disputes."

The distinction between the US-first US perspective and the internationalist US perspective is as follows. The US-first perspective does not merely put US interests above the interests of non-US communities, it also strives to maintain US supremacy in the management of world affairs. Blackwill and Tellis (2015, pp. 4) is a good example of the US-first perspective on China:

"Because the American effort to 'integrate' China into the liberal international order has now generated new threats to U.S. primacy in Asia — and could result in a

¹ The subject of this paper deserves a book-length treatment to do it justification but I am adhering to a 8,000 word limit to be less boring.

² We chose the more awkward term "US-first" over "America-first" because a US-first proponent may not be a Trump acolyte.

³ King and Armstrong (2013) have raised doubt on the existence of the 2010 ban on rare earths export.

consequential challenge to American power globally — Washington needs a new grand strategy toward China that centers on balancing the rise of Chinese power rather than continuing to assist its ascendancy ... [There must be] the clear recognition that preserving U.S. primacy in the global system ought to remain the central objective of U.S. grand strategy in the twenty-first century"

The internationalist US perspective on China also puts US interest as the primary objective in the analysis but it recognizes that long-run US interests are usually better served when the US is working in partnership with the rest of the world to solve common problems like climate change, and financial contagion. The internationalist US perspective recognizes and accepts the legitimate concerns of China regarding its national security and its economic prosperity but it will mobilise its allies to counter unreasonable Chinese actions to impose its will on others. The internationalist US perspective on China does not consider being "No. 1 in the global system" to be a primary policy objective.⁴

China's External Economic Disputes

China's journey in external economic engagement has been marked by many disputes, and it is safe to predict that its future course will generate new disputes. This paper hopes to help reduce the intensity and frequency of these future international economic disputes, and will try to achieve this objective in two ways.

The first way is to draw lessons for how to manage disputes better by reviewing two protracted and cantankerous external economic disputes of the last 40 years. The two selected disputes are (1) the dispute over China's exchange rate policy and its chronic large trade surplus; and (2) the dispute over China's industrial policy.

The second way we hope to attenuate future external economic disputes is to offer some suggestions on how external economic management should be conducted in the next forty years as China actively expands its programs in international economic connectivity e.g. Regional Comprehensive Economic Partnership (RCEP), and Renminbi (RMB) internationalization. The initiative that we have chosen to focus on in this paper from China's agenda for improving international economic connectivity is the Belt Road Initiative (BRI)

BRI is representative of China's readiness to take on the role of a responsible stakeholder that Robert Zoellick (2015) had challenged China to undertake. But as China takes on this new role, the existing major powers have shown themselves to be uncomfortable with China's greater influence in the international arena. For example, some pundits have claimed that the true

⁴ Patriotism is definitely not a distinguishing characteristic between these two US perspectives, only weak-minded scoundrels would introduce this term into the discussion on US-China economic engagement; see <http://www.samueljohnson.com/refuge.html>

objective of China's infrastructure loan program is to lure poor economies into taking on more loans than they could service and then pressuring these indebted countries to support China's geo-strategic interests.⁵ This conspiratorial theory of debt-trap diplomacy heightens the tensions in the competition among the big powers and lead to international disputes. China clearly has its work cut out in the next 40 years to show that such suspicions about BRI are unjustified.

To anticipate the coming discussion in the paper, we will summarise some key conclusions here.

On the occasional highly dramatic disputes over China's exchange rate and trade imbalance, the first conclusion is that they were frequently marked by analytical confusion over the meaning of the term "equilibrium exchange rate." The second conclusion is that China's trade imbalance reflects the economic conditions in both China and abroad, and that the efficient and fair solution of the problem usually requires policy changes not only by China but also by other major countries, notably the United States. The third conclusion is that the dispute on exchange rate alignment has been a diversion away from (a) addressing the underlying structural factors causing the trade imbalance, and (b) improving the inadequacy of US job transition programs that has exacerbated US unhappiness with trade imbalance.

On the industrial policy dispute, the first conclusion is that the issue of forced technology transfer is largely a dispute about a large economy using its market power to benefit itself at the expense of its trade partners. The second conclusion is that this use of market power can normally be only temporary because of the almost inevitable retaliation by other large countries. The inevitability of retaliation is why we do not see the imposition of optimum tariffs by large importers. The third conclusion is that the notion of national security that is commonly adopted in the US trade policy debate is overly broad and short-sighted, and, unless these two aspects are corrected in the US understanding of national security, they will hurt the economic dynamism of the United States, and weaken US national security in the long-run. The fourth conclusion is that the United States can be more assured of its national security concerns if it reforms the CFIUS (Committee on Foreign Investment in the United States) process of reviewing foreign acquisition of US technology by making the process more comprehensive (e.g. reviewing the establishment of R&D centers in US by foreign firms) and by making the process more operational by a defining a list of technologies for CFIUS to cover, a list that is constantly updated.

On China's Belt Road Initiative (BRI), the first conclusion is that as the number of BRI project grows and as the number of partner countries increases, the number of economic disputes that China will be involved in will grow. The second conclusion is that China should ensure that the BRI projects in a country are economically beneficial to the general population of that country and not just politically-biased toward the government in power at that time. Unlike in China,

⁵ Bloomberg News (2018), Hodge (2018), and Malinao (2018)

most governments in other countries come and go more frequently. The third conclusion is that China must develop a good understanding of the economic problems and socio-political contradictions in the recipient country in order to be able to settle economic disputes and to pre-empt them. The fourth conclusion is that disputes in general will rise when China starts displaying the overbearingly arrogant attitude that had often guided the actions of big powers (e.g. US and Russia) in the past. The fifth conclusion is that economic disputes are a systemic feature of the present uncoordinated multi-polar world.

Our principal policy suggestion to China is that, because China's economy in 2018 is very different from that in 1978 (e.g. but there are now parts of China that look like Singapore), there should be more reciprocity in China's trade and investment relations with the advanced economies. China should not only give national treatment in the near future to more types of foreign firms (e.g. financial institutions), it should also set up a mechanism to start easing up on foreign acquisition of Chinese firms in a manner that is consistent with China's national security concerns.

Our principal policy suggestion to President Trump is to stop equating strategic competition with economic competition. Strategic competition is normally a zero-sum game while economic competition is usually a zero-sum game in the short-run, but generally creates a win-win outcome in the long-run. National economic dynamism and economic resilience emerge from international economic competition and not from sheltering domestic high-tech firms permanently.

The Dispute Over China's Chronic Trade Surpluses, and Its Exchange Rate Policy

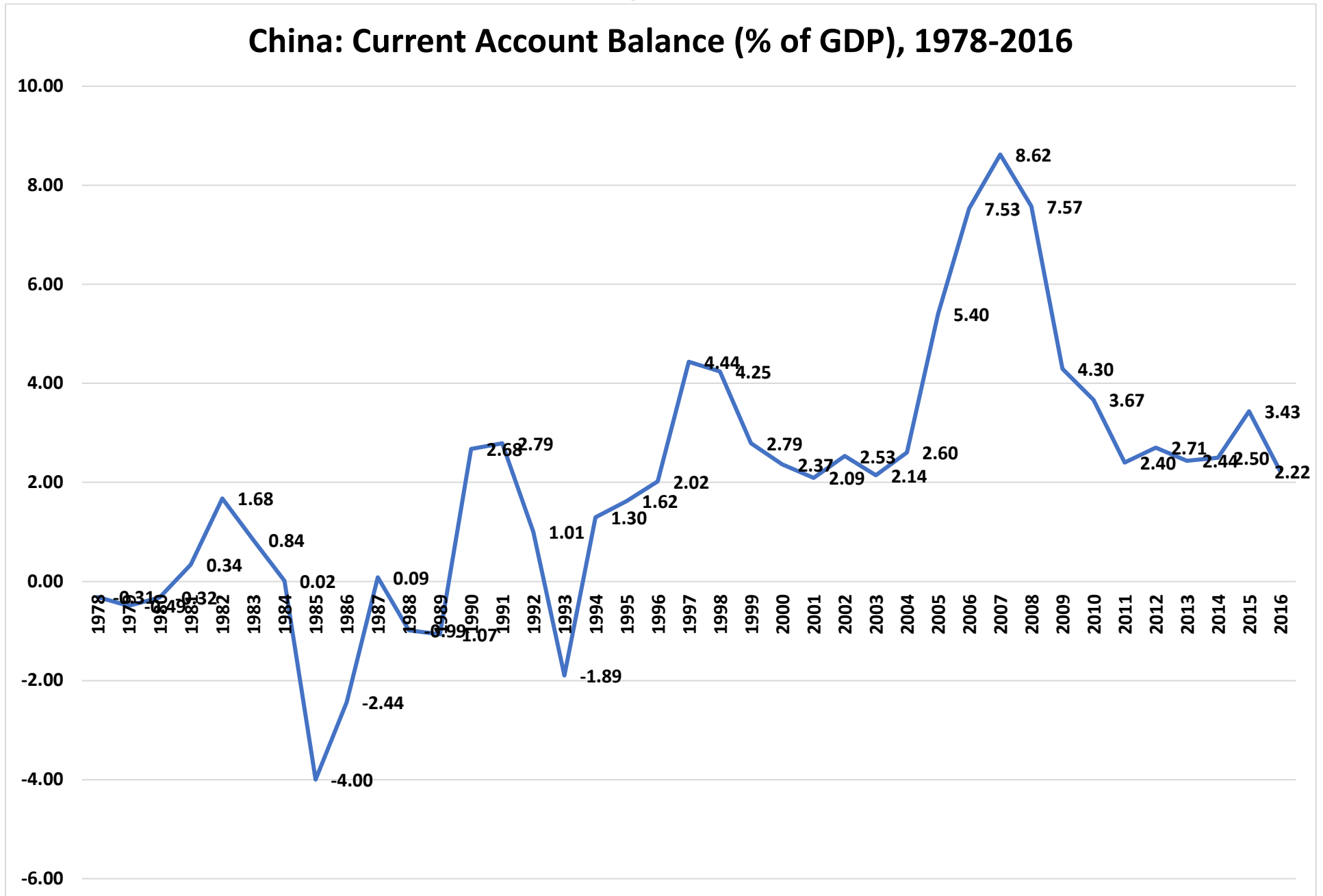
Figure 1 uses the GDP to normalize the trade imbalance to give a better measure of its impact on the economy. China's trade account surplus has been over 2 percent of GDP since 1996, averaged over 5 percent in the 2005-2008 period, and attained 8.6 percent in 2007. The relevant point is that China's trade surpluses in the last 20 years (1997-2016) has not only been persistent but also large enough in size – the average amount being 3.8 percent of GDP – to create much discontent in many developed countries, particularly in the U.S., about displacement of labor by imports from China

Figure 2 shows the overall US trade account balance and the bilateral US-China trade account balance over the 1992-2017 period.⁶ The overall US trade account deficit enlarged rapidly from 1.52 percent of GDP in 1992 to peak at 6.04 percent of GDP in 2006. The overall US trade account deficit has settled at about 4 percent of GDP for the past five years, 2013-2017. The fact that post-crisis United States continues to borrow a large amount annually from overseas suggests that the over-spending and under-saving behavior of the US economy is structural in nature not cyclical. The outstanding practitioner of these twin traits is the Government of the

⁶ This is the trade imbalance in the trade of goods.

Figure 1

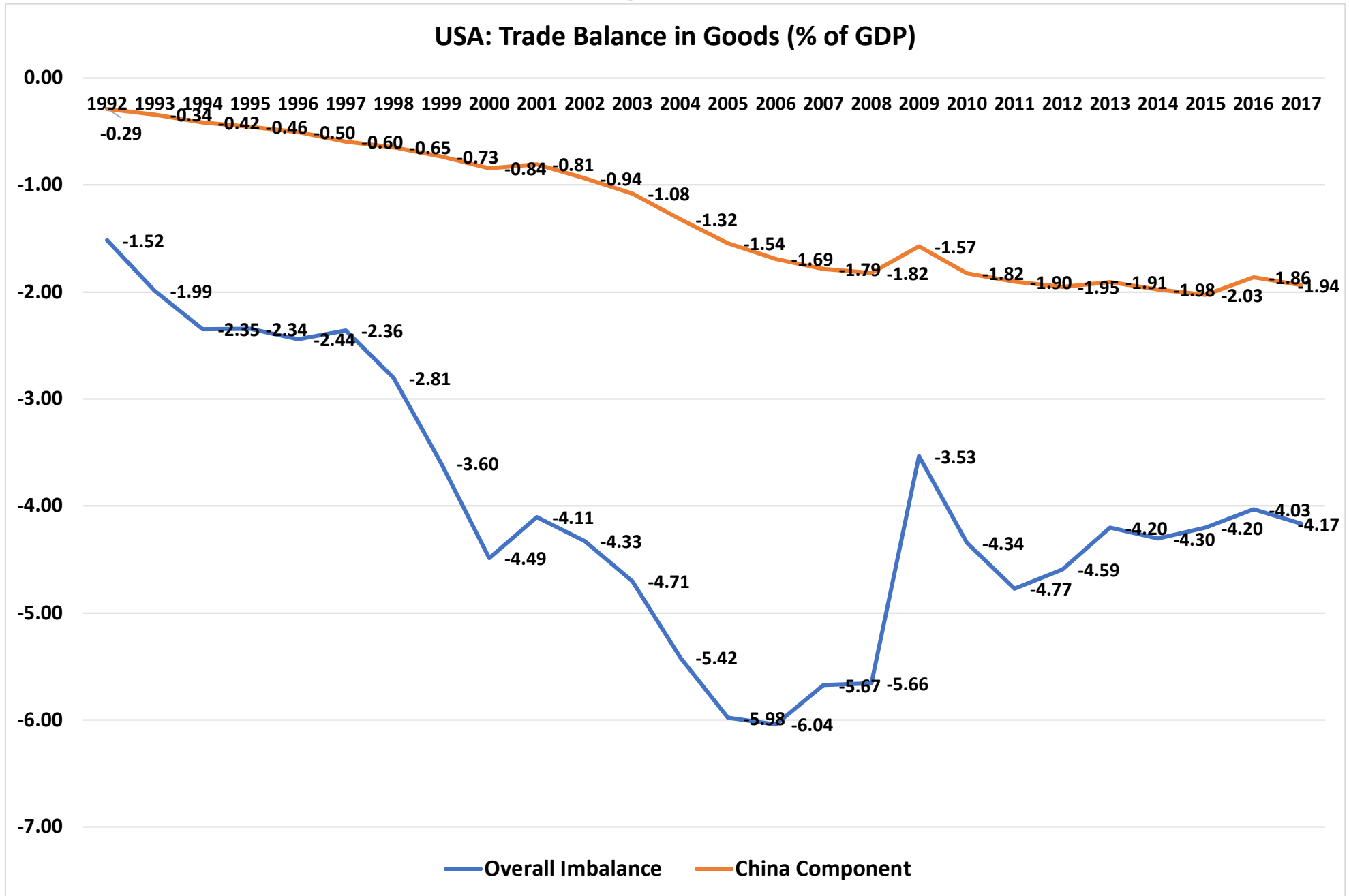
China: Current Account Balance (% of GDP), 1978-2016



Source: All China Data Center; <http://chinadataonline.org>

Figure 2

USA: Trade Balance in Goods (% of GDP)



Sources: US Census Bureau for trade data, US Government (2013, 2018) for GDP data

Data Sources for Figure 2

Series 1: Overall US trade balance in goods

- <https://www.census.gov/econ/currentdata/?program=FTD>
- accessed 2018-May-19

Series 2: US-China bilateral trade balance in goods

- <https://www.census.gov/foreign-trade/balance/c5700.html>
- accessed 2018-May-19

Data on US GDP (Series 3)

- 1992-2001 data from 2013 US President Economic Report;
<https://www.gpo.gov/fdsys/browse/collection.action?collectionCode=ERP&browsePath=2013&isCollapsed=false&leafLevelBrowse=false&isDocumentResults=true&ycord=1727>
- 2002-2017 data from 2018 US President Economic Report;
<https://www.gpo.gov/fdsys/browse/collection.action?collectionCode=ERP&browsePath=2018&isCollapsed=false&leafLevelBrowse=false&isDocumentResults=true&ycord=28>
- accessed 2018-May-19

Construction:

- Overall Imbalance: Series 1 as % of Series 3
- China Component: Series 2 as % of Series 3

United States, whose military expenditure continues to soar, and whose taxes are cut further to pay off the plutocrats who had financed the elections.

Given the large shrinkage of the overall US trade balance after 2006, and the expansion of the bilateral US-China trade deficit after 2006, the latter now accounts for a much larger part of the former. The bilateral US-China trade deficit has grown from about 17 percent of the overall trade deficit in 1993-1994 to 46 percent in 2016-2017. It is hence no wonder that the US policy community and US general public have now been persuaded to regard China as the major cause of its de-industrialization by imports.

Much of the unhappiness of US Congress and the US public originates from the perception that China has cheated on the international community in its management of external economic engagement. Specifically, many analysts have accused China of the mercantilist policy of keeping its currency, the Renminbi (RMB), undervalued vis-à-vis the US Dollar (USD), i.e. keeping the RMB-USD exchange rate cheaper than the value of the equilibrium exchange rate.

What is the correct level for the exchange rate?

The fundamental point is that the economics profession defines the equilibrium market price of an item to be the price that equates the supply with the demand for that item, i.e. *the equilibrium exchange rate is the market-clearing exchange rate in the absence of central bank interventions*. So even though the RMB has appreciated very substantially against the USD since China's system of multiple exchange rates was ended in 1994, the fact that the foreign exchange reserves of the People's Bank of China (PBC) has increased greatly over this period is *prima facie* evidence that PBC has been preventing the RMB from strengthening to its equilibrium (market-clearing) value.

While it is intellectually fulfilling to show conclusively that the RMB is truly undervalued, the important information that is needed for policymaking is the degree of undervaluation. A RMB undervaluation of 20 percent will merit a policy response from the US government, but an undervaluation of less than 8 percent might not be worth reacting to.

There are two commonly used methods to compute the equilibrium exchange rate.

The first way starts by assuming some values for the price elasticity of exports and of imports, and then works back from the actual value of the exchange rate to the exchange rate that is consistent with a current account balance that is equal in size but opposite in sign to a given capital account (KA) balance, e.g. Goldstein (2006). *The capriciousness of the size and the sign of this exogenously-set KA balance is obvious. Should the KA balance not be set according to the national objectives, economic conditions, and the settings of the other policy instruments? We call the Goldstein-imputed exchange rate the "equilibrium exchange rate under exogenous KA."*

The second popular way to calculate the equilibrium exchange rate is the purchasing power parity (PPP) approach which posits “that in the long run exchange rates should move towards the rate that would equalise the prices of an identical basket of goods and services .. in any two countries.”⁷ This view inspired *The Economist* magazine to construct a PPP exchange rate based on the prices of Big Mac sandwiches sold in different countries. In January 2018, with the actual exchange rate being 6.43 RMB per USD it cost 20.4 RMB to buy a Big Mac in China, and \$5.28 in the United States. So is it meaningful to say that the Chinese exchange rate was under-valued by almost 40 percent in January 2018?

The answer is no because the prices of the sandwiches included non-tradable inputs, and the prices of non-tradeables were lower in China than in the United States. In general, the prices of non-tradeables are lower in developing countries than in the developed countries because labor costs are lower in the former. With economic development, the prices of nontradeables in the developing country will rise to bring its price ratio of nontradeables to tradeables to that in the developed country, and the equilibrium exchange rate will then equal the PPP exchange rate.

The fact that the People’s Bank of China (PBC) has been accumulating foreign reserves almost every period means that the RMB is under-valued according to the "market-clearing" definition. However, what would happen if China were to go further in its marketization of foreign exchange transactions by opening its capital account (KA), i.e. removing its capital controls? Diversification of asset portfolios by private Chinese agents would surely result in a great outflow of funds, possibly causing the RMB to depreciate from the present value of 6.4 RMB per USD to, say, 6.8 RMB per USD.

The reality is that China will inevitably open its KA, especially since it wishes to internationalize the RMB to promote its use by non-Chinese residents. One could therefore reasonably argue that the correct equilibrium exchange rate to use is the “equilibrium exchange rate under open KA.” *The analytical importance for the debate on China’s exchange rate debate is that the “equilibrium exchange rate under open KA” is weaker than the “equilibrium exchange rate under exogenous KA” (i.e. the Goldstein-style imputed exchange rate) and the PPT exchange rate.*

The correct way to think about exchange rate management is to analyze the issue within the context of overall macroeconomic management and not just about its impact on the balance of payment. The general point is that because the balance of payments is only one of the main outcomes of concern and because the exchange rate is only one of the ways to affect the balance of payments, it is seldom optimal to concentrate exclusively on one policy target and then to employ only one particular policy tool to achieve that one policy target.

⁷ The Economist (2018)

Understanding the evolution of China's current account balance

There are quite a number of China-centric explanations⁸ for China's chronic trade surplus, and we will discuss the two that seems the most credible:

1. the *dysfunctional financial market theory* that attributes the imbalance to the inability of China's largely unreformed financial system to intermediate all savings into investment, and
2. the *aggressive industrial policy theory* that attributes the trade imbalance to China's promotion of exports and suppression of imports.

The *dysfunctional financial market theory* focuses on the aggregate-level accounting identity that the overall current account (CA) balance is determined by the fiscal position of the government, and the savings-investment decisions of the state-controlled enterprises (SCEs)⁹ For the last decade, the Chinese fiscal position has been a small deficit, and so it is not the cause for the swelling CA surpluses in the 2000s. The CA surplus exists because the sum of savings by SCEs and the private sector exceeds the sum of their investment expenditures; and it has expanded steadily because the non-government savings rate has been rising faster than the growth of non-government investment.

Why has China's financial system failed to translate the savings into investments? Such an outcome was not always the case. Before 1994, the voracious absorption of bank loans by SCEs to invest recklessly kept the CA usually negative and the creation of nonperforming loans (NPLs) high. When the government implemented stricter controls on the state-owned banks (SOBs) from 1994 onward (e.g. removing top bank officials whenever their bank lent more than its credit quota or allowed the NPL ratio to increase too rapidly), the SOBs slowed down the growth of loans to SCEs. This cutback created an excess of savings because the SOB-dominated financial sector did not then re-channel the released savings (which were also increasing) to finance the investment of the private sector.

This failure in financial intermediation by the SOBs is quite understandable. First, the legal status of private enterprises was, until recently, lower than that of the state enterprises; and, second, there was no reliable way to assess the balance sheets of the private enterprises, which were naturally eager to escape taxation. The upshot was that the residual excess savings leaked abroad in the form of the CA surplus. Inadequate financial intermediation has made developing China a capital exporting country!

⁸ "China-centric" because they ignore the obvious fact that the current account balance is also determined by foreign, notably US, economic conditions.

⁹ The SCE category covers companies that are classified as SOEs (state-owned enterprises); and joint-ventures and joint-stock companies, which are controlled by third parties (e.g. legal persons) who are answerable to the state. To understand the principal-agent problems in SCEs has shaped China's macroeconomic performance, see Woo (2006) and Woo (forthcoming).

This perverse CA outcome phenomenon in China is not new. Up to the mid-1980s, Taiwan experienced this same problem when all Taiwanese banks were state-owned and were operated under a civil service regulation that required each loan officer to repay any bad loan that she approved. The result was a massive failure in financial intermediation that caused Taiwan's CA surplus to be 21 percent of GDP in 1986. The reason why China has not been producing the gargantuan CA surpluses seen in Taiwan in the mid 1980s is the still large amount of SCE investments.

The important point is that savings behavior is not independent of the sophistication of the financial system; Liu and Woo (1994). An advanced financial system will have a variety of financial institutions that would enable pooling of risks by providing medical insurance, pension insurance, and unemployment insurance; and transform savings into education loans, housing loans, and other types of investment loans to the private sector. *Ceteris paribus*, the more sophisticated a financial system, the lower the savings rate.

The second credible theory for China's chronic trade surplus is the *aggressive industrial policy explanation*. This second theory views China's anomalous trade imbalance situation to be the unintentional outcome of, one, the over-riding economic and political priority in China to create jobs for its underemployed (surplus) labor force; and, two, the widespread belief in the efficacy of infant industry protection – ambiguously labelled as the “promotion of indigenous innovation” – in accelerating China's movement up the value-added ladder. The resulting mix of export-promotion measures and import-suppression measures accelerated the simultaneous growth of export firms (which increased exports) and import-competing firms (which decreased imports), and hence kept the trade balance in surplus.¹⁰

There is now adequate evidence, however, that a large component of China's industrial policy has actually reduced China's welfare in addition to enlarging its trade surplus, especially in the 2008-2017 period. Woo (forthcoming) pointed out that the Chinese government's practice of bailing out loss-making SCEs had caused the SCEs to over-invest, resulting in huge excessive capacity in the heavy industries and crowding out of the private sector. The former outcome had led many SCEs to dump their products in foreign markets and worsened China's trade imbalance. The return on equity (ROE) for SCEs has dropped from 15.6 percent in 2007 to 7.0 percent in 2017.¹¹

Clearly, the lowering of tension in trade disputes with the US would require that

- China accelerates the development of its financial sector if the dysfunctional financial market theory is correct; and/or

¹⁰ The undervalued RMB explanation for China's trade imbalance is actually an aggressive industry policy explanation. The subsidy-tariff combination is equivalent to the undervaluation of a currency, see Woo (2004).

¹¹ ROE data are from Cho and Kawase (2018). Also see Tan, Huang and Woo (2016) for a discussion on China's zombie firms.

- China reduces export incentives and import barriers – especially from the rent-seeking industries with low rates of return on equity if the aggressive industrial policy theory is correct.

However, regardless of which theory is right, both actions should be undertaken because they both enhance China's economic welfare, with one of them also lowering the probability of a trade war with the United States.

As to how the USA should react to China's subsidy-cum-tariff type of industrial policy, we begin by making two points. The first is that WTO rules allow developing countries to engage in some protectionist measures to nurture their industrialization. The second point is that China's industrial policies has only accelerated an economic development process that has been unfolding since 1978. The final outcome of low value-added industries in the U.S. being displaced by Chinese imports is inevitable because the U.S. is a capital-rich country and China is a labor-rich country.

The US policy package to deal with the closing of these low value-added firms due to Chinese exports should contain three common elements with the US policy package to deal the closing of low-tech firms due to technological changes. The three common elements are

1. a US unemployment insurance scheme that incentivizes acceptance of low-wage jobs e.g. a negative income tax system
2. widely-accessible US job retraining programs that are effective, and
3. STEM¹² programs in US high schools and universities that are high quality and attractive to the average student.

It has been a sad failure in US socio-economic management that only highly flawed versions of these three programs are in operation, and that little effort has been made to improve them.

There is one big difference in the two policy packages to address job losses from increased imports and job losses from new technology. The difference is that tariffs can be imposed on imports but injunctions cannot be put on technological progress. There is therefore a good case for a temporary tariff when the government needs the time to start (or expand) an unemployment insurance scheme and the job retraining program for displaced workers.

So far, we have identified an array of structural factors and macroeconomic policies behind the US and Chinese trade imbalances, e.g. dysfunctional financial markets in China and large government budget deficits in the US. Instead of insisting on RMB appreciation as the primary method for reducing US unhappiness with the trade deficits, it is more efficient

1. to directly address the specific reasons behind the trade imbalance in each country, and
2. to strengthen the above three job transition programs to deal with the loss of low-skill jobs in the US.

¹² STEM = Science, Technology, Engineering and Mathematics

The Competition for High-Technology Industries

One proven powerful way to increase economic prosperity is to increase productivity; and the proven way to increase productivity is innovation: technological innovation, institutional innovation and product innovation. It has therefore been standard practice for a growth-oriented government to strengthen the country's indigenous capacity to innovate, and to accelerate the acquisition of innovations from abroad. These two activities are usually not independent of each other. The knowledge of the details of how someone abroad had solved a problem could enable a local scientist to come up with an improvement to the original innovation. The more developed a country, the more likely that these two activities will interact synergistically.

China's government has been working diligently to transition China's economy to innovation-based growth, and it has achieved substantial progress on this front.¹³ China's latest plan in industrial upgrading is the Made in China 2025 (MC-25) initiative unveiled in 2015. MC-25 aims to establish China as a "manufacturing powerhouse" with global dominance in new high-tech areas like artificial intelligence, robotics, advanced micro-chips, new energy vehicles, aviation and space travel, autonomous driving systems, solar cells, machine tools, biopharmaceuticals, medical devices, telecom devices, and electronic sensors. The first step in China's planned journey to global leadership in high-technology is the achievement by 2025 of "self-sufficiency" in the materials and parts used in the high-tech products. "Self-sufficiency" is defined as local content comprising 70 percent of the product.

The ambitious range of high-tech products in MC-25 and its intended clustering of most parts of the production chain within China have sent tremors through the high-tech business community and government ministries in the rest of the world. Since there was a perception that China had in the past frequently used industrial policy instruments that were not WTO-sanctioned in order to reach its present technological level, many US observers saw MC-25 as a "China's government-led drive .. [that would break] international rules to build cutting-edge industries of the future."¹⁴

Peter Navarro (2018), a policy advisor to President Trump, has recently summed up his view of what China had been doing as follows:

"In textbook economics, trade is a win-win .. [but] America's trade with China is as far from that model as the Earth is from MarsWhy is the textbook model failing? The answer is .. [China's] state-directed investments, nonmarket economy, and disregard for the rule of law.

¹³ See Fu (2015), and Fu, Woo and Hou (2016).

¹⁴ Bradsher and Rapoport (2018)

The problem's taproot is Chinese intellectual-property theft and the forced transfer of foreign technology as a condition of accessing China's market [which allowed] Chinese companies to move rapidly up the innovation curve at much lower cost than their foreign competitors, which must recoup the cost of research and development through higher prices.

The emerging view that is gaining influence rapidly is that the real dispute in US-China economic interaction is not the size of China's trade imbalance but China's intellectual piracy. As David Joy, Chief Market Strategist for Ameriprise Financial, said:

"To me, that's [forced technology transfer] actually the biggest issue, more even than currency valuation. Being forced to give up technology for access to market is essentially blackmail."¹⁵

And Chuck Schumer, the Minority Leader in the US House of Representatives, has criticized the perennial focus of US administrations on the bilateral US-China trade deficit as asinine:

"China's trade negotiators must be laughing themselves all the way back to Beijing They're playing us for fools — temporary purchase of some goods, while China continues to steal our family jewels, the things that have made America great: the intellectual property, the know-how in the highest end industries. It makes no sense."¹⁶

US dissatisfaction with China trade has now expanded from unhappiness over loss of US jobs due to exchange rate manipulation by China to include discontent over the loss of future high-paying jobs in high-tech industries because of forced technology transfer to China.

We organize our evaluation of the recent round of charges of unfair trade practices by China by discussing the four main instruments of China's industrial policy identified by their critics:¹⁷

1. import restrictions (e.g. tariffs, quotas)
2. production subsidies (e.g. export subsidies, low interest loans, cheap land, preferential tax rates)
3. forced transfer of technology (e.g. conducting industrial espionage, demanding the surrender of production technology in exchange for market access, imposing local content requirements)
4. cradle-snatching of new technology (e.g. purchases of technology licenses, funding start-ups in Silicon Valley, setting up R&D centers in technologically-advanced countries)

¹⁵ Isidore (2012)

¹⁶ Bennett and Bender (2018).

¹⁷ The use of an undervalued exchange rate as an industrial policy tool has already been discussed adequately in the previous sections of the paper.

Import Restrictions and Production Subsidies

Because learning-by-doing is an irrefutable phenomenon, it is often used to justify the use of import restrictions to induce the establishment of the target new industry. Such examples abound in China: China's ban on Google created Baidu, China's ban on Twitter created Weibo, China's ban on WhatsApp created WeChat, China's ban on PayPal created Taobao, and China's ban on eBay created Alibaba. While these bans are bad for the US companies concerned, they could have increased consumer surplus worldwide because it is now commonly acknowledged that the services provided by WeChat and Alibaba are at least as good as those of WhatsApp and Amazon.

The establishment of the target new industry can also be induced by production subsidies. For some cases, the learning experience occurs effectively only when the production level is above a certain critical minimum amount. When this critical minimum amount is larger than the size of the domestic market, then production subsidies could be employed to expand production beyond the critical minimum amount by exporting the surplus output.

As noted earlier, WTO rules allow developing economies to use tariffs and subsidies to nurture some types of new industries, especially technologically advanced industries. It is usually only in the case where subsidies are used to expand production beyond domestic demand, resulting in significant exports, that the impacted country has a convincing complaint about the exporting country's violation of WTO protocol.

However, because China has been regarded by many observers as unusually successful in raising its infant industries into globally competitive industries, President Trump has demanded reciprocity in US-China trade, i.e. a Chinese firm could receive tariff protection (or production subsidy) only if its US competitor is also similarly protected by the US government. China has emphasized its developing country status (its per capita income being less than a third of US per capita income) and rejected President Trump's demand for reciprocity in trade.

After forty years of fast economic development, its continued use of WTO-sanctioned incentives to promote infant industries is no longer viewed sympathetically in the advanced countries. Pascal Lamy (former Director-General of WTO) has pointed out that China is now not only the second largest economy in the world but also the biggest producer of a wide range of products (e.g. cement and desktop computers) and he concluded that:

“[it is dishonest for China to pretend that it is] like India, or like Senegal, or like Botswana [China still had to do more to] ensure a level playing field between Chinese producers and foreign producers, whether they produce inside China or outside of China.”¹⁸

¹⁸ Bradsher and Rappeport (2018)

Our discussion of China's use of import restrictions and production subsidies must not leave the impression that they have been very beneficial for China's economic growth. This is because the present condition of pervasive excess industrial capacity and the incongruous twin phenomena of inland ghost cities and coastal real estate bubbles are also products of China's production subsidies system. China's inability to enforce hard budget constraints on SCEs is now threatening the financial sector with an explosion of nonperforming loans, and undermining overall total factor productivity growth through crowding-out of the private sector. It is therefore wrong to give a glowing assessment of China's system of import restrictions and production subsidies as being good for China despite its successful nurturing of manufacturing powerhouses like Hai Er and of cutting-edge technology firms like Huawei.

Forced Transfer of Technology

A foreign firm that wishes to sell its products in China is sometimes told that its market access is conditional upon setting up production facilities in China in the form of a joint venture (JV) with a major government-linked company (who could later become a future competitor in markets outside of China). If it were Singapore instead of China which presented this choice to the foreign firm, the foreign firm could well decide to forgo the small Singapore market. But because the Chinese market is not only very large and because *there are other competing foreign firms also seeking access to China's market and possessing similar technology*, a foreign firm will be more willing to trade its production technology for monopoly access to China's market.

The outcome from the above practice by China is effectively the equivalence of getting a lower price for the foreign-originated product in the long-term. This outcome is very similar to the bulk discount that big buyers are able to extract from their suppliers, and very similar to the "optimum tariff" that a large importer is wont to impose on its trade partner. In essence, the buyer in both cases is using her market power to extract a lower price for the product.

As the principle of "willing-buyer willing-seller" holds in the two examples above, it may seem like a strange use of language to call this voluntary transaction a "forced transfer of technology." This use of language is justified only if the correct picture of the use of market power is akin to a schoolyard setting where a big boy is demanding a bite of the small boy's sandwich. The universal schoolyard parlance to describe the big boy is "a bully."

Is the exercise of market power always an act of bullying? Frankly, we are not sure. But for people who are sure that it is, then Martin Feldstein (2018) is correct in describing the "willing-buyer willing-seller" defense of this Chinese method of acquiring technology as "disingenuous."

US firms have long complained quietly but bitterly to US government officials about China's use of its market power to pay an effectively lower price for the good. As mandated technology

transfer contravenes WTO rules on market access, the US government could have helped these US firms out earlier by either filing a formal to WTO or by confronting China with the ultimatum of stopping the use of its market power or facing retaliatory actions like a US ban on exports of high-tech inputs to China.

The readiness to undertake retaliation by the injured party is most likely the reason why we do not see newspaper reports on the use of optimum tariffs by large countries. The expectation of retaliation is what that keeps acts of economic aggression like optimum tariffs in check.

It is therefore a puzzle that it is only now that the US government is willing to take action against China's economically aggressive act of "forced technology transfer." The answer to this puzzle is complicated because it involves several factors coming together in order to create the critical mass in political pressure to spur the US government into action.

The past reluctance to act could have been influenced by factors like:

- the absence of a coordination mechanism among the competing foreign firms to collectively reject China's demand and to collectively request their governments to file WTO complaints;
- the perception by the US government that the technology involved is not frontier technology that is critical for overall US competitiveness and for US national security;
- bureaucratic inertia and incompetence;
- the importance of China as an ally in international affairs; and even
- possible liberal guilt about China's poverty and past western transgressions against China

The recent turn-around in US policy on mandated technology transfer is likely to have been due to a combination of developments like:

- the technology that China is now demanding is truly frontier technology that is necessary for the development of the next generation of high value-added products;
- the recognition that China is turning out to be more of a strategic competitor than a potential strategic partner; and
- the sense that China should not be treated like a developing economy because it has, after all, become the biggest aid donor in Africa and many parts of Asia.

Given the inevitability of retaliatory actions by the advanced economies led by the US and that the exercise of market power is instinctively disliked as bullying behavior, China should stop using its market power to exact technology transfer in order to avoid a trade war with the United States and its allies. This new behavior is the same as the non-imposition of optimum tariffs by large countries. A new phase in China's use of industrial policy tools has arrived.

Cradle-Snatching of New Technology

The Committee on Foreign Investment in the United States (CFIUS) is an inter-agency body that reviews transactions that would give control of a US firm or technology to a foreign entity, and rejects those that would hurt the national security of the United States. The truth is that CFIUS faces extreme difficulties in doing its job well, and this point is brought home most glaringly when one considers the following two cases.

Case 1: CFIUS would approve transactions where the product/technology has no military applications and reject transactions where the product/technology has military applications. However, most products and technologies can be weaponized. A terrorist could drive a car into the crowd leaving a rock concert. A KGB agent could put advertisements for vodka on a website he bought or he could put up fake news to help get Donald Trump elected a second term.

Case 2: The level of national security of a country depends on the quality of its weapons. The richer the country the higher the quality of weapons that it could afford. Since economic power is the basis of national security, should CFIUS ever approve the sale of any productivity-enhancing technology to Russian firms?

In short, if CFIUS is to take its job literally, “CFIUS really should be managing all global trade.”¹⁹

The Made in China 2025 (MC-25) program states explicitly that it will also seek to buy the next generation of high-technology e.g. buy promising start-ups. There is hence great fear in US and other advanced countries that the next generation of high-technology could be appropriated by Chinese firms, possibly, sometimes even through unfair means. Laskai (2018) reported that:

“Circumstantial evidence confirms this suspicion ... Take the example of Fujian Grand Chips, a purportedly private Chinese company that attempted to acquire German machine maker Aixtron in 2016. Shortly before it staged a public takeover of Aixtron, another Fujian-based company San’an Optoelectronics canceled a critical order from Aixtron on dubious grounds, sending its stock tumbling and presenting Fujian Grand Chips with an opportunity to swoop in. Both Fujian Grand Chip and San’an Optoelectronics shared a common investor: an important national semiconductor fund controlled by Beijing. The acquisition was stymied by an 11th-hour intervention by government officials but demonstrated how Beijing can drive investing abroad, often in a highly coordinated manner.”

Given the possible conspiratorial nature of the actions by the two Chinese firms in the preceding quote, one could be misled to conclude that there is paranoia in Washington DC today when one reads:

¹⁹ Observation by Paul Rosenzweig, former CFIUS staff member, quoted by Bennett and Bender (2018)

Senate Majority Whip, John Comity (R-Texas) regularly warns his colleagues that China is using private-sector investments to pilfer American technology. China has “weaponized” its investments in America “in order to vacuum up U.S. industrial capabilities from American companies ... [The goal is] to turn our own technology and know-how against us in an effort to erase our national security advantage.”²⁰

Since the word “pilfer” in the Comity quote means to “steal”, it is befuddling when one reads that Peter Navarro (2018) sees the opposite outcome in China’s purchases:

[China has been] targeting American companies based on strategic and military goals rather than pure economic considerations ... [and hence have been] often willing to pay distortive prices, far above what the free market would dictate.”

This clash in perception about whether the Chinese are paying enough for American technology is not because there is no consistency in paranoia but because Comity and Navarro have too broad a definition, and too short-sighted a definition, of national security.

The Comity and Navarro definition is too broad because it automatically equates an increase in Chinese economic competitiveness with a decrease in US national security. Since Comity and Navarro do not want the US to anything to strengthen its economic competitors, they would restrain technology-rich USA from selling technology-intensive goods to foreigners when economic theory shows that this is a mutually beneficial outcome.

The Comity and Navarro definition of national security is also too short-sighted because US economic dynamism is reinforced when it faces foreign competition. The immediate short-term outcome in economic competition is a zero-sum game but the long-run outcome in economic competition is a win-win situation. This is the virtue of a modern private market system that works in concert with the provision of public goods by the government and with vigorous research in the basic sciences conducted by the universities (which competing against each for glory and funding).

The Comity and Navarro conception of national security is also based on the false notion that Chinese investors (maybe, Chinese bureaucrats) are much smarter than the Japanese investors who flooded into the United States in the late 1980s and early 1990s, buying assets like the Rockefeller Center 1989 and ending up in tears frequently. Furthermore, their perception of threat from Chinese investment does not take into account that most start-ups fail and that Chinese investors cannot afford to buy up all the start-ups that bubble up in Silicon Valley, Silicon Forest, Silicon Alley, and Route 128 – not to mention other technological centers outside of the United States e.g. Silicon Wadi.

²⁰ Bennett and Bender (2018)

Probable External Economic Disputes of China in the Future

A new international economic normal is asserting itself with the emergence of China and India as economic powerhouses alongside North America, Europe, Japan, and Russia. This new international economic normal will be consolidated further as other large developing countries like Brazil, Indonesia and Nigeria start growing faster. The toppling of US hegemony by the emergence of a multi-polar world has greatly heightened US concern for its national security.

President Trump's present trade wars on multiple fronts reflect both this heightened concern for national security and the hesitation of the United States in continuing to promote economic globalization. Our prediction is that the settlement of the present US-China trade dispute will inevitably be followed by new disputes breaking out over other trade issues until the leaders of the different spheres of influence can agree to deepen multilateral free trade. *Economic disputes are a systemic feature of the present uncoordinated multi-polar political order.*

The new regional economic institutions that China is helping to establish (e.g. Asian Infrastructure Investment Bank, and Regional Comprehensive Economic Partnership) and the global economic connectivity that it is trying to enhance through programs like BRI and Shanghai Cooperation Council could strengthen economic globalization and enrich the countries in its neighborhood. However, as the number of BRI projects grows and the number of partner countries increases, the number of economic disputes that China will be involved in will climb.

There are many reasons for this outcome besides the fact that the increased interaction creates more occasions for disagreement. The government in a partner country might find it politically expedient to divert public attention away from its internal policy failures to the alleged outrageous acts of a foreign bully. Or China might want to unite competing political factions within its borders by highlighting how it is being taken advantage of by some partner countries.

As China strengthens its leadership status in Asian affairs, it must develop adequate understanding of the economic problems and socio-political contradictions in other Asian countries in order to settle disputes with them. When China acquires this understanding of its neighbors, it will know about the political earthquakes developing beneath the seemingly quiescent populations in some of these countries, and be prepared for these political earthquakes and prevent economic disputes from happening.

For example, close identification with the government of the day, when that government is highly disliked by its own people, paves the way to economic disputes when there is change in the government of that country. This necessitates that China

1. keeps the various relationships it has with each country on separate tracks: government-to-government relations, business-to-business relations, and people-to-people relations; and

2. ensures that BRI projects benefit the general population in the host country and not be politically-biased toward the government of the day.

The present state of China-Malaysia relations is an illustration of some of the points made above. China seemed unaware that the relationship in Malaysia between the government and the people is very different from that in China; and that although the Malaysian *Barisan Nasional*²¹ coalition that had been in power for almost as long as the Chinese Communist Party, it actually had feet of clay.

The origin of today's China-Malaysia economic dispute lies in China's purchase of several over-priced power stations from the Malaysian sovereign fund, 1-MDB, that had been bankrupted by embezzlement.²² This asset sale allowed 1-MDB to meet the debt servicing that was coming due. At about the same time, the government of Prime Minister Najib Razak awarded major parts of the construction of two rail projects to Chinese construction companies: the High Speed Rail (HSR) connecting Kuala Lumpur (KL) and Singapore, and the railway linking the east and west coasts of peninsular Malaysia (ECRL, East Coast Railway Link). Both projects are under BRI.

When Najib Razak was voted out of office on May 9 (much to the surprise of the Chinese embassy in Kuala Lumpur according to rumors), the new government led by Mahathir Mohamad discovered that it had inherited a much larger debt than in the public record. One of the mega-projects that was cancelled to contain the debt level was the KL-Singapore HSR project.

The Chinese newspaper, Global Times, then published an article stressing the sanctity of signed contracts, reminding Malaysia of the huge penalty payment upon cancellation of the HSR project, and warning that China had lots of profitable investment options elsewhere besides Malaysia.²³ While this article was not an official note, most Malaysian analysts interpreted it as the opening shot of an economic dispute. This economic dispute has not escalated only because the new Malaysian government has wisely decided not to respond.²⁴

Another major determinant in the frequency and intensity of future economic conflict between China and other countries is the attitude that would guide China's actions. Disputes of all kinds will become more frequent when China starts making the same mistakes as the other world powers in the past. Economic exploitation, interference in internal affairs, and arrogance are the seeds of economic and political disputes between countries.

²¹ The *Barisan Nasional* is a larger coalition centered around the three race-based political parties that formed the Alliance Party in 1957.

²² U.S. Department of Justice (2017) is a court filing on 1MDB.

²³ Hu (2018)

²⁴ A few days ago, the Malaysian government announced that the HSR project has only been postponed not cancelled.

Three Final Remarks

First, the increasing conflation of economic analysis and national security considerations in the discussion of US–Sino economic engagement highlights the importance of the work of CFIUS. It needs to be immediately given a new operational mandate and the resources to conduct systematic examination of the relevant transactions occurring through multiple avenues—for example, bankruptcy courts and venture capital firms. The new mandate to CFIUS must not be broad in scope. There should be a defined list of technologies it will cover and this list should be updated every 18 months.

Second, we want to register our opposition to the many recommendations to ban collaborative research with Chinese scientists (see Swanson and Bradsher 2018). This type of recommendation is akin to ‘driving a bulldozer towards a rose garden’ (Bennett and Bender 2018).

Third, China’s economy in 2018 is very different from that in 1978. There are parts of China that still look like Senegal but there are now parts of China that look like Singapore. This means that there should now be more reciprocity in China’s trade and investment relations with the advanced economies. China should not only give national treatment in the near future to foreign manufacturing operations and foreign service providers (e.g. financial institutions) but should also set up its own version of CFIUS – say, Committee on Foreign Investment in China (CFIC) -- in order to start easing up on foreign acquisition of Chinese firms (e.g. Chinese high-tech start-ups) in a manner that is consistent with China’s national security concerns.

References

Bennett, Cory and Bryan Bender (2018), “How China acquires ‘the crown jewels’ of U.S. technology,” South China Morning Post, 22 May 2018; <http://www.scmp.com/print/news/china/diplomacy-defence/article/2147288/how-china-acquires-crown-jewels-us-technology>

Blackwill, Robert D. and Ashley Tellis (2015). Revising U.S. Grand Strategy Toward China, Council for Foreign Relations, NYC, 2015.

Bloomberg News (2018), “Chinese port project could land Myanmar in debt trap,” Straits Times, May 13, 2018; <https://www.straitstimes.com/asia/se-asia/chinese-port-project-could-land-myanmar-in-debt-trap>

Bradsher, Keith and Alan Rappeport (2018). "The Trade Issue That Most Divides U.S. and China Isn't Tariffs," *New York Times*, March 26, 2018; <https://www.nytimes.com/2018/03/26/business/china-us-trade.html>

Cho, Yusho and Kenji Kawase. (2018), "How China's state-backed companies fell behind," *Nikkei Asian Review*, May 23, 2018; <https://asia.nikkei.com/Spotlight/Cover-Story/How-China-s-state-backed-companies-fell-behind>

Economist (2018), "The Big Mac index: Global exchange rates, to go," January 17, 2018; <https://www.economist.com/content/big-mac-index>

Feldstein, Martin (2018). "The Next Step for Chinese Economic Policy," *Project Syndicate*, 23 April 2018; <https://www.project-syndicate.org/commentary/china-wto-mandatory-technology-transfer-by-martin-feldstein-2018-04>

Fu, Xiaolan (2015), *China's Path to Innovation*, Cambridge University Press, Cambridge, U.K.

Fu, Xiaolan, Wing Thye Woo and Jun Hou (2016) "Technological Innovation Policy in China: The Lessons, and the Necessary Changes Ahead." *Economic Change and Restructuring*, Volume 49, No. 2-3, 2016, pp. 139-157.

Goldstein, Morris. (2006). "Renminbi Controversies," *Cato Journal* 26, no. 2 (Spring/Summer).

Hodge, Amanda (2018), "China's debt-trap diplomacy snares our Asian neighbours," *The Weekend Australian*, January 13, 2018; <https://www.theaustralian.com.au/news/world/chinas-debttrap-diplomacy-snares-our-asian-neighbours/news-story/7c6b04ac4e473f96d9ff3b7ec5abe102>

Hu, Weijia (2018), "Ditching Chinese-built high-speed rail project will carry high costs for Malaysia," *Global Times*, 31 May 2018; <http://www.globaltimes.cn/content/1105043.shtml>

Isidore, Chris (2013). "U.S. vs. China: The trade battles," *CNN-Money*, 13 March 2012; <http://money.cnn.com/2012/03/13/news/international/china-trade/index.htm>

King, Amy and Shiro Armstrong (2013), "Did China really ban rare earth metals exports to Japan?" *East Asia Forum*, 18 August 2013; <http://www.eastasiaforum.org/2013/08/18/did-china-really-ban-rare-earth-metals-exports-to-japan/>

Laskai, Lorand (2018), "Why Does Everyone Hate Made in China 2025?" *Council on Foreign Relations*, 28 March 2018; <https://www.cfr.org/blog/why-does-everyone-hate-made-china-2025>

Liu, Liang-Yn and Wing Thye Woo (1994), "'Saving Behavior under Imperfect Financial Markets and the Current Account Consequences," Economic Journal, May 1994 Volume 104, Issue 424, pp.512-527.

Malinao, Alito L. (2018), "China's debt-trap diplomacy: Inquirer columnist," Straits Times, January 25, 2018; <https://www.straitstimes.com/asia/se-asia/chinas-debt-trap-diplomacy-inquirer-columnist>

Navarro, Peter (2018), "China's Faux Comparative Advantage," Wall Street Journal, 15 April 2018; <https://www.wsj.com/articles/chinas-faux-comparative-advantage-1523817868>

Swanson, Ana and Keith Bradsher (2018), "White House Considers Restricting Chinese Researchers Over Espionage Fears," New York Times, 30 April 2018; <https://www.nytimes.com/2018/04/30/us/politics/trump-china-researchers-espionage.html>

Tan, Yuyan, Yiping Huang, and Wing Thye Woo (2016), "Zombie Firms and the Crowding-Out of Private Investment in China," (with Yuyan Tan and Yiping Huang), Asian Economic Papers, Fall 2016, Vol. 15, No. 3, pp. 32–55

U.S. Department of Justice (2017). UNITED STATES DISTRICT COURT FOR THE CENTRAL DISTRICT OF CALIFORNIA. UNITED STATES OF AMERICA (Plaintiff) versus CERTAIN RIGHTS TO AND INTERESTS IN THE VICEROY HOTEL GROUP (Defendant). No. CV 17-4438, 15 June 2017; <https://www.justice.gov/opa/press-release/file/973671/download>

Woo, Wing Thye (2004) "Serious Inadequacies of the Washington Consensus: Misunderstanding the Poor by the Brightest," in Jan Joost Teunissen and Age Akkerman (editors), Diversity in Development: Reconsidering the Washington Consensus, FONDAD (Forum on Debt and Development), The Hague, Netherlands, December 2004, pp. 9-43.

Woo, Wing Thye (2006), "The Structural Nature of Internal and External Imbalances in China," Journal of Chinese Economic and Business Studies, February 2006, Vol 4 No 1, pp. 1-20.

Woo, Wing Thye (forthcoming) "China's Soft Budget Constraint on the Demand-Side Undermines Its Supply-Side Structural Reforms," China Economic Review, forthcoming.

Zoellick, Robert B. (2005), "Whither China: From Membership to Responsibility?" Remarks to National Committee on U.S.-China Relations, New York City, September 21, 2005; <https://2001-2009.state.gov/s/d/former/zoellick/rem/53682.htm>