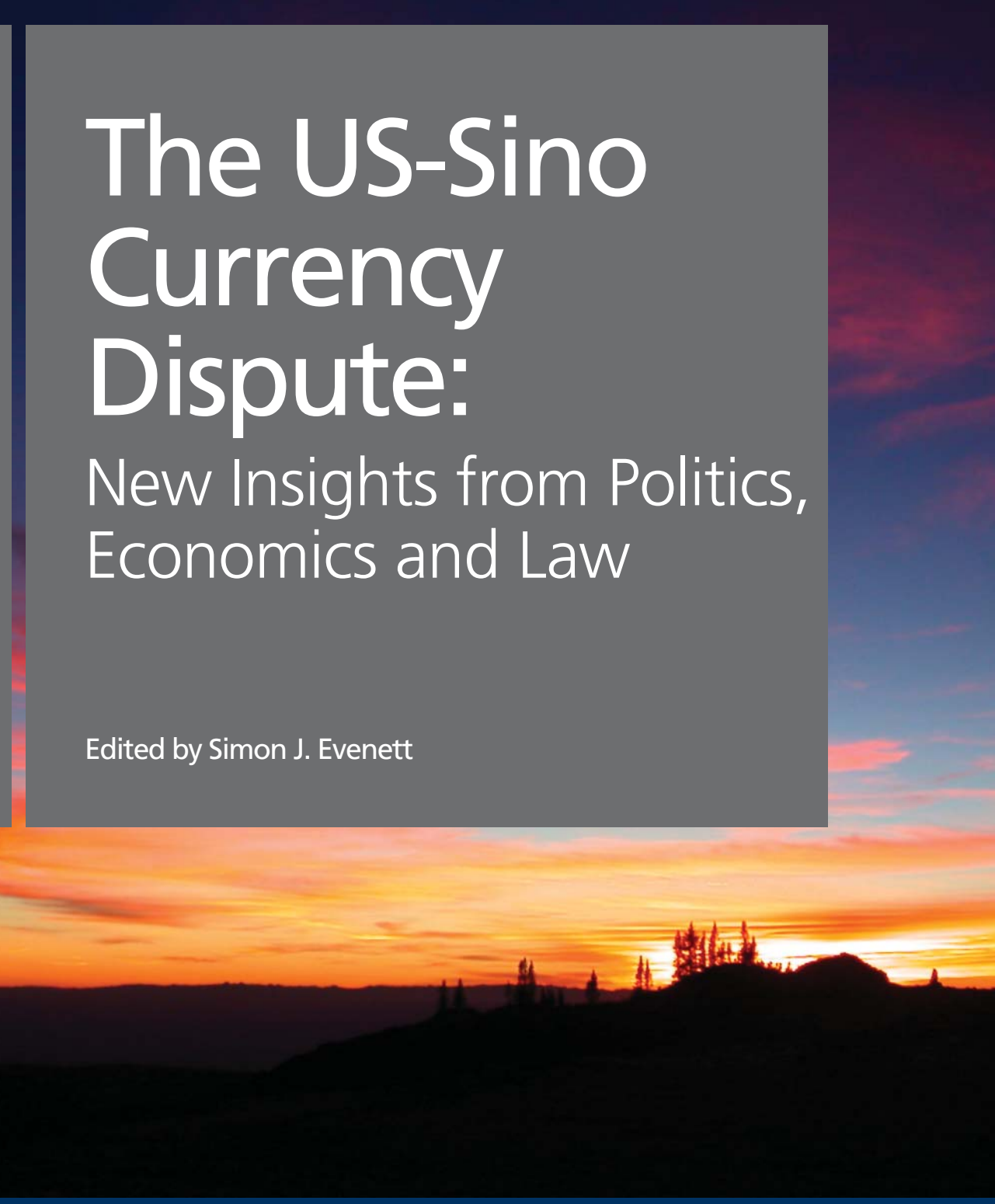
The US-Sino Currency Dispute:

New Insights from Politics, Economics and Law

Edited by Simon J. Evenett



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A VoxEU.org Report

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Centre for Economic Policy Research (CEPR)

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Foreword

Aggregate demand is in short supply in most parts of the globe. The Chinese policy of halting the rise of the renembi against the dollar in 2008 was thus perceived by some as a 1930s style beggar-thy-neighbour policy. Commentators such as Paul Krugman, as well members of Congress, have argued that it is time to 'get tough' with China over its alleged exchange rate manipulation.

In this Ebook, Simon Evenett, Co-Director of CEPR's International Trade and Regional Economics Programme, has brought together some answers. The twenty eight chapters summarise the latest research on the behaviour of the renminbi and the role it has played in global imbalances, whether China's exchange rate policy is consistent with WTO rules, and most important, the likely responses of China and its trading partners to the dispute over balances and exchange rate policies.

The publication of the Ebook coincides with the original deadline for the US Treasury to determine whether the Chinese government is a "currency manipulator". Now that the US Treasury has postponed the publication of its report until just before the G-20 meeting in June 2010, the contributions to this volume are even more timely, since they will inform deliberations in the run-up to the important June summit.

In closing, it is important to acknowledge the rapid and highly professional contribution made by "Team Vox" - notably Jonathan Dingel, Bob Denham, Anil Shamdasani, and Pierre-Louis Vezina. This Ebook would not have been possible without their energy, enthusiasm and commitment.

Stephen Yeo
Chief Executive Officer, CEPR
London, 13 April 2010

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Executive Sumary

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Thanks to some deft diplomatic footwork, a confrontation between the United States and China over the latter's exchange rate regime has been avoided for the time being. Escalation, that could have led to a trade war between two of the world's large trading powers, is the last thing the world economy needs, in particular at a time when so many countries are recovering the recent sharp global economic downturn.

But in this case avoiding a confrontation didn't imply resolution of the dispute. The U.S. Treasury has only postponed the publication of its report on foreign currency manipulators, which was due on 15 April 2010. The United States Congress is free to act at any time and may not be able to resist the temptation to act in the run up to the mid-term elections in November 2010. Likewise the Chinese authorities are no doubt keenly following developments and, as they demonstrated last year when the U.S. imposed tariffs on imports of Chinese tyres, are able to react quickly.

Looking forward, the potential for this dispute to overshadow the G-20 Leaders meetings in June and November 2010 cannot be ruled out either. Indeed some leading U.S. commentators have called for the "naming and shaming" of China in international fora, precisely to build a coalition to press China to allow its currency to appreciate (see Bergsten in this volume.) This matter will not rest then--and if the previous disputes between the Japan (during its rise to prominence) and the US are anything to go by,[1] then years could go by before currency-related tensions finally abate.

Policymakers, analysts, and corporate decision-makers will almost certainly find themselves confronting US-Sino currency tensions in both the near and medium term. The goal of this volume is to provide a one-stop shop for much of the best recent economic, legal, political, and geopolitical thinking on the causes and likely consequences of the US-Sino currency dispute. Different fields of expertise were consulted because this dispute should not be seen in narrow economic or commercial terms. No attempt to impose or to provide a common view was made.[2] Inevitably some resort to technical argument is needed--but just enough to make the key points.

This volume contains 28 analyses by independent experts on the following aspects of the recent US-Sino exchange rate dispute:

1 In this volume Corbett and Ito provide their assessment of the lessons from the long history of US-Japanese trade disputes and assess their contemporary relevance for China and the United States.

2 For example, some more orthodox trade economists may be surprised by Deardorff's analysis in this volume of the sources of global trade imbalances. This is not to suggest that there is anything unorthodox about Deardorff's methods rather that, with the standard economic tool kit, perhaps unexpected findings and policy implications follow from his analysis.

- Recent proposals for action by the U.S. against Chinese imports.[3]
- The factors driving the rising Chinese current account surplus.[4]
- The relationship between the Chinese currency and global imbalances.[5]
- The extent to which the renminbi needs to appreciate and likely effects.[6]
- The WTO legality of the Chinese exchange rate regime.[7]
- Potential responses by industrialised countries.[8]
- Potential responses by China.[9]

The contributors to this volume, therefore, a lot of ground. Doing justice to each contribution is a challenge in an Executive Summary such as this. So what follows is a summary of some of the key points made in this volume as seen by the editor.

Is it sound to focus on the bilateral exchange rate as the principal point of contention?

While correcting global imbalances is a priority for many governments and policymakers, one notable feature of the current US-Sino dispute is the almost exclusive attention given to the decision, taken during the global economic crisis by the Chinese authorities, to fix and maintain a bilateral exchange rate of 6.8 yuan to the US dollar.[10] In turn, this decision is said to have generated large current account surpluses for China and substantial job losses in trading partners. Paul Krugman, for example, reckons that in the coming years this decision will cost about 1.4 million American jobs.[11]

While it is fair to say that the U.S. government has raised concerns other than currency manipulation with their Chinese counterpart, much of the policy debate in the United States in the first quarter of 2010 focused on China's currency regime. Many contributors to this volume contest the importance ascribed to the exchange rate regime (Yu, Huang, and Wyplosz amongst others) and argue that the steps necessary to cut China's current account surplus lie elsewhere.

A significant technical difficulty, amply demonstrated in four papers in this volume (Frankel, Reisen, Subramanian, and Cheung et al.), is the wide range of estimates of the degree of Chinese undervaluation. While Frankel is correct to note that all of the estimates point to some degree of undervaluation, current US-Sino circumstances are such that the available tools do not provide a narrow range of

3 See chapters 1, 2, and 4 of this volume.

4 See chapter 3 of this volume.

5 See chapters 5 and 6 of this volume.

6 See chapters 7-12 of this volume.

7 See chapters 13-18 of this volume.

8 See chapters 19-24 of this volume.

9 See chapters 25-28 of this volume.

10 For an account of the Chinese exchange rate regime see Huang and Frankel's papers in this volume.

11 Paul Krugman "Chinese New Year," *New York Times*, 1 January 2010.

estimates to guide policymaking. Not much faith should be attributed to any one estimate of the degree of undervaluation, creating the following problem for policymakers: suppose China were to begin revaluing its exchange rate, how much revaluation is enough? On this policy-relevant question, the technocrats cannot ride in to save the day.

Putting the bilateral exchange rate at the centre of the dispute will provide a focus for never-ending corporate, trade union, and other lobbying. Associated inter-governmental frictions will be exacerbated by the fact that there will always be some foreign commercial and labour interests that benefit from *another* revaluation in the Chinese yuan; once the Pandora's box of negotiation is opened no amount of Yuan appreciation will be enough for some. From the perspective of managing a negotiation and associated domestic lobbying, making the bilateral exchange rate the centre of the negotiation is pretty unwise.[12]

Together these observations cast doubt on whether the US-Chinese bilateral exchange rate is the right lever to focus on.[13] If the damage is really being done by the large Chinese current account surplus, then surely policymaking should focus on the various causes of that surplus. If, for example, the most important problem is the implementation of industrial policies that discriminate against foreign commercial interests and so exacerbate the current account surplus then this ought to influence negotiating and other priorities. What is lacking from the proponents of action against the Chinese is a demonstration that the bilateral exchange rate is item that must be tackled first.

Message to US policymakers: "Be careful what you wish for, lest it come true"

As recently as 15 March 2010 Paul Krugman joined the ranks of many U.S. legislators in calling for substantial tariffs to be put on Chinese imports "if sweet reason won't work" and the Chinese authorities fail to heed demands to revalue their currency.[14] What these proponents have overlooked is the fact that so much of U.S. imports from China are parts, components, and semi-finished goods that placing tariffs on them will raise the costs of every American-based corporate buyer of these imported products, including many U.S. exporters. In short, it is impossible to "hit" Chinese

12 These remarks and those above should not be misunderstood. The argument is not that bilateral exchange rates have no effect on economic outcomes. Nor is the contention that an appreciation of the Yuan would not benefit China (indeed, it is interesting the number of Chinese analysts--including those in this volume--that argue that appreciation of the Yuan is--other things being equal--in China's own interests.)

13 Quite separately, the contributors to this volume that analysed the WTO legality of the Chinese exchange rate regime are so divided that again the question arises as to whether the focus on this regime is the right place to induce a change in Chinese government behaviour.

14 Paul Krugman, "Taking on China," New York Times, 15 March 2010. Krugman suggested a supplemental tariff of 25 percent be applied. As Barfield makes clear in this volume, some Congressional bills in the middle of the last decade called for 27.5 percent tariffs to be applied to Chinese imports. Levy's chapter describes a wider range of options available to U.S. policymakers, going well beyond put additional tariffs on Chinese imports.

export interests with across-the-board tariff increases without harming exporters based in the United States. Worse, even if the threat of sanctions succeeds and the Chinese revalue their currency the implied devaluation of the American dollar will raise the cost of the same imported unfinished products. Whether or not, the gambit of threatening high tariffs on Chinese imports works, U.S. exporters lose.[15] Reduced exports mean reduced job losses in sectors traditionally associated with paying above-average wages.

In an analysis specifically prepared for this volume, Francois starts by showing the growing dependence of U.S. firms on imported parts and components, a consequence of the spread of international supply chains during the past three decades. Using a simulation model of the world economy, that applies the same methods used by the Obama administration to estimate the impact of export growth on job creation and by the U.S. International Trade Commission, Francois evaluates the impact on the U.S. economy and trade patterns of the following three scenarios: (1) a 10 percent revaluation of the Chinese yuan against the U.S. dollar, (2) a 10 percent ad valorem tariff imposed by the U.S. on imports from China, which the Chinese retaliate by imposing their own 10 percent tariff on imports from the U.S. and (3) a five percent revaluation of the Chinese yuan against the U.S. dollar (which Francois finds is enough to eliminate China's trade imbalance with the rest of the world.) The impact of these three policy changes on US employment levels, on the US-China trade balance, and on the overall US trade balance are reported in Table 1 below.

Table 1 Sizeable job losses would follow Chinese revaluation and a tariff war

Scenario	Job loss in the U.S. US$ billion	Change in U.S. trade balance with China US$ billion	Change in overall U.S. trade balance,
(1) 10% revaluation of the Yuan	-423, 919	+111.5	+103.0
(2) Tariff war: US and China apply 10% tariffs	-947, 730	+112.0	+106.2
(3) 5% revaluation of the Yuan.	-231, 008	+61.8	+57.8

Source: Francois chapter in this volume.

Each departure from the status quo will result in job losses. If the gambit of threatened tariffs doesn't pay off and a tariff war ensues, the just under a million jobs will be lost in the U.S. economy. The irony is that the demonisation of China as a job killer might beget Congressional acts that threaten a million more American workers with unemployment. It seems that such is the prevalence of international supply chains that the job-killing effect of U.S. tariffs on U.S. exporters dominates. This finding is something that U.S. legislators might ponder as the temperature rises in the tough mid-term election season.

The idiom "be careful what you wish for, lest it come true" applies also to another important finding in this study, namely, that Chinese revaluation triggers job losses

15 This statement assumes that, should the Chinese authorities defy the American threats of tariff increases and not revalue the Yuan, then the U.S. authorities go ahead and impose the tariffs. In the light of the empirical results presented by Francois in this volume, questions must arise as the credibility of the American threats and, by implication, of the strategy advocated by Bergsten, Krugman, and others.

in the U.S. economy. For sure, such revaluations help narrow the overall U.S. trade deficit, but they do so on the back of some U.S. exporters and their employees. The burden of adjustment is not only on U.S. imports, as one might have thought in a world before international supply chains. Changes in the international organisation of production have effectively taken a major tool (across-the-board tariff increases) out of the Congressional armoury[16] of effective weapons, at least as far as the Chinese are concerned. Not only on is the focus on the bilateral exchange rate almost certainly misplaced, any resort to across-the-board tariff increases is counterproductive and is less credible than in the era before outsourcing. Together, these considerations must call into question the thrust of what most critics of the Chinese exchange rate regime have been advocating.

Message to Chinese policymakers: Currency revaluation is strongly in China's own interests; threats of financial retaliation aren't that credible either.

A recurring theme of many of the contributors to this volume is that a revaluation of the Chinese yuan would be help reorient Chinese growth towards domestic sources as well as reduce inflationary pressures. Contributors from inside and outside of China make this point (see the chapters by Yu, Huang, Frankel, Reisen, amongst others). Fears about the impact of revaluation of the renminbi on Chinese export performance are likely overblown too. Schott's analysis in this volume of the effect of the rising yuan from 2005 to 2008 on Chinese exports to the United States revealed that a gradual appreciation did not lead to disruptive breaks in export performance. Taken together, then, the Chinese authorities have a strong domestic interest in resisting any calls for delaying the appreciation of their national currency against the U.S. dollar.

Moreover, threats to retaliate against any U.S. tariff measures with financial sanctions are unlikely to be that credible, as Prasad argues in his contribution to this volume. For sure, China could dump its holdings of U.S. Treasuries and this would undoubtedly disrupt financial markets. However, assuming that China is going to continue to accumulate hundreds of billions of dollars each year in foreign exchange reserves, there are few financial alternatives to invest in that offer the liquidity and security of U.S. treasury bills. De-escalation of this dispute is very much in China's interest, again reinforcing the need to find common ground with trading partners.

16 Of course, many economists would not recommend the use of across-the-board tariff increases; but this is barely relevant. The observation here is that--if the job losses by U.S. exporters caused by U.S. tariffs were better known--even U.S. legislators might be more reluctant to resort to across-the-board tariff increases.

Inducing surplus nations to adjust: some business leftover from Bretton Woods.

In effect, the world economy has plenty of rules for countries that run substantial or recurring current account deficits. In the limit, when deficit countries get into serious trouble the International Monetary Fund provides funding with strings attached. Those strings--taking the form of policy reforms--are meant to ensure the deficit country moves over time closer to current account balance. What the world does not have are any rules or inducements for nations running persistent current account surpluses to adjust. Worse, as argued above, gambits using commercial policy tools are less credible in an era of cross-border supply chains and extensive supply chains. That the United States is now concerned about this matter is all the more ironic given it was U.S. opposition that stopped Keynes' proposals for symmetric adjustment by creditor and debtor nations to go forward at the 1944 Bretton Woods conference. In many respects, the current U.S.-Sino frictions are the manifestation of a systemic problem that has been ducked for far too long.

Recognising this problem is one thing; the likelihood that something is done about it is quite another. A pessimistic take is to argue that, so long as surplus nations see little interest in reflating their economies or altering the policy mix in favour of openness[17], then U.S.-Sino currency frictions will persist for as long as the demandeur runs large current account deficits. In which case, supporters of open markets must look to contain the damage done by the occasional resort to trade restrictions and the like.

Over time containment may also lead to a growing recognition within the U.S. Congress that it has far fewer levers over China than other U.S. trading partners and that its threats lack credibility. Perhaps this will provide a window of opportunity for a more constructive outcome; that is, the recognition that changes in other nations' policies can no longer be demanded but must be negotiated. Negotiation requires reciprocity, the identification of potential deals, and (frequently) the willingness to be bound in international accords. To be frank, to date neither the U.S. nor China has shown much appetite for any of the latter, but at least if the endpoint is clear it might make the unilateralist dead-ends all the more obvious.

17In this respect it is very heartening that so many Chinese scholars and analysts have taken a stand in favour of currency revaluation being in China's interests. This is not to imply that these scholars have supported proposals to raise U.S. tariffs on Chinese imports, quite to the contrary.

SECTION 1

What's at stake? The clash that could have been...and could still be

1. Correcting the Chinese exchange rate: an action plan[1]

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Peterson Institute for International Economics

C Fred Bergsten is one of several commentators calling for action against China's "protectionist" exchange-rate policy. In this paper he outlines a three-part multilateral action plan to force China to allow the renminbi to appreciate: label China a "currency manipulator", seek a special IMF consultation, and request a WTO dispute settlement panel.

The Chinese renminbi is undervalued by about 25% on a trade-weighted average basis and by about 40% against the dollar (Cline and Williamson 2009 and Goldstein and Lardy 2009)[2]. The Chinese authorities buy about $1 billion daily in the exchange markets to keep their currency from rising and thus to maintain an artificially strong competitive position. Several neighbouring Asian countries of considerable economic significance - Hong Kong, Malaysia, Singapore and Taiwan - maintain currency undervaluations of roughly the same magnitude in order to avoid losing competitive position to China.

This competitive undervaluation of the Chinese currency is a blatant form of protectionism. It subsidises all Chinese exports by the amount of the misalignment, between 25% and 40%. It equates to a tariff of like magnitude on all Chinese imports, sharply discouraging purchases from other countries. It would thus be incorrect to characterise as "protectionist" a policy response to the Chinese actions by the US or other countries; such actions should more properly be viewed as anti-protectionist.

Largely as a result of this competitive undervaluation, China's global current account surplus soared to almost $400 billion and exceeded 11% of its GDP in 2007, an unprecedented imbalance for the world's largest exporting country and second largest economy. China's global surplus declined sharply during the Great Recession, as its foreign markets weakened, but it remained above 5% of China's GDP (almost $275 billion) even in 2009. The IMF estimates that the surplus is rising again and, at current exchange rates, will exceed the global deficit of the US by 2014 (Blanchard and Milesi-Ferretti 2010). In a world where high unemployment and below-par growth are likely to remain widespread for some time, including in the US, China is

1 This chapter was first submitted as Testimony before the Committee on Ways and Means, US House of Representatives, on 24 March 2010. The testimony of the author and other leading experts can be viewed at *http://waysandmeans.house.gov/Hearings/Testimony.aspx?TID=8353*

2 The Cline-Williamson estimates are quite conservative because they aim only to reduce China's global surplus to 3-4% of its GDP on the view that such levels would be consistent with a sustainable global equilibrium; their estimate of the RMB undervaluation would of course be much greater if the goal were to fully eliminate the country's external surplus, which would be quite reasonable for a developing country that already has accumulated $2.5 trillion of foreign exchange reserves.

thus exporting very large doses of unemployment to the rest of the world - including to the US but also to Europe and to many emerging market economies including Brazil, India, Mexico and South Africa[3].

China's exchange rate policy violates all relevant international norms. Article IV, Section 1 of the Articles of Agreement of the IMF commits member countries to "avoid manipulating exchange rates or the international monetary system in order to prevent effective balance-of-payment adjustment or to gain unfair competitive advantage over other member countries." Moreover, the principles and procedures for implementing the Fund's obligation (in Article IV, Section 3) "to exercise firm surveillance over the exchange rate policies of members" call for discussion with a country that practices "protracted large-scale intervention in one direction in exchange markets" - a succinct description of China's currency policy over the past seven years. Article XV(4) of the General Agreement on Tariffs and Trade (GATT), which is now an integral part of the WTO, similarly indicates that "Contracting parties shall not, by exchange action, frustrate the intent of the provisions of this Agreement."

Huge current account imbalances, including the US deficit and the Chinese surplus, of course reflect a number of economic factors (national saving and investment rates, the underlying competitiveness of firms and workers, etc.) other than exchange rates. Successful international adjustment of course requires corrective action by the US, particularly with respect to its budget deficit and low national saving rate, and other countries as well as by China. But it is impossible for deficit countries to reduce their imbalances unless surplus countries reduce theirs.. And restoration of equilibrium exchanges rates is an essential element of an effective global "rebalancing strategy" as agreed by the G20 over the past year (see Lardy 2007 for an analysis of the Chinese component of this strategy).

The competitive undervaluation of the Chinese renminbi and several neighbouring Asian countries has a very substantial impact on the US. As noted, an appreciation of 25-40% is needed just to cut China's global surplus to 3-4% of its GDP. This realignment would produce a reduction of $100 - $150 billion in the annual US current account deficit (Cline and Williamson 2009)[4].

Every $1 billion of exports supports about 6,000 - 8,000 (mainly high-paying manufacturing) jobs in the US economy. Hence such a trade correction would generate an additional 600,000 - 1,200,000 US jobs. Correction of the Chinese/Asian currency misalignment is by far the most important component of the President's new National Export Initiative. As its budget cost is zero, it is also by far the most cost-effective step that can be taken to reduce the unemployment rate in the US. .

China did let its exchange rate appreciate gradually from July 2005 until the middle of 2008 (and rode the dollar up for a while after it re-pegged in the fall of

3 Note that I make no reference to the US - China bilateral trade imbalance in this statement. Bilateral balances are irrelevant in a world of multilateral trade. It should be noted, however, that China's global surplus exceeded one half of the US global deficit in 2007 and, as noted in the text, is on a trajectory to exceed it by 2014.

4 Cline and Williamson (2009) show that the Asian undervaluations equate to a trade-weighted overvaluation of about 6% of the dollar. Every 1% dollar overvaluation leads to a deterioration of $20-25 billion in the US current account balance so correction of the Asian misalignments would strengthen the US position by $120 - $150 billion over the following two to three years.

2008). During that time, the maximum increase in its trade-weighted and dollar values was between 20% and 25% (which represented good progress although it still left a large undervaluation). It has since depreciated again significantly, riding the dollar down, so that its net rise over the past five years is only about 15%. Moreover, despite China's declared adoption of a "market-oriented" exchange-rate policy in 2005, its intervention to block any further strengthening of the renminbi against the dollar is about twice as great today ($30 - $40 billion per month) as it was then ($15 - $20 billion per month). On that metric, China's currency policy is now about half as market-oriented as it was prior to adoption of the "new policy."

The present time is highly opportune for China to begin the process of restoring an equilibrium exchange rate. The Chinese economy is booming, indeed leading the world recovery from the Great Recession (and China deserves great credit for its effective crisis response strategies). Inflation is now rising and the Chinese authorities have begun to take monetary and other measures to avoid renewed overheating; currency appreciation would be an effective and powerful tool to this end by lowering the price of imports and dampening demand for exports[5]. Appreciation of the renminbi at this time would in fact serve both the internal and external policy objectives of the Chinese authorities, as part of their long-stated intention and international commitment to rebalance the country's economic growth away from exports and toward domestic (especially consumer) demand.

A three-part action plan

The case for a substantial increase in the value of the renminbi is thus clear and overwhelming. Some observers believe that China is in fact preparing to shortly renew the gradual appreciation of mid-2005 to mid-2008 (5% to 7% per year) or even to announce a modest (5% to 10%) one-shot revaluation (with or without resuming the upward crawl in addition). On the other hand, Premier Wen Jiabao recently denied that the renminbi was undervalued at all and accused other countries of seeking to expand exports and create jobs by unfairly depreciating their exchange rates[6].

Unfortunately, the two preferred strategies for promoting Chinese action - sweet reason and implementation of the multilateral rules, especially in the IMF - have to date had limited success. Both efforts should continue, however, and it is particularly important that any stepped-up initiatives toward China be multilateral in nature. The Chinese are much more likely to respond positively to a multilateral coalition rather than bilateral pressure from the US, especially if that coalition contains a number of emerging market and developing economies whose causes the Chinese frequently claim to champion. Moreover, the multilateral efforts have been half-hearted at best and it is especially important for the US to exhaust that route before contemplating more severe unilateral steps.

5 China effectively sterilises most of the monetary effect of its exchange-market intervention so the large capital inflow and upward pressure on the renminbi does not have any of the usual inflationary (and hence real currency appreciation) impact.

6 This was apparently the first time that a high Chinese official has asserted that there is no renminbi undervaluation, a substantial step backward if correct.

Much of the blame for this failure of policy to date falls on the US Government, which has been unwilling to label China the currency manipulator that it has so clearly been for a number of years. The unwillingness of the US to implement the plain language of the Trade Act of 1988 has substantially undermined its credibility in seeking multilateral action against China in the IMF, the WTO, the G20, or anywhere else. A sensible and effective strategy must begin by reversing that feckless position.

Hence I would recommend that the Administration adopt a new three-part strategy to promote early and substantial appreciation of the exchange rate of the RMB:

- Label China as a "currency manipulator" in its next foreign exchange report to the Congress on April 15 and, as required by law, then enter into negotiations with China to resolve the currency problem[7].
- Hopefully with the support of the European countries, and as many emerging market and developing economies as possible, seek a decision by the IMF (by a 51% majority of the weighted votes of member countries) to launch a "special" or "ad hoc" consultation to pursue Chinese agreement to remedy the situation promptly. If the consultation fails to produce results, the US should ask the Executive Board to decide (by a 70% majority of the weighted votes) to publish a report criticising China's exchange rate policy (see Goldstein 2007 and Mussa 2008 for an outline of the procedures).
- Hopefully with a similarly broad coalition, the US should exercise its right to ask the WTO to constitute a dispute settlement panel to determine whether China has violated its obligations under Article XV ("frustration of the intent of the agreement by exchange action") of the WTO charter and to recommend remedial action that other member countries could take in response. The WTO under its rules would ask the IMF whether the renminbi is undervalued, another reason why it is essential to engage the IMF centrally in the new initiative from the outset[8].

A three-pronged initiative of this type would focus global attention on the China misalignment and its unwillingness to initiate corrective action to date. The effort would have maximum impact if it could be undertaken by the US in concert with countries that constituted a substantial share of the world economy, including emerging market and developing economies as well as the Europeans and other high-income nations. Asian countries, such as Japan and India, will be skittish in confronting China in this way but are hit hard by the Chinese undervaluation and

7 It would be desirable to also label the four other Asian economies that clearly manipulate their exchange rates to maintain a close relationship to the renminbi: Hong Kong, Malaysia, Singapore, and Taiwan. They should in fact be covered by all elements of the recommended three-part strategy. However, including them would complicate the strategy considerably and deflect attention away from China as the central actor (and Taiwan, the most important in economic terms, is not a member of the IMF). It can be safely assumed that all four will let their currencies follow the renminbi upward, however, so success in achieving its appreciation should take care of the others more or less automatically and should suffice. Alternatively, they could get together (perhaps with other countries in the region) to work out an "Asian Plaza" agreement that would realign exchange rates among them.

8 The Managing Director of the IMF has repeatedly stated, most recently in a major speech to the European Parliament in March 2010, that the renminbi is "substantially undervalued." Hence the required advice should be readily forthcoming.

should be increasingly willing to join the coalition as its size grows.

The objective of the exercise is of course to persuade, or "name and shame," China into corrective action. Unfortunately, the IMF has no sanctions that it can use against recalcitrant surplus countries[9]. Hence the WTO, which can authorise trade sanctions against violations of its charter, needs to be brought into the picture from the outset (see Hufbauer et al. 2006 for an outline of the options). Unfortunately, there are technical and legal problems with the WTO rules too (like the IMF rules) so they may also need to be amended for future purposes (see Mattoo and Subramanian 2008).

The US could of course intensify its initiative by taking unilateral trade actions against China. For example, the Administration could decide that the undervaluation of the RMB constitutes an export subsidy in determining whether to apply countervailing duties against imports from China. Congress could amend the current countervailing duty legislation to make clear that such a determination is legal. In either case, China could appeal to the WTO and the US would have to defend its actions under the Subsidy Code[10].

Countervailing duties and other product-specific or sector-specific steps, such as the Section 421 case on tires last year or traditional Section 201 safeguard cases, are undesirable, however, because they distort and disguise the across-the-board nature of the Chinese currency misalignment[11]. These measures are intended to address problems that are unique to a particular product or sector rather than affecting trade and the economy as a whole. As noted above, China's competitive undervaluation represents a subsidy to all exports and a tariff on all imports. Hence it requires a comprehensive response via the exchange rate itself since there is no good alternative. A US effort that encompasses unilateral, IMF and WTO dimensions to that end is likely to be the most effective strategy we can undertake at this time.

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9 It can of course withhold funding from recalcitrant deficit countries, like Greece at present, that need both to borrow from it directly and to receive its blessing for adjustment policies that will permit them to resume borrowing in private capital markets.

10 Any new legislation on this issue should require that the Treasury Department make the exchange rate calculations and that the United States withdraw its cases if they are rejected by the WTO Dispute Settlement Mechanism.

11 There are likewise a number of China's trade and industrial policies of current concern, most notably of late under the heading of its National Indigenous Innovation Policy and particularly including protection of intellectual property rights, that are product-specific or sector-specific and need to be addressed via policy actions of that type rather than the across-the-board measures discussed here in the currency context.

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These procedures are spelled out in detail by Morris Goldstein, the former Deputy Director of the Research Department of the Fund, in "The IMF as Global Umpire for Exchange Rate Policies," in Michael Mussa, ed, C. Fred Bergsten and the World Economy, Washington: PIIE, 2006, esp. pp. 330 - 331. See also the extensive discussion by Mussa, the chief economist of the Fund for 10 years (1991 - 2001), in "IMF Surveillance over China's Exchange Rate Policy" in Morris Goldstein and Nicholas Lardy, eds, Debating China's Exchange Rate Policy, Washington: PIIE, 2008, esp. pp. 328 - 332. These procedures need to be strengthened, as argued by both Goldstein and Mussa, but those presently in place will have to suffice in dealing with the current problem.

About the author

Fred Bergsten is director of the Peterson Institute for International Economics since its creation in 1981. He served as Assistant Secretary for International Affairs of the US Treasury (1977–81) and also as Undersecretary for Monetary Affairs (1980–81) representing the US on the G5 Deputies and in preparing G7 summits, having coordinated US foreign economic policy in the White House as assistant to Henry Kissinger at the National Security Council. He was chairman of the Eminent Persons Group of the Asia Pacific Economic Cooperation (APEC) forum from 1993 to 1995, authoring its three reports that recommended "free and open trade in the region by 2010 and 2020" as adopted at the APEC summits in 1993 and 1994. He was also chairman of the Competitiveness Policy Council created by the Congress from 1991 through 1995, and a member of the two leading commissions on reform of the international monetary system: the Independent Task Force on The Future International Financial Architecture, sponsored by the Council on Foreign Relations (1999), and the International Financial Institutions Advisory Commission created by Congress (2000, on which he led the dissenting minority).He has authored numerous books and articles, including most recently China's Rise: Challenges and Opportunities (2008). He is an honorary fellow of the Chinese Academy of Social Sciences (1997).

2. A trade war is entirely unnecessary

Yu Yongding
Chinese Academy of Social Sciences

In recent months prominent US analysts including Paul Krugman and C. Fred Bergsten have called for the government to take action against China's exchange-rate policies. This paper explains why such measures would be counterproductive.

In the US - and Europe - analysts have called on the US government to take on China over its exchange rate regime. The eminent international trade economist Paul Krugman[1] has gone so far as to recommend the imposition of a 25% surcharge on Chinese imports. Meanwhile, C. Fred Bergsten has advocated a three-step procedure to force the Chinese government to change its exchange rate policy. Both have mounted campaigns that are counterproductive to solving the Sino-American trade dispute. Here I explain why.

A drag on world growth?

In 2009 China's economy grew in real terms by 8.7%, an outcome that was hailed universally by the international community as a significant contribution to global recovery. However, according to Krugman, by engineering an unwarranted trade surplus, China is in effect holding back most of the world's large economies, which are stuck in a liquidity trap. "China's policy of keeping its currency, the renminbi, undervalued has become a significant drag on global economic recovery," he said. This overlooks the fact that the growth rate of China's trade surplus fell significantly in 2008 and turned negative in 2009. In real terms the growth rate of China's exports compared with the rest of the world and that of its imports were -10.5% and 1.7% in 2009, respectively- an outcome that is in no small part because imports have held up quite well due to the Chinese government's massive stimulus package.

Moreover, as taught in every introductory macroeconomics course, when calculating the contribution of the trade balance to overall economic growth, it is the change in trade balance - not the absolute size - that matters. Because China sucked in imports at a greater pace than it pushed out exports in 2009, it made a positive contribution to the global recovery. As pointed out by Pieter Bottelier, a former head of the World Bank's office in Beijing, "China did more than any other country to pull the world out of the recession". This is a fundamental fact that Krugman should not brush aside so easily.

1 A list of Paul Krugman's recent critiques of Chinese policy is given at the end of this chapter.

The cause of a 1.4 million lost jobs?

Krugman states that his "back-of-the-envelope calculations suggest that for the next couple of years Chinese mercantilism may end up reducing US employment by around 1.4 million jobs." Is it wise to make such a startling, politically resonant conclusion with "back-of-the-envelope calculations?"

I am stunned by this frivolous attitude towards such a first order issue.

China's economic structure is vastly different from that of the US. China's exports to the US rarely compete directly with US-made goods. According to a former Minister of Commerce of the People's Republic of China, the country has to sell 800 million shirts to afford one US Boeing. This is a very good illustration of the trade pattern between China and the US. As pointed out by a former assistant secretary of Treasury, Mr. Philip Swagel, China's trade surplus does cost jobs, "but they were lost in Malaysia, Honduras, and the other low-cost countries from which US clothing and toys will be sourced as Chinese exports slow." We need to check Krugman's back-of-the envelope calculations to see whether his accusation holds water.

Restoring "equilibrium exchanges rate"?

The focal point of Sino-American dispute is the renminbi-dollar exchange rate and some have called for the restoration of equilibrium exchanges rates. To be operational, however, the relevant "equilibrium exchanges rates" must be established. As I pointed out many years ago, the concept of an equilibrium exchange rate is elusive. Who on earth can be sure what the right renminbi equilibrium exchange rate is? Indeed, John Williamson has noted that there are many definitions of equilibrium exchange rates. Among them are the DRER (desired long-run equilibrium real exchange rate), the LRER (long-run equilibrium exchange rate), the DEER (desirable equilibrium exchange rate), the BEER (behavioural equilibrium exchange rate), the GSDEER (Goldman Sachs dynamic equilibrium exchange rate), and the NATREX (natural real exchange rate). Even after picking an equilibrium exchange rate concept, analysts have found it hard to confidently estimate its correct value. It is noteworthy that, in recent years, China has been given numerous suggestions as to the equilibrium level of the renminbi with estimates of the corrective appreciation ranging from 2% to 40%. Even if these recommendations are taken at face value, which number should the Chinese authorities believe?[2]

Changing tack: Now capital exports are the problem.

Having shrugged off the need to provide estimates based on purchasing power parity (PPP) or the concepts of equilibrium exchange rate to prove that the renminbi is

2 I entirely agree with John Williamson, when he argued that "One could not realistically hope to pin down the equilibrium exchange rate more precisely than to within plus or minus 10%." Some subsequent writers have suggested that even this is overambitious and that a range of plus or minus 15% (as used by the European Monetary System in its final years) is more realistic.

undervalued, Krugman shifted his focus away from trade and the current account to financial flows, capital account, and "China's currency intervention." Next Krugman began to accuse Chinese government of "engaging in massive capital export - artificially creating a huge deficit in China's capital account." I must say this shift in focus is clever. Yes, China is running a current account surplus with the US, which by definition means that China is exporting capital to the US. There is nothing new about this proposition. As a matter of fact, China has been doing so consistently since the early 1990s.

To shift focus from current account to capital account does indeed provide a new perspective to look at the nature of China's current account surplus. Unfortunately for Krugman this shift of focus actually will weaken, rather than strengthen, his case that China is a villain and the US a victim in the Sino-American economic relationship.

To illustrate consider the following identity, which is a modified version of one used by Krugman in his critique:

changes in foreign exchange reserves + capital account + current account = 0

First, China runs a current account *surplus* owning to its trade promotion policies and for structural reasons. At the same time it also experiences a capital account *surplus*, owning to its preferential policy towards foreign direct investment (FDI) and the attractiveness of its business environment. Together this phenomenon is known as the "twin surpluses" in China. To maintain the effective peg to the dollar before 2005 and to control the pace of RMB appreciation ever since, the People's Bank of China (PBOC) intervenes in the foreign exchange market buying dollars and selling RMBs. The PBOC invests the dollars it bought from exporters and borrowers on the foreign exchange market in US treasuries. Moreover, the identity implies that China's increase in foreign exchange reserves must equal the sum of its current account surplus and capital account surplus.

Next, China's foreign exchange reserves can also be thought of comprising two parts, i.e. earned and borrowed foreign exchange reserves. And so China's net export of capital is equal to the increase in foreign exchange reserves minus the sum of the capital and current account surpluses. By running its twin surpluses China is importing capital in the form of FDI and foreign liabilities which pay high rates of return, while it exports capital in the form of greenbacks and US treasuries with low yields or no yields at all. In doing so, China has been engaging in a massive welfare transfer to the US. Under these circumstances, how could Krugman argue that China is "making everyone else poorer?"

The real policy dilemma facing the US government

The policy dilemma for the US government is how to reconcile two contradicting objectives. On the one hand, the US government must use fiscal deficits to lift the economy out of recession. On the other hand, the US government should reduce its current account deficit. Achieving the first objective, however, will make US current account deficit worsen. On the other hand, narrowing the current account deficit

effectively requires an increase in the US savings rate, which in turn will lead a fall in aggregate demand, the slowdown of the American economy, and a further rise in unemployment. How can the US government overcome this dilemma? The answer lies in the accounting identity:

[I -(GDP-T - C)] + (G-T) = (M-X)

To reduce the trade deficit (M-X), other things being equal, means an increase in GDP. To promote exports so as to reduce its current account deficit no doubt is the right policy for the US. This policy will achieve two objectives at the same time: growth and a reduction in the current account balance. However, to achieve the reduction by artificially suppressing imports by trade protectionist policy is counter-productive. The trade protectionism will drag down growth of the global economy--and the boomerang will come back and hit US exports. Instead of protectionism, the solution for the US government lies in an increase in exports, which in turn depends on the American people's hard work, innovation, and creativity. Confrontation will solve nothing.

Bergsten's three part strategy won't work either

Recently, C. Fred Bergsten has proposed the following three-part strategy to promote the substantial appreciation of the renminbi:

1. The US government should label China as a "currency manipulator" in its next foreign exchange report to Congress, due by 15 April 2000.
2. Seek a decision by the International Monetary Fund (IMF) to launch a "special" or "ad hoc" consultation to secure agreement from China to remedy the situation promptly.
3. To ask the World Trade Organization (WTO) to constitute a dispute settlement panel to determine whether China has violated its obligations under Article XV of General Agreement on Tariffs and Trade (GATT) (relating to the "frustration of the intent of the agreement by exchange action.")

Bergsten's idea is to form a wide coalition to persuade, or to "name and shame," China into corrective action. This amounts to the multilateralisation of this Sino-American trade dispute. To be fair to Bergsten, though he is taking a warlike posture, he is very careful to avoid wrecking all Sino-American synergies.

But I do not think Bergsten's strategy will work. To accuse China of "manipulating its currency" is easy, but proving it is more difficult. On what basis can this verdict be made? I do not think there are any such rules which will goad the IMF into doing anything serious about China. If the fixed exchange rate is legitimate, so should be the so-called protracted, one-way intervention by China. It is even more difficult to persuade the WTO to rule that renminbi is undervalued.

It will be absolutely impossible for the US to form a "coalition of the willing" on this matter. How can one expect Japan and other Asian countries to join the coalition? Japan has been running a trade surplus with China for years. "Extra demand from China" has been one of the most important contributing factors to

Japan's growth. The other East Asian nations supply many of the parts and components assembled in Chinese factories. What of India? No way. Australia? No way. EU countries? No way. Even usually a staunch ally, the UK, will not join this coalition. There will be no coalition whatsoever. I can bet on it.

The good news for China - as well as the US - is that the two countries' interests are closely intertwined. The rebalancing of their own economies is in both of their interests. China has begun to change its development mode (*fazhan fangshi*). The export-led growth is about to come to an end in China. Labour costs in China have been rising rapidly. Even without a nominal appreciation, the increase in the labour costs, which in turn will lead to an increase in prices, will result in real appreciation (even though I do not think this is a right way to encourage trade adjustment.)

China's paradigm shift

To disagree with Krugman, Bergsten, and the like, does not mean that China does not need to re-examine its own strategy and policy. Irrespective of what American politicians say, China should stand firm on the planned paradigm shift in its development mode and structure adjustment and further improve the mechanisms of exchange rate determination. The PBOC should reduce its intervention in the foreign exchange market and allow the renminbi to appreciate, although in what way and by how much is a debatable matter. The Chinese public should realise that the renminbi appreciation is one of the indispensable elements in China's paradigm shift. The renminbi appreciation will cause some troubles for some exporting enterprises, but overall the benefits will be greater than the costs. As long as the Chinese government can strike a fine balance between growth and structural adjustment, most exporting enterprises will survive and prosper. With a more balanced economy, China will be well placed for growth for another decade.

The renminbi peg is a temporary anti-crisis measure and a return to the pre-crisis policy is, in my view, inevitable. The provocative language will succeed only in delaying changes. A trade war is entirely unnecessary. A threat of trade war is entirely counterproductive. Let us talk and be more patient.

List of Paul Krugman's critiques of the current Chinese exchange rate regime:

Immaculate Transfer Strikes Again, *New York Times*, 6 April 2010.
Taking On China, *New York Times*, 15 March 2010.
Chinese New Year, *New York Times*, 1 January 2010.
World Out of Balance, *New York Times*, 16 November 2009.
China's Dollar Trag, *New York Times*, 3 April 2009.

About the author

Yu Yongding, is an Academician of the Chinese Academy of Social Sciences (CASS) and President of the China Society of World Economy (2003-) and Editor-in-Chief of China and World Economy. He was Director-General of Institute of World Economics and Politics (IWEP) with the CASS (1998-2009) and Member of the Monetary Policy Committee of People's Bank of China (2004-2006).

Yu Yongding was born in Jiangsu province in 1948. He graduated from the Beijing School of Science and Technology of the Chinese Academy of Sciences in 1969 and worked as electrician at Beijing Heavy Machinery Factory from 1969- 1979. He joined the Institute of World Economics in 1979 and was appointed as Research Fellow (1983-1986), Head of Research Department (1986), Senior Research Fellow (1987) and Senior Fellow (1995) with the institute.

He received his MA in economics from Graduate School of Chinese Academy of Social Sciences (1983), and D.Phil. in economics from the University of Oxford (1994).

Yu Yongding has authored, co-authored and edited more than 10 books, and published numerous papers and articles on macroeconomics, world economy, and other subjects in various journals. He is the winner of Sun Yefang Prize in Economics (China).

SECTION 2

Recent developments concerning the renminbi-dollar exchange rate

3. What caused China's current account surplus?

Yiping Huang
Peking University

The debate over the cause of China's current-account surplus continues to develop. This paper suggests a number of factors are probably to blame and one less-considered cause is input-cost distortion caused by China's asymmetric economic liberalisation. Any debate on policy response must therefore move beyond simply discussing currency appreciation.

A subject of international policy debate

China's current-account surplus has been a subject of contentious international economic policy debate for several years. But while politicians in other countries often criticise China's rigid exchange-rate regime, their real target is probably not the exchange-rate policy *per se* but China's external imbalances. It has been argued that, by running large current-account surplus, China has caused job losses for its trading partners (Krugman 2010). Recently, US politicians have escalated pressure on China to appreciate the renminbi.

Most Chinese economists and officials strongly reject the claim that China and its exchange-rate policy were to blame for America's asset bubbles, high unemployment rate, and large current-account deficits. Indeed, the US began to lose manufacturing jobs well before China emerged as the global manufacturing centre earlier this decade. Indeed, America's current-account deficits started to expand rapidly in the late 1990s, but the surge of China's current-account surplus occurred after 2004. Blaming China for causing America's economic problems appears at odds with common sense (Huang 2010).

But these facts do not mean China's large and growing external imbalances are not a problem. Persistent current-account surpluses mean that, as a low-income economy, China exports capital to rich countries. Rising external surpluses often worsen China's trading relations with its major trading partners and, therefore, threaten its growth sustainability. Heavy intervention in foreign exchange markets leads to massive liquidity in the market, which adds to inflation pressure. And, finally, rapid accumulation of foreign-exchange reserves also made China vulnerable in face of US dollar adjustment (Yu 2007).

It should be in China's own interest to rebalance the external sector. But how can China effectively reduce its current-account surplus? Since 2003, the Chinese government has been trying to narrow external surpluses through measures such as modest appreciation of the currency and reductions of export tax rebates. Unfortunately, the current-account surplus rose steadily from 2.8% of GDP in 2003

to 10.8% in 2007, before moderating to 9.6% in 2008 due to the shocks of the global crisis.

Six explanations offered by existing literature

The literature has provided six competing explanations for China's large current-account surplus, especially its recent surge.

- The first hypothesis relates to capital inflows disguised as a current-account surplus. In fact, the rapid growth of the current-account surplus coincided with appreciation of renminbi in 2005, which probably encouraged the expectation of further appreciation, as evidenced by changes in non-deliverable forward market rates. Some economists have estimated that the current-account surpluses in 2005-07 were so inflated by around 3 percentage points (Zhang 2009).
- The second hypothesis focuses on China's unique saving behaviour. Many economists explain the high saving rate of the Chinese households by reference to cultural factors of East Asia and underdeveloped social welfare systems. More recently, however, attention has shifted toward rapidly growing corporate savings in China, which were about 22.9% of GDP in 2007, roughly doubling their share in 1992 (Zhou 2009). Therefore, China may need to increase the investment rate, in addition to lowering the saving rate, so as to reduce its current-account surplus.
- The third hypothesis focuses on the role of the demographic transition. China has been implementing a family-planning policy since the 1970s. After thirty years, the youth dependency ratio dropped rapidly, generating what some economists called "population dividend". This probably affected the saving behaviour of the population. Some economists found that decline in youth dependency ratio by nearly 20 percentage points contributed to rise of China's net foreign asset position by 90% of GDP (Ma and Zhou 2009).
- The fourth hypothesis identifies migration of manufacturing factories to China in recent years, together with their trade surpluses. After its WTO accession in late 2001, China quickly became the global manufacturing centre. This helped to shift the supply chains of some sectors, such as the technology industry, into China. Since China still imports substantial amounts of intermediate goods from other Asian countries, in a way China exports to the US and other advanced economies on behalf of Asian economies. This is evidenced by the fact that China's rising bilateral trade surplus with the US parallels its growing bilateral trade deficits with other Asian economies.
- The fifth hypothesis singles out the importance of China's policies promoting strong economic growth. The Chinese government always attaches great importance to GDP growth, out of its concerns for job creation. As the reform architect Deng Xiaoping once claimed "development is a hard principle". GDP growth is the utmost policy goal for governments at all levels. When so many goods are produced they are destined for foreign markets, since domestic consumption remain relatively weak (Corden 2009).

- And, finally, the last hypothesis concerns the impact of the exchange-rate policy. Although there is disagreement on the degree of exchange-rate distortion, economists generally agree that the currency is probably undervalued (Goldstein and Lardy 2009). The causation between an current-account surplus and an undervalued currency seems plausible, since a depressed exchange rate encourages exports and discourages imports.

All these explanations suggested by the literature appear to be reasonable. But only the first hypothesis (disguised capital inflows) and the fourth hypothesis (migration of surpluses) help to account for the recent surge of China's current- account surpluses. For instance, while bilateral exchange rates are an important factor behind the external imbalance, it is difficult to explain co-existence of both appreciating renminbi and widening current-account surpluses in 2005-08.

An additional hypothesis: Factor-cost distortion

Here I propose an additional hypothesis for China's external imbalances: asymmetric market liberalisation and factor-cost distortion. The central theme of China's more than thirty years' programme of economic reform is to re-introduce the free market mechanism. The process of market-oriented reform, however, is asymmetric. Goods markets have almost been completely liberalised, which allows China to exploit its comparative advantage in abundant labour and to gradually improve productive efficiency (Lin et al. 1995).

In the meantime, however, factor markets remain heavily distorted. In the labour market, the household registration system still discourages labour mobility within China. It can no longer prevent farmers from finding jobs in the cities but still creates significant institutional discrimination against migrant workers. Those migrant workers cannot settle permanently in the cities and are not entitled to the urban social welfare benefits. Such discrimination help repress wages of migrant workers.

Capital markets still show clears symptoms of financial repression, evidenced by highly regulated interest rates and frequent state intervention in credit allocation. These problems, together with stricter controls over capital outflows than those over capital inflows, probably push down the cost of capital. The undervalued currency is yet another example of a policy creating a distortion in capital costs.

Land is owned by the state in the cities and by rural collectives in the countryside. Although land prices skyrocketed recently for property developments, land use costs remain extremely low for manufacturing investors. Often local governments compete with each other by offering lower land prices in order to attract outside investors. A mismatch clearly exists.

Distortions to prices of energy and other resources are commonly observed in China. In 2008, at the peak of the international oil prices at $150 per barrel, domestic equivalent prices were only at around $80 per barrel. Water, gas, and electricity are also exceedingly cheap, compared with international prices.

Some of these distortions, such as energy cost distortion, are the result of government's deliberate policy choices. Others, such as capital cost distortion, are transitional phenomenon during the reform period. But cost distortion is not an entirely new phenomenon in China. During the pre-reform period, the government

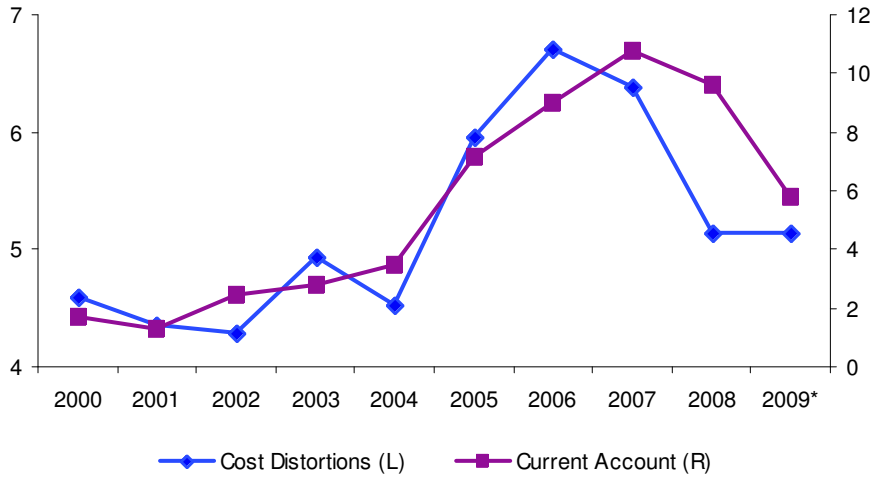
also depressed agricultural prices in order to channel funds into the urban industry. The purpose of such policy is to achieve fastest possible economic growth.

All these distortions share a common effect, i.e. repressing factor costs. With co-authors, I have made some efforts to try to estimate the magnitudes of such factor cost distortions for 2000-2009 (Huang and Tao 2010). Estimates of the distortions to the cost of capital are by far the largest component, ranging from 3% to 4% of GDP. Labour cost distortions have increased significantly in recent years, more because of the slower growth of migrant workers' pay than urban wages. Distortions to both land and energy costs showed upward trends during the past years.

Such distortions to factor costs are equivalent to producer subsidies. They artificially raise the profitability of production, increase returns to investment, and improve the competitiveness of Chinese exports in international markets. They also contributed to China's extraordinary GDP growth. At the same time they also led to serious external imbalances, since investment and exports levels were even higher than otherwise. Meanwhile, factor cost distortions also lowered the share of household income in GDP by at least 10 percentage points during the past decade. This, in turn, had negative effects on the share of GDP devoted to consumption expenditures.

In fact, movement of the combined cost distortions for capital, land, and energy provides a reasonable explanation about recent surge in current-account surplus. In Figure 1 I have deliberately left out the impact of labour cost distortions since the robustness of the empirical estimates of these distortions are often challenged. Adding back labour cost distortion, however, does not change the picture at all. I conclude that factor-cost distortion is at least one important plausible factor behind China's large recent increase in its current-account surplus.

Figure 1. Estimated cost distortion excluding labour cost and the Chinese current-account balance, 2000-09 (% GDP)



Source: CEIC Data Company and authors' estimation.

Rebalancing the Chinese economy requires a comprehensive package

So what are the implications for the current policy debate on China's external imbalances? The most important lesson is that China's large current-account surpluses are probably caused by a number of factors. Therefore, effectively addressing this problem requires a comprehensive policy package. Exchange-rate policy should be an important part of this package so that the adjustment is smooth and orderly. Yet, an exclusive focus on the value of the bilateral exchange rate could be counter-productive.

This idea of comprehensive policy package dealing with China's external imbalance is already shared by many American economists. Goldstein and Lardy (2009), for instance, have proposed a four part package relating to fiscal, financial, exchange rate, and price policies. Likewise, Woo (2006) has argued that trade surpluses are better handled by the establishment of an efficient financial intermediation mechanism than by appreciation of the currency.

My analysis suggests that a key element of the policy package should be the liberalisation of the factor markets and the removal of associated cost distortions. Only by reducing the latter will the incentives for exports and imports change, which would in turn affect the external imbalances. Exchange-rate policy should be a part, but not the whole, of this package.

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4. Congress and Chinese currency legislation

Claude Barfield

American Enterprise Institute for Public Policy Research

As the speculation over US action on China's alleged currency manipulation intensifies, this paper outlines the bills, proposals and comments that make up the political background to this debate.

Over the first ten days of April, rapidly moving events substantially lowered the bookies' odds for a near-term confrontation between the US and China over China's alleged manipulation of its currency. In retrospect, the key move to break the logjam came with a phone conversation between President Obama and President Hu Jintao, on Thursday 1 April. In the week following, top lieutenants of both presidents worked through a combination of trade, security, and diplomatic issues and, at least for the time being, produced tentative steps to reduce tensions and provide for more lasting changes. First, the US Treasury Department announced that the 15 April deadline for labelling China a "currency manipulator" had been put off, at least until after the G20 heads of state summit in June. In turn, Chinese President Hu Jintao has agreed to attend the Nuclear Security Summit, hosted by President Obama in Washington, on 12-13 April. And Beijing has signalled it will allow the yuan to strengthen in coming months - most likely through a gradual loosening of currency bands.

Where does this leave Congress and pending retaliation against Chinese currency "manipulation"?

To understand where we are we should first review congressional actions - or more accurately, threats of action - over the past decade.

Proposed legislation: 2003-2009

Ironically, given the recent outburst of congressional animus and inflammatory rhetoric against Beijing's "undervalued" currency - abetted by trade economists who should know better - the current bills before Congress are much more nuanced (though still bad policy) than earlier proposed legislation. For instance, in 2003 and again in 2005-2006, Senator Charles Schumer (Democrat - New York), backed by Sen. Lindsay Graham (Republican - South Carolina), introduced and pushed for what might be termed "blunt force" retaliation against China. Specifically, S.1586 in the 108th Congress, provided that 180 days after the legislation became law, "there shall be imposed a rate of duty of 27.5% ad valorem on any article that is the growth,

product or manufacture of the People's Republic of China, imported directly or indirectly into the US" unless the president certified that China had ceased manipulating its currency "for purposes of preventing an effective balance of payments and gaining an unfair competitive advantage in international trade." With regard to GATT-legality, S.1586 made a perfunctory, and bizarre, reference to Article XXI that allows WTO members to take any action "necessary for the protection of its essential security interests."

New bills in 2007

As the US-China trade imbalance continued to increase, in 2007 a raft of new bills were introduced; and a complicated dance began between the Senate Finance and Banking committees over jurisdiction: there were three main bills, H.R.2942 in the House; and S.1607 (Finance Committee) and S.1677 (Banking Committee) in the Senate. The three bills were broadly similar and represented a substantial change from the mandatory, quick-response retaliation of the 2003-2005 legislation. And what is more interesting and relevant here is that the 2007 legislative model in large part has endured and forms the basis for the most important bills in 2010. For the purpose of this brief essay, S.1607 will be used for the basic description. First, in 2007, the Treasury Department had introduced an "intent" test to determine whether a currency was being manipulated. S.1607 removed the intent factor by replacing the term "manipulation" with "fundamentally misaligned." Treasury is mandated to determine fundamental misalignment through economic modelling and to inform Congress of the methodology used in this determination. If a nation's currency is fundamentally misaligned through government action, Treasury must identify that government for priority action and commence negotiations to rectify the misalignment. If there is no successful result after 180 days, the US will take certain unilateral actions:

- cease all US government purchases of goods and services from the designated country;
- reflect the undervalued currency in anti-dumping decisions and duties, thereby increasing any subsequent anti-dumping duties;
- oppose future Overseas Private Investment Corporation and multilateral bank financing for the offending country;
- block any IMF rules that would benefit the offending country;
- and oppose any change in status from a non-market economy to a market economy.
- Finally, the bill would direct the president to seek advice and action from the IMF.
- If there is no positive result within 360 days, the US must initiate a WTO dispute settlement case.

The bill allowed a presidential waiver under certain specified rules. After labelling a country a "priority" currency manipulator, the president could waive the above-named unilateral actions if he determined that such actions would harm national

security or vital economic interests. He would be required to explain his reasoning in detail to Congress. Subsequently, if the president invoked a waiver again, Congress reserved the right to introduce a joint resolution of disapproval. If the resolution passed and was then vetoed, it would take a two-thirds majority of both houses to override the veto.

2010 to present

On March 16, a bipartisan group of twelve senators, led by Senators Schumer, Graham and Debbie Stabenow (Democrat - Michigan), introduced the Currency Exchange Rate Oversight Reform Act of 2010 (S.3134). The bill represents a merging and compromise among competing legislative approaches adopted earlier by different committees. With several important exceptions S. 3134 tracks the major provisions of S.1607. It does attempt to restrict presidential waiver authority by mandating that for a second waiver the president must explain why taking the unilateral actions would be "out of proportion" to the benefits of retaliation.

The most important difference, however, relates to the use of currency calculations in subsidy and countervailing duty actions. Congress has been pressing the Obama administration - and more specifically the Department of Commerce - to define currency manipulation as a countervailable subsidy, subject to countervailing duties - and Senators Stabenow and Jim Bunning (Republican - Kentucky) had introduced a bill S.1027 to that end. (When the bill was first introduced in 2008, both then-Senators Obama and Clinton supported it). On the other side, Senators Max Baucus (Democrat - Montana) and Charles Grassley (Republican - Iowa) had strongly resisted such a linkage, arguing that it would run afoul of WTO law.

In a compromise, S.3134 merely mandates that the Commerce Department must initiate an investigation to determine whether or not currency undervaluation is a countervailable subsidy in individual cases. It also mandates a currency countervailing duties investigation specifically for China if the administration names it as a currency manipulator on 15 April

Going forward

It is too soon to know how the Administration's about-face will play out in Congress. Rep. Sander Levin (Democrat - Michigan), the new chairman of the House Ways and Means Committee, and something of a trade hawk, has reacted cautiously during the run-up to the April deadline. On 4 April, he praised the administration's decision to postpone the currency report on China, though warning that is multilateral efforts failed in coming months the administration "will have no choice but to take appropriate action." On the other hand, Sen. Grassley, ranking Republican on the Senate Finance Committee, strongly criticised the delay, stating that "everyone knows China manipulating the value of its currency," and that; "If we want the Chinese to take us seriously, we need to be willing to say so publicly." Sen. Schumer also took a harder line and vowed to continue to push the bill immediately despite the administration's accommodation with China (possibly attaching it to "must-pass" legislation, according to Senate Democratic aides). Further, while Rep. Levin adopted a conciliatory stance, it is not clear that many of his colleagues in the House will

forebear. On 15 March, a bipartisan group of 130 House members signed a letter to the Administration urging it to name China as a currency manipulator, apply the US countervailing duty law, and file a case against the PRC in the WTO. If all else fails, stated the letter, the administration "should use all tools at its disposal, including applications of tariffs on Chinese imports."

On Krugman and Bergsten

Reintroduction of the potential of unilateral tariffs against Chinese imports (harking back to dominant legislative proposals from 2003-2006) must be weighed against a new support given to such actions by two leading US international trade economists: Paul Krugman and C Fred Bergsten (2010). In remarks at a labour-supported think tank, and in an op-ed in the Times, Krugman argued that in a tit-for-tat battle over currency manipulation the US would suffer much less than China. And he concluded that if other tactics failed, one sometimes had to employ unilateral force ("a baseball bat") to force a change of course; in this case forcing the PRC to revalue its currency. If "sweet reason" failed, he argued, the US should impose a "temporary" 25% surcharge on Chinese imports: "Its time to take a stand." At the same event, Bergsten associated himself with Krugman's analysis and conclusions, stating Chinese currency manipulation "is blatant protection, and letting it continue is destructive of the open global trading system…sometimes you have to fight fire with fire." It should be noted, however, that some days later at a congressional hearing, Bergsten presented a three-part strategy to deal with the situation, including:

- naming China currency manipulator on 15 April;
- seeking a decision by the IMF to launch a special consultation with China leading to a revision upward of the yuan;
- and finally, instituting a WTO case against China to determine if Chinese currency policy violated WTO rules.

He did not refer in the prepared testimony to the earlier exchanges with Krugman.

In the short term, given events and decisions over the past two weeks, pressure may ease for congressional action on the Chinese currency issue. But it is also true that the Krugman/Bergsten discussions did have an important impact on members of Congress and staff. And in the future, one can be sure that this defence of unilateralism will be frequently cited. After all if a Nobel Prize-winning economist endorses such action, what's the beef?

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SECTION 3

The renminbi and global imbalances

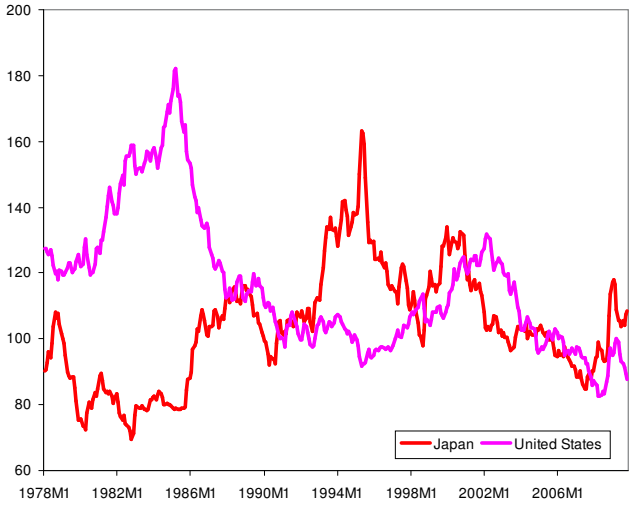
5. Is an undervalued renmimbi the source of global imbalances?

Charles Wyplosz
The Graduate Institute, Geneva and CEPR

This paper argues that the current debate in the US over Chinese exchange-rate policy is a rerun of the 70s and 80s, with China taking Japan's role. But while there is a relationship between current-account deficits and surpluses, causality is difficult to establish. Politics aside, even if China does not choose to appreciate its currency, inflation will eventually finish the job.

Back in the 70s and 80s, a sure vote-getter in the US and pleasure-getter on Capitol Hill was to complain about Japan's manipulating its exchange rate. Every argument that you may hear today about China was made then. In the end, Japan caved in and appreciated its exchange rate. This is shown in Figure 1, which displays real effective exchange rates, i.e. exchange rates corrected for the evolution of the country's labour costs relative to those of trade partners. As seen from Figure 2, the US current account deficit improved, but only temporarily so, and Japan remained in surplus after a temporary reduction. What the move has achieved durably was to wreck the Japanese economy, which has not grown ever since - the Japanese used to call this the lost decade, it is now becoming a lost generation. As China emulates Japan's export-led growth strategy, this story is likely to figure prominently on its policymakers' minds. Rightly so. (For development of this story see Park and Wyplosz 2010).

Figure 1 Real effective exchange rates (Index: 2005 = 100)

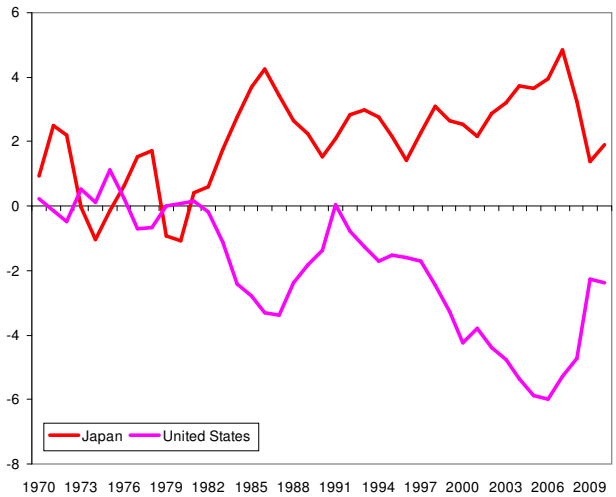


Source: IMF. *Note*: Nominal exchange rates corrected for unit labour costs. An increase represents a real appreciation

A confusing debate

Figure 2 illustrates the dangers of interpreting comovements as causality. The striking feature is the opposite movements - or negative correlation - of the US and Japanese current accounts. Equally strikingly, in spite of these wide fluctuations, for more than 30 years the Japanese account has not been into negative territory while the US has not seen a surplus. US Congressmen interpreted these opposite yo-yo movements as a proof that the US deficits were caused by the Japanese surpluses and they saw the continuing Japanese surpluses as a proof that the yen was overvalued. They say exactly the same things today, just cut out "Japan" and replace it with "China".

Figure 2 Current accounts (% of GDP)



Source: IMF.

But there is a big problem. The negative correlation between the US and Japanese current accounts is still very much there. So if yesterday's Congressmen were right, then it must still be that the US external deficit continues to be driven by Japan's surplus. You do not need to bring China into the picture. Alternatively, if you agree with today's Congressmen, you didn't need Japan back then, maybe China was already doing the trick (it wasn't). The other possibility is that both China and Japan have been colluding all along, which would require an incredible amount of coordination between two countries that are barely on speaking terms.

China's authorities naturally see causality running in the other direction. They blame the US current account deficits for the Japanese and Chinese surpluses. They further blame the US budget deficits for their external deficits. The US response has been the "saving glut" hypothesis originally proposed by Bernanke (2005). This view argues that excess savings in China (about 40% of GDP) both depress imports and create the need for investment opportunities abroad. Thus Congressmen look at the current account and competitiveness, therefore the exchange rate, while Bernanke looks at capital flows - the Chinese savings are transformed into US (public sector) borrowing. This removes the exchange rate from centre stage.

Some (hopefully) clarifying observations on causality

Causality lies at the heart of the dispute, as is often the case. As economists, we know how delicate the causality issue is. Theoretically, in general equilibrium few are the truly causal - or exogenous - factors. Empirically, causality is the most vexing issue, which has led to countless techniques, none of which are particularly convincing. The first observation, which is neither clarifying nor hopeful, is that it is impossible to prove which side of the debate is guilty.

In particular, no one will seriously claim that current accounts are exogenous. Debating whether it is the US deficit that is causing China's surplus or the other way around is a waste of time. The negative correlation only shows that these variables are related to each other. We must try to understand what is driving both. US budget deficits, Chinese and US savings and a few other variables are good candidates, more below.

Another aspect of the causality problem is the role of the exchange rate. Is the Chinese current-account surplus caused by a renmimbi undervaluation? Put differently, is the renmimbi exchange rate exogenous? The answer is not as easy as it may seem. Of course, the Chinese authorities peg their exchange rate to the dollar and even when they allow for some flexibility (before the crisis and soon again), they still very much keep it under control. Undoubtedly, the nominal exchange rate of the renmimbi can be taken as exogenous, but it is the real exchange rate, i.e. the relative price of domestic and foreign goods or relative unit costs as in Figure 1, that affects the current account.

Does the renmimbi exchange rate matter?

Let us start with the object of conflict, i.e. the dollar-renmimbi exchange rate. The nominal rate is in the hands of the Chinese authorities, who have opted for a fixed exchange rate regime. This is perfectly compatible with IMF principles. Calling that manipulation is not just outside any legal norm, it would also concern the tens of other countries that also peg their currencies to the dollar - and (why not?) those that maintain fixed exchange rates vis-à-vis currencies like the euro.

But is this peg responsible for the Chinese surplus and the US deficit? Start with the easier part of the question: the link between the Chinese current account and the value of the renmimbi. If the exchange rate has any impact on the current account, it is because it affects price competitiveness, which can be approximated by the real exchange rate. The evidence here is not controversial: the nominal exchange rate strongly affects the real exchange rate in the short run, say over one year or two, but not in the long run because real exchange rates eventually are endogenous. The claim that the renmimbi undervaluation is the cause of *continuing* Chinese surpluses look like a nonstarter, unless it can be proven that China *also* prevents prices to rise in response to undervaluation.

Like every country, China tries to stabilise prices. The instrument is monetary policy, which in China is essentially driven by the fixed exchange rate policy. Put differently, the exchange rate is the instrument used to keep inflation low. If the authorities were to peg it at the wrong level, the result would be inflation. This does

not fully exonerate China, however. Because they use extensive internal and external financial controls, the Chinese authorities can peg the exchange rate at an undervalued level and combat inflation through credit controls. This is precisely what they do. So, yes, it is possible for China to control its *real* exchange rate for more than the short run. Put differently, the export-led strategy is still an option.

This conclusion, however, does not imply that the renmimbi exchange rate can explain the US deficit. The US cannot control its own real exchange rate and, anyway, it does not even attempt to control its nominal rate. Then is the dollar overvalued? This, in turn, begs the question of what is the dollar equilibrium exchange rate level. The formal definition of equilibrium is complex - the real rate that, if maintained indefinitely would allow the country to run permanently surpluses, respectively deficits, that allows it to serve its external debt, respectively to absorb returns on its net external asset position. A simplified version, inevitably inaccurate, is that the real exchange rate is in equilibrium if it delivers a current account balance when the economy is otherwise in a sustainable position. The problem is that the US quasi-zero private saving rate until 2008 and its budget deficits observed over the last decade are not sustainable. Whether the dollar is in equilibrium or not is therefore highly controversial. A safe conclusion is that a renmimbi appreciation, even a large one, will not solve the many disequilibria present in the US economy. US citizens must first start saving again and the federal government must stabilise its own indebtedness. The role of the renmimbi is bound to be negligible.

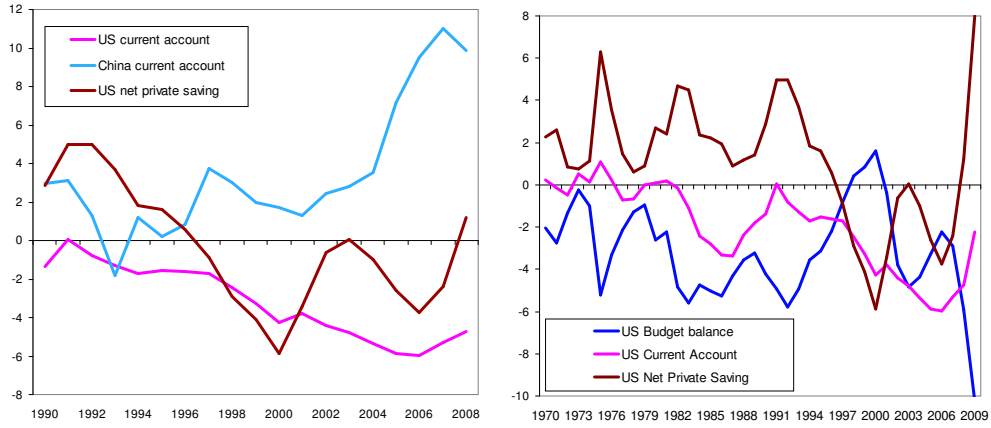
What is the story, then?

A good story must distinguish between short-run comovements of the US and Chinese current accounts and the long-run trend of larger imbalances visible since the mid-1990s, both of which are negatively correlated. The saving glut story offers an interesting starting point. It takes Chinese savings as exogenous. High savings are seen as the result of Asian famed propensity to save combined with income distribution tilted towards large firms and with inexistent social safety nets. It is also a highly desirable feature when the population is quickly ageing, as is indeed the case in China. Fast growth and more resources flowing to high savers explain the trend seen in the left-hand chart in Figure 3.

The next step is the trend decline in US net private saving (for the time being, ignore the wide shorter-run fluctuations) also shown in the left-hand chart in Figure 3. This is mirrored in the growing US current account deficit. No need for China and the renmimbi to account for this evolution. It just turns out that the current accounts of China and of the US started more or less simultaneously in opposite directions.

For the shorter-run movements, we turn to the right-hand chart in Figure 3 which displays the US current account and its two components: the budget balance and net private saving. The striking observation is the near perfect negative correlation between the budget balance and net private saving. This observation suggests - remember, causality is hard to prove - that net private saving fluctuations in the US have been largely driven by the budget balance, in Ricardian fashion (Ricardian equivalence asserts that the private sector saves exactly what the government dissaves because it understands that the public debt must be eventually financed by higher taxes).

Figure 3 The China-US nexus (% of GDP)



Source: IMF and OECD.

In a pure Ricardian world, the current account would have remained in balance, which it approximately did until the early 1990s. This observation came to be known as the Feldstein-Horioka paradox because it meant that the US was not taking advantage of financial markets to borrow or lend internationally. The paradox disappeared in early 1990s when the short-run fluctuations of net private savings moved along a declining trend, which was mirrored in the declining current account deficit. This is indeed when financial deregulation picked up speed around the world. In the US, it led to the development, among other innovations, of the now-infamous subprime mortgage markets. Private saving declined drastically. (The 2008 crisis seems to have brought a reversal, but a couple of years a trend does not make.)

Finally, what about the negatively-correlated shorter-run current account fluctuations in the US and China (and Japan)? The striking message from the left-hand chart in Figure 3 is that the Chinese current account is most directly related to US net private savings and therefore, via the right-hand chart, to the US budget deficits. Assume that Chinese and Japanese (and German) savers would not have responded to rising borrowing needs in the US? In the now globalised economy, interest rates would have risen worldwide, presumably encouraging saving. Conversely, if China's savings had not been matched by US borrowing, interest rates would have declined worldwide, presumably encouraging borrowing. Depending on which side dominated, interest rates played their balancing role - though this remains to be established.

Summary

The story can be summarised in a simple, hopefully convincing, way.

- Financial deregulation in the US leads to a drastic decline in US private savings, which translated in a long-run trend decline in the current account balance.

- At about the same time, China deregulated its economy and embarked on an export-led strategy. Rapid growth put continuously more income in the hands of large firms that started to save more as they could not invest fast enough to absorb their resources. This translated in a long-run trend rise in China's current account.
- In the shorter run, US budget deficit fluctuations led to opposite fluctuations in US net private savings (along the downward trend, see Figure 3 above). US citizens being imperfectly Ricardian, there remains a residual current account imbalance (along the downward trend, see Figure 3 above) which led to matching saving responses elsewhere in the world, including in China.
- The Chinese exchange rate is not a necessary ingredient in the story. If China insists on pegging the renmimbi to the dollar and on preventing the real appreciation that should accompany fast technological catch-up - the Balassa-Samuelson principle - eventually inflation will deliver this appreciation.

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6. A trade theorist's take on global imbalance

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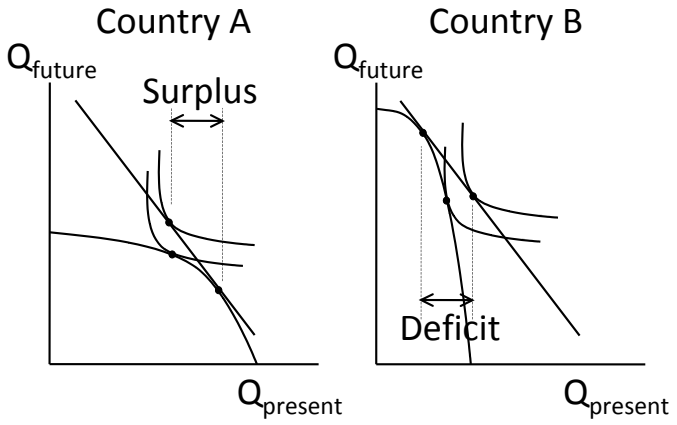
University of Michigan

Does the "global imbalance" between the importers, such as the US, and exporters, such as China, actually make people worse off? This column argues that both countries may be using policies that, in effect, subsidise the export of the goods in which they have comparative intertemporal disadvantage. If this is the case, the resulting trade reduces global welfare.

The large and growing trade imbalances of various countries in the world economy has led to growing concern among policymakers and commentators. This has fuelled calls for "global rebalancing" in which countries with persistent trade deficits, such as the US, would reduce net imports, while countries with persistent trade surpluses, such as China, would reduce net exports. This issue has become associated with concerns about the managed exchange rates of China and others, as well as about budget imbalances of the US and others. My purpose here is to look at global imbalances from the perspective that a trade theorist would take to global trade. The issue is whether trade imbalances are necessarily harmful to global welfare and therefore a sign that policies are needed to correct them.

From a trade perspective, trade imbalances need not be a sign of disequilibrium. Rather, they could be a simple indication that there is trade across time, as well as across space. This is illustrated simply in Figure 1, which shows the familiar trade theorists' illustration of differing production possibilities in two countries, A and B, together with indifference curves showing the welfare that they can achieve both in autarky and with free trade. However, instead of the axes showing quantities of two different goods at the same point in time, they show what could be the same good but at different points in time. That is, country A is relatively better at, and therefore has a comparative advantage in, producing the good in the present, while country B's production possibilities are similarly skewed toward production in the future. In autarky, these differences are reflected in a lower relative price of present compared to future consumption in country A than in country B, which corresponds to a lower real interest rate in A than in B. With free trade, shown by price lines with the same slope and thus the same interest rate in both countries, country A expands production in the present, exporting its excess to country B, while B does the reverse. In the present, it follows that Country A is producing more than it is consuming, and thus that it is running a trade surplus, while Country B is running a deficit.

Figure 1 Free inter-temporal trade with identical preferences



Are there gains from this trade?

Certainly. Each country is exploiting its own inter-temporal comparative advantage, and both are accordingly able to reach higher indifference curves, representing higher welfare. If this were the situation of the world economy, it would not be cause for concern.

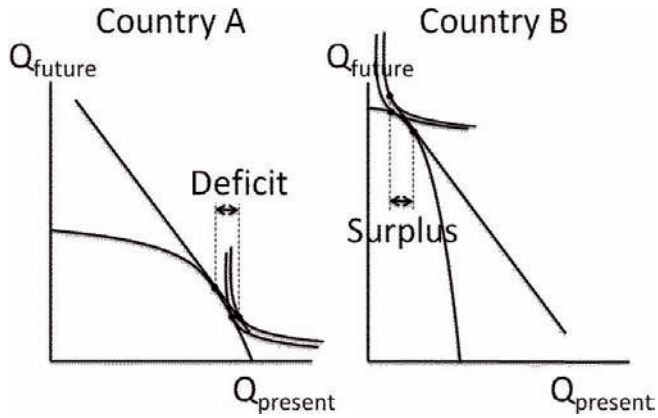
But note what distinguishes the two countries in Figure 1. Country A has a comparative advantage in present production, while country B has a comparative advantage in future production. This difference in the two production possibility curves means that the ratio of real output in the future, compared to the present, is larger in country B than in country A, or in other words that real output is growing faster, over time, in country B. That, indeed, is why it makes sense for consumers in country B to run a trade deficit, in effect smoothing their consumption over time.

But if we try to match this scenario to the current situation in the world economy, we have a problem. The country that is running the largest chronic trade surplus is rapidly-growing China, not slow-growing US. Thus if we had to identify countries A and B in the figure with anybody, the US would be country A and China would be country B. The theory would tell us that the US should be running a surplus and China should be running a deficit.

How does this fit with reality?

How can we account, in the context of this model, for the fact that the countries are doing just the opposite? One possibility would be to let them have different preferences. Suppose that country A has an even greater preference for present consumption than its ability to produce in the present, while country B has a similarly extreme preference for consuming in the future. Figure 2 shows such a free trade equilibrium. It has the two countries gaining from this inter-temporal trade, which is now motivated more by their difference in preferences than by their difference in ability to produce.

Figure 2 Free inter-temporal trade with non-identical preferences, country A consumers favouring $Q_{present}$ and country B consumers favouring Q_{future}



Is Figure 2 a plausible explanation of what we see in the world? Perhaps. It is certainly true that many of us in the US, myself included, act as though we prefer present over future consumption to an extreme degree, and the savings rates of China and other developing countries suggest the opposite preference. However, if that were the whole story, then we would expect a higher real interest rate in the US than in China, except to the extent that trade and/or capital flows have equalised interest rates internationally. That does not seem plausible to me. And in any case, I hesitate to rely on an explanation of behaviour that rests too much on differences in preferences

An alternative would be to ask whether policies might exist that interfere with the free inter-temporal trade of Figure 1 and that could alter its outcome. In trade theory, we are most accustomed to considering barriers to trade such as tariffs, but these would not help in this case. They would only drive the trade imbalances to zero, not reverse them. What we need instead are policies that artificially stimulate trade that is counter to comparative advantage. Most simply, suppose that countries use policies to subsidise, or otherwise encourage, exports of the good in which they have comparative disadvantage (or imports of the other).

Specifically, suppose that country A subsidises exports of the future good, while country B subsidises exports of the present good. The outcome of this pair of policies is shown in Figure 3. Trade takes place along a common dashed price line. Because of the subsidy to export of the future good in country A, its relative price is higher within the domestic market, for both producers and consumers, than on the world market. The opposite is true in country B. And in both countries, the budgets of consumers at domestic prices are reduced below the value of production by the need to levy lump-sum taxes to finance the subsidies. Although this may all look somewhat unfamiliar, it is just the export-subsidy analogue of the usual two-country analysis of an import tariff.

The result shown in Figure 3 has both countries welfare reduced well below the autarky level. This is not necessarily the case, since it would be possible for one country to gain if its own subsidy were sufficiently small compared to the other. But a net loss for the world as a whole, compared to autarky, is necessary, since by trading contrary to comparative advantage, the world is promoting inefficiency.

Figure 3 Policy-distorted inter-temporal trade: Country A subsidises exports of Q_{future} and country B subsidises exports of $Q_{present}$.

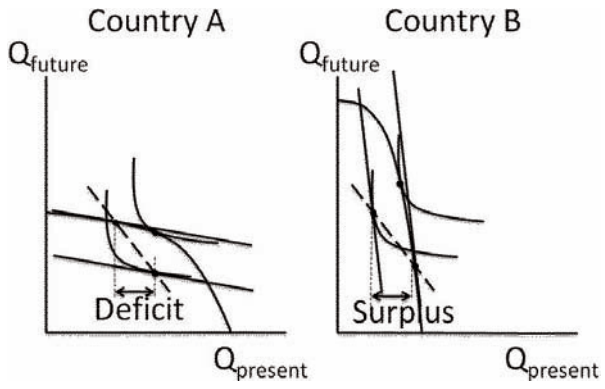


Figure 3 tells a dramatic story of how pernicious a global imbalance can be if it is caused by policies that promote inter-temporal trade that is contrary to comparative advantage. The fact that certain fast-growing economies such as China are running trade surpluses while slow-growing economies such as the US are running deficits is suggestive that something like this might be going on. One wonders, however, what sort of policies play the role of the export subsidies in Figure 3.

In the case of China, the answer is fairly straightforward. For many years, the Chinese government has accumulated foreign assets as a byproduct of its exchange-market intervention. It is, in effect, lending massively each year to the rest of the world. That policy comes about as close as I can imagine to subsidising exports of present goods.

In the US, it is harder to see a policy that can be interpreted as subsidising future exports or present imports. However the stance of both monetary and fiscal policies over recent years seems to have promoted present consumption over future consumption, and thus low saving. That does not fit quite as neatly into this theoretical framework, but it seems likely to have similar effects.

To conclude, this interpretation of global imbalance, from the perspective of trade theory, suggests that it is likely to be undermining world welfare. And to the extent that it is caused by policies of both the surplus and deficit countries, it is likely to be making both of them worse off.

About the author

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Trading Arrangements, and he has published numerous articles on aspects of international trade theory and policy, including theories of the patterns and effects of trade and, with Professors Stern and Drusilla K. Brown, computable general equilibrium models of trade policy.

SECTION 4

How much does the renminbi need to appreciate? To what effect?

7. The renminbi since 2005

Jeffrey Frankel
Kennedy School of Government, Harvard University

Much of the debate over China's exchange-rate policy has focused on the effect on the US and other western economies. This paper provides a comprehensive summary of China's exchange-rate policy over the last five years and argues that it would also be in China's interest to let its currency appreciate - and now is as good a time as any.

For better or worse, the topic of China's currency policy, and in particular the exchange rate of the renminbi against the dollar, is now perhaps the most salient of controversies in international monetary economics. The US Treasury's bilateral report to Congress on countries that may have been unfairly manipulating their exchange rates is awaited with far more eagerness than usual.[1]

The US Treasury Reports

In a 2007 paper for *Economic Policy*, Shang-Jin Wei and I examined econometrically the factors that have apparently determined US Treasury findings regarding manipulation, in the years since Congress first mandated these reports in 1988. We found some variables that an economist would recognise as legitimately relevant to the possible undervaluation of foreign currencies to have effects on the decisions in the Treasury reports. Particularly significant statistically was the partner's overall current account/GDP ratio. Less significant are the partner's reserve changes and the undervaluation of its currency as judged by purchasing power parity (PPP). Some variables that an economist would not recognise as the legitimate responsibility of the foreign countries also matter in the decision. The bilateral trade balance is the most consistently and strongly significant, generally at the 99% level. The US unemployment rate is sometimes also significant, particularly when interacted with a dummy variable for a presidential election year.

Overall, three aspects of the regression results suggest that the domestic political variables are as important determinants of the Treasury decision as the legitimate global manipulation criteria: the absence of a clear role for reserve accumulation by the partner country as mandated by IMF criteria, the significance of US unemployment (especially in election years), and the very high significance of the

1 As of the date of writing, the Treasury has announced that the report will be delayed well past the technical April deadline, widely hypothesised to be part of a face-saving arrangement that will give China enough political space and time to allow some small appreciation of the currency.

bilateral balance. If it was the IMF interpreting the criteria in its Articles of Agreement, rather than the Treasury interpreting the criteria in the 1988 US law, then consistent uni-directional intervention in the foreign exchange market would receive a lot more emphasis, and the US-specific variables such as the bilateral trade balance and US unemployment would not appear at all.

Using this equation to predict whether the Treasury in the end will go all the way to naming China as a "manipulator" in 2010 does not give a clear answer. Relative to the last dozen Treasury reports, two major factors have changed, but in opposite directions. On the one hand, China's overall trade surplus in 2010 has dramatically - if perhaps temporarily - dropped to zero. On the other hand, US unemployment is unusually high.

The remainder of this short paper addresses two questions:

- What has been the actual exchange rate followed by the Chinese authorities over the last five years?
- What exchange-rate policy is in China's own interest?

What has been China's exchange rate policy since 2005?

In July 2005, the Chinese government announced that it was changing its official exchange-rate regime. As US politicians had been demanding, the renminbi would no longer be pegged to the dollar. Rather the authorities would:

- set its value with reference to a basket of foreign currencies (with numerical weights unannounced), and
- allow a margin of fluctuation in the exchange rate that, though small in any given day, could cumulate substantially over time.

What has the exchange-rate regime been in practice, as opposed to the official announcement? It would not be surprising if the two differed. Many currencies show such a discrepancy. Accordingly, statistical techniques were developed some years ago to discern the true exchange-rate regime.

The standard techniques show that, in practice, the renminbi initially continued to maintain a tight peg to the dollar after July 2005. Gradually, in 2006, the relationship loosened. Statistical analysis suggests that the People's Bank of China did indeed begin to assign a little weight within the anchor basket to a few non-dollar currencies, perhaps beginning with the Korean won during a period centred on January-March 2007. However most of the weight remained on the dollar (Frankel and Wei 2007).

The addition of another few years of data and the use of a new, more sophisticated, statistical equation revealed that during the course of 2007 the effective anchoring basket began for the first time to assign substantial weight to the euro (Frankel and Wei 2008). For a period that ran up to approximately May 2008, the anchor was in effect a basket that put virtually as much weight on the euro as on the dollar. There was also some limited flexibility around that anchor. When high or low international flows were working to push the currency away from the basket, the authorities would intervene, or "lean against the wind," to push the currency back (Frankel 2009).

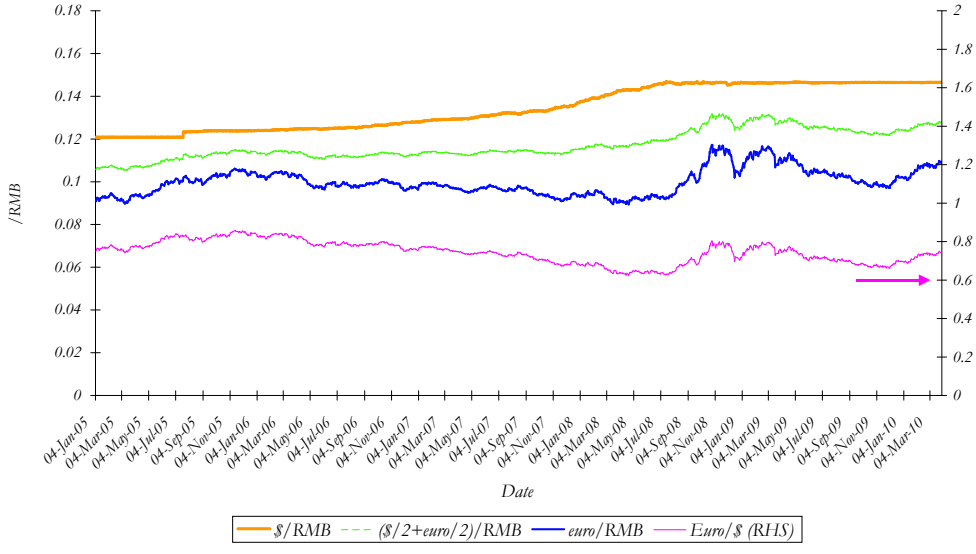
In mid-2008, however, the renminbi virtually returned to a dollar peg. By September 2008 all the weight once again had come fall on the US currency. The regime had come full circle, virtually back to what it was in late 2005. Evidently the motivation for China's return to the dollar was complaints from the exporter provinces which had lost competitiveness in 2007 as the currency appreciated against the dollar. (Barry Naughton 2008, gives a glimpse inside Beijing politburo politics.)

Has the policy switch of 2008 led to a weaker renminbi than otherwise? US politicians don't really care whether the renminbi is fixed or floating. What they want, of course, is for it to be stronger against the dollar rather than weaker, so that US firms don't find it so difficult to compete against Chinese exports. In 2007, when the renminbi was loosely tied to a basket that put heavy weight on the euro, it appreciated against the dollar because the euro was appreciating against the dollar. Indeed from mid-2006 to the end of 2007, the overall value of the renminbi did not fluctuate much if one defines the value in terms of a yardstick that assigns half-weight to the euro and half-weight to the dollar.

Figure 1 shows the foreign exchange value of the renminbi, in terms of three different measures. One can see around 2007:

- the steadiness of the currency measured in terms of a euro+dollar average (the dashed green line in the middle), and
- the resulting observed appreciation of the yuan against the dollar (the smooth thick orange line on top).. The appreciation appears to be due to the presence of the euro in the basket, and not in fact to appreciation against the basket as usually implied in the press.

Figure 1 Exchange rates, Jan 2005 – March 2010



In a sense it would be wrong to complain that the return of the dollar link in mid-2008 gave American firms an additional price disadvantage in world markets. Over the last two years, the euro has depreciated against the dollar. (In late 2008 and early 2009, this was due to a flight to the perceived safe haven of the dollar; more recently, in the winter of 2009-2010, it has been due to the Eurozone's troubles with Greece and other members on its periphery.) In other words, at precisely the moment when the renminbi changed horses in mid-stream, jumping back on the dollar horse, the dollar horse and the euro horse changed directions. If the Chinese authorities had kept the loose basket policy of 2007 instead of switching back to the dollar peg in 2008, the value of the renminbi would be even lower today, not higher, and dollar-based producers would be at more of a competitive disadvantage, not less.

Those worried about undervaluation of the Chinese currency will not be much impressed with these arguments. Just because the renminbi would be even more undervalued if the authorities had stuck with their policy of 2007-08, doesn't mean it isn't unacceptably undervalued as it is. Just because the RMB has followed the dollar upward over the last two years, does not mean that it should not appreciate even more. The more relevant alternative is to introduce true flexibility, not just against the dollar, but against all foreign currencies.

Is it in China's interest to appreciate?

The phrase "undervaluation" has no precise definition in economics. Or, in fact, it has many possible definitions. In the case of most currencies, most of the time, it is impossible to say with any confidence what is the correct value for the exchange rate. The renminbi is unusual, however, in that a wide variety of different definitions and criteria give the same qualitative answer: The currency is undervalued. An appreciation would improve economic welfare.

Whose economic welfare? Here I consider China's economic welfare, narrowly defined.

It should be conceded from the outset that China has been pursuing an exchange-rate policy that is effectively fixed to the dollar for the last decade or so. A fixed exchange-rate regime has a number of advantages. Two advantages are perhaps the most important. First is the provision of a nominal anchor to prevent inflationary monetary policies and expectations thereof. Second is the facilitation of trade with those countries that use the dollar, or at least are pegged to the dollar. Other advantages of fixed rates include facilitating financial integration, forestalling competitive appreciation or depreciation, and preventing the sort of speculative bubbles that seem occasionally to afflict floating exchange rates. (There is of course a corresponding list of advantages of floating rates.)

There are five different reasons to believe that it is now in China's interest to allow increased flexibility of the renminbi. Increased flexibility, under the conditions prevailing today or during most of the period since 2003, would imply appreciation. The five reasons, which will be considered in turn, are:

- Overheating
- Excessive reserve accumulation
- Long-run need to use the exchange rate for expenditure-switching

- Avoiding future crashes.
- Low price level by international standards.

Overheating of the economy

The target for internal balance is traditionally defined as output equal to potential output, or as employment equal to the natural rate of employment, or as an absence of inflationary or deflationary pressures.

Let us say that the country in question finds itself with output above potential, $Y > \bar{Y}$, i.e., there is excess demand for goods. As a result the economy is overheating. In terms of a standard Swan Diagram, we are talking about an economy that finds itself to the right of the Y= $\bar{Y}$ line. (See slide 28 of Frankel 2010). To cool off the economy, the government can either raise interest rates or undergo a real appreciation.

In 2002, it was possible to argue that China was in the zone of excess supply of goods. At that point, some easing of monetary policy was called for, to increase spending and restore internal balance. By 2007, however, China had clearly moved to the other side of the line. As a result, some combination of an increase in interest rates and a real appreciation was called for.

On what are such judgements based? After all China's growth has been uniformly high by the rest of the world's standards for three decades, but so has unemployment. The explanation of that paradox is that the rate of growth of potential output has also been high, perhaps as high as 10%, but that there is always a lot of frictional unemployment due to the rapid pace of structural change, especially rural urban migration. But given the large uncertainties in pinpointing the rate of growth of potential output or the natural rate of unemployment, how can one judge when the economy has entered the zone of excess demand? The expansion in 2007 was running into input bottlenecks and other supply constraints. Inflation, running at 6-7% in 2007 and provoking social unrest and price controls, was a clear sign of overheating. A bubble in the Shanghai stock market sent the same message. An important lesson of the 2008 global financial crisis is that excessively elevated asset prices should be accorded a role, in addition to inflation, as manifestations of an overheated economy.

In 2008-09, the overheating danger abruptly disappeared, as the global crisis reduced exports by 40% in a 12-month period. By early 2010, however, China had come roaring back, through a combination of domestic demand stimulus and recovery in the export market. The economy returned once again to the zone of excess demand, as reflected in some labour market shortages and new price acceleration in goods markets and real estate. A real appreciation would help cool off the economy more efficiently than any other policy.

Excessive reserves

Central banks in Asia and other emerging markets drew the lesson from the East Asia crises of the late 1990s that it was wise to take the precaution of accumulating large levels of international reserves. They spent the next decade doing precisely that, via

balance of payments surpluses. The levels of reserves has tended to strike western economists as inefficiently high, particularly in the case of China - which now has amassed an unheard of $2.5 trillion in reserves - notwithstanding some recent evidence that the countries that held more reserves came through the global financial crisis of 2008 in better shape than others. A majority of the reserves are typically held in the form of dollars (an estimated 70%, in China's case), especially US Treasury bills. These pay a low rate of return. Meanwhile, China is paying to foreign investors on their inward investment a higher return than it is earning, which means that the arrangement is a losing deal for the country on aggregate.

Another disadvantage of rapid reserve accumulation, for a country worried about excess demand, overheating and inflation, is that it can swell the money supply and thereby add to these pressures. One option for central banks in emerging markets facing large inflows is to try to sterilise them - that is, to prevent the growing reserves from expanding the money supply too rapidly. The central bank offsets the rising reserves via reductions in net domestic assets, into negative territory if necessary. Historically some have tried this, but have only succeeded for a year or two. Over time, it gets harder to sterilise an inflow. Sterilisation keeps domestic interest rates high. This prolongs the capital inflow, while in the meantime producing a "quasi-fiscal deficit" on the books of the central bank: a gap between the interest rate earned abroad on the reserves and the higher interest rate that it must pay domestic investors to hold its sterilisation bonds. Eventually the central bank gives up, and either allows the currency to appreciate or allows the money supply to increase.

During the years 2004-2006, the People's Bank of China was remarkably effective at sterilising the record reserve inflow. There was little sign of either a quasi-fiscal deficit, money growth in excess of real GDP, or inflation. One reason was domestic financial repression; domestic banks were forced to absorb sterilisation bonds at interest rates below what a market economy would have yielded and to increase their domestic reserves as a proportion of liabilities. In 2007, however, the longstanding warnings of foreign economists began to come true; higher domestic interest rates, an incipient quasi-fiscal deficit, rapid money growth, and inflation. This may have contributed to China's decision to allow the renminbi to appreciate against the dollar at that time. As we have seen, the global financial crisis hit China as a large but temporary reprieve from concerns of overheating; but as of 2010 we are back to 2007.

Attaining internal and external balance

Most countries have at least one goal for the domestic macroeconomy (such as potential output) and at least one goal for the international sector (such as a balance of payments objective). The principle of goals and instruments says that to achieve two independent goals, you need two independent instruments. More specifically, the point of the Swan Diagram is that to achieve both internal and external balance, it is not enough to vary spending (monetary or fiscal contraction). One must also have an expenditure-switching policy. Usually this is the exchange rate. In a small open flexible economy like Hong Kong, one can hope to achieve equilibrium by adjusting domestic wages and prices, and to preserve the advantages of a fixed exchange rate. An economy as large as China, however, needs its own currency. There

was a time when capital controls could play the role of second policy instrument. But as China becomes increasingly integrated into the world economy, it becomes both less desirable and less practical to block capital flows. Eventually the second policy instrument will have to be the exchange rate. The only question is when.

Avoiding future crashes

Some have argued that if China wants to minimise the probability of future crises such as those that afflicted its neighbours in 1997-98, it should avoid appreciation, so as to keep the current account as strong as possible. It is true that overvalued currencies played a role in the East Asia crisis of 1997, even though some westerners had urged appreciation for surplus countries in the past. It is also true that real appreciation is likely to lead to lower trade balances and raise net borrowing from abroad, and that countries that borrow from abroad are more likely to have crises. But there is another respect in which moving to a regime of increased flexibility now might reduce the chance of future crises rather than increase it. If and when inflow turns to outflow, as part of the cycle that so many developing countries have gone through so many times before, it is important not to cling to a peg for too long. Many countries procrastinate, postponing adjustment either through devaluation or expenditure reduction.

One lesson from the past experience is that of the exit strategy. If an exit from a peg, to a regime with greater flexibility, is likely to occur eventually anyway, it is better to do it at time when the balance of payments is strong and the initial movement is likely to be appreciation. The alternative of waiting for a time of balance of payments deficit often turns out to mean exiting the peg under strong downward speculative pressure, with the result that confidence is undermined and the national balance sheet is weak. Hence the argument for being safe, and increasing flexibility before any cut-off in capital flows.

RMB undervaluation judged by the Balassa-Samuelson relationship

Purchasing power parity (PPP) is often calculated as a guide for what the exchange rate should be, for China as for other countries. Most are estimates of relative PPP, that is, based on price indices. They do not necessarily show the yuan to be strongly undervalued. But they use the past as the benchmark, and the standard hypothesis is that the renminbi may have been undervalued in the past as well. Comparisons of price levels across countries are difficult, because such absolute PPP data are much less available than relative PPP data (for which one only needs price indices and exchange rates). But some data are available. They show prices lower in China than in advanced countries. But this does not in itself answer the relevant question. Even if we thought that markets in internationally traded goods were perfectly integrated, there is no mechanism to arbitrage disparities in prices of non-traded goods. There is abundant empirical evidence, along both the cross-section and time-series dimensions, that prices of non-traded goods, and thereby of general price levels, rise with levels of productivity, real wages and real income. This robust empirical regularity is called the

Balassa-Samuelson effect.

In Frankel (2006) I have estimated the renminbi to have been undervalued by 36% in 2000, if equilibrium is defined by the Balassa-Samuelson relationship. The latest update comes from Subramanian (2010), who estimates a gap of around 30%.[2]

Conclusion

Given the imprecision of the statistics, one should not rely overly on any one indicator such as the Balassa-Samuelson calculation. But it is striking that a wide variety of criteria give similar answers: the renminbi is undervalued and China would probably be better off if it were allowed to appreciate.[3]

At the same time, an appreciation of the Chinese currency, if it went into effect immediately, would help promote exports, output and growth in the US and other countries still suffering the after-effects of the 2008-09 recession. It is rare to have such a clear answer as to the appropriate value for a currency, even in qualitative terms. Typically some criteria point in one direction and others in the opposite direction. This is a good argument in general against setting up formal legal mechanisms that attempt to judge whether countries' currencies are correctly valued and whether their exchange rate policies are "fair." In the case of the renminbi in 2010, however, an appreciation would bring benefits both for China and for the rest of the world.

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2 More recent estimates should be somewhat more reliable, not so much because they incorporate data from more recent years, but because they use more reliable measures of Chinese prices, which used to be based on highly inadequate raw data. Other estimates are offered by Cheung, Chinn and Fuji (2009) and Cline and Williamson (2008). Goldstein and Lardy (2009) base their assessment of yuan undervaluation on the adjustment necessary to produce an appropriate trade balance - a line of argument that has been weakened in 2010 by the disappearance of China's trade deficit.

3 It must be acknowledged that a few highly reputable economists, notably Ronald McKinnon (2010) and Robert Mundell (2004), do not believe that the renminbi should appreciate. Their beliefs derive from an attachment to fixed exchange rates generically, rather than an evaluation of the desirable level of the Chinese exchange rate.

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8. Is China's currency undervalued?

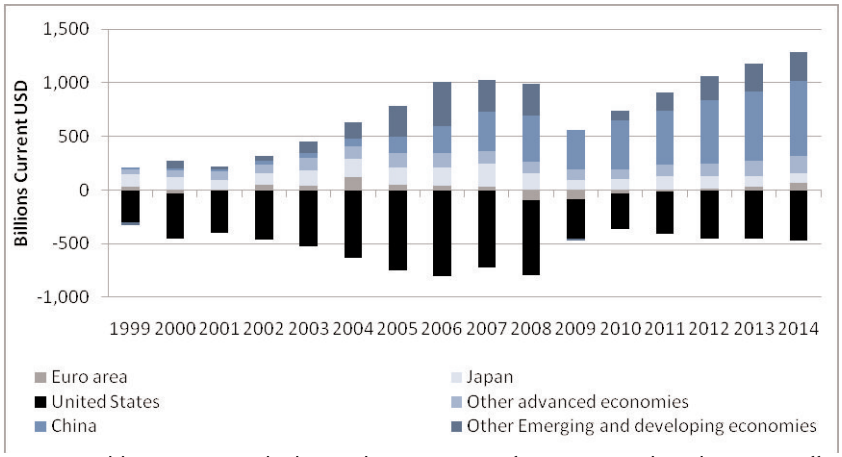
Helmut Reisen
OECD Development Centre

Many economists cite the undervalued renminbi as the culprit of global current account imbalances and a contributing factor to the global crisis. This paper says the undervaluation results mainly form the Balassa-Samuelson effect and that a rebalancing of the world economy will need reforms in China's social, pension and family policies rather than currency appreciation.

Most economists agree that allowing global current account imbalances, notably the US deficit and the Chinese surplus, and their accompanying capital flows to accumulate contributed to the over-leveraging and under-pricing of risk that triggered the crisis. This was recognised at the Pittsburgh Summit in September 2009 where the G20 leaders announced the creation of a new framework to coordinate and monitor national economic policies in order to reduce global imbalances and prevent them from building up in the future.

Finding the right exit door from excessive global imbalances – and defining the appropriate policy responses – will need clarity about their causes. If these causes were essentially monetary, then exchange rate policy responses (such as appreciation of the renminbi) will be appropriate. If, in contrast, the global imbalances were primarily structural in nature, then structural policy responses, such as obliging state enterprises to pay taxes or dividends, will be required.

Figure 1 Global imbalances in the current account



Source: IMF World Economic Outlook, October 2009 (Data for 2009-2014 based on IMF staff estimates)

The current debate over "global imbalances" essentially reflects the surpluses in the current accounts of around a hundred countries, most of them classified as developing or emerging, which have grown up in response to the US current-account deficit - the excess of US domestic investment over US national savings. The position is summarised in Figure 1.

The world is bigger than China and the US

The US outspent its national income by an accumulated $4.7 trillion -equivalent to 47.3% of GDP - from 2000 to 2008. Over the same period, China's accumulated surplus was $1.4 trillion. Huge by any measure, but by itself only enough to fund some 30% of the US deficit. To fill the gap the US was absorbing three-quarters of world's savings until the collapse of 2008. Another sizeable imbalance has been the current-account surpluses of oil exporters, notably in the Gulf region, where the effect on oil prices of the voracious appetites of the Asian giants has created a second wave of asset build-up.

There is a clear political focus on the bilateral US-Chinese trade balance, but bilateral imbalances are of no economic interest - there are more than two countries in the world. Even if analysed as a bilateral transfer problem between the US and China, the exchange-rate adjustment needed to produce sustainable current account balances may be limited. The US is unlikely to face a secondary transfer problem in terms of pressured export prices, as it is broadly the only debtor country to "affect the transfer".

How much to revalue - if at all?

Generally, the required scope of dollar devaluation relative to the renminbi will depend on the degree to which lowered absorption in the US and higher absorption in China result in decreases and increases, respectively, in the demand for the same goods. The rising middle class in China and other emerging markets will gradually add to global consumption, presumably along similar preferences as in the advanced countries (Kharas 2010).

China's surpluses and rising official reserves have raised the volume of calls for China to let its exchange rate appreciate in order to rebalance the world economy. For example, Cline and Williamson (2009) have recently estimated "fundamental equilibrium exchange rates" compatible with moderating external imbalances. They estimate that the required appreciation for the renminbi is more than 20% in real effective terms and 40% relative to the dollar. Ferguson and Schularick (2009) use unit manufacturing wage costs to estimate the degree of undervaluation of the renminbi relative to the dollar and come up with figures between 30% and 50%.

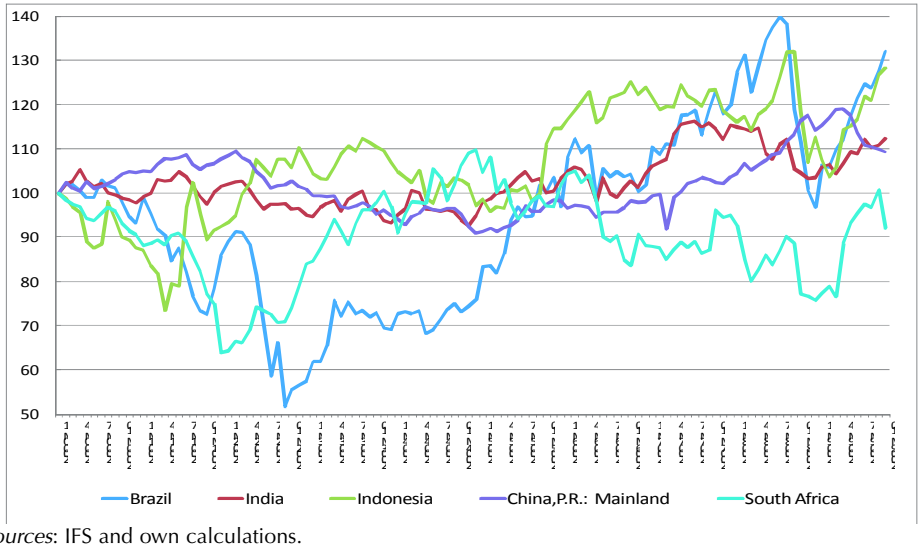
The OECD (2010) has recently recommended a resumption of greater exchange-rate flexibility in order to stimulate consumption and strengthen inflation targeting, acknowledging that more flexibility would translate in practice into renminbi appreciation. The fact that the People's Bank of China has consistently intervened in the foreign-exchange market - as evidenced by its accumulation of foreign exchange

reserves - suggests that the pressure on the renminbi is upward. In addition, capital outflows remain restricted both legally, by regulation, and practically, by expectations of future appreciation.

Uncertain effect

It is far from assured, however, that an appreciation of the renminbi would impact current account imbalances. Using a large data set, spanning 170 countries and the period 1971-2005, Chinn and Wei (2008) find no robust evidence that the speed of current-account adjustment rises with the degree of flexibility of an exchange-rate regime. Indeed, as Figure 2 shows, over the past decade China's real effective exchange rate has moved broadly in line with the four other BIICS countries. Except China (which had a surplus of 9.8% of GDP in 2008), no other BIICS country has run a large surplus on the current account of its balance of payments; indeed, South Africa booked important deficits, 7.4% of GDP in 2008.

Figure 2 BIICS real effective exchange rates (2000 = base 100)



Sources: IFS and own calculations.

Appreciation is forthcoming

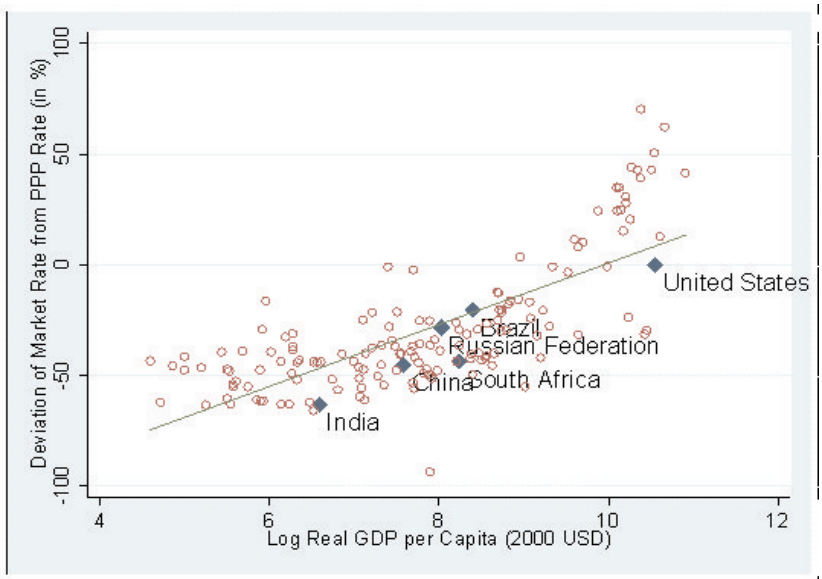
To be sure, poor-country currencies are normally undervalued in terms of purchasing power parity. In fact, poorer countries do have undervalued exchange rates (due to the Balassa-Samuelson effect), and convergence will imply considerable correction of that undervaluation. Services (and wages) are cheap in poor countries and expensive in rich countries, while prices for internationally traded goods are roughly equalised in a common currency. When the productivity in traded goods rises (while

productivity growth for haircuts and other services are very limited), more income is generated and spent on services. The price ratio of non-traded to traded goods will rise. In other words, the real exchange rate will appreciate. *Hence, part of the undervaluation ascribed to China's currency results from market forces that make non-traded goods relatively cheap in poor countries, rather than from deliberate currency manipulation by China's authorities.*

While growing and converging fast, China is still poor. Its per capita income in 2008 was 6.2% of the US's at market rates and 12.8% at purchasing power parity (PPP)-adjusted rates, according to the latest World Development Indicator data. Figure 3 relates the log of real per capita GDP as a fraction of the US level and the deviations of current market exchange rates per dollar from PPP rates for the year 2008. It shows strong support for the Balassa-Samuelson effect and suggests a well-determined elasticity (0.2) by which the undervaluation of the currency will be eroded during the catch-up toward the US per capita income level. Real exchange rates can thus be expected to appreciate as economies grow, approaching PPP exchange rates as economies converge with US living standards, as posited by the Balassa-Samuelson effect.

This analysis suggests that while (in 2008) the renminbi was undervalued by about 60% in PPP terms, the undervaluation in 2008 was only 12% against the regression-fitted value for China's income level. The undervaluation of the renminbi widened by roughly 3 percentage points in 2009 as a result of further rapid convergence of China's per capita income growth relative to the US. Both India and South Africa (which had a current-account deficit) were more undervalued in 2008 - by 16% and 20% respectively, according to the Balassa-Samuelson benchmark.

Figure 3 Per capita income convergence and real exchange-rate appreciation



Source: OECD Development Centre

Policy implications

While the Balassa-Samuelson effect ignores the extent of current-account imbalances and net foreign asset positions, it points to several policy implications for China and the world economy:

1. The major part of the undervaluation ascribed to China's currency results from market forces that make non-traded goods relatively cheap, rather than from the currency-management policies of the Chinese authorities alone;
2. A rapid convergence of per capita income to rich-country levels will maintain pressures for a real effective currency appreciation either through nominal exchange-rate upward adjustments or through positive inflation differentials with rich-country trade partners. Put simply, the Balassa-Samuelson effect suggests nominal upward flexibility for the renminbi in line with income convergence if inflationary pressures and asset bubbles are to be contained;
3. Any resulting real currency appreciation implies valuation losses on official foreign-exchange reserves in renminbi terms since these are overwhelmingly held in rich-country currencies. China is an "immature" lender in that it cannot yet lend renminbi on the international markets. It therefore has an interest in an orderly reduction of the total level of its foreign exchange reserves through enhancing policies which further encourage outward investment and diversification into non-financial assets

An array of socio-structural explanations for China's saving surplus (and thus its impact on global surplus and deficits) points to the insufficiency of monetary tools to redress global or bilateral imbalances:

- The Governor of the People's Bank of China, Zhou Xiaochuan (2009), explains that following the reforms during the 1990s, China's "iron-bowl" system (promising lifetime employment and welfare) no longer existed and state-owned enterprises stopped providing free pensions and housing. Costs and risk were therefore transferred to households since no effective social security system was available. As the real cost of labour takes time to be reflected in the cost-base of an enterprise, the state-owned enterprises sector became highly profitable and increased its savings while decreasing its contribution to social security[1]. Corporate savings were further bolstered by the fact that until recently the state-owned enterprises did not have to pay dividends or taxes.
- Wei and Zhang (2009) and Wei (2010) for instance highlight the increasing imbalance between the numbers of male and female children born in China. For every 100 girls born today there are 122 boys, presumably as a result of the "one-child policy", pre-natal ultrasound screening possibilities and the reduction in fertility. A skewed sex ratio is, it seems, fuelling a highly competitive "marriage market", pushing up the savings rate for all households (since even those not competing in the marriage market must compete to buy housing and make other significant purchases), driving up China's savings rate and with it global imbalances.
- The relative importance of the various drivers for savings has recently been

1 The same pattern of GDP growth exceeding household income growth could be observed for India.

tested empirically. Ma and Haiwen (2009) measured the relative importance of a range of variables on the evolution of China's net foreign asset position - a result of its accumulated net saving surplus - over the period 1985-2007. The estimated coefficients for the real effective exchange rate of the renminbi and for financial development are both insignificant. By contrast, the ratio of domestic and external government debt to GDP and the youth dependency ratio (the proportion of the population under 15) are both highly significant.

Rather than focusing on, say, renminbi appreciation a structural rebalancing of the world economy will need reforms in China's social, pension and family policies with the motive of raising China's consumption rate. As emphasised recently by the OECD (2010), overcoming labour market segmentation, unifying pension rights, education and land rights , health care reforms and more fiscal solidarity are China's prime policy challenges.

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9. New PPP-based estimates of renminbi undervaluation and policy implications

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As the debate over China's exchange rate intensifies, several commentators have been left despairing over the wide disparity in estimates of the extent of China's currency undervaluation. This paper argues that a new purchasing-power-parity approach provides a more consistent estimate of renminbi undervaluation at around 30% and not the 12% previously claimed.

Introduction

Is there reason to add to the proliferating set of estimates on the extent of renminbi undervaluation? (See among others Bergsten 2010, Cline and Williamson 2008 and 2010, Goldstein and Lardy 2008 and 2009, Frankel 2008, Reisen 2009, and Lee et al. 2008.)

Yes, not least because these new estimates:

- suggest that purchasing power parity (PPP)-based approaches to measuring renminbi undervaluation suggest that China's currency is undervalued by about 30% against the dollar and not the 12% recently reported (Bajaj 2010); and
- are closer to and consistent with alternative approaches to estimating renminbi undervaluation.

Treasury Secretary Geithner has just announced that he will delay publication of the report to Congress on the international economic and exchange-rate policies of the Chinese currency. He has decided to postpone until the summer the decision on whether he should brand China a "currency manipulator". By the summer, a series of meetings will have taken place, including a surprise one with Chinese leaders on April 8, a meeting of G20 Finance Ministers and Central Bank Governors, the strategic and economic dialogue with China in May, and the G20 Finance Ministers and Leaders meetings in June 2010. Clearly, there have been some short-term understandings between the two countries but, until there is a significant and consistently upward move in the renminbi, the issue is unlikely to be fully resolved. Thus, the search for better estimates on currency misalignment needs to continue.

But there are also other substantive reasons for continuing this search.

- First, new data from the International Comparison Project (ICP) have become available that have been reflected in new estimates published in the World Development Indicators (WDI) by the World Bank in 2008 for GDP per capita adjusted for PPP. These estimates have attracted great controversy because of the

large downward revisions in the living standards for China and India in particular. The controversy has been greatest in relation to measurements of world poverty necessitating new poverty estimates (see Chen and Ravallion 2008).

But the implications of this controversy have not been adequately recognised for PPP-based measurements of undervaluation of currencies. For example, on April 2, the New York Times (Bajaj 2010) reported, based on Reisen (2009), that PPP-based approaches yield an undervaluation of the Chinese currency of "only" 12%. As I show below, when the PPP approach is correctly applied, this figure turns out to be a serious underestimate.

- Second, a new version of the Penn World Tables (PWT, version 6.3) has recently become available, which can also be used for re-estimating PPP-based currency misalignment.
- Finally, the need for redoing current estimates is called for in light of a new NBER working paper that I author together with Simon Johnson, William Larson and Chris Papageorgiou (Johnson et al. 2009). In that paper, we showed that there was a problem of valuation in the Penn World Tables that leads to considerable variability - across PWT versions and across time - in the estimates of PPP-based measures of income per capita and in the price level of GDP (which is the PWT's variant of the real exchange rate). One implication is that it is not in general robust to use data from the PWT or the WDI for years other than the benchmark year for which detailed price data are collected; also, in general it is better to restrict data to countries for which detailed price data have been collected (benchmark countries). Hence, existing estimates of PPP-based undervaluation of the renminbi (Rodrik 2008 and Reisen 2009 among others) need to be redone.

The result of doing so yields a simple conclusion. In 2005 I find that the average estimate of renminbi undervaluation (against the dollar) is about 30%; updating this estimate for end-March 2010, using the same methodology, leaves that estimate broadly unchanged at 30%. In other words, as of this writing, PPP-based approaches to measuring China's undervaluation suggest that the renminbi is undervalued by about 30% against the dollar and not the 12% recently reported.

Background and methodology

Estimates of currency undervaluation and overvaluation are based on two broad categories of models. The first are macroeconomic models, using notions of external balance, savings and investment behaviour, etc. to define an equilibrium exchange rate. Limiting the current account or ensuring sustainable net external indebtedness are key variables in pinning down this equilibrium exchange rate.[1] Departures from

1 John Williamson (1983) propounded the notion of a fundamental equilibrium exchange rate (FEER), which is the basis for more recent estimates by Cline and Williamson (2008). These estimates are done country by country. In contrast, the IMF has a multicountry general equilibrium model that relies on an expanded set of macroeconomic variables (including, for example, demographic variables) and ensures consistency in the estimates across countries (see Lee et al. 2008).

this equilibrium rate yield estimates of undervaluation and overvaluation. The latest estimates by Cline and Williamson (2010) and Goldstein and Lardy (2009) suggest renminbi undervaluation of between 15% and 30% against a basket of currencies. (It must be noted that these estimates are sensitive to projections for China's current account surplus, which are being revised downward in response to the large actual decline in this surplus in 2009 and 2010 in the wake of the financial crisis.)

A second basis for estimating currency disequilibrium stems from a longer, development perspective. The work of Balassa and Samuelson suggested that as countries grow over time, their real exchange rates should appreciate-reflecting productivity growth, particularly in the tradable goods sector. That is: As poor countries grow, the labour productivity of their traded-goods sector will tend to rise, spilling over to wages and prices in producing nontraded goods, and so their price structures should become more like those of developed countries. Thus a rising price- or an appreciating currency-is an equilibrium phenomenon.

Departures from this equilibrium relationship suggested by Balassa and Samuelson then provide the basis for calculating undervaluation and overvaluation of currencies.[2] In the Penn World Tables - whose raison d'être is the Balassa Samuelson relationship - the real exchange rate (strictly speaking its inverse) is captured as the ratio of the purchasing power parity exchange rate to the market exchange rate. For example, in the case of India, the PPP exchange rate in 2005 was estimated at 14.7 rupees to the dollar compared with the market exchange rate of 44.1 rupees to the dollar. This yields a price level of GDP in India relative to the US of 0.33 (14.7/44.1), suggesting that Indian prices are, on average, one-third of those in the US.

Both approaches have their advocates and critics. This is not the place to debate their relative merits (see Cline and Williamson 2008, and Frankel 2008 for an excellent exchange). What can be safely said is:

- that the two approaches are complementary, deploying different time perspectives for analysing currency misalignment; and
- that the more they provide estimates that are correlated, the greater the degree of confidence that one can have in either.

There is, however, one aspect of the PPP-based approach that is inadequately appreciated. Like the IMF's Consultative Group on Exchange Rate Issues (CGER) model described in Lee et al. (2008) and unlike the approach in Cline and Williamson (2008), PPP-based approaches have the virtue of being general equilibrium in nature in the sense that all countries' equilibrium exchange rates are determined simultaneously, ensuring some degree of consistency across estimates for countries (for example, not all countries can simultaneously have undervalued or overvalued exchange rates).[3]

2 Rogoff (1996) was an early example of using the Penn World Tables to measure currency misalignment.

3 The simultaneous determination of equilibrium exchange rates across countries arises from the way disaggregated price data from different countries are aggregated to yield the international prices for all goods across countries (see JLPS 2009, appendix 1 for a description and Deaton and Heston 2009 for some of the problems and complexities in such an aggregation).

Thus, the Balassa Samuelson relationship is captured in the following equation:

$$\text{Ln } P_i = \alpha + ß\text{Ln } Yi \qquad (1)$$

where P_i is the price level of GDP (ratio of the PPP to market exchange rates) for country i, Yi is its GDP per capita in PPP terms, and ß measures the equilibrium impact of economic growth on the real exchange rate.

After estimating equation (1), the predicted value of the real exchange rate for each country P_i^* can be obtained. The difference between the actual real exchange rate and the predicted one is then a measure of currency misalignment on the PPP approach:

$$\text{Thus UVALi} = \text{Ln } P_i^* - \text{Ln } P_i \qquad (2)$$

where $UVAL_i$ is the measure of undervaluation of country i's currency (i.e. a positive value of $UVAL_i$ when a country's actual price level of GDP is lower than what is predicted by the BS relationship implies that its real exchange rate is undervalued).

Estimates for China

The analysis in Johnson et al. (2009) suggests that the Balassa Samuelson relationship in equation (1) is best estimated:

- for the benchmark year for which the most recent disaggregated price data are collected; and
- that the estimation is also best restricted to the sample of countries (benchmark countries) for which disaggregated price data exist.[4]

Now, the most recent disaggregated price data were collected for the year 2005 and have been incorporated in the World Bank's World Development Indicators' (WDI) estimates for Y and P in equation (1) above.

Estimation of equation (1) using these data for benchmark countries yields a figure of 15% for China's undervaluation for 2005. The estimated equation with relevant statistical descriptors is reproduced in column 1 of Table 1.

At first sight, this is very close to Reisen's estimate of 12% reported in the New York Times. The problem with this estimate is that it is based on data for China (and India) that have been seriously questioned. Deaton and Heston (2009), perhaps among the most thoughtful and careful analysts of these new data, have suggested that the price level of GDP for China has been overestimated by about 20% and its per capita PPP GDP underestimated by about that amount. Their critique is twofold.

- First, they point to the fact that the disaggregated prices collected for China as part of the 2005 ICP project were predominantly for urban areas, which imparted a serious upward bias to Chinese prices.[5]

4 Technically speaking, Johnson et al. (2009) implies that estimating equation (1) would be problematic because of errors in measuring both the left-hand and right-hand variables. These errors are not random but in fact systematic across time and across countries, leading to biased and inconsistent estimates of the parameters in equation (1).

5 Ravallion (2010) suggests that China's price level was overstated in the 2005 ICP by about a third because of the urban bias of data collection.

- Second, they argue (and here they echo the point also made by Bhalla 2008), based on the work of Pritchett (1997), that the new per capita GDP estimates for 2005 combined with the growth rate (of 5.5%) of the Chinese economy for the period 1952-2004 would yield a per capita GDP estimate for 1952 that would be well below the minimum level of per capita GDP that history suggests is required to sustain a population, or that has ever been observed for more than a short period. The only way historical growth rates can be reconciled with above-subsistence levels of income in 1952 would be to raise the GDP estimate for 2005 by about 20%. This, in turn, would require the price level or the real exchange rate also to be raised by about 20%.

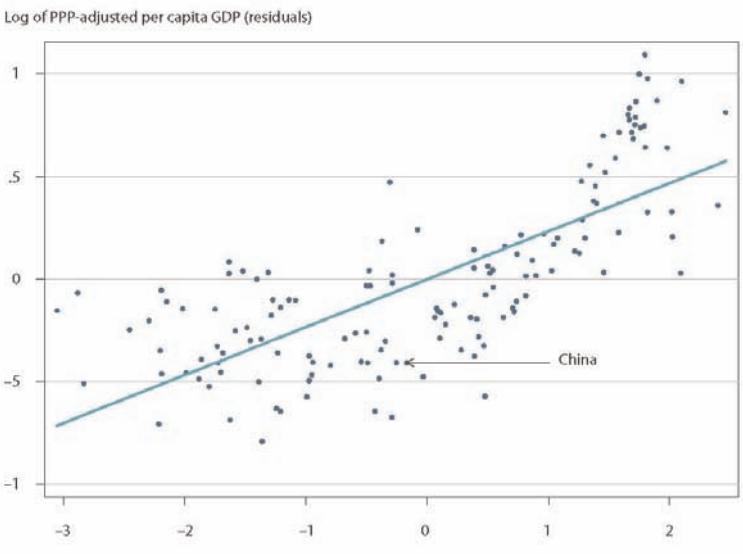
Table 1 PPP-based estimates of renminbi undervaluation

	World Development Indicators (WDI)	WDI with China data corrected á la Deaton and Heston (2009)[1]	WDI with China data corrected á la Deaton and Heston (2009)[2]	Penn World Tables (version 6.3)
	(1)	(2)	(3)	(4)
Data set	Dependent variable is log of the price level of GDP in 2005			
Coefficient on constant term	1.94	1.94	1.94	0.7
t-statistic	11.36	11.33	11.31	2.17
Coefficient on log of per capita GDP (PPP)	0.234	0.234	0.234	0.351
t-statistic	11.84	11.82	11.81	10.02
R-square	0.55	0.55	0.55	0.46
Number of observations	141	141	141	144
Magnitude of of undervaluation (percent)	14.50	26.20	36.90	47.40
Average magnitude of undervaluation (percent)		31.30		

1. China's price level is decreased by 10 percent and GDP per capita increased by 10 percent.
2. China's price level is decreased by 20 percent and GDP per capita increased by 20 percent.

Source: Authors' calculations.

Figure 1 The Balassa-Samuelson relationship, 2005



coef = .23363622, (robust) se = .01978862, t = 11.81

Note: This figure is the pictorial counterpart of the regression presented in column 3 of table 1 above.

Source: Authors' calculations.

If this critique by Deaton and Heston (2009) is accepted, and equation (1) is reestimated adjusting P and Y for China by, say, 10% and 20% (to cover the range of possible bias identified by Deaton and Heston 2009), respectively, the new estimates for Chinese undervaluation change significantly.[6] In column 2 of Table 1, estimates are reported when a 10% adjustment is made and in column 3 when a 20% adjustment is made. With these corrections, Chinese undervaluation rises to 26% and 37%, respectively (Figure 1 plots the relationship corresponding to the 20% adjustment).

One way of checking which of these estimates of undervaluation is plausible is in fact to estimate equation (1) based on the most recent version of the PWT, namely version 6.3, which was released in August 2009. The disadvantage of using these data is that they are prone to the problems described in Johnson et al. (2009). The advantage of using these is that they are perhaps less prone to the bias in estimating price level and GDP associated with the estimates in the WDI that afflict, in particular, countries such as China. These caveats need to be borne in mind when evaluating estimates from this source.

When equation (1) is reestimated using PWT 6.3 data, the undervaluation estimate for China is 47% as reported in column 4 of Table 1.

All these estimates are for 2005. But they can be updated for the most recent period (say end-March 2010) by using the estimated ß to project how the real exchange rate should have evolved between end-2005 and today. This can then be compared with how much the renminbi actually evolved, obtain the difference between the two, and adjust the 2005 estimate accordingly.

Between 2005 and end-March 2010, China's per capita GDP grew about 45%; applying the average of the four ß estimates suggests that the real exchange rate should have appreciated by a further 12%. The actual real appreciation of the renminbi was about the same measured both against the dollar and against a basket of goods (based on the real exchange rate indices produced by JPMorgan, Citi, and the Bank for International Settlements), suggesting that the estimate for 2005 from the equation is broadly also the undervaluation estimate for today.

Since each of the four estimates suffers from limitations, a reasonable approach would be to average all four. This yields an undervaluation estimate for China of about 31% against the dollar, which is my preferred PPP-based estimate.[7]

The way forward

If this estimate (which is quantitatively similar to the estimates of other methods) is right, the policy question of how to address renminbi undervaluation remains alive and urgent. Many analysts argue that renminbi appreciation would be desirable

6 In principle, changing individual Chinese prices would affect all the international prices and the PPPs for all countries, but as an approximation, and given China's relatively small size in world consumption, these consequential changes can be ignored.

7 The magnitude of undervaluation is also statistically significant: when a China dummy is introduced in the regression in equation (1), its coefficient is tightly estimated and significant at the 1% confidence level.

because that would be in China's own interests. There is no doubt that China's currency policy threatens to create a number of distortions for China, including an overreliance on foreign as opposed to domestic demand, a reserve buildup with large potential valuation losses in the future, and the continuation of financial repression that current currency policy requires and sustains.

It is one thing for outsiders to warn of these potential dangers. But it is something else to confidently assert that changing the current policy would be better for China. It is not just that the call to change policies ignores the wrenching social and political change that governments have to deal with and that governments around the world naturally shy away from. Humility is in order when telling a country that has posted the most spectacular rates of economic growth for the longest periods of time in the history of humanity that other policies would have worked better. It must be pointed out that the most spectacular rates of economic growth have also been accompanied by the most spectacular rates of growth of consumption per capita. So, while it is possible (but by no means certain) that the Chinese government might be sacrificing consumption for extra growth in counterfactual time; it is certainly delivering rapid growth rates of consumption in real time.

So, the more justified case for a change in China's currency policy is the impact not on China itself but on the rest of the world. Two aspects of this impact are worth emphasising.

- First, in a cyclical sense, China's current account surplus (reflecting its currency undervaluation) creates a demand problem. Paul Krugman has estimated that this demand-contractionary impact of China's policies implies higher unemployment in the US of about 1.7 million. Bergsten (2010) estimates this impact as closer to 600,000.
- Second, as argued in Subramanian (2010), an undervalued exchange rate is above all a protectionist trade policy because it is the combination of an import tariff and an export subsidy. It follows therefore that the real victims of this policy are other emerging-market and developing countries - because they compete more closely with China than the US and Europe, whose source of comparative advantage is very different from China's.

In fact, developing countries face two distinct costs from China's exchange rate policy.

In the short run, with capital pouring into emerging-market countries, their ability to respond to the threat of asset bubbles and overheating is undermined. Emerging-market countries such as Brazil, India, and South Korea are loath to allow their currencies to appreciate - to dampen overheating - when that of a major trade rival is pegged to the dollar.

But the more serious and long-term cost is the loss in trade and growth in poorer parts of the world. Dani Rodrik (2010) estimates that China's undervaluation has boosted its long-run growth rate by more than 2% by allowing greater output of tradable goods, a sector that was the engine of growth and an escape route from underdevelopment for postwar successes such as Japan, South Korea, and Taiwan.

Higher tradable goods production in China results in lower traded goods production elsewhere in the developing world, entailing a growth cost for these countries. Of course, some of these costs may have been alleviated by China's rapid

growth and the attendant demand for other countries' goods. But China's large current account surpluses suggest that the alleviation is only partial.

The key therefore is to recognise that the renminbi is a problem not just for the US but the world and, as such, requires a multilateral rules-based solution rather than a bilateral confrontation between Washington and Beijing. The US Treasury secretary's recent decision to defer pronouncing on China's exchange rate as well as the manner in which this delay was presented are clearly aimed at multilateralising the China currency issue. This is a very desirable step forward.

What form should multilateralisation take?

The IMF is, of course, the natural multilateral forum for addressing exchange rate issues. But the IMF suffers from problems of eroding legitimacy and inadequate leverage. Emerging market countries still complain that its antiquated governance structure does not reflect economic realities.

Moreover, the IMF has rarely, if ever, effectively influenced the policies of large creditor countries even where such policies have had significant negative effects on others. The IMF and its managing director have become more vocal in characterising the renminbi as "substantially undervalued," but this has been water off the Beijing duck's back. The IMF is, sad to say, toothless.

The WTO is a natural forum for developing new multilateral rules.

- First, undervalued exchange rates are de facto protectionist trade policies because they are a combination of export subsidies and import tariffs.
- Second, the WTO has a better record on enforcement of rules. Its dispute settlement system, although not perfect, has been reasonably effective in allowing members to initiate and settle disputes. The WTO has greater legitimacy than the IMF - developing countries, even smaller ones, have been active in bringing disputes to the WTO. Tiny Antigua (population: 69,000) managed to successfully challenge US gambling laws through the WTO.

Although the WTO has some rules on exchange-rate-related action, they are too vague to provide a basis for effective enforcement. What is needed is a new rule in the WTO proscribing undervalued exchange rates.[8] The irony is that export subsidies and import tariffs are individually disciplined in the WTO, but their lethal combination, "an undervalued exchange rate," is not. But the rules would have to be carefully designed because a competitive exchange rate can be a legitimate policy tool for development. The rules should aim to address those situations where the adverse costs imposed on partner countries from an undervalued exchange rate start to become large relative to the benefits to the country (Mattoo and Subramanian 2009 elaborate on the content and implementation of possible new rules).

The IMF would continue to be the sole forum for broad exchange-rate surveillance. But in those rare instances of substantial and persistent undervaluation, we envisage

8 Bergsten (2010) calls upon the US to take China to the WTO based on possible violation of General Agreement on Tariffs and Trade (GATT) article XV:4.

a more effective delineation of responsibility, with the IMF continuing to play a technical role in assessing when a country's exchange rate was undervalued, and the WTO assuming the enforcement role.

How would this new rule be incorporated in the WTO? Essentially through negotiation. For example, the G20 over the next few months could examine the Chinese issue and call upon countries to indeed negotiate such new rules in the WTO. China would have to agree with its other trading partners in the WTO to negotiate new rules aimed at disciplining undervalued exchange rates.

Such an approach has several advantages. China would not be seen as a victim of bilateral targeting, but part of a cooperative approach to settle an issue that could well go beyond its currency. The remedy would be new broad-based rules rather than just renminbi revaluation. There would be a large collateral benefit too. Negotiating new and important rules would help revitalise the WTO, which has languished because of the unfinished Doha Round of trade talks.

Conclusion

New estimates for the undervaluation of the Chinese currency based on the purchasing-power-parity approach yield a figure that is closer to 30% rather than the 12% reported recently in Reisen (2009) and in the New York Times. These estimates - all of which come with qualifications and caveats - are based on applying new insights about the way in which the PPP data are compiled; on using new data that have become recently available; and on correcting existing estimates for the biases in the data used for China in particular.

The best PPP-based estimate for renminbi undervaluation is one that can combine the methodology suggested by Johnson et al. (2009) with data that corrects for the biases in the 2005 ICP project. It will be possible to undertake such an estimate when version 7 of the Penn World Tables - which will correct for some of the biases in the 2005 ICP data and hence in the World Bank's WDI PPP estimates - is released later this year. But for now, the best (or at least the least problematic) PPP-based estimate for renminbi undervaluation remains about 30%.

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10. Measuring misalignment: Latest estimates for the Chinese renminbi

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Currency misalignment is at the centre of the ongoing debate over China's exchange-rate policy, but each commentator uses the phrase in a different way. This paper presents currency misalignment estimates using various modelling approaches and argues it's best to appeal to a number of estimates, rather than deciding on one specific measure.

1. Introduction

Few phrases in open economy macroeconomics excite so much attention, but elicit so little understanding, as "currency misalignment". The reason for this state of affairs is not very difficult to understand. Each different observer uses the phrase in a different way, incorporating different models and different assumptions. No episode in recent history validates this thesis better than the past decade's debate over the renminbi's appropriate valuation.

Here we aim to re-orient the discussion of currency misalignment back toward theory and empirics; in particular, we set forth a typology of modelling approaches used to assess misalignment, in order to highlight the difficulties in defining the "equilibrium (real) exchange rate" in theory, and in quantifying the extent of deviations from equilibrium in practice. We then recap recent estimates of renminbi misalignment.

2. A typology and lkiterature review

The literature on the exchange rate misalignment, even when restricted to the renminbi, is voluminous and diverse. Hence, it is helpful to lay out a typology of approaches (Hinkle and Montiel 1999, Cheung et al. 2009a). Most of these theoretical approaches fall into familiar categories:

- Relative purchasing power parity (PPP)
- Absolute purchasing power parity and the "Penn Effect"
- The productivity approach and the behavioural equilibrium exchange rate (BEER) approach
- The macroeconomic balance effect
- The basic flows approach
- An equilibrium approach

2.1 Relative PPP

Relative PPP asserts that the nominal exchange rate moves with relative price levels in the long run, up to a constant. In other words:

$$S = \left(\frac{P}{P^*}\right) \times (1 + \Psi) \quad (1)$$

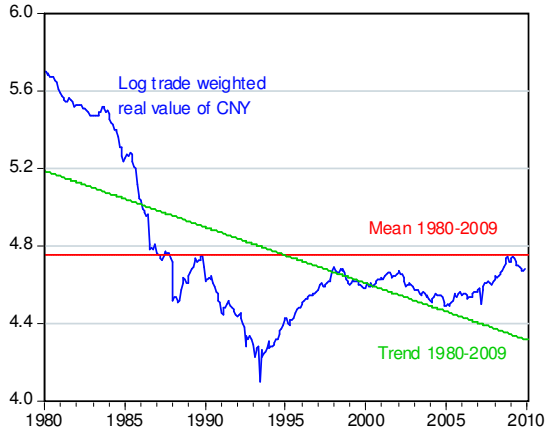
Where S is the exchange rate expressed as renminbi per unit of foreign currency, P is the Chinese price index, P^* is the foreign price index, and the constant $(1+\psi)$ accounts for the fact that the indexes are just that - indexes, with given base years. Nobody expects that relative PPP holds in the short run, but it's plausible to argue that it would hold in the long run. Equation (1) as a long-run relationship implies that the real exchange rate would revert to the average value $(1+\psi)$:

$$Q \equiv \frac{(S \times P^*)}{P} = (1 + \Psi) \quad (2)$$

Where Q is the real exchange rate.

Application of this method requires the assumption that at least at some time over the sample period, the exchange rate has been at its equilibrium level - and for the Chinese currency, this is a difficult proposition to maintain. To illustrate this contention, consider the log trade weighted real *value* of the renminbi, in Figure 1 (the series is log(1/Q)).[1] Using the mean over the 1980-2009 period leads to the conclusion that the renminbi is only slightly undervalued in December 2009 - 7.5% (all misalignment in log terms unless otherwise stated).

Figure 1 Log trade weighted real value of the Chinese yuan, deflated using CPIs



Note: Upward direction indicates appreciation. Red line is mean value over 1980-2009 period. Green line is linear trend estimated over 1980-2009 period.
Source: IMF, International Financial Statistics, various issues, and authors' calculations.

1 The series is spliced at 1994 to an older IMF series which accounts for the fact that some transactions were conducted at "swap market" rates rather than official rates. (See the discussion in Fernald et al. 1999).

Even if one allows for some sort of time trend in ?, whether the currency is deemed to be overvalued or undervalued depends critically on the sample period used to estimate the trend; using the 1980-2009 sample, one finds a 36% *over*valuation.

Clearly, one can get pretty much any answer one wants by judicious choice of sample period. For instance, using a shorter, 1990-2009, sample, the renminbi is overvalued by 13.5% and 1.6% using the mean and trend, respectively. Further note that the standard calculation of the real exchange rate uses consumer price indices (CPIs). One could use alternative deflators, such as producer price indices, or unit labour costs (Chinn 2006). Doing so would provide alternative conclusions regarding differing estimates of misalignment.[2]

2.2 Absolute PPP and the "Penn Effect"

It seems like one could get around the problem of estimating (1+ψ) by using actual prices of identical bundles of goods across countries, rather than price indices. Now P and P^* represent prices of identical bundles of goods.

$$S = \left(\frac{P}{P^*}\right) \text{ or } P = S \times P^* \tag{3}$$

In principle one can see then whether the "price level" differs between countries.

One practical problem is that prices of identical bundles of goods are not usually available on a consistent basis. The "price levels" constructed by Summers and Heston (1991) and reported in the Penn World Tables, or in the related World Bank *World Development Indicators*, circumvent this problem by constructing the price levels in a way that they pertain to similar bundles across countries. One can then examine whether:

$$R \equiv \frac{1}{Q} = \left(\frac{P}{SP^*}\right) \tag{4}$$

is equal to one across countries.

Figure 2 presents a scatter plot of the observations on R for over 170 countries over the period 1980-2008, using the most recent vintage of data the World Bank's *World Development Indicators*. If absolute PPP held, then one would expect that the scatter plot of observation to align horizontally. In fact, the scatter of observations slopes upward - in words, higher income countries evidence higher prices.

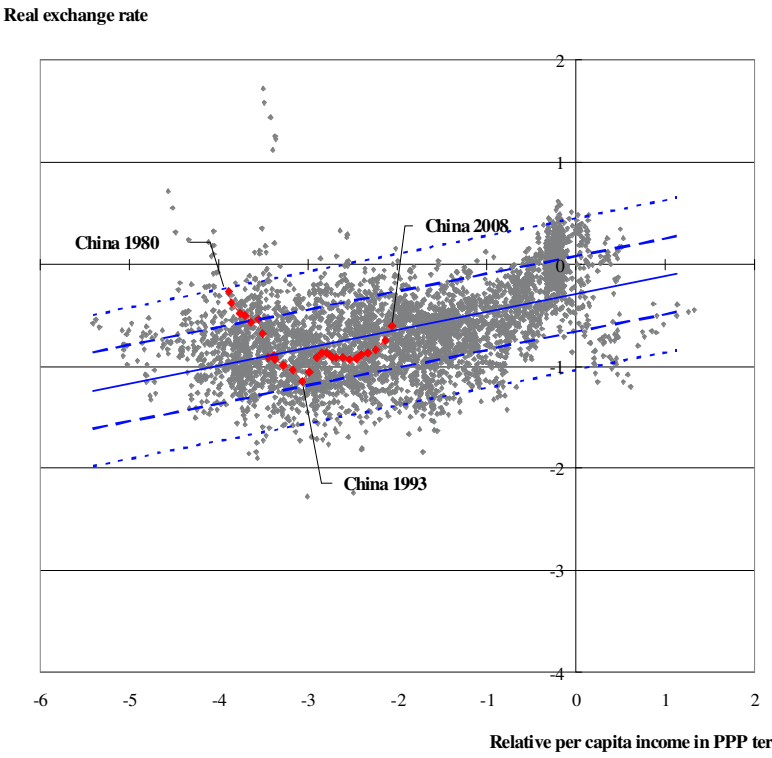
A similar pattern obtains if one uses a bundle called a Big Mac (Parsley and Wei 2003), popularised by the *Economist*. Express the prices of Big Macs across the globe in dollar terms, and one finds a positive correlation between per capita income and the dollar price of a Big Mac.

Absolute PPP using Big Mac's indicates a January 2010 undervaluation of 67%.[3] This is not too dissimilar to the approximately 50% undervaluation (the distance from the 0 line to the China 2008 observation) shown in Figure 2.

2 For the real exchange rate to be stationary, the exchange rate and price indices must be cointegrated with unit coefficients (Chinn 2000a).

3 The US price is $3.58, while the Chinese price (converted in dollars) is $1.83; in level terms, this is a 50% undervaluation. (See The Economist 2010.)

Figure 2 Log real exchange rate R and log per capita income relative to US, expressed in PPP terms



Note: Upward direction indicates appreciation. Solid blue line denotes regression line; long (short) dashed lines represent ±1 (±2) standard error bands. Red line denotes path of the RMB over time.
Source: World Bank, *World Development Indicators* (accessed March 2010) and author's calculations.

The positive exchange rate - income relationship illustrated in Figure 2 is so robust that it has a name - "The Penn Effect", after the Penn World Tables. Instead of viewing the Penn Effect as a problem, one can *exploit* this stylised fact. Following Frankel (2005), estimate the relationship between (log) R and log relative per capita income, and interpret the deviation from this line as the degree of misalignment. The elasticity of the price level with respect to relative per capita income is 0.2. The regression coefficient is plotted in the graph as the solid blue line.[4]

The path of the renminbi, and particularly the 2008 end-point, in Figure 2 appears counterintuitive. The renminbi is estimated to be *over*valued by 5% by 2008. In Cheung et al. (2007), we exploited this relationship using data up to 2004 and found a renminbi misalignment in excess of 50%.

4 Ferguson and Schularick (2009) apply a variant of this approach to ten emerging market economies relative to the US. In their case R is the dollar wage rate. By this criterion, the renminbi is undervalued by 34% to 48% (in level terms).

What explains the large change in the estimated degree of renminbi undervaluation?

In 2008, the International Comparison Program conducted a new benchmark survey of prices. These new estimates were incorporated into their comprehensive revision of the *World Development Indicators* database. While the estimates for many countries were affected, China's price and income data were substantially modified in light of the new benchmark data (Elekdag and Lall, 2008). The Chinese price level was revised approximately 40% upward, and hence Chinese per capita income downward by roughly the same amount. Using updated data, we found something closer to 10% undervaluation in 2007 (with the 2004 estimated misalignment reduced to 18%). The 2008 renminbi overvaluation of 5% is obtained from the most recent vintage of the WDI. While Chinese per capita income has risen about 15% by end-2009, and the equilibrium rate should have risen by about 2.8%, the trade weighted real exchange rate is about the same now as it was in 2008; thus according to our calculations, the renminbi remains slightly overvalued.[5]

Note that while we cannot reject the no-misalignment null, we also cannot reject the 20% undervaluation null hypothesis at conventional significance levels. This outcome highlights the lack of precision of our estimates.

Subramanian (2010) recently published estimates that contrast with ours. He argues that it is best to estimate the slope coefficient off benchmark data years, with the last one being 2005. Using this approach, he finds the 2005 undervaluation to be 14.5% and 47.5% (in level terms), using the *World Development Indicators* and Penn World Tables, respectively. Extrapolating the path of the equilibrium exchange rate using income growth over the intervening period, he concludes that the current degree of undervaluation is roughly the same as it was in 2005.[6]

2.3 The productivity approach and the behavioural equilibrium exchange rate approach

The most common way of incorporating productivity in exchange rate determination is the Balassa-Samuelson theory, which focuses on the differential between traded and nontraded sectors. To our knowledge, few researchers have attempted to estimate the link between sectoral productivity trends and the real exchange rate for China, with the exception of Chinn (2000).

The impact of productivity differentials can be illuminated in a highly simplified version of the Balassa-Samuelson model. Suppose the economy price level is the average of the prices of tradable and nontradable goods. If the relative price of nontradables moves inversely with the relative productivity levels in the two sectors, then the faster tradable productivity grows, relative to nontradables (relative to the same ratio in the foreign country), then the stronger the exchange rate.[7]

5 According to IMF World Economic Outlook database, year on year growth in per capita GDP is about 10% in both 2009 and 2010. Using this growth rate, and the 0.2 coefficient estimate yields the implied 2.8% appreciation.

6 Reisen (2009) uses the 2008 cross section and obtains a 12% undervaluation (in levels). We obtain similar results to Subramanian and to Reisen, for 2005 and 2008 respectively.

7 PPP must hold for traded goods, capital must be perfectly mobile internationally, and the factors of production must be free to move between sectors.

A highly simplified version of this approach can be expressed as:

$$Q = \frac{\left(\frac{A^{T*}}{A^{N*}}\right)^{\alpha}}{\left(\frac{A^{T}}{A^{N}}\right)^{\alpha}} \tag{5}$$

where α is the share of nontradables in the total basket of goods, and A is total factor productivity in sector i ($i = N, T$).

In Cheung et al. (2009b) we implement this approach. The estimation procedure is hampered by the onerous data requirements, specifically estimates of productivity levels in the tradable and nontradable sectors.[8] Estimates of equation (5) over the 1988-2004 period imply that the renminbi was undervalued in 2004 by as much as 6.1%, and as little as 1.4%, depending on the productivity series used.

The preceding approach restricted the exchange rate determinants to solely productivity differentials. One can allow for other effects by augmenting the productivity variable with other variables, such as real interest differentials, government spending, or the terms of trade. These composite models have been coined behavioural equilibrium exchange rate (BEER) specifications, and are often used to evaluate equilibrium exchange rates for developed country currencies (Cheung et al. 2005).

Wang (2004), Funke and Rahn (2005) and Wang et al. (2007) use particularly simple BEERs to evaluate the Chinese currency. They relate the real exchange rate to the relative price of nontradables (to proxy for productivity ratios), and other variables such as net foreign assets, foreign exchange reserves, the terms of trade, money growth, or trade openness. These models are also used in the private sector. The Goldman Sachs version (GSDEER) relates the real exchange rate to productivity differentials and the terms of trade.

One interesting aspect of these studies is that the estimated extent of misalignment is never typically large. This observation reflects a key difficulty with this approach. If the entire sample period were one in which the Chinese economy were *adjusting* toward a condition under which the Balassa-Samuelson (and other effects) hold - without actually achieving that condition - then this approach would tend to find smaller misalignments than actual.

One way to address this particular concern is to adjust the constant in the BEER equation by some factor. Goldman Sachs has recently incorporated such an adjustment, based upon the Penn Effect discussed in Section 2.3. Their assessment is that "the CNY no longer seems strongly undervalued against the dollar" (O'Neill 2010), with the degree of undervaluation equal to 2.7% against the dollar and 23.1% against the euro (Stupnytska et al. 2009).

8 Following Chinn (2000b), average labor productivity is obtained by dividing real output in sector i by labor employment in the same sector. The tradables sector is proxied by the manufacturing sector, while the nontradables is proxied by the "Other" sector.

2.4 The macroeconomic balance approach

The macroeconomic balance approach takes the perspective from saving and investment rates. Recall the national saving identity:

$$CA \equiv (S - I) + (T - G)$$

In other words, the current account is, by an accounting identity, equal to the budget balance and the private saving-investment gap. This is a tautology, unless one imposes some structure and causality. One can do this by taking the budget balance as exogenous (or use the cyclically adjusted budget balance), and then include the determinants of investment and saving. Then one obtains "norms" for the current account (Chinn and Prasad 2003). Then, using trade elasticities, one can back out the real exchange rate that would yield that "normal" current account.

The IMF regularly conducts analyses where it calculates equilibrium exchange rates via the Consultative Group on Exchange Rate Issues (CGER) (Lee et al. 2008). However, the IMF has not publicly reported recent numerical estimates for China's equilibrium exchange rate.

The closely-related Fundamental Equilibrium Exchange Rate (FEER) determines the current account norm on a more judgmental basis (in other words, the current account norm is not estimated econometrically, just imposed per the analysts' priors).

Cline and Williamson (2010) recently updated their estimates of the FEER based exchange rate. They found that as of March 2009, the degree of undervaluation was about 32.8%, and only slightly larger as of December 2009.

2.5 The basic balance approach

One could take a more ad hoc approach, asking what is the "normal" level of stable inflows - for instance looking at the sum of the current account and foreign direct investment, and see whether that value "made sense". Or one could look at the sum of the current account and private capital inflows. If either of the flows are "too large", then the currency would be considered undervalued (since a stronger currency would imply a smaller current account balance).

It is interesting to make two observations. First, note the need for many non-model based judgments. To see this point, recall the balance of payments accounting definition:

$$CA + KA + ORT \equiv 0$$

Where CA is current account, KA is private capital inflows, and ORT is official reserves transactions (+ is a reduction in forex reserves). Saying CA + KA is too big is the same, then, as saying ORT is too small, i.e., reserves are rising "too fast".

Alternatively, running surpluses that are "too large" for "too long" will lead to foreign exchange reserves that are "too large". Obviously, a lot of judgment calls are necessary for this approach.

Once one makes a judgment about what would be an appropriate trade surplus, for instance, then the mechanics of making a judgment about exchange rate misalignment is fairly straightforward - what amount of exchange rate appreciation

achieves a given reduction in the trade surplus. In this vein, Goldstein and Lardy estimated the end-2008 undervaluation at 20-25% (in level terms), if the goal is a balance for China's current account (Goldstein and Lardy, 2009, p. 67).[9]

The problem is that there are a plethora of elasticity estimates. To get a feeling for this point, consider estimates of China's export elasticities. Ahmed (2010) finds that after four years, 20% renminbi appreciation induces a $400 billion decrease in Chinese exports. In contrast Cheung et al. (forthcoming) find a $50 billion impact.

The external balances approach also relies upon a determination of which components of the balance of payments are "persistent". For instance, Prasad and Wei (2005), examining the composition of capital inflows into and out of China, argue that much of the reserve accumulation that has occurred in the preceding years was due to speculative inflow; hence, the degree of misalignment was small. It is doubtful that the same conclusions would be drawn in 2010.

One final observation

The implied exchange-rate adjustment (and hence degree of currency misalignment) is *conditional* on the constellation of all other macro policies, including monetary, fiscal and regulatory, in place. If the CA+KA is adjudged to be "too large", one could conclude the exchange rate is "too weak", but one could conclude with equal validity that the fiscal policy is "insufficiently expansionary". That is one point that is often forgotten when interpreting misalignment estimates in the basic balance approach.

3. Assessing the assessments

Policy analysts interested in assessing the degree of the renminbi's misalignment are confronted by a plethora of estimates. In our view, several aspects of these studies bear mention.

First, there doesn't seem to be an unambiguously clear choice for the best way to measure currency misalignment. That's because different criteria relate to different models. Absolute PPP and relative PPP are price based measures; they might be appropriate when thinking about the long run. But that horizon is of limited usefulness to policy makers. For that same reason, the implications of the Penn Effect appear to also be of only moderate relevance.

BEER approaches, which are essentially ad hoc statistical constructs, have limited usefulness, in part because it is difficult to equate a given economic model with the empirical specifications. In addition, when BEER approaches are estimated in a pure time series approach, they (like relative PPP approaches) will tend to identify small misalignments even when there are large misalignments.

Unfortunately, as one moves to measures that are more useful for policymakers, the required amount of judgment rises. This is particularly true when examining the FEER and basic balances approaches. What exactly is the "right" trade surplus, or the appropriate rate of reserve accumulation? And what fiscal and monetary policies are

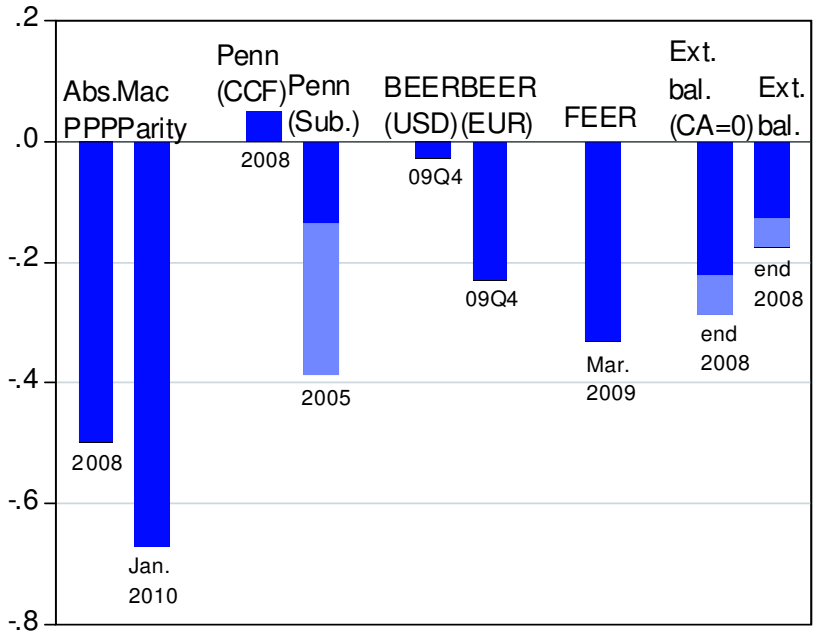
9 They use the rule of thumb that a 10% appreciation induces a 2%-3.5% reduction in the current account.

taken as given? Depending on how one answers those questions, one obtains different answers regarding currency misalignment. In our view, it's best to appeal to a number of estimates, rather than deciding on one specific measure.

To sum up:

- Absolute PPP suggests (log) undervaluation of about 50% (67% using Mac parity).
- The Penn Effect suggests essentially no misalignment (our estimates), or between 13.5% to 38.8% undervaluation (according to Subramanian).
- The Goldman Sachs BEER implies slight undervaluation against the dollar, and 23.1% against the euro.
- The Cline-Williamson FEER based estimate implies a 33% undervaluation, while the Goldstein-Lardy estimate is for 22.3% to 28.8% (for zero current account surplus), or 12.8% to 17.4% (for halving the surplus). These estimates are summarized in Figure 3.

Figure 3 Estimates of Chinese yuan undervaluation



Notes: Absolute PPP is deviation from PPP according to World Development Indicators data; MacParity calculated using the Economist's Big Mac index. Penn (CCF) and Penn (Sub.) are Penn effect estimates from Cheung, Chinn and Fujii, and Subramanian, respectively. BEER are Behavioral Equilibrium Exchange Rate model estimates, against dollar and against euro, from Goldman Sachs GSDEER. FEER is Fundamental Equilibrium Exchange Rate estimate from Cline and Williamson; CA=0 indicates target of zero current account balance, otherwise halving of current account. External balance is undervaluation from basic balance approach in Goldstein and Lardy. Light colored shading indicates range of estimates.

Sources: Economist (2010), Subramanian (2010), Stupnytska et al. (2009), Cline and Williamson (2010), Goldstein and Lardy (2009), and authors' calculations.

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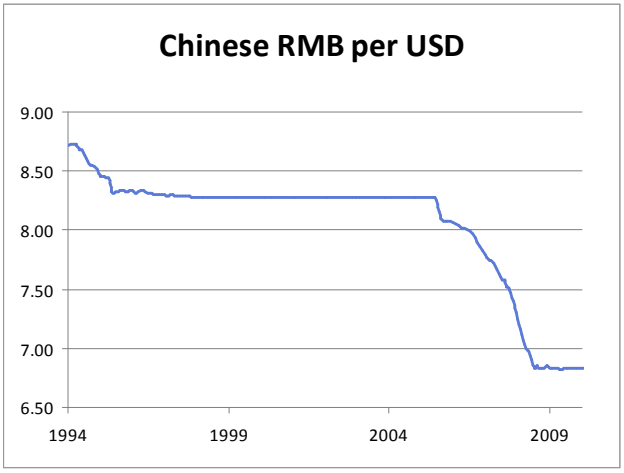
11. The 2005 to 2008 appreciation of the yuan and US trade

Peter K Schott
Yale School of Management

What if the renminbi were to appreciate? This column examines the behaviour of US trade from 2005 to 2008, when China allowed its currency to rise 17% against the dollar. Overall, the impact of this appreciation appears to be modest

Most analysts believe the renminbi remains undervalued against the dollar. Many also believe that an appreciation will improve the US current account deficit and perhaps goose its dismal labour market by raising US exports to China and dampening US imports from China (see for example The New York Times, 8 April 2010). The extent to which the latter contributes to a reversal of the US trade deficit, however, depends on where else the US might source the goods it currently imports from China. If production of these goods moves back to the US, imports could fall substantially. On the other hand, if their production merely shifts from China to another low-wage country, US imports may not change.[1]

Figure 1 The Yuan appreciation of 2005 to 2008



1 This statement ignores more complicated, indirect channels. For example, if US imports from result in higher US real interest rates as a result of less Chinese savings making their way to the United States, overall US demand for imports might decline.

To shed some light on the potential effects of further renminbi appreciation, I examine the behaviour or US trade from July 2005 to July 2008, when China allowed its currency to rise 17% against the dollar (Figure 1).[2] Overall, I find the impact of this appreciation to be modest. .

US exports to China

China's share of the US manufacturing exports by value has risen steadily over the past decade, rising from 2% in 2000 to just under 7% in 2009. This growth is displayed in Figure 2, which also contains dashed vertical lines at 2005 and 2008 to bookend the three-year appreciation noted above. As indicated in the figure, there does not appear to be any acceleration of the China export share during the appreciation period, though any such affect may have been dampened by the global recession beginning in 2008.

Figure 2 China's share of US exports

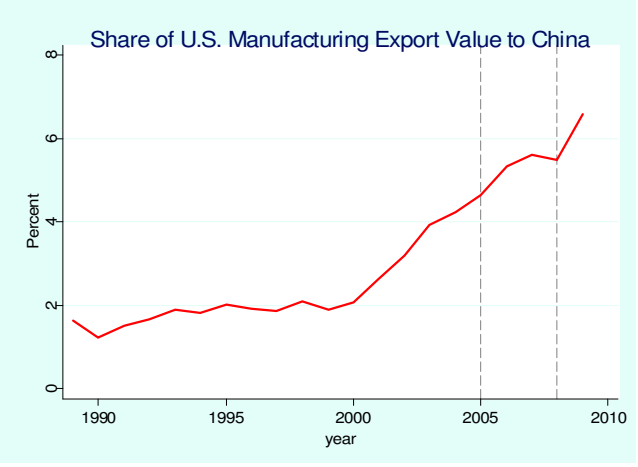
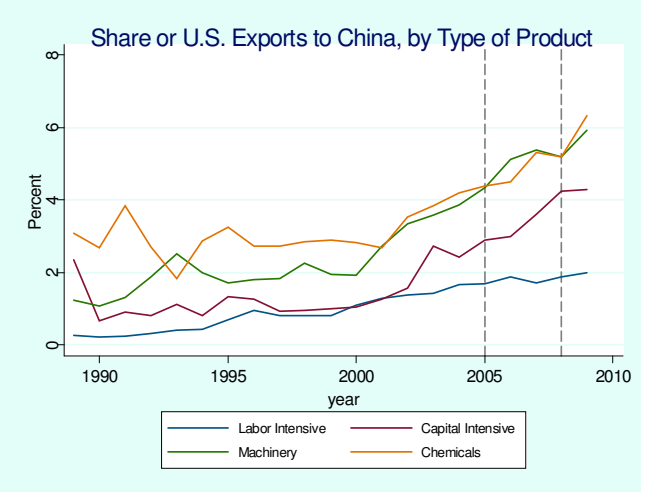


Figure 3, which breaks down US manufacturing exports to China into four categories, reveals that the strongest post-2000 export share growth occurred in relatively capital-intensive goods. In the figure, manufacturing exports are classified as machinery (e.g. autos, computers), chemicals, other capital intensive goods (e.g. rubber, textiles) and relatively labour intensive goods (e.g. apparel) using a classification developed by Leamer (1984). The sharp increase in the overall share of exports sent to China in 2009 is driven by chemicals and machinery.

2 The examination updates the trends reported in Schott (2008), which is the source for all cited trends unless otherwise noted.

Figure 3 Breakdown of US manufacturing exports by product type



US imports from China

As is well known, China's share of the US import market by value increased dramatically during the 1980s, 1990s and 2000s, from almost zero in 1980 to 26% of all manufacturing import value by 2009. Within some manufacturing industries, growth was even more dramatic. By 2005, for example, 72% of US footwear imports originated in China.

Figure 4 displays the trend in China's share of annual US manufacturing import value over the past twenty years, from 1989 to 2009. As above, there appears to be no break in the post 2000 increase in Chinese market share during the renminbi's appreciation, though there is an acceleration in market share *after* appreciation was discontinued. Figure 4 also traces the market shares of OECD countries (which includes Japan) and rest-of-Asia (which excludes both China and Japan) to see if they show any evidence of responding to renminbi appreciation.[3] Here, too, there is little evidence of a deviation from trend during the appreciation. Though here, too, the OECD share appears to decline more quickly following the period of appreciation. The notable acceleration of China's import share after 2000 is likely due to its entry into the WTO and a concomitant relaxation of apparel and textile quotas as the global Agreement on Textiles and Clothing (ATC) began being phased out (for more on the ATC see Brambilla et al. 2009).

The 2005-2008 growth exhibited in China's share of overall US manufacturing import value is evident across industries within manufacturing. This pervasiveness can be seen in the left panel of Figure 5, which plots China's 2008 versus 2005 import shares across the four product categories used above. As indicated in the figure, China's share of the US import market is growing most rapidly in labour-intensive

3 Here, I define the OECD as the 23 members in place as of 1974 in order to exclude Korea, Mexico and other, more recent entrants. The resulting set of countries captures a more uniform mix of high-wage, developed economies during the sample period. Even so, the 1974 cohort still includes Ireland and Turkey.

Figure 4 China's share of US manufacturing imports, 1989-2009

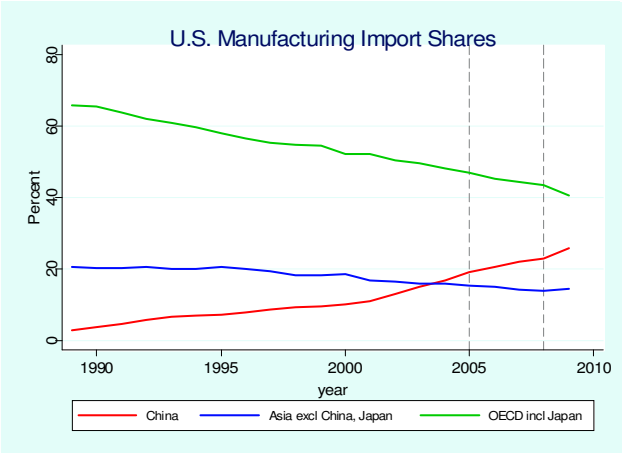
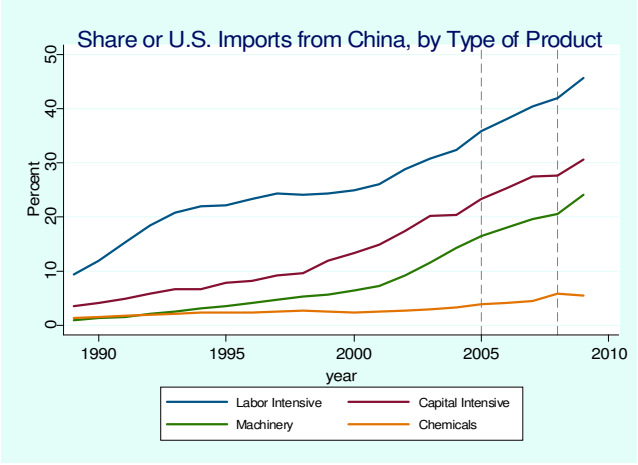


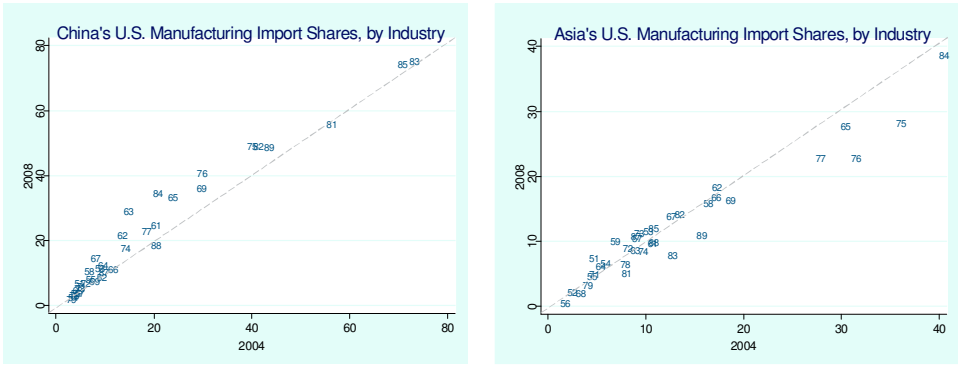
Figure 5 China's share of US manufacturing imports, by product type



goods and less rapidly in capital-intensive goods, especially chemicals. The steady growth of the former during 2005 to 2008 suggests little movement of low-margin, labour-intensive goods like apparel to other low-wage countries as a result of renminbi appreciation.

An alternate view of China's growing share of US imports during appreciation is provided in the left panel of Figure 6, which plots China's 2008 versus 2004 import shares across all two-digit SITC industries within manufacturing. (A mapping of these industry codes to industry descriptions is given in an appendix below.) As indicated in the figure, the largest increases in market share - represented by industries lying furthest above the dashed 45 degree line - occurred in SITC industries 63 (cork and wood manufactures excluding furniture), 84 (apparel), 76 (telecommunications equipment), 65 (textiles) and 62 (rubber products). As apparel is one of the most

Figure 6 China's increase in import penetration across industries, 2004 to 2008



labour intensive industries, these results also provide little evidence that China is losing labour-intensive production to other low-wage countries, at least in the short run.

The right panel of Figure 6, which shows comparable information for rest-of-Asia, indicates no coincident surge in market shares. Indeed, the changes in market share for China and rest-of-Asia are negatively correlated across the industries displayed in the figure, indicating that declines in rest-of-Asia's market shares were highest in the industries in which China's growth was largest.

The mix of goods that the US imports from China

A surprising trend emerging from the analysis of detailed trade statistics is the increasing overlap of developed and developing countries in the same product.[4] This trend is easily observed in Figure 7, which plots the share of all possible manufacturing products exported to the US by China, the OECD and rest-of-Asia, by year from 1989 to 2009.[5] Here, too, the 2005 to 2008 devaluation is bracketed by dashed horizontal lines.

China's product penetration has grown dramatically over time, surpassing rest-of-Asia as a whole in 2005. Slowing penetration starting in 2005 might be consistent with China withdrawing from some product markets due to appreciation; if these markets were relatively small, vis-à-vis the sectors that remain, it might also be consistent the continued market share growth during appreciation shown above. On the other hand, penetration also slows for rest-of-Asia and the OECD, and may be related to the global recession starting in 2008. Further investigation at more detailed levels is warranted.

Another means of gauging China's overlap with rest-of-Asia and the OECD is to include information on the relative importance of products to each country's or region' export bundle. For this, Finger and Kreinin's (1979) export similarity index

4 See, for example, Schott (2004, 2008).

5 Manufacturing products here refer to the approximately 13,000 ten-digit Harmonized System codes used to track US imports in customs documents.

(ESI) can be used. First, for each manufacturing product exported by a country or region in year t compute the share of that product in the country or region's total exports (e.g., $s_{pt}^{China}=v_{pt}^{China}/v_t^{China}$). The index is then the sum of the minimum of these shares across products,

$$ESI_t = \Sigma_p(s_{pt}^{China}, s_{pt}^{OECD}) \qquad (1)$$

If countries have exactly the same bundle of export goods *and* the same distribution of exports across those goods, the index equals 1. If they do not overlap at all, the index equals 0. Figure 8 plots China's ESI with the OECD from 1989 to 2009. Trends over time are similar to those for product penetration above, though the level for rest-of-Asia is higher.

Figure 7 Product penetration

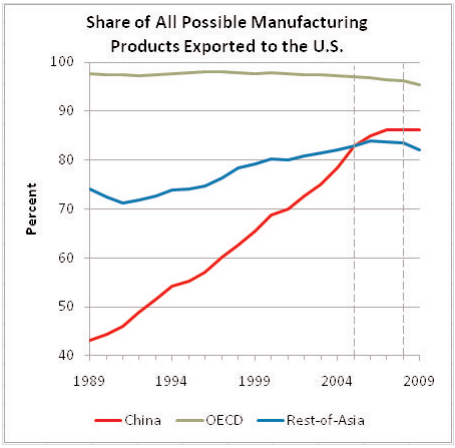
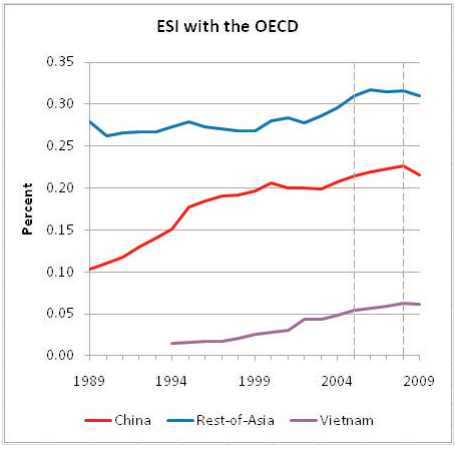


Figure 8 Export similarity index with the OECD

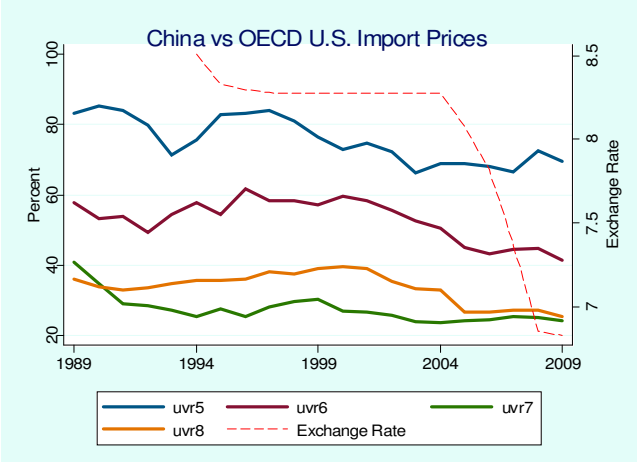


The relative US import price of Chinese goods

Though low-wage countries increasingly overlap with high-wage countries even in finely defined product markets, there is ample evidence of vertical differentiation within these markets. Analysis of export price variation across countries within product markets reveals that manufacturing exports from low-wage developing countries sell at a substantial discount compared to the exports of high-wage developed economies

Evidence of such price disparities is displayed in Figure 9, which reports the average US import price of China's manufactured goods as a share of the average price received by OECD economies. China's prices are well below those of the OECD, especially in miscellaneous manufactures (e.g., apparel) and machinery (e.g., telecommunications equipment). The figure also traces out the 17% appreciation of the renminbi versus the dollar between 2005 and 2008. Though there is no dramatic shift in the China "discounts" over this period, they do appear to moderate (i.e., decline less than it might otherwise have). Here, too, further examination at more detailed levels of aggregation is warranted.

Figure 9



Conclusions

Judging by the data presented above, mid-2000s appreciation of the renminbi against the dollar appears to have had a modest effect on US trade with China. US exports to and imports from China more-or-less continued apace, while the relative price of Chinese goods in the US market appear to have risen slightly with respect to trend. There are a number of reasons why the reaction may not have been stronger.

There are a number of reasons why the reaction may not have been stronger.

- First, the appreciation, at 17%, was relatively small.
- Second, it was relatively short-lived - taking place over just three years - compared to the amount of time it might take firms seeking to relocate production in response to cost differences.

- Third, it ended prematurely, and during the worst global recession in decades.

If further devaluation is sharper and more long-lasting, the effect on US trade may be more substantial, though it is unlikely to reverse the decades-long decline in US manufacturing employment. Indeed, to the extent that appreciation forces low-margin, labour-intensive products out of China towards lower-cost locations like Vietnam, Chinese firms will have another incentive to move up the quality ladder and compete more directly with producers of more sophisticated goods in the US and other developed economies.

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Appendix

Manufacturing Industries and their Associated SITC Categories
5 Chemicals
51 - Organic chemicals
52 - Inorganic chemicals
53 - Dyeing, tanning and colouring materials
54 - Medicinal and pharmaceutical products
55 - Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations
56 - Fertilizers (other than those of group 272)
57 - Plastics in primary forms
58 - Plastics in non-primary forms
59 - Chemical materials and products, n.e.s.
6 Manufactured Materials
61 - Leather, leather manufactures, n.e.s., and dressed furskins
62 - Rubber manufactures, n.e.s.
63 - Cork and wood manufactures (excluding furniture)
64 - Paper, paperboard and articles of paper pulp, of paper or of paperboard
65 - Textile yarn, fabrics, made-up articles, n.e.s., and related products
66 - Non-metallic mineral manufactures, n.e.s.
67 - Iron and steel
68 - Non-ferrous metals
69 - Manufactures of metals, n.e.s.
7 Machinery
71 - Power-generating machinery and equipment
72 - Machinery specialized for particular industries
73 - Metalworking machinery
74 - General industrial machinery and equipment, n.e.s., and machine parts, n.e.s.
75 - Office machines and automatic data-processing machines
76 - Telecommunications and sound-recording and reproducing apparatus and equipment
77 - Electrical machinery, apparatus and appliances, and electrical parts thereof
78 - Road vehicles (including air-cushion vehicles)
79 - Other transport equipment
8 Misc Manufacturing
81 - Prefabricated buildings; sanitary, plumbing, heating and lighting fixtures and fittings, n.e.s.
82 - Furniture, and parts thereof; bedding, mattresses, mattress supports, cushions and similar items
83 - Travel goods, handbags and similar containers
84 - Articles of apparel and clothing accessories
85 - Footwear
87 - Professional, scientific and controlling instruments and apparatus, n.e.s.
88 - Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks
89 - Miscellaneous manufactured articles, n.e.s.

12. Impact of China's exchange-rate policy on trade in Asia

Alicia García-Herrero and **Tuuli Koivu**

Banco Bilbao Vizcaya Argentaria; Bank of Finland

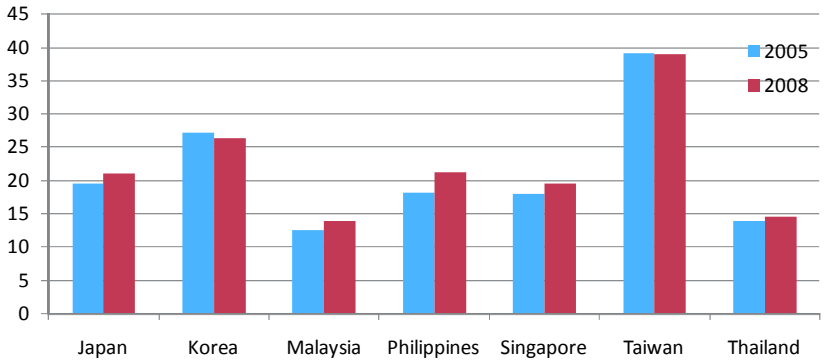
If China's currency does appreciate, what impact will this have? This column argues that while exports will fall, so will Chinese imports. This is explained by China´s role as an importer of components from other East Asian countries which are then processed before being exported to western markets. A 10% rise in the renminbi would reduce imports of components by 6%.

The amazingly rapid rise in China's exports, to a large extent at the cost of other countries' market shares, has heightened the discussion about China's exchange rate. The question really is whether such an export boom can at least partly be explained by an undervalued currency.

Assessing whether a currency is undervalued or overvalued is always difficult but this is all the more true for the renminbi given China´s important role as final processor in the global supply chains. In fact, China's decisions concerning its exchange rate are not only important worldwide given China´s major exporting power but also for those countries linked to China through the production chains, thus mainly East Asian countries.

In fact, as we can see from Figure 1, China has become a key export destination for many East Asian economies. As one of the most dramatic examples, out of Korea's total exports a quarter is first directed to China, either to its domestic market or even more often to China's processing sector and only then further to the final markets in other countries.

Figure 1. Share of exports going to the Mainland China and Hong Kong from selected Asian countries, %



Source: IMF Direction of Trade, the data for Taiwan from the Bureau of Foreign Trade.

In recent research (Garcia-Herrero and Koivu 2008 and 2010), we analyse empirically how China´s exchange rate affects its foreign trade. While we can confirm the expected result that exports fall due to a real effective exchange-rate appreciation, Chinese imports actually react to exchange-rate fluctuations in an unexpected way; imports also fall as a result of currency appreciation. As we shall show by estimating bilateral import equations for China´s main trading partners, this is explained by China's key role as importer of parts and components from other East Asian countries. In fact, a reduction in China's exports due to exchange-rate appreciation also implies a fall in China's imports of investment goods as well as parts and components to the exporting sector. Furthermore, we cannot find evidence that East Asian countries could offset this negative impact of renminbi appreciation on their exports by increasing exports to other countries. This implies that China's decisions regarding its exchange rate have major impacts on other economies in the region.

The exchange rate and China's imports

Several studies have recently analysed factors behind China's foreign trade (see for example Marquez and Schindler 2006, Shu and Yip 2006, Aziz and Li 2007, Cheung et al. 2008, Garcia-Herrero and Koivu 2008 and 2010, and Thorbecke and Smith 2009). According to these papers, Chinese exports have been driven to a large extent by increasing demand, in particular since China's WTO membership took place in December 2001 (Table 1). The studies also confirm Chinese exports to be price elastic; an appreciation of renminbi implies a drop in China's exports.

Somewhat surprisingly however, several studies report that imports also fall - instead of rising - when the renminbi real effective exchange rate appreciates (Marquez and Schindler 2006, Cheung et al. 2008, and Garcia-Herrero and Koivu 2008 and 2010). For example, Garcia-Herrero and Koivu (2010) find that a 10% appreciation would lead to a decline of 6% in imports of processing (Table 1). Ordinary imports would decline even more.

When looking at the imports more closely, one notices that it is mainly imports from other Asian countries that decrease when the renminbi appreciates (Table 2). This counterintuitive result points to the importance of being a key part of the global production chain. In fact, a currency appreciation which causes a decrease in the export sector's competitiveness also implies a decline in demand for investment

Table 1. Long-run impacts of real effective exchange rate and world demand on China's exports and imports

	Ordinary exports	Processed exports	Ordinary imports	Imports for processing
Impact of 10% appreciation of China's reer	-13%	-11%	-17%	-6%
Impact of 1% increase in world demand	+1.6%	+1.5%	+1.9%	+0.3%

Source: Garcia-Herrero and Koivu (2008)

Table 2. Long-run impacts of bilateral real exchange rate and demand on China's imports from its major trading partners

	China's imports from Australia	Germany	Japan	Korea	Malaysia	Taiwan	Thailand	US
Impact of 10% appreciation of China's bilateral rer	(0%)	6%	(-1%)	-4%	(2%)	(-29%)	-6%	(-16%)
Impact of 1% increase in China's demand	(0.4%)	0.9%)	1%	0.4%	(-0.1%)	(0.9%)	(-0.2%)	0.6%

Notes: Values in parentheses are not statistically significant.

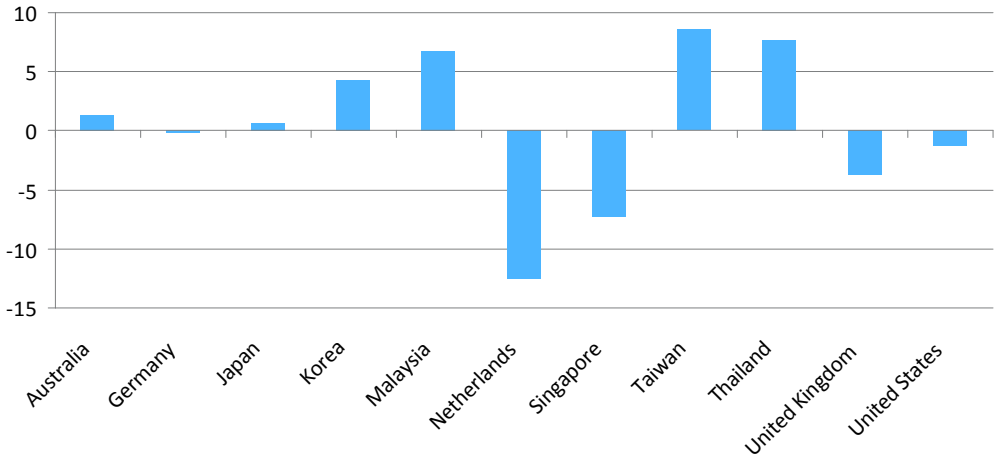
Source: Garcia-Herrero and Koivu (2008)

goods, imported parts and components for that sector. This result also has a strong implication worth noting, namely that China´s export goods are becoming more of a complement to the production of goods in other Asian economies rather than a substitute.

Fierce competition or fruitful co-operation?

Existing studies illustrate that China's rise has meant crowding out effect on exports from most other economies. This is despite the fact that, in Asia in particular, the negative impact of China's rise as major export economy has been partly offset by China's increasing imports from the nearby regions (see for example Eichengreen et al. 2007 and Greenaway et al. 2008). China's rising imports reflect partly the fact that in a relatively short period of time China has become a major export platform for goods produced not only in mainland China but also via international production chains. This is reflected in the dual nature of China´s bilateral trade balances; in surplus with most developed economies - mostly European countries and the US - and in deficit with nearly all Asian countries (Graph 2).

Figure 2. Selected countries' bilateral trade balance with China, % of each country's GDP



Source: IMF Direction of Trade, CEIC

Our empirical finding that a renminbi real appreciation decreases both China's imports and exports could, or course, imply that a renminbi appreciation would encourage other Asian countries to compete directly with China in third markets by bypassing China as a processing country. Our results, however, do not confirm this idea (Garcia-Herrero and Koivu 2008 and 2010). Actually it seems that a renminbi real effective appreciation would lead to a decline in total exports from many East Asian economies (Table 3). In other words, exports from other Asian countries seem to be more of a complementary than a substitute to Chinese products.

Table 3. Long-run impacts of China's real effective exchange rate (reer), country's real effective exchange rate and world demand on East Asian countries' total exports

	Exporting country						
	Hong Kong	Japan	Korea	Malaysia	Philippines	Singapore	Thailand
Impact of 10% appreciation of China's reer	-7%	-9%	-6%	-8%	-15%	-17%	-7%
Impact of 10% appreciation of country's reer	(-2%)	-4%	(-2%)	(-6%)	+17%	-12%	+6%
Impact of 1% increase in world demand	+0.7%	+0.8%	+0.8%	+0.9%	(+0.0%)	-0.5%	0.8%

Notes: Values in parentheses are not statistically significant.

Source: Garcia-Herrero and Koivu (2008)

Due to the tight production chains in East Asia, a renminbi appreciation reducing imports from the rest of Asia to China should thus be a concern for many Asian countries. The fact that exports from other East Asian countries are more complementary than a substitute today to Chinese products is clearly related to the increasing importance of China in the production chain whereby China controls the purchases reducing the likelihood of being bypassed by others.

Implications for China's exchange-rate policy

Our findings clearly indicate that China's exchange-rate policy is not only relevant from the point of view of China´s major export destinations - such as the US and Europe - but also for those linked to China through the global production chains. In particular, the other East Asian countries exporting parts and components to China tend to be negatively affected by a renminbi appreciation. This implies that the complementarity of exports from the other East Asian countries to Chinese products is today probably larger than the competition between these countries in goods' final markets.

All in all, the fact that Chinese imports may fall - instead of rise - with exchange-rate appreciation also has an importance consequence. Even though a renminbi appreciation will reduce Chinese exports the impact on China's trade surplus is limited as imports to China will also fall. Such a fall in imports contains major consequences for the wider region as it is mainly imports from other East Asian

countries which fall. For this reason China's exchange-rate policy is not only relevant for the developed world but also for the rest of Asia. This result is very much in line with the recent calls from other Asian countries at different international forums - for China to continue to take a cautious approach to exchange-rate policy.

The opinions expressed in this article are the authors' and not necessarily those of the BBVA or the Bank of Finland.

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SECTION 5

Does the crisis-era renminbi regime violate WTO rules? Is the threat of WTO litigation credible?

13. Currency 'manipulation' and world trade: a caution

Robert W. Staiger and **Alan O. Sykes**
Stanford University; Stanford Law School

Some economists have recently accused China's exchange rate policy as being tantamount to protectionism. This paper questions whether China's trading partners can make a convincing case that China has violated its WTO commitments and that its policies are the equivalent of an illegal tariff and an illegal export subsidy. While China's policies should not be ignored, the authors urge caution

From 1994 up until mid-2005, the Chinese yuan was pegged at 8.28 yuan to the dollar. China shifted briefly to a policy of loosely pegging the yuan to a basket of major currencies, but has since reverted to a policy of keeping the yuan/dollar exchange rate stable. Since 2005 the yuan has appreciated against the dollar and the current exchange rate stands at roughly 6.83. Over the same period, the yuan initially depreciated against the euro, falling from 10.06 in June 2005 to 10.79 in June 2008. With the recent financial crisis, however, the yuan has appreciated against the euro and the exchange rate presently stands at 9.20. Throughout this period, China has intervened actively in foreign exchange markets to prevent the yuan from appreciating faster, selling yuan and buying other major currencies. As a result of this policy, its foreign exchange reserves grew from $403 billion at the end of 2003 to $2.4 trillion at the end of 2009 according to the People's Bank of China (see Durden 2010).

Underappreciated protectionism?

A number of economic commentators argue that China's policies amount to market-distorting currency manipulation. Just last month, Paul Krugman and C. Fred Bergsten of the Peterson Institute for International Economics suggested that China's currency practices were both "protectionist" and a "subsidy," and urged that the yuan should appreciate by approximately 25-40% against the dollar to correct the problem. They urged the US to take multilateral and, if necessary, unilateral action to pressure China to change its ways (BNA International Trade Daily 2010a). Michael Mussa has expressed similar views in the past (Mussa 2007), as has Arvind Subramanian (2008).

Politicians have piled into the mix. Officials on both sides of the Atlantic have argued that Chinese currency practices unfairly distort trade, amounting to the equivalent of a subsidy to exports and a tariff on imports that each would violate WTO rules if imposed directly. President Obama said in October 2008 that China's current trade surplus is "directly related to its manipulation of its currency's value."

He concurrently promised to "beef up US enforcement efforts against unfair trade practices." Similar comments were made on various occasions by former EU Trade Commissioner Peter Mandelson.

What to do?

Various proposals for action against China have been put forward in the US Congress over the past few years, running the gamut from insisting that the Treasury Department refer the matter to the IMF, requiring the US Trade Representative to bring a formal complaint to the WTO, and treating China's alleged currency manipulation as a source of dumping or countervailable subsidies that would permit the imposition of antidumping or countervailing duties on Chinese imports. For many of these proposals, a common - and critical - ingredient for practical implementation involves a translation of China's exchange rate policies (and specifically the magnitude of its exchange rate "misalignment") into equivalent real trade policies - such as export subsidies and/or import tariffs - that could then be more readily evaluated under the rules of the WTO, either to identify the appropriate response by the WTO itself or to assess the WTO-consistency of unilateral responses.

In a recent paper (Staiger and Sykes 2010) we offer three reasons for caution regarding the claims that have been made by the economic commentators and the proposed countermeasures under discussion in the political arena:

1) Equivalence between a devaluation and a tariff-cum-subsidy need not imply that a devaluation warrants WTO action

The translation of currency practices into equivalent trade policies is straightforward in the long run when all prices are fully flexible. As is well known, in this environment, currency market intervention will have no real effects, an implication of the long-run neutrality of money. Prices in a country that devalues its currency will adjust so that the real effects of the devaluation and implied price changes cancel out and leave import and export volumes unchanged. Nevertheless, a devaluation in this environment is equivalent to the imposition of a tariff on all imports and a subsidy to all exports. Just as with the devaluation, the tariff-cum-subsidy policy leads to price adjustments that cancel each other out and leave import and export volumes unchanged (an implication of Lerner symmetry).

Two specific points follow. First, exchange rate intervention need not imply real trade effects. Indeed, because China's currency policies are longstanding and the yuan has, as noted, *appreciated* against the dollar in recent years, it is at least possible that any trade effects of Chinese policy have largely washed out in accordance with this long-run scenario. A recent UNCTAD analysis indicates, for example, that China's unit labor costs have been "rising more than elsewhere, resulting in a continuous loss in competitive power even with a fixed exchange rate" (BNA International Trade Daily 2010b).

Second, the oft-heard claim that devaluations (or the prevention of appreciations) are equivalent to the imposition of a tariff-cum-subsidy is not by itself sufficient to establish a case for WTO- or WTO-consistent- action against such currency interventions. From the long-run perspective considered here, the equivalence does

exist, yet clearly no action in response to the currency intervention is warranted.

2) The trade-policy equivalent of a devaluation in the short run hinges on the details of the invoicing decisions of firms.

In the short run, with sticky prices, a devaluation will have real effects, but these effects hinge on how internationally traded goods are priced. The translation of exchange rate intervention into trade-policy equivalents in this environment will therefore also hinge critically on these details. Moreover, the short-run impact of trade policies such as tariffs in a sticky-price environment can themselves be quite different from the impact of tariffs in the long run, which adds a further layer of complications in assessing whether exchange market intervention can be said to upset the WTO bargain.

For example, suppose that all producers invoice goods in their domestic currency. Competitive producers will set their prices such that their returns from sales are the same when measured in their domestic currency, regardless of where the sales occur - the law of one price holds. Now imagine that the Chinese government undertakes policies that produce an unanticipated devaluation during the period when producer prices are sticky. The price of exports to China rises in yuan, and the price of Chinese exports falls measured in units of foreign currency, but the law of one price still holds. The ratio of the price of exports to China relative to the price of Chinese exports thus rises in any common currency, inducing some expenditure switching between them. In this case, the equivalence between a devaluation and a tariff-cum-subsidy continues to hold in the short run, just as in the long run (flexible price environment). Yet the short-run effects of the tariff-cum-subsidy in this case differ importantly from the long-run effects that trade policies are ordinarily thought to have. There is no inefficient wedge driven between prices in the two markets as would be the case with a conventional import tariff (with the law of one price holding, it is the addition of the subsidy with the tariff that allows the tariff-cum-subsidy to mimic this feature of a devaluation). And from the perspective of countries exporting to China, the terms of trade improve; an effect that would by itself generate a welfare gain for the nations exporting to China and that runs counter to the usual effect associated with internationally inefficient trade policy intervention.

Alternatively, suppose that producers set their export prices in the currency of their foreign customers, while setting their domestic prices in their home currency. Initially, those prices are also set such that the returns expected from sales in each market are the same. Assume once again that these prices are sticky in the face of an unanticipated devaluation by China. Firms exporting to China now earn fewer units of domestic currency on their Chinese sales, while Chinese exporters now earn more yuan on their export sales - the law of one price no longer holds. Here, the ratio of prices in each currency remains the same as before the devaluation and there is no expenditure switching, but the terms of trade improve for China. In this case the devaluation is equivalent to an import tariff alone. There is now no role for an export subsidy when translating the devaluation into equivalent trade policy intervention (with the law of one price not holding, there is no longer a need to combine the subsidy with the tariff in order to mimic the features of a devaluation). The effects of the tariff in this case will also differ from their ordinary effects, as there are now no expenditure-switching effects between Chinese goods and other goods.

Evidence of each of these two invoicing practices - along with a number of others - can be found in various circumstances and under various conditions. The trade policy equivalents of exchange rate intervention will vary accordingly with these details.

3) Existing estimates of exchange-rate misalignment are not reliable for quantification of WTO-relevant effects

From the points above, it follows that it is not possible to jump from equilibrium exchange rate models, which may suggest that China's currency is undervalued by some percentage, to the proposition that China's policies are the real economic equivalent of an illegal import tariff increase and an illegal export subsidy in that same percentage. Either policy, if undertaken by itself, would have real trade effects and likely violate China's WTO commitments. But such policies taken together would cancel each other out in the long run and have no real effects. Thus, they could not impair the WTO bargain in the long run.

In the short run, the real equivalents of China's exchange market policies hinge, as we have noted, on the details of pricing practices. Moreover existing estimates of misalignment do not incorporate information that would be critical in the WTO legal context. For example, it is possible that China's currency policies are equivalent to placing an implicit tariff on its imports, as we have observed. But in this case only the portion of the estimated misalignment that could not have been reasonably anticipated at the time of China's accession to the WTO in 2001 would seem relevant to assessing whether China's currency policies have allowed China to implicitly renege on its bargain to accede to the WTO. In that regard, recall that China held the yuan/dollar exchange rate constant from 1994 to 2005 at 8.28, and since 2005 the yuan has only appreciated.

We are also skeptical that any relevant authority, national or international, can accurately assess whether and to what extent China's currency practices have effects akin to that of a direct subsidy. The task of unpacking all of the various long-run and short-run forces to ascertain the proper level of a countervailing duty, for example, seems insurmountable. Any duty imposed by national authorities would thus be exceedingly difficult to defend under WTO law.

Summary

For these reasons, we question whether China's trading partners can readily make a convincing case that China has violated its WTO commitments by intervening in currency markets in a manner that frustrates the intent of the General Agreement on Tariffs and Trade. Similarly, the suggestion that one can characterise China's policies as the equivalent of an illegal tariff and an illegal export subsidy is problematic. We do not necessarily advocate that China's policies be ignored, but urge a great deal of caution toward proposals that would sweep them into the domain of unfair trade practices and bring to bear the arsenal of unilateral or multilateral trade sanctions.

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Currency undervaluation as a violation of GATT Article XV(4)

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Could the US legitimately bring a case against China over its exchange-rate policy by citing Article XV(4) in the General Agreement on Tariffs and Trade? This column provides a comprehensive analysis of the legislation and argues that, contrary to the existing literature, such a challenge is perfectly viable and has a reasonable chance of success.

Introduction

The issue of whether certain kinds of currency undervaluation might fall under the scope of the rules of the WTO has received increased attention in recent years. This is the case particularly in light of the fact that China, which joined the WTO less than a decade ago, has been running huge trade, current-account, and balance-of-payment surpluses while preventing the renminbi from appreciating through massive intervention in the foreign-exchange market. Through these interventions, China has amassed foreign currency holdings equivalent to an unprecedented 45% of its GDP[1]. Similarly, the magnitude of the undervaluation of the renminbi is notorious and estimates of such undervaluation range between 20% and 40%.

The consistency of China's exchange-rate policy with Article XV(4) of the General Agreement on Tariffs and Trade 1994 (GATT) has been discussed in several recent contributions. While expressing a deep concern about undervalued exchange rates brought about by market intervention, Mattoo and Subramanian (2009) contend that under current WTO rules, including Article XV(4), the prospects for challenging currency undervaluation are very poor and propose the adoption of new rules to enable such challenges precisely. In turn, Hufbauer et al. (2006) conclude that challenging the undervaluation of the renminbi under Article XV(4) is doomed to failure while Mercurio and Leung (2009) view China's foreign exchange policy as actually consistent with Article XV(4). Staiger's and Sykes' paper (forthcoming 2010) is aimed mainly at debunking the proposition in Mattoo and Subramanian that currency undervaluation is equivalent to the combination of an export subsidy and an import tax. In contrast to the above contributions, this paper argues that the existing language in Article XV(4) would permit challenging the undervaluation of the renminbi and that the prospects for obtaining a favourable outcome under this approach are reasonable[2].

1 Author's own calculations based upon data from the IMF.

2 This paper does not address whether currency undervaluation may also be characterised as a subsidy under WTO rules or as a "non-violation" under GATT Article XXIII.

GATT provisions addressing the interaction between trade and financial issues

There are a number of provisions in GATT that concern the interaction between trade and financial issues. In particular, GATT Articles XII and XVIII allow the imposition of trade measures (consisting of restrictions upon either the value or the volume of imports) for purposes of protecting the external position of members, including in terms of their balance of payments (BOP)[3]. The distinction between Article XII and Article XVIII is that the latter only applies to developing countries.[4] In both cases, any measures adopted in light of a BOP objective cannot be more restrictive than those necessary to stop a "serious decline" in the monetary reserves of the member concerned (or forestall a threat thereof), or more restrictive than those necessary to permit a member experiencing reserve depletion to build up its reserves to reasonable levels.[5]

By contrast, GATT Article XV addresses exchange measures that undermine WTO commitments. In particular, Article XV(4) provides:

> Contracting parties shall not, by exchange action, frustrate* the intent of the provisions of this Agreement, nor, by trade action, the intent of the provisions of the Articles of Agreement of the International Monetary Fund (emphasis added).

3 These measures are known as "balance-of-payments (BOP) safeguards". From a theoretical perspective, applying a BOP safeguard to remedy a BOP problem is a bad idea because a BOP problem is a macroeconomic problem that should be dealt with through macroeconomic, and not trade, action. However, the institutional design of the BOP safeguard is such that it can only be triggered in very limiting circumstances (i.e. to build up reserves or prevent a run on reserves, see below) and, therefore, is not to meant to be used long term. The landmark WTO case addressing BOP safeguards is *India - Quantitative Restrictions on Imports of Agricultural, Textile and Industrial Products*.

4 In particular, Article XII:1 provides:

Notwithstanding the provisions of paragraph 1 of Article XI, any contracting party, in order to safeguard its external financial position and its balance of payments, may restrict the quantity or value of merchandise permitted to be imported, subject to the provisions of the following paragraphs of this Article.

In turn, Article XVIII:9 provides, in relevant part:

In order to safeguard its external financial position and to ensure a level of reserves adequate for the implementation of its programme of economic development, a contracting party coming within the scope of paragraph 4 (a) of this Article may, subject to the provisions of paragraphs 10 to 12, control the general level of its imports by restricting the quantity or value of merchandise permitted to be imported;

5 Specifically, Article XII:2 provides, in relevant part:

(a) Import restrictions instituted, maintained or intensified by a contracting party under this Article shall not exceed those necessary:

(i) to forestall the imminent threat of, or to stop, a serious decline in its monetary reserves; or

(ii) in the case of a contracting party with very low monetary reserves, to achieve a reasonable rate of increase in its reserves.

Article XVIII:9 has certain textual differences with Article XII:2. In particular, Article XVIII:9 provides, in relevant part:

[Any] import restrictions instituted, maintained or intensified shall not exceed those necessary:

(a) to forestall the threat of, or to stop, a serious decline in its monetary reserves, or

(b) in the case of a contracting party with inadequate monetary reserves, to achieve a reasonable rate of increase in its reserves.

Article XV(4) was never interpreted in GATT litigation nor has it been interpreted yet in WTO litigation.[6] While we reserve for Section III below a discussion of the interpretation of the first sentence in Article XV(4) ("Contracting Partners shall not by exchange action frustrate the intent of the provisions of the GATT"), it is obvious that, without Article XV(4), members could adopt "exchange actions", such as *foreign-exchange controls* and *multiple exchange rates*, in order to undermine their commitments under the GATT.

For instance, a country could lower its tariff on imports of consumer goods from 30% to 15% and subsequently institute foreign-exchange-rate controls that would either deny altogether or heavily ration foreign exchange destined to finance imports of such goods. In the latter case, the fact that import duties came down by half would not be all that significant to exporters of consumer goods and market access would remain as limited as before the tariff concession. Likewise, a country could institute a system of multiple exchange rates under which imports of consumer goods would be subject to a punitive rate much higher than the market rate (say, 50 pesos to a dollar as opposed to 20 pesos to a dollar) and such higher rate would have the effect of discouraging the imports involved by overcompensating the prior reduction in the tariff rate.

Similarly, under a system of multiple exchange rates exports of processed goods could be favoured over exports of raw materials with the former receiving a preferential exchange rate and the latter receiving an unfavourable exchange rate. For instance, 30 pesos to the dollar for exports of oilseed oil and meal and 10 pesos to the dollar for exports of oilseeds (assuming the market exchange rate were, again, 20 pesos to the dollar). The preferential exchange rate, by providing a bonus on exports, would constitute an export subsidy, contrary to the GATT disciplines on subsidisation (as interpreted under both GATT Article VI and the WTO's Agreement on Subsidies and Countervailing Measures).[7] Therefore, since "exchange action" is capable of "torpedoing" GATT commitments, including, for instance, trade concessions and undertakings in the area of subsidisation, it is only logical that the GATT bans "exchange action" that works at cross-purposes with its provisions.

Importantly, a number of provisions in Article XV(4) itself and elsewhere in GATT create an exception to the general ban on "exchange action" undermining GATT commitments by noting that certain kinds of exchange measures, if adopted in accordance with the Articles of Agreement of the IMF, are nevertheless permissible under the GATT regime.[7] In other words, "exchange action" compatible with IMF conditionality is carved out from the general ban of "exchange action" undermining GATT commitments set forth under Article XV(4). In particular, GATT Article XV(9a) provides, in relevant part:

6 In the GATT case in Special Import Taxes Instituted by Greece, the panel declined making a finding on whether the measure at issue violated Article XV(4).

7 The Second Ad Note to GATT Article VI provides that "[m]ultiple currency practices can in certain circumstances constitute a subsidy to exports which may be met by countervailing duties". Similarly, Item (a) of the Illustrative List of Export Subsidies in Annex I to the WTO Agreement on Subsidies and Countervailing Measures views "currency retention schemes [involving] a bonus on exports" as an export subsidy.

8 Siegel (2002) draws a distinction between "fund-supported" programs and programs reflecting IMF conditionality. Siegel explains that only the latter would be necessarily compatible with the IMF's Articles of Agreement.

> Nothing in this Agreement shall preclude ... the use by a contracting party of exchange controls or exchange restrictions in accordance with the Articles of Agreement of the International Monetary Fund or with that contracting party's special exchange agreement with the CONTRACTING PARTIES ... (emphasis added).

Similarly, the Ad Note to Section B of GATT Article XVI provides, in relevant part:

> Nothing in Section B shall preclude the use by a contracting party of multiple rates of exchange in accordance with the Articles of Agreement of the International Monetary Fund (emphasis added).

Finally, the Ad Note to GATT Article VIII provides, in relevant part:

> While Article VIII does not cover the use of multiple rates of exchange as such, paragraphs 1 and 4 condemn the use of exchange taxes or fees as a device for implementing multiple currency practices; if, however, a contracting party is using multiple currency exchange fees for balance of payments reasons with the approval of the International Monetary Fund, the provisions of paragraph 9 (a) of Article XV [GATT Article XV(9a)] fully safeguard its position (emphasis added).

To sum up, while Article VI(4) bans "exchange action" undermining WTO commitments, other GATT provisions create a "safe harbour" for exchange controls/exchange restrictions, multiple exchange rates, and multiple exchange rates made operational through taxes or fees, provided that such measures are adopted pursuant to IMF conditionality.

Interpreting GATT Article XV(4)

General Approach

Article 3.2 of the WTO's Understanding on Rules and Procedures Governing the Settlement of Disputes ("DSU") provides that the dispute settlement system of the WTO must "clarify existing provisions of [the WTO] agreements in accordance with customary rules of interpretation of public international law". "It is well settled in WTO case law that the principles codified in Articles 31 and 32 of the *Vienna Convention on the Law of Treaties* (the "*Vienna Convention*") are such customary rules".[9] Consistent with Article 31 of the Vienna Convention, the Appellate Body ("AB") has found that WTO provisions must be interpreted based upon the ordinary meaning of the terms used, their context, and the object and purpose of the provision at issue.[10] Consistent with Article 32 of the Vienna Convention, the AB has also found that where, after applying the approach outlined in Article 31 of the Vienna Convention,

9 Appellate Body Report, United States - Countervailing Duties on Certain Corrosion-Resistant Carbon Steel Flat Products from Germany, WT/Ds213/AB/R and Corr.1, adopted 1 December 2002, para. 61 (emphasis in the original).

10 See, for example, Appellate Body Report, Argentina - Safeguard Measures on Imports of Footwear, WT/DS121/AB/R, adopted 12 January 2000, para 91 ("we must examine these words in their ordinary meaning, in their context and in light of the object and purpose of Article XIX").

the meaning of a WTO provision remains ambiguous or obscure, or leads to a result that is manifestly absurd or unreasonable, supplementary means of interpretation can be used including the "preparatory work of the treaty and the circumstances of its conclusion".[11]

Therefore, to interpret the first sentence in Article XV(4) ("Contracting Partners shall not by exchange action frustrate the intent of the provisions of the GATT"), one has to start by examining the ordinary meaning and context of the terms "exchange action", "frustrate", and "intent", in view of the object and purpose of Article XV, and, if necessary, look at the preparatory work concerning Article XV.

"Exchange Action"

According to the Shorter Oxford English Dictionary, the noun "action" has a variety of meanings including "[t]he process or condition of acting or doing"; [a] thing done, a deed, an act"; a "mode of acting"; and "activity".[12] This suggests that the term "exchange action" means acts relating to the exchange rate; in other words, it appears to be equivalent to exchange-rate-based measures.

As the textual analysis of the term "exchange action" in Article XV(4) does not settle the issue of whether this term might exclude or include exchange-rate policies or exchange-rate management, one needs to examine the context of this provision. As explained above, Article XV:9 makes reference to "exchange controls" and "exchange restrictions" whereas the Ad Notes to Articles XVI and VIII refer, respectively, to "multiple rates of exchange" and "multiple currency exchange fees". In turn, GATT Article XV(2) refers to "foreign exchange arrangements", "foreign exchange" and "exchange matters". Thus, if the drafters had wanted to the term "exchange action" in Article XV(4) to have a very narrow meaning limited to a particular modality of exchange rate-based measures, they would have used instead terms such as "exchange controls/exchange restrictions" or "multiple exchange rates", as other provisions in Article XV and elsewhere in GATT evidence that they were familiar with those terms.

The context of Article XV(4) denotes, therefore, that the drafters intended the term "exchange action" in this provision to have a very broad meaning. The question is whether there is reason to believe that such term can be interpreted as including exchange-rate policy or exchange-rate management, together with "exchange controls/exchange restrictions", multiple exchange rates, and multiple exchange rates made operational through taxes or fees.

The structure of Article XV(2) as well as the preparatory work concerning Article XV(4) itself suggests this is the case.[13]

12 It is well established under WTO case law that "[i]n order to identify the ordinary meaning, a Panel may start with the dictionary definitions of the terms to be interpreted". See, Appellate Body Report, United States - Measures Affecting the Cross-Border Supply of Gambling and Betting Services, WT/DS285/AB/R, adopted 20 April 2005, para. 164.

13 The object and purpose of Article XV(4) also support the proposition that the term "exchange action" in this provision includes exchange-rate policies or exchange-rate management given that undervalued exchange rates have similar effects to those of multiple exchange rates in the sense that exchange rates set at artificially low levels also deter imports. Thus, it would be illogical to ban multiple exchange rates inhibiting imports but not undervalued exchanges playing the same function.

Article XV(2) addresses the role that the IMF would play in WTO disputes involving exchange arrangements, including those under Article XV(4). In particular, Article XV(2) provides:

> In all cases in which the CONTRACTING PARTIES are called upon to consider or deal with problems concerning monetary reserves, balances of payments or foreign exchange arrangements, they shall consult fully with the International Monetary Fund. In such consultations, the CONTRACTING PARTIES shall accept all findings of statistical and other facts presented by the Fund relating to foreign exchange, monetary reserves and balances of payments, and shall accept the determination of the Fund as to whether action by a contracting party in exchange matters is in accordance with the Articles of Agreement of the International Monetary Fund …The CONTRACTING PARTIES in reaching their final decision in cases involving the criteria set forth in paragraph 2 (a) of Article XII or in paragraph 9 of Article XVIII, shall accept the determination of the Fund as to what constitutes a serious decline in the contracting party's monetary reserves, a very low level of its monetary reserves or a reasonable rate of increase in its monetary reserves, and as to the financial aspects of other matters covered in consultation in such cases (emphasis added).

In other words, according to Article XV(2), the involvement of the IMF in a WTO dispute concerning exchange arrangements should be governed by the following rules:

(a) In any WTO dispute concerning exchange arrangements, the WTO has to consult with the IMF;

(b)In this context, the WTO has to accept the IMF's factual findings relating to "foreign exchange", the level of reserves and the balance of payments position;

(c) In cases involving BOP safeguards under Articles XII and XVIII, the factual findings involved would relate specifically to what constitutes a "serious decline" in reserves or a "very low level" of reserves;

(d) The WTO has to accept the IMF's substantive determination as to whether "action on exchange matters" by a member is compliant with the IMF's Articles of Agreement and is, therefore, shielded from the ban on "exchange action" undermining WTO commitments set forth in Article XV(4);

(e) This implies that, in disputes concerning exchange arrangements do not fall within the above exception, the interpretation of the controlling provisions remains squarely under the jurisdiction of the WTO (although, again, in this context the WTO would have to rely on the IMF for factual findings).

The fact that Article XV(2) incorporates an overarching rule requiring the delegation of factual findings in exchange disputes that remain under the substantive jurisdiction of the WTO and that such rule foresees the delegation of factual findings in disputes involving BOP safeguards *simply as an example* suggests that Article XV(2) can accommodate exchange disputes beyond those connected to BOP safeguards. Again, this category of disputes would not encompass exchange disputes relating to exchange controls/exchange restrictions, multiple exchange rates, and multiple exchange rates made operational through taxes or fees, given that such disputes are expressly excluded from the purview of WTO dispute settlement, to the extent that the measures at issue are compliant with the IMF's Articles of Agreement. Hence, if

the structure of Article XV(2) (regulating the interaction between the WTO and the IMF in WTO exchange disputes, including under Article XV(4)) is taken as relevant context for interpreting the term "exchange action" in Article XV(4), there does not seem to be any basis to reject outright the possibility that such term might include exchange-rate policy or exchange-rate management.

The preparatory work of Article XV and "the circumstances of its conclusion" provide unambiguous evidence that the term "exchange action" in Article XV(4) was intended to include exchange-rate policies. Article XV(4) dates from the original 1947 text and transcribes Article 24:4 of the Havana Charter. According to John Jackson's seminal book on GATT 1947, Article XV reflects the concern of the drafters about the possibility that currency manipulation and exchange-rate controls be used to restrict market access. In particular, Jackson observes that:

> It was recognised at the time of drafting GATT that currency per value manipulation and exchange-rate controls could be used to protect domestic markets against imports. In the 1945 legislative history of the act authorising United States participation in GATT, congressional complaints against foreign use of these devices were strong (footnote omitted). The GATT draftsmen, particularly the American delegates, felt constrained to include some protection against them in the tariff agreement, even though the International Monetary Fund articles contained some similar provisions (footnote omitted).[14]

To sum up, the context of Article XV(4) makes it clear that the drafters intended the term "exchange action" in this provision to be very broad, so as to include a multiplicity of modalities of exchange-rate based-measures. Further, the structure of Article XV(2), taken as relevant context, combined with the preparatory work of Article XV lend further support to the proposition that the term "exchange action" in Article XV(4) includes exchange-rate policy or exchange-rate management.

"Frustrate"

According to the Shorter Oxford English Dictionary, the verb "frustrate" has a variety of very similar meanings including "make ineffectual"; "counteract"; "disappoint (a hope, an expectation)"; "foil (a plan)" and, in connection to legal terms, "annul" and "invalidate".

The *Ad Note* to Article XV(4) elaborates upon the meaning of the term "frustrate" in this provision as follows:

> The word "frustrate" is intended to indicate, for example, that infringements of the letter of any Article of this Agreement by exchange action shall not be regarded as a violation of that Article if, in practice, there is no appreciable departure from the intent of the Article.

The *Ad Note* to Article XV(4) goes on to describes two situations that would not satisfy the threshold test for triggering a violation of Article XV(4) outlined in that Ad Note:

> [A] contracting party which, as part of its exchange control operated in accordance with the Articles of Agreement of the International Monetary Fund, requires payment to be received for its exports in its own currency or in the currency of one or more members of the International Monetary Fund will not thereby be deemed

14 Jackson (1969), p. 479.

> to contravene Article XI or Article XIII. Another example would be that of a contracting party which specifies on an import licence the country from which the goods may be imported, for the purpose not of introducing any additional element of discrimination in its import licensing system but of enforcing permissible exchange controls.

While the usefulness of the two examples concerned is limited, it seems clear that the overriding message in the *Ad Note* is that not all violations of a GATT provision (and especially not those that are incidental) would frustrate the intent of such provision, within the meaning of Article XV(4).

"Intent of GATT Provisions"

It is obvious that different GATT provisions have different purposes. Article XV(4) does not require "exchange action" that would "frustrate" the intent of all GATT provisions. Therefore, a violation of Article XV(4) would be triggered whenever the intent of at least one GATT provision is frustrated through "exchange action".

According to GATT Article II:7, the annexed tariff schedules are an integral part of Part I of GATT. Consistent with this provision, the "intent" of Article II would be to safeguard tariff concessions. In *EC-Computer Equipment*, the AB explicitly endorsed this view:

> The purpose of treaty interpretation under Article 31 of the *Vienna Convention* is to ascertain the *common* intentions of the parties. These *common* intentions cannot be ascertained on the basis of the subjective and unilaterally determined "expectations" of *one* of the parties to a treaty. Tariff concessions provided for in a Member's Schedule -- the interpretation of which is at issue here -- are reciprocal and result from a mutually-advantageous negotiation between importing and exporting Members. A Schedule is made an integral part of the GATT 1994 by Article II:7 of the GATT 1994. Therefore, the concessions provided for in that Schedule are part of the terms of the treaty.[15]

In discussing the viability of a WTO challenge to currency undervaluation under Article XV(4), Hufbauer et al. (2006) depict such challenge as hinging upon the argument that currency undervaluation frustrates an alleged intent to ensure bilateral trade balances or, alternatively, an alleged intent to achieve balanced trade on a multilateral basis. This is, needless to say, a straw man and, as explained previously, the argument that currency undervaluation frustrates the intent of the provisions in GATT can be constructed based upon far more reasonable propositions.

Similarly, Mercurio and Leung (2009) contend that Article XV(4) requires demonstrating that currency undervaluation frustrates the intent of GATT taken as a whole and interpreted as limited to trade liberalisation.[16] This is another straw man. As explained above, there is no textual basis under Article XV(4) to claim that this provision is violated only where the intent of the GATT in its entirety is violated.

15 Appellate Body Report, E*uropean Communities - Customs Classification of Certain Computer Equipment,* WT/DS62/AB/R, WT/DS67/AB/R, WT/DS68/AB/R, adopted 22 June 1998, para. 84.

16 Mercurio and Leung (2009), pages 1288-89 ('the intent that the intent of GATT is solely to liberalise trade, however, is an incomplete and arguably inaccurate proposition").

Conclusion

Accordingly, the meaning of the sentence "Contracting Partners shall not by exchange action frustrate the intent of the provisions of the GATT", read in the context of Article II, seems to be that members shall not institute "exchange action" (including not only exchange-rate restrictions and multiple exchange rates but also exchange-rate policy or exchange-rate management) in order to "make ineffectual", "counteract" or "invalidate" the tariff concessions safeguarded under Article II.

Notably, Staiger and Sykes (2010 forthcoming) claim that, since the renminbi was pegged to the dollar at the time of accession, such peg cannot be viewed as having frustrated the "legitimate expectations" of China's trading partners in terms of enhanced market access because such expectations should have factored in the existence of the peg. Staiger and Sykes are mistaken, however, as it is well established under WTO case law that the "legitimate expectations" standard does not come into play in disputes under Article II. In particular, in EC-Computer Equipment the AB found that "the panel erred in finding that the 'legitimate expectations" of an exporting Member are relevant for the purposes … of determining whether the European Communities violated Article II:1 of the GATT 1994".[17]

Would the proposed approach to interpreting Article VI(4) be immune to the Staiger and Sykes criticism?

Staiger and Sykes (2010 forthcoming) take issue with the proposition in Mattoo and Subramanian (2009) that currency undervaluation is WTO-inconsistent because it is equivalent to the combination of an import tax and an export subsidy.[18] Staiger and Sykes challenge such proposition although they acknowledge that it is part and parcel of standard international trade theory.[19] Staiger and Sykes contend, however, that such equivalence only holds in very limited circumstances (i.e. where prices economy-wide are sticky and producers price exports in their own currency). Staiger and Sykes also concede that where prices economy-wide are sticky, and producers price exports in either the currency of the country of import or in a third "vehicle" currency, currency undervaluation continues to be equivalent to an import tariff, but ceases to be equivalent to an export subsidy.

17 Appellate Body Report, European Communities - Customs Classification of Certain Computer Equipment, WT/DS62/AB/R, WT/DS67/AB/R, WT/DS68/AB/R, adopted 22 June 1998, para. 97.

18 Mattoo and Subramanian (2009), page 1139 ("[a]n undervalued exchange rate is both an import tax and an export subsidy and is the most mercantilistic policy imaginable").

19 The proposition concerned can be traced to Keynes himself. Chipman (2007) quotes Keynes as follows: ("[p]recisely the same effects as those produced by a devaluation of sterling by a given percentage could be brought about by a tariff of the same percentage on all imports together with an equal subsidy on all exports, except that this measure would leave sterling international obligations unchanged in terms of gold"). A more contemporaneous rendition of the same point is presented, for instance, in Tsakok (1990) who notes that "[w]hen the exchange rate overvalues domestic currency, exporters receive in domestic currency less than what they would have received at a higher benchmark rate, and importers pay less in domestic currency than what they would have paid at the same higher benchmark rate. Thus the overvaluation acts as an implicit tax on exports and an implicit subsidy in imports". This line of reasoning implies that, conversely, undervaluation acts as an implicit subsidy on exports and an implicit tax on imports.

As explained above, our formulation of a potential challenge to currency undervaluation under Article XV(4) is based upon the argument that such practice is equivalent to an import tariff, period, and therefore does not necessarily rest upon the proposition that currency undervaluation is equivalent to the combination of an import tariff and an export subsidy. Accordingly, the approach described would seem to be unaffected by Staiger's and Sykes' criticism of the equivalence of currency undervaluation and the combination of an import tariff and an export subsidy, even if such criticism turned out to be valid. Furthermore, given the legacy of the centrally-planned economy, which has led to China being treated as a "non-market economy" for purposes of US countervailing duty investigations, the assumption that prices in China are sticky would seem to be rather plausible.

Staiger and Sykes further argue that the equivalence between currency undervaluation and the combination of import tariffs and export subsidy breaks down where prices economy-wide are fully flexible. Here Staiger and Sykes seem to be confusing whether devaluation (or revaluation) is capable of affecting relative prices in a market environment where prices are fully flexible with whether devaluation (or revaluation) can have effects upon the trade balance. Notably, exchange-rate theory was developed at the time where there was very little integration between national markets which made it possible to visualise exchange-rate adjustments as impacting the local price of imports but not the price of domestic production. By contrast, in view of the massive degree of integration between national markets that exists today, devaluation may not be capable of affecting relative prices, because the price of domestic production (assuming the absence of a non-tradable sector) is set through arbitrage and thus would be pulled up so as to reflect increases in the local price of imports. However, the rise in the price of both imports and domestic production would cut absorption in real terms, which is bound to reduce a trade deficit (unless one is willing to assume a commensurate rise in wages). Conversely, revaluation would expand absorption in real terms (by lowering the price of both imports and domestic production), which is bound to reduce a trade surplus.[20]

Would China's undervaluation of the renminbi satisfy the legal standard under Article XV(4)?

As discussed above, the sentence "Contracting Partners shall not by exchange action frustrate the intent of the provisions of the GATT", read in the context of Article II, arguably means that Members shall not institute "exchange action" (including exchange-rate policy or exchange-rate management) in order to "make ineffectual", "counteract" or "invalidate" the tariff concessions protected under Article II.

It would appear that a challenge of China's currency undervaluation under Article XV(4) would require showing that:

- exchange-rate intervention to support the renminbi has been massive;
- absent such intervention, the renminbi would have heavily appreciated (given the underlying trade flows);

20 Notably, China would achieve the same outcome if it were to sterilise to lesser degree the effects of its interventions in the foreign exchange rate.

- the degree of currency undervaluation is such that it has "made ineffectual", "counteracted", or "invalidated", in whole or in part. the tariff concessions granted by China under Article II; and that
- currency undervaluation has been mainly caused by government intervention, and thus meets the threshold requirement set forth in the Ad Note to Article XV(4) for triggering a violation of this provision by reason of a violation of Article II;[21]

Conclusion

This paper has discussed the prospects for challenging currency undervaluation under GATT Article XV(4) and concluded, contrary to the existing literature, that such challenge is perfectly viable and has a reasonable chance of success. Notably, unlike US law, the legal standard under Article XV(4) does not require demonstrating that currency undervaluation constitutes "currency manipulation" targeted at preventing effective balance-of-payments adjustment "or to gain an unfair competitive advantage over other Members".

The opinions expressed in this paper are mine alone and should not be construed as representing official views of King & Spalding LLP or its clients. Without implicating, I would like to thank Joost Pauwelyn, Matt Nicely, John Magnus and Pierre Sauve for helpful conversations about the issues addressed in the paper.

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15. Yuan to fight about it? The WTO legality of China's exchange regime

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Does the US have a legal case against China's exchange-rate regime? This paper argues that any claim against China at the WTO would face substantial hurdles, and would be unlikely to add pressure on China any time soon. If a claim does go ahead, it is more likely than not to fail.

China joined the WTO on December 11, 2001, taking on all of the legal obligations of a WTO member. Today, the US continues its political attacks on China's exchange-rate regime, raising the question of whether a legal case at the WTO might be successful in adding to the pressure on China. I argue that a legal claim against China at the WTO would face substantial hurdles, and would be unlikely to add to pressure on China any time soon.

Litigation at the WTO generally takes at least two years to conclude. If China were to win - as the following analysis suggests is more likely than not - it would strengthen China's negotiating position. But even if China were to lose a case at the WTO, it would ordinarily have 15 more months to bring its measures into conformity with legal requirements, before retaliation could be authorised. So, it would take more than three years before the US would have any authorisation to retaliate against China within WTO law. Indeed, if the US wished to retaliate against China in the near term, it would be better off arguing that China's measures are not covered by WTO law, in order to avoid the restrictions on unilateral retaliation provided in the WTO Dispute Settlement Understanding.

Furthermore, this is the type of "big case" for which WTO dispute settlement may not be productive. Article 3.7 of the WTO Dispute Settlement Understanding requires that "Before bringing a case, a Member shall exercise its judgement as to whether action under these procedures would be fruitful."

Characterising China's exchange rate regime for WTO law purposes

The US argues that China has intervened in money markets in order to suppress the value of the yuan artificially. Under the present system, the People's Bank of China (PBC) buys and sells yuan in order to maintain the value of the yuan against a basket of foreign currencies that includes principally the dollar, the Japanese yen, and the euro. This type of regime is known as a "peg." In order to avoid appreciation of the yuan, the PBC has actively sold yuan in exchange for dollars and other foreign currencies, increasing its reserves of these currencies.

However, the fact that China's exchange rate regime has resulted in systematic undervaluation of the yuan against the dollar does not simply translate into a particular barrier to imports or subsidisation of exports, as commonly assumed. Staiger and Sykes (2008 and in this ebook) conclude that the extent of any currency misalignment is difficult to measure, and its effects on trade are difficult to ascertain. This point will result in difficult evidentiary problems in connection with any claim against China under WTO law.

Applicable WTO law

While there may be grounds for criticising China's exchange-rate regime under IMF law or under other international law, here I focus on WTO law (which in turn may refer to certain determinations under IMF law). There are three types of claims under WTO law worth discussing.

- First is a claim that the Chinese exchange-rate regime is an exchange action that frustrates the intent of the General Agreement on Tariffs and Trade (GATT), pursuant to Article XV of GATT.
- Second is a claim that the regime constitutes a prohibited export subsidy or import substitution subsidy under Article 3 of the SCM Agreement, or a subsidy that causes adverse effects under Article 5 of the SCM Agreement.[1]
- Third is a claim that, even if the regime is not a violation of WTO law, it "nullifies or impairs" a benefit accruing to another party to the WTO treaty. In addition, it might be possible for an importing state unilaterally to characterise Chinese goods as being subsidised for purposes of imposing countervailing duties. While this last claim would not argue that the Chinese regime is illegal, if the claim were justified under WTO law it would result in authorisation for importing states to impose countervailing duties in response to Chinese imports.

I review these claims (in slightly different order) below.

Article XV of GATT

Article XV(4) of GATT provides in relevant part that: "Contracting parties shall not, by exchange action, frustrate* the intent of the provisions of this Agreement..."[2]

In order for this provision to apply to China, there must be a Chinese measure that constitutes an "exchange action" within its meaning.[3] In order for a violation to be

1 I do not examine whether China's regime might violate China's obligations with respect to subsidies under the Agreement on Agriculture.

2 The ad note indicated by the asterisk, which is part of the binding treaty text, provides in relevant part as follows:
The word "frustrate" is intended to indicate, for example, that infringements of the letter of any Article of this Agreement by exchange action shall not be regarded as a violation of that Article if, in practice, there is no appreciable departure from the intent of the Article.

3 While a "trade action" could, by frustrating the intent of the provision of the IMF Articles of Agreement, also violate Article XV of GATT, I do not consider this prong of Article XV. It is unlikely that this prong would apply. See Mercurio & Sze Ning Leung (2009).

found, the Chinese measure must "frustrate the intent" of other provisions of the GATT. There have not been any WTO dispute settlement decisions under this provision, and so there are no precedents to guide us in interpreting its key terms.

Exchange action

As noted above, China's exchange-rate regime uses a currency peg to maintain the approximate value of the yuan against a basket of currencies. Given the division in Article XV between "trade actions" (presumably such as quotas or embargos) and "exchange actions", it seems natural to categorise China's regime as an exchange action.[4]

Frustrating the intent of the provisions of the GATT

In order for China's currency regime to "frustrate the intent" of the provisions of GATT, we would ordinarily expect it to have trade effects, either as a barrier to imports or as a subsidy to exports, or both. While a number of economists and other commentators have decried China's currency regime as having substantial protectionist and subsidising effects, as noted above (for example Mattoo and Subramanian 2008), meanwhile Staiger and Sykes (2008) argue that it is not correct simply to assume that an undervalued currency has tariff- and export-subsidy-type effects. Rather, a number of particular aspects would be required to be examined. This column cannot engage in this analysis, and so, for purposes of discussion, we will assume some resulting trade effects either inhibiting imports or subsidising exports, or both.

But Article XV(4) is a confusing provision when read, as it must be, in conjunction with its "ad note."[5] The example of frustration provided by the ad note suggests that Article XV(4) might not be intended to provide an independent basis for claims against national exchange action, but instead is intended to *reduce* the coverage of other substantive provisions. Infringements of the letter of another substantive provision are only to be considered violations if they frustrate the intent of that substantive provision. If this were all that Article XV(4) covered, then it would definitely not *expand* prohibitions beyond the existing substantive provisions. And it is by no means clear that China's currency regime violates the explicit prohibition of any substantive provision of GATT. However, this part of the ad note is framed as an example. So it is possible that there might be other unstated examples, such as a circumstance where the letter of a substantive provision is not violated, but its intent is violated. We simply do not know. If this broadening interpretation is available, however, then we might understand Article XV(4) as having a purpose similar to the concept of "non-violation nullification or impairment" in WTO law: making the nullification or impairment of the intent of another provision, through an exchange action, an independent violation of GATT. Indeed, this seems to be the natural meaning of the language of Article XV(4), absent the ad note.

4 Mercurio & Sze Ning Leung (2009). For an opposing argument, see Bhala (2008).

5 See note 2, *supra*.

This concept of frustration of the intent, like non-violation nullification or impairment, is difficult to apply in practice. For example, it may be difficult to discern the intent of a provision separate from its language. But in practical terms, can we say that China, by its exchange action, has evaded the intended liberalisation of its tariff bindings? Borrowing a concept from the WTO doctrine providing remedies for "non-violation nullification or impairment," we would ask whether the US had "legitimate expectations" that China would not use exchange actions in a way that evades the intended liberalisation of its tariff bindings. One determinant of the US legitimate expectations would be the actual state of the exchange rate at China's accession in 2001. We would also need to find whether China's exchange action indeed had the effect of a tariff above its bindings. On this latter point, economists may well disagree.

As to the former point, the Chinese government maintained a peg of 8.27 yuan per dollar from 1997 to 2005. The current exchange rate is approximately 6.825 yuan per dollar, representing a significant *appreciation* since China's WTO accession. Given this peg at a lower value at the time of accession, it may be difficult for the US to argue that it had legitimate expectations of greater appreciation of the yuan, as opposed to expectations of non-depreciation. That is, we would ordinarily express a "legitimate expectation" as expecting a frustrating event *not* to occur, as opposed to a requirement that current conditions be improved.

Non-violation nullification or impairment

For the same reasons just mentioned, an independent claim that China's exchange action has "nullified or impaired" US rights under the WTO treaty would be unlikely to succeed. Furthermore, the very existence of Article XV of GATT - addressing the issue and setting the expectations - makes an independent non-violation claim unlikely to succeed.

Articles 3 and 5 of the WTO Agreement on Subsidies and Countervailing Measures

Article 3 of the Subsidies and Countervailing Measures Agreement prohibits export subsidies and import substitution subsidies. But the definition of "subsidy" contained in Article 1 of the agreement demands that there be a financial contribution by a government. It is difficult to view the Chinese exchange action through the PBC as a financial contribution by a government to an exporter in this sense. If a creative reading of this provision were to result in a finding that the Chinese exchange action is indeed a subsidy, it is difficult to see it as a prohibited export subsidy or import substitution subsidy. This is because the availability of the alleged subsidy does not seem to be contingent on exportation or on the substitution of domestic products for imported goods.

In order for a subsidy to be actionable under Article 5 of the agreement, it must be "specific" within the meaning of Article 2 of the agreement. However, it is difficult to argue that the benefits of China's exchange action are limited to an enterprise or industry or group of enterprises or industries, as required by Article 2. Any benefits would be felt throughout the economy. So the requirement of specificity, along with

the definition of "subsidy", would make it difficult to make a case under Article 5 of the Subsidies and Countervailing Measures Agreement.

Countervailing duties

For the reasons mentioned above, it is unlikely that China's exchange action could be considered either "specific" or a "subsidy" eligible to be countervailed by national action. If it were considered a subsidy, there would still be difficulties in measuring the amount of the subsidy, as well as in determining whether this subsidy had caused the requisite "material injury" to a US industry.

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16. Retaliating against exchange-rate manipulation under WTO rules

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Is legal action over China's exchange-rate regime possible under WTO rules? This paper argues that at the time of negotiating the General Agreement on Trade and Tariffs, any change to par values required IMF approval, rendering unnecessary the need to include provisions against exchange-rate manipulation. A new dispute mechanism system with appropriate sanctions is needed to fill this gap.

Exchange-rate based trade measures have gained prominence in recent years. Commentators observe such measures not only in the People's Republic of China, but across a broad range of countries. Competitive devaluations are very much alive as a tool of economic statecraft, especially in the wake of the financial crisis. Mattoo and Subramanian (2008) argue that a fundamentally misaligned exchange rate is the most mercantilist, protectionist policy imaginable. At first sight, one would expect WTO rules to regulate such trade-distorting measures. In reality, however, the WTO covered agreements leave the monetary sovereignty of WTO members largely untouched.

Let us assume that the IMF has determined that the currency of Heterodoxia is fundamentally misaligned. We are therefore able to focus exclusively on the law, taking the facts as given. In reality, of course, such factual determinations will be at least as complex, if not more complex, than the qualification of a given exchange-rate policy under international law. But this simplification allows us to focus on the central question whether a fundamental exchange-rate misalignment gives rise to actionable claims under WTO law.

The principle of monetary sovereignty

It is a long established principle of international law that states are entitled to regulate their own currency. In *The Emperor of Austria v. Day and Kossuth* (1861), the English Court of Appeal in Chancery found that the Emperor of Austria had, as the King of Hungary, the sole and exclusive right of issuing and regulating currency in Hungary, including the right to regulate the currency and to determine its value in relation to other currencies. Similarly, the Permanent Court of International Justice in the *Serbian Loans case* (1929) and the US Supreme Court in *Juillard v. Greenmann* (1884) also affirmed a broad principle of monetary sovereignty. The right to define the exchange rate with regard to other currencies is a central element of monetary sovereignty.

The IMF Articles of Agreement

Despite this, it is without doubt that the relative value of currencies is an international policy concern of the first order. Under the IMF Articles, unilateral acts to restore the balance of payments, such as restrictions on current payment, are prohibited, as are multi-currency and discriminatory currency practices - the obligation to maintain a unified exchange system. IMF members have therefore voluntarily accepted some restrictions on their monetary sovereignty.

Under the Bretton Woods system of fixed exchange rates, there also used to be an obligation to maintain a par value of the national currency - but that obligation was abolished by amendment to the IMF Articles in the 1970s. The principle of monetary sovereignty remains by and large good law today. Devaluations are not unlawful under international law, absent special circumstances. Thus, as a general rule, there is no legal basis for challenging another state's exchange-rate policy.

The IMF is responsible for exercising firm surveillance over exchange-rate policies. Article IV(1)(iii) IMF Articles contains a rule on competitive devaluations: "Each member state shall avoid manipulating exchange rates … in order [to] ... gain an unfair competitive advantage over other members." However, the IMF Articles contain no definition of "manipulating exchange rates". From the text, we discern an objective element ("manipulating exchange rates") and a subjective element ("in order"). The 2007 Decision on Bilateral Surveillance over Members' Policies sheds some light on the objective element - the notion of exchange-rate manipulation.

The relevant parts of the 2007 Decision are not binding however. It is made clear that member states are given the benefit of any reasonable doubt. Subparagraph (ii) refers to the "excessive and prolonged official or quasi-official accumulation of foreign assets"; subparagraph (v) lists examples of "fundamental exchange rate misalignments", and subparagraph (vi) adds "large and prolonged current account deficits or surpluses". The Annex to the Decision provides further guidance.

The second, subjective element is the intent of gaining an unfair competitive advantage. The burden of proof lies on the alleging state - a burden that is difficult to meet with respect to China. More generally, proving the intention that the exchange rate was manipulated in order to obtain trade advantages is almost impossible in practice.

Perhaps the WTO covered agreements hold out greater hope for a country that feels aggrieved as a result of an alleged exchange-rate undervaluation by another country, a question that is addressed in the following section.

Exchange-rate manipulation and the General Agreement on Tariffs and Trade

Article XV(4) of the General Agreement on Tariffs and Trade (GATT) states that the "contracting parties shall not, by exchange action, frustrate the intent of the provisions of [WTO law], nor, by trade action, the intent of the provisions of the [IMF Agreement]". Note that this article refers to "exchange action", not "exchange-rate policy." This difference is important.

The IMF Articles draw a distinction between exchange policies (convertibility) and exchange-rate policies (Denters 2003). Article XV(4) presumably refers only to exchange policies. At the time member states negotiated the GATT, any change to par values required the IMF's approval, rendering unnecessary the need to include any provision against the harmful trade effects of exchange-rate manipulation in the GATT. This is the likely explanation for this apparent gap in the WTO rules in relation to the relative values of currencies.

Even if exchange-rate policies fell under Article XV(4), the complaining member state would still need to show the violation of an explicit GATT prohibition. It is often argued that the economic effect of exchange-rate undervaluation amounts to an export subsidy. But the GATT does not operate on the basis of a broad effects doctrine. Rather, member states have negotiated a series of specific legal undertakings that provide the sole yardstick for assessing compliance with their obligations.

There is no general prohibition on export subsidies in the GATT. An export subsidy under the GATT "results in the sale of such product for export at a price lower than the comparable price charged for the like products to buyers in the domestic market". With an undervalued exchange rate, no wedge between the export price and the domestic price of a good exists. Therefore, we are unlikely to have an export subsidy in such a case.

WTO Agreement on Subsidies and Countervailing Measures

The broader question is whether a state could lawfully resort to countervailing measures if a financial measure, such as a deliberate strategy to keep a currency below its equilibrium value, has economic effects equivalent to an export subsidy and is consistent with the IMF Articles. Such measures need to conform to the rules contained in the WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement).

The SCM Agreement strengthens the regime on subsidies considerably. Export subsidies are banned. However, the agreement also does not rely on a broad effects test, but rather contains a specific legal definition of export subsidies. This definition has three elements:

- A governmental financial contribution,
- contingent, in law or fact, upon export performance, that
- confers a benefit on recipients.

It is difficult to qualify a fundamentally undervalued exchange rate as an export subsidy.

- First, Article 1 of the SCM Agreement contains a closed list of financial contributions, and exchange-rate valuations do not feature in this list.
- Second, the benefit to Chinese exporters as a result of the allegedly undervalued yuan is ambiguous. These benefits are also not sector-specific, but broadly shared.

- Third, even if a benefit is conferred, it does not appear to be contingent on export performance. This is because the exchange-rate applies across the board to various types of transactions.

IMF-WTO collaboration

Perceived enforcement difficulties in the IMF, the central multilateral forum for international monetary affairs, are insufficient grounds for bypassing the IMF for the highly developed Dispute Settlement Body of the WTO. The inability of the IMF surveillance system to effectively police certain obligations under IMF Articles certainly does not imply that recourse to the highly developed dispute settlement system of the WTO is warranted as a matter of law. Whether such recourse as a matter of policy is desirable is a separate question.

The IMF Articles of Agreement assign competence for determining whether exchange rates are undervalued to the IMF, and not to dispute settlement panels under WTO auspices. In specific cases, WTO panels and the Appellate Body would be obliged to consult the IMF on whether an exchange rate is fundamentally misaligned. Each institution has its respective jurisdiction. Conflicts ought to be avoided in order not to imperil the respective task of each institution.

There are good reasons for this allocation of responsibilities. Dispute settlement panels would resolve disputes on exchange rates in a piecemeal fashion - hardly a conducive recipe for international monetary stability and uniformity in exchange-rate regimes. As the quintessential macroeconomic policy, exchange-rate policy is of such paramount importance, complexity, and sensitivity that its conduct ought to remain beyond review by WTO panels. WTO panels would encounter questions that cannot be adjudicated by a judicial body whose function is limited to deciding particular disputes between defined parties. It is also apparent that the GATT/WTO drafters had no intention to confer jurisdiction on WTO panels to decide such disputes.

Policy options for the way forward

Mattoo and Subramanian (2008) advocate a new WTO covered agreement specifically on exchange-rate manipulation. The implementation of this proposal would likely undermine the central role of the IMF in international finance. The better route is to develop a robust dispute settlement mechanism in the field of international finance itself, including if member states so desire, for exchange rates. We currently lack such a system by design. Member states have so far been unwilling to confer such powers on an international organisation and accept greater restrictions on their monetary sovereignty.

In international monetary affairs, the international community relies mainly on informal means of co-operation. The IMF plays an important role in this informal policy coordination. But these mechanisms may fail to constrain policymakers who under strong domestic pressures seek to re-orient their economic policies inwards, including, among others, by competitive devaluations. Countries may violate their obligations under the IMF Articles, with relative impunity, in part because we lack a

robust dispute resolution mechanism.

The currently available sanctions may also be inadequate. The toolbox is limited to the declaration of ineligibility for IMF resources, the suspension of voting rights and a request to withdraw from the Fund in extreme cases. A more effective system of sanctions for countries that do not respect their IMF obligations might hence be desirable as a further measure to improve compliance with obligations under the IMF Articles.

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17. Is the Chinese exchange-rate regime "WTO-legal"?

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How might the US take action through the WTO over China's alleged currency manipulation? This paper analyses three potential legal issues: legality of exchange-rate policy under the GATT rules, legality under the subsidy rules and feasibility of non-violation complaints. It concludes that any WTO resolution will be difficult to achieve because the organisation is not designed to deal with alleged exchange-rate manipulation.

Introduction

Pegging an exchange rate to other key currency is not *per se* illegal nor irrational.[1] But, in the case of China, the unprecedented level of current account surplus and dollar accumulation supported by alleged "exchange rate misalignment" or "protracted large-scale intervention in one direction in exchange markets" have provoked huge controversy over the legality under the international treaty obligation, especially the WTO and the IMF. Although the IMF seems to have a more direct jurisdiction over this exchange-rate related matter, massive trade consequences of exchange-rate policies compellingly demand remedial trade measures under the auspices of the WTO that has more effective enforcement mechanisms.

Here I analyse three potential legal issues focusing on the WTO Agreements: legality of exchange-rate policy under the GATT rules, legality under the subsidy rules and feasibility of non-violation complaints. I argue that although the current Chinese exchange rate regime may be found to be inconsistent with the GATT provision, it will be still very difficult to address the problems concerning exchange-rate regime in the WTO system. That is not because the Chinese system is complicated but primarily because the WTO rules are not devised to deal with alleged exchange-rate manipulation.

Frustrating the intent of WTO or IMF?

Generally speaking, the application of Article XV of GATT that stipulates rules on exchange arrangements to current WTO Members requires special caution because the underlying international financial system has been critically changed. When

1 Currently, 79 IMF members adopt pegging exchange rate arrangements. China is one of eight members that adopt the crawling peg arrangement anchored on the dollar pursuant to the IMF classification.

Article XV was first devised, the IMF meticulously implemented the fixed exchange rate system. In contrast, a majority of WTO members, especially developed country members, adopt the floating exchange-rate arrangement. Nevertheless, Article XV has significant relevance to the exchange-rate policy issues in the current context.

Article XV of GATT requires cooperation with the IMF regarding a broad range of exchange questions such as monetary reserves, balance of payments or foreign exchange arrangements. For example, Article XV(2) provides that "in all cases" in which the WTO considers or deals with problems concerning foreign exchange arrangements, the WTO "shall consult fully" with the IMF. Moreover, in such consultations, the WTO "shall accept all findings" of statistical and other facts presented by the IMF relating to foreign exchange, as well as determination of the IMF as to whether action by a WTO Member in exchange matters is in accordance with the Articles of Agreement of the IMF.[2]

In addition to the consultation requirement in Article XV(2), Article XV(4) provides more substantive obligation for WTO Members as follows:

> Contracting parties shall not, by exchange action, frustrate the intent of the provisions of this Agreement, nor, by trade action, the intent of the provisions of the Articles of Agreement of the IMF.

Addenda of Article XV(4) provides that

> The word "frustrate" is intended to indicate, for example, that infringements of the letter of any Article of this Agreement by exchange action shall not be regarded as a violation of that Article if, in practice, there is no appreciable departure from the intent of the Article.

So, the key question from Article XV is whether China, by exchange action, frustrates the intent of GATT provisions.[3] This leads to three legal issues:

- Is China's current exchange-rate policy tantamount to "exchange action"?,
- What is the intent of the pertinent GATT provisions?
- Is that intent frustrated?

Some commentators argue that "exchange action" in Article XV(4) should be narrowly interpreted to cover liberalisation of payments or convertibility (see Koops 2010 and Denters 2003). They point out that "exchange action" should be different from "exchange-rate action". However, at the time of drafting GATT, currency par value manipulation was well known measure to protect domestic markets. Therefore, in GATT drafting, the US delegates "felt constrained to include some protection against them in the tariff agreement, even though the IMF articles contained some

2 The legal issues concerning the IMF rules are not the scope of this paper. Those issues are addressed in Seigel (2002).

3 Some have argued that China's exchange-rate policy should be regarded as "trade action" since it had significant implication and effect for trade. But, considering the general practice to divide works of the GATT and the IMF based on the technical nature of government measures rather than on the effect of these measures, China's exchange-rate policy must be regarded as exchange action (see WTO 1995).

similar provisions." (Jackson 1969). It implies that exchange action could well encompass the exchange-rate policy of WTO Members to fix its currency value at a certain level. Moreover, what the US government is complaining about is not the adoption of crawling peg system *per se*, but rather "maintaining" the current exchange rate for a prolonged period of time despite huge trade and financial consequences. This specific governmental policy choice can be understood as "exchange action", although adoption of crawling peg system may not be qualified for deliberate and specific nature connoted from "exchange *action*".

Second, the intent of GATT provisions is indeed hard to know. The "intent" may or may not be an "objective". The preamble of GATT is often discussed to draw "intent" of GATT, although the subsequent analysis seems to focus on broad economic goals mentioned therein. Or it is assumed that the intent of GATT must be obviously trade liberalisation or even balanced trade. For example, some argue that intent of GATT should be "balanced trade among its members on a multilateral basis" (see Hufbauer et al. 2006 for a critical analysis). However, instead of aiming to achieve economic goals such as raising living standards or full employment, "intent" of GATT provisions may be interpreted to embrace more "legal" aspects. For example, the intent of GATT provisions may be to stipulate articulated rule of conducts for commercial transaction so that the bargained competitive conditions for members' markets are not arbitrarily disturbed. If the intent of the GATT provisions is understood this way, the focus of the analysis will be more on structure and design of GATT rather than economic or trade performance. Actually, the goal or objective of the GATT system may be to achieve better economic performance through free trade, whereas the intent to devise elaborated GATT provisions may be to establish a more rule oriented system in which bargained competitive conditions among members will not be arbitrarily or unjustifiably disturbed.

Lastly, what constitutes "frustration" of the intent of GATT provisions? In fact, the expression "shall not frustrate the intent" is exceptional not only in GATT/WTO law, but also in public international law. But, if the above understanding for the intent is adopted, prolonged arbitrary misalignment of exchange rates can be seen to frustrate it since the exchange action deliberately employed by the Chinese government resulted in appreciable departure from what would have happened otherwise.

It was also argued that Addenda to Article XV(4) demands specific GATT article to be frustrated in an important way (Hufbauer et al. 2006). But, this argument ignored that Addenda present only examples, not the definitive explanation.

On the other hand, Article XV(9a) provides that "nothing in this Agreement shall preclude the use by a contracting party of exchange controls or exchange restrictions in accordance with the Articles of Agreement of the IMF." The scope of measures dealt in this article is limited, certainly not covering China's exchange-rate policy. Historically, exchange controls or restrictions related to convertibility were permitted by specific decisions of the IMF as special measures to address balance of payment problems of its members. So, "exchange controls or exchange restrictions" in accordance with the Articles of Agreement of the IMF would mean more specific exchange policies adopted pursuant to the IMF decision. A grand scale exchange-rate policy to fix its currency value is not covered by Article XV(9) exception clause.

Although this interpretation of Article XV may be one possible way to legally challenge China's exchange-rate policy, it raises another controversial issue in terms

of enforcement. In case China does not comply with the recommendation by the WTO Dispute Settlement Body, the retaliation becomes prohibitively difficult or impractical due to the technical problems of injury calculation. What should be the proper exchange rate not to frustrate the intent of the GATT provisions raises the whole new sets of questions and legal issues. There is no consensus even on whether the IMF can and should deal with those questions.

Illegal subsidy?

Economically speaking, an undervalued exchange rate works as an import tax and an export subsidy. So, it is natural that the WTO Agreement on Subsidies and Countervailing Duties (SCM Agreement) is invoked to address trade problems caused by devalued exchange rates.

The most important legal element under the SCM Agreement is that the measure at issue - in this case, China's exchange-rate policy - must be a subsidy under Article 1. In order for China's exchange-rate policy to be regarded as subsidy, the following criteria must be met:

- there must be financial contribution by a government,
- benefit is conferred, and
- the subsidy must be specific. Financial contribution is made by direct transfer of funds, foregone government revenues, the provision or purchase of goods or services other than general infrastructure, or payment to a funding mechanism.

The first obstacle to invoke the SCM Agreement in relation to exchange rate policies is to prove financial contribution. Although it is argued that China's exchange-rate policy somehow provides financial contribution, those arguments are not tenable. For example, some argue that exchange of currency at an undervalued rate can be seen as direct transfer of funds and foregone government revue. This is, however, partial consideration of the full market situation. The same exchange rate applies to not only exporters, but also all other people and products. It means that unlike normal financial contribution situation which absolutely improve financial states of recipients, the manipulation of exchange rate affects relative prices of traders and thereby balances off gains.

Next, it is very difficult to argue that China's exchange-rate policy satisfies specificity requirement by affecting only a small number of enterprises or industries. It is often argued that China's exchange-rate policy is a prohibited export subsidy that is deemed to be specific. Although undervalued exchange rates crucially promote exportation, it is untenable to argue that China's exchange-rate policy is a subsidy contingent upon export performance. The fact that the fairly detailed illustrative list for export subsidy in Annex I does not mention this well known - probably the most important - contributing factor for export promotion indicates the boundary of export subsidy envisioned for multilateral disciplines.

Lastly, whether benefit is conferred critically hinges on market elasticity and production structure. Since market prices tend to adjust to exchange-rate regimes, benefits may not be readily conferred (see Staigner and Sykes 2008 for a rigorous analysis). This issue may be more controversial relative to the above legal elements of

a subsidy. But, in any case, it will be very difficult to demonstrate that China's exchange-rate policy is a measure to be disciplined under the SCM Agreement simply because it has export promoting effects.

Non-violation complaints

Alternatively, a WTO member can raise a "non-violation" complaint in Article XXIII(1b) if any benefit accruing to it directly or indirectly from the GATT is nullified or impaired or the attainment of any objective of the GATT is impeded by any measure of another member, "whether or not it conflicts with the GATT provisions". Since there is no explicit violation of GATT, a WTO member losing the dispute based on a non-violation complaint has no obligation to withdraw the measure at issue but still must make a mutually satisfactory adjustment that may include compensation arrangement (see WTO, Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU), Article 26.1.).

Although a non-violation complaint appears to be intriguing in the textual languages especially for complainants whose violation claims are not robust, the WTO jurisprudence has established the rigorous legal elements that must be demonstrated by a complainant:

- application of a measure by a WTO Member;
- a benefit accruing under the relevant agreement; and
- nullification or impairment of the benefit as the result of the application of the measure (WTO 1998).

A benefit accruing under the relevant agreement is typically that of legitimate expectations of improved market-access opportunities arising out of and at the time of relevant tariff concessions (WTO 1998). In the case of China's exchange-rate policy, it will be unattainable to demonstrate that other WTO Members cannot legitimately expect China to maintain basically the same exchange-rate policy as that retained prior to the WTO accession. Accordingly, it is unlikely that a non-violation complaint can be successfully raised in the case of China's exchange-rate policy.

Policy recommendation

As shown above, addressing China's exchange-rate policy with WTO rules will be formidable although it may not be completely impossible. This issue appears to be a kind of "political question" in the WTO system, rather than a legal problem to be judged by the dispute settlement system. Therefore, the litigation of this issue cannot produce proper solutions. Accordingly, the US and China should find other more "politically" attuned forum, such as G20 meeting, more suitable to resolve this conflict.

Difficulty of WTO rules in dealing with China's exchange-rate policy, however, has already caused considerable problems in the world trading system. Frustration on the WTO rules has inevitably led to more antidumping and countervailing duties, and

recently even transitional product specific safeguard measure from the US side. It has provoked many retaliatory trade remedy actions by China against the US products (see Evenett 2010). This situation highlights the need of more cooperation among G20 states whose roles are crucial to contain the protectionist sentiment.

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China's currency regime is legitimately challengeable as a subsidy under ASCM rules

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Does the US have a legal case for action against China's exchange-rate policy? This column argues China's currency regime qualifies as a subsidy in the legal sense and that the US has a legitimate case to respond within both the US and WTO legal frameworks. The high-profile difficulties are no reason to shy away from taking legal action.

In the US and in many other countries, economists and policymakers generally agree that the Chinese Government undervalues its currency. Opinions on the amount of misalignment vary, but experts at the Petersen Institute for International Economics recently estimated that the renminbi is undervalued by 25% on a trade-weighted average basis, and by about 40% against the dollar (Bergsten 2010b).

There is also general agreement on the mechanism used to accomplish this: the Chinese Government *prohibits* all dollar-to-renminbi exchanges except those to which it is a party (either directly or through official forex banks), and *requires* authorised exchange transactions to occur at a government-determined, administered rate. Apart from these tightly-controlled circumstances - reportedly involving about $1 billion daily (Bersgsten 2010b) - there is no place on earth where willing suppliers and demanders of renminbi can connect, and where economic forces that might otherwise drive up the market-clearing price for renminbi can find expression.

There is also broad consensus that this undervaluation meets at least the lay definition of a "subsidy," in that it makes exported Chinese products more competitive (less expensive) than they otherwise would be. Nobel-winning economist Paul Krugman has gone further, terming China's exchange-rate policy "mercantilist" and "predatory," and opining that it gives Chinese manufacturing a large cost advantage and causes huge trade surpluses (Krugman 2010).

However, there is a less robust consensus on whether China's policy meets the narrower, *legal* definition of a "subsidy" applicable under the WTO *Agreement on Subsidies and Countervailing Measures* (ASCM) and under national countervailing duty (CVD) laws. We address this important question, initially in the context of US CVD cases where the issue has most squarely arisen.

Should the US commerce department investigate currency subsidy claims?

The Commerce Department began applying the US CVD law to Chinese products in 2007. Since that time, US industries have filed numerous petitions asking Commerce to include Chinese currency practices among the investigated subsidy programmes. Although the standard for initiating with respect to an individual subsidy programme alleged in a CVD petition is relatively low, Commerce has each time refused to investigate currency subsidies. In the first few China CVD cases, Commerce simply said, without detail, that the currency subsidy claims were inadequately pleaded. Yet the petitions did allege, with reasonably available supporting information, all the required elements: *financial contribution* (which exists any time a government and a company trade one thing for another, even yuans for dollars), *benefit* (the petitions adequately alleged, although one could not say that they fully proved, undervaluation), and *specificity* (more on this below). So Commerce was wrong, but there was no way to tell where it went wrong.

In a more recent case on coated paper, Commerce at last named the required element that in its view had been pleaded insufficiently: specificity[1] In particular, Commerce stated: "Petitioners have failed to sufficiently allege that the receipt of the excess renminbi is contingent on export or export performance because receipt of the excess renminbi is independent of the type of transaction or commercial activity for which the dollars are converted or of the particular company or individuals converting the dollars."[2]

By basing its decision on specificity, Commerce seems to be accepting (or at least assuming) that the currency subsidy claim meets the "financial contribution" and "benefit" requirements - in other words, that China's currency regime involves "subsidies," but not necessarily *countervailable* subsidies. There would be no point analysing the specificity of a programme that does not involve financial contributions, or that involves financial contributions but no benefits.

In any event, Commerce's statement on specificity has some superficial plausibility since tourists and foreign investors receive the same exchange rate as Chinese exporters when converting dollars to renminbi; if there is any excess, it is made available to "dollar sellers" in all three categories. However, those familiar with US and international law on specificity regard Commerce's position as indefensible. Among other things, the vast majority (reportedly at least 70%) of the subsidy goes to companies who can receive it only by exporting. This is precisely the fact pattern that led the WTO to decide in 2002 that the US' extraterritorial income regime constituted a countervailable subsidy. In particular, the WTO Appellate Body found that the subsidy conferred by the extraterritorial income regime - an interim measure promulgated en route to full repeal of the earlier foreign sales corporation scheme -

1 *Certain Coated Paper Suitable for High-Quality Print Graphics Using Sheet-Fed Presses from the People's Republic of China: Initiation of Countervailing Duty Investigation*, 74 Fed. Reg. 53,703, 53,706 (Oct. 20. 2009).

2 *Id.* at 53,706.

was export-contingent.[3] Export-contingent subsidies are automatically specific.

Under WTO precedent, in other words, China's currency regime qualifies as export-contingent, and therefore as specific. The US standards on export-contingency and specificity are no harder to satisfy than the WTO standards, which makes it particularly surprising that Commerce has refused even to collect and analyse data on the specificity of this alleged subsidy. Moreover, binding US legal authority makes clear that the specificity test is only intended to avoid absurd results like countervailing the benefit arising from truly public goods provided by governments (such as police protection and public highways).[4]

In short, while Commerce appears to be trying to defer to the Treasury Department on currency matters, it faces great difficulty in justifying its failure to investigate what industry experts have called "the greatest subsidy of them all" (Bergsten 2010a). This difficulty seems likely to increase, as Congress is displaying growing impatience.[5]

This is not to say that Commerce, if it investigates, will necessarily find and countervail a currency subsidy. The financial contribution and specificity elements should pose no significant hurdle, but that still leaves the question of benefit. Commerce might be unable to conclude confidently that a benefit exists (that the exchange rate provided by the Chinese government is misaligned in the relevant direction), or - more likely - to quantify precisely the amount of such a benefit. However, both in practical terms and within the unique atmosphere of US administrative law, Commerce can only sort out these difficult issues by investigating.

Such an investigation would admittedly be dramatic, and perhaps even traumatic. It would push Commerce to the centre of the political spotlight on a difficult international issue where the Treasury Department has led for many years. And merely preparing, much less actually sending to the Chinese Government, a CVD questionnaire aimed at eliciting information that would be needed to make a "benefit" determination on currency would create diplomatic shockwaves. However, despite these acknowledged political risks, such an investigation is in fact the correct result from a legal perspective.

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3 *See US - Tax Treatment For "Foreign Sales Corporations" -- Recourse To Article 21.5 of the DSU by the European Communities*, WT/DS108/AB/RW (Jan. 13, 2002) at paras. 113-120. As the Appellate Body explained at para. 120, "the ETI measure grants a tax exemption in two different sets of circumstances: (a) where property is produced within the US and held for use outside the US; and (b) where property is produced outside the US and held for use outside the US. Our conclusion that the ETI measure grants subsidies that are export contingent in the first set of circumstances is not affected by the fact that the subsidy can also be obtained in the second set of circumstances. … The subsidy granted with respect to the property produced within the US, and exported from there, is export contingent within the meaning of Article 3.1(a) of the SCM Agreement, irrespective of whether the subsidy given in respect of property produced outside the US is also export contingent."

4 See *Uruguay Round Agreements Act, Statement of Administrative Action* (1994), at 259 (specificity test is supposed "to function as an initial screening mechanism to winnow out only those foreign subsidies which truly are broadly available and *widely used throughout an economy*"); id. at 243 ("Consistent with longstanding US practice, government assistance that is both generally available and *widely and evenly distributed* throughout the jurisdiction of the subsidising authority is not an actionable subsidy.") (emphases added).

5 On March 16, 2010, a bipartisan group of 14 US Senators introduced S. 3134, "The Currency Exchange Rate Oversight Reform Act of 2010," which would, among other things, pressure Commerce to investigate currency subsidy claims in China-CVD cases.

We are convinced that however much it wishes to avoid (or others wish it to avoid) doing so, Commerce should and eventually will investigate currency subsidy claims in China-CVD cases. It will conclude by making a professional, evidence-based determination on the fundamental legal issue at stake: whether the exchange rate provided by the Chinese government during the relevant investigation period resulted in giving Chinese companies a countervailable benefit in the form of too many yuans when they converted dollars earned by exporting.

Would a direct ASCM-based claim be viable for the same reasons?

The US (and other countries) have a second alternative - a direct challenge of China's currency regime as a subsidy, filed under the ASCM. ASCM Article 4 allows challenges to "prohibited" subsidies - including (as defined in Article 3) those that are export-contingent - and ASCM Article 7 allows challenges to other subsidies that can be shown to cause adverse effects.

Such a direct challenge would be viable. Though that does not mean it would necessarily succeed, either in producing a legal victory or in prompting actual changes in China's behaviour. But the claim could be legitimately asserted, and has more merit than many other WTO claims that have been fully litigated.

A direct challenge would most likely allege that China's exchange regime results in export-contingent, and therefore prohibited, subsidisation. The financial contribution and export-contingency elements of this claim would have a strong chance of success for the reasons stated above. The key difference would be that in this scenario, the WTO panel (rather than the Commerce Department) would have to decide in the first instance whether the Chinese government's financial contributions confer a "benefit."[6]

Some would say this is the smartest strategy, at least in terms of securing a favourable result in dispute settlement. Historically, the WTO dispute system has tended to favour plaintiffs and find that challenged measures violate one or more WTO provisions; the system has also shown a pronounced pattern of ruling against trade remedy (antidumping and countervailing) measures. Accordingly, the US (or another WTO Member) might be better off appearing in Geneva as a complainant, rather than seeking to defend a CVD measure. Others would argue the opposite: the WTO rules assign the burden of proof to a complainant, and a China currency challenge is precisely the kind of difficult case where the burden of proof might well dictate the outcome. It would be better, under this view, to act first under national law and then be prepared to defend (if necessary) a challenge of the resulting CVD measures.

6 It is also possible that "expert witness" inputs obtained by a WTO panel from the International IMF -- and perhaps also from the Permanent Group of Experts established under the ASCM -- would work differently in these two scenarios.

Is any path that could entail WTO litigation a bad path?

The fact that a colourable WTO claim exists does not mean, for some, that WTO litigation is an acceptable scenario. In a recent *Wall Street Journal* article, former Appellate Body chair James Bacchus advised against both a direct WTO challenge and application of CVD measures that could then trigger a WTO complaint (Bachus 2010). His argument has three broad themes - none of which survive close examination.

First, Bacchus asserts, such a case would cause grave harm to the WTO. "Whether the US or China prevailed, a WTO case would be self-defeating for both countries and disastrous for the global trading system. … The strain of dealing with [such a] case would stretch the political limits of the WTO. Both China and the US depend daily on the existence and the reliability of a rule-based global trading system. Do they really want to risk it over this issue?"

We disagree. Contending that the WTO dispute settlement system is not robust enough to process a prohibited subsidy claim (or a challenge to a CVD measure) is an odd thing for a former Appellate Body chair to do. Commentators have said the same thing about other difficult cases - from Japan-Film and EU-Beef in the 1990s to the Large Civil Aircraft cases more recently. Concerns that individual cases would swamp the system have always proved to be unfounded; the system has proved to be remarkably durable, even when it has produced questionable results.

In fact, use of WTO dispute settlement is desirable where there is a legitimate disagreement about a Member's compliance with obligations, where substantial trade effects appear to be present, and where efforts to negotiate have stalled to the point where they need a boost from a DSB -adopted decision. Funnelling commercial disputes with China into this system was, after all, a key rationale for facilitating China's WTO accession nine years ago.

Second, Bacchus raises doubt about the viability of the likely US legal arguments, saying "it is one thing to make an assertion [about the facts here meeting ASCM requirements] as part of the political debate in Washington; it is quite another to prove it in an international legal proceeding before WTO judges in Geneva." In the context of a Chinese challenge to countervailing duties imposed by the US, of course, it is China that would have to prove that the ASCM requirements were not met. And getting CVDs imposed in the first place would require a US petitioner to do far more than simply make "assertions" as part of the US political debate.

Third, Bacchus predicts one other undesirable outcome: "[T]he example of such cases could inspire still more WTO cases - against China and the US". Again, it is unclear why additional WTO cases are necessarily a bad thing, particularly if they identify additional prohibited or actionable subsidies. The elimination of trade barriers in all forms is the primary mission of the WTO, and use of the dispute settlement system is a proper way of pursuing this goal. Mr. Bacchus concludes that "[o]n this issue especially, litigation should be the last resort." Perhaps there really is something special about currency exchange transactions, in the universe of financial contributions, such that WTO litigation would indeed prove to be toxic. If so, China

can act accordingly when deciding whether to challenge a US countervailing measure. And it is not as if exchange-rate behaviours were totally avoided by the drafters of the GATT and the other WTO agreements; these behaviours are even mentioned in the ASCM itself.

Conclusion

We believe there are strong legal and factual arguments that China's currency regime meets not just the lay or economic definition of a subsidy, but even the narrower legal definition applicable in ASCM cases and CVD cases. While we cannot predict the outcome of a Commerce Department CVD investigation or a WTO complaint, there is a solid legal basis for either. And the fact that China's alleged currency misalignment is a difficult, high-profile matter with profound economic and political implications is not a reason to shy away from using available legal tools in response to it.

Views expressed are personal, not necessarily shared by any client

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SECTION 6

Potential responses by industrialised countries

19. Deconstructing Sino-US codependence: revaluation, tariffs, exports and jobs

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Will an appreciation of the Chinese currency create more US jobs? This column argues quite the opposite. A 10% appreciation would lead to a rise in the US price level by approximately 0.16%, meaning that in total the US would experience a mix of falling real wages and falling employment.

In the beginning, when God created the earth, he also created a fixed number of jobs, so that men and nations could fight over them through trade and exchange-rate policies.

The rapid modernisation and growth of China's economy has been accompanied by a "competitive" exchange rate regime and a consequent rapid expansion in trade. In this regard, China has been following a well-worn path, mapped by France after the First World War, Germany and Japan after the second, and a range of East Asian economies in the post-Colonial era. The combination of a regime where China's currency is pegged to the dollar, coupled with a sizeable bilateral trade surplus vis-à-vis the US, has predictably led to growing tensions. Here as well, China is following a path marked out by others. Back in the 70s and 80s, Japan was the whipping boy in a similar episode characterised by trade deficits linked to macroeconomic imbalances, frustration with US competitiveness, and increased pressure for import protection.

In his introduction to a late 1980s volume on the Japan-US relationship, Krugman (1990) noted that:

> "To someone who looked only at the aggregate numbers, it would be hard to explain the US preoccupation with Japan. Only about one-fifth of US imports come from Japan, and little more than one-tenth of our exports are sent there...
>
> No doubt much of the focus on Japan represents a mixture of fascination and envy. Fascination, because of Japan's remarkable rise from relative backwardness and crushing military defeat to an extraordinary position of financial and increasingly technological leadership. Envy, because this rise stands in sharp contrast to the gradual decline of US preeminence, which has been accompanied by stagnation or even decline in the living standards of large numbers of American residents...

The problem is that, while the debate over US-Japanese trade and investment relations has generated a remarkable amount of heat, facts and serious analysis are still in short supply."

That was then, what now?

Today China represents about one-fifth of US imports, and little less than one-tenth of US exports. And today China occupies a similar position in US trade rhetoric. In the 1980s, the sense was that Japan had grown large enough that, by virtue of size, it could no longer play as a small country, with a policy regime that ignored the impact of its economic policy on other countries. One could argue that China occupies a similar position now. Indeed, Krugman's editorial focus has literally substituted China for Japan. (See Krugman 2009, 2010. Also See Lawrence 1991.) China's own success has actually undermined the political sustainability of its foreign trade policy, and in particular, the nature of dialogue with global partners that underpins those polices in the context of multilateral obligations.

While China's changed economic position carries with it a need to reassess its foreign trade policy and exchange rate stance, the dispute with the US is actually much narrower. From the US perspective, the dispute involves the direct impact of China's currency peg on the US-China trade balance, and the perceived impact on employment, industrial decay, and the sustained, large US trade deficit. From China's perspective, it involves criticism of demonstrably successful policies (as was the case with Japan), blame for problems not actually made in China, and foreign meddling in domestic affairs.

As with most co-dependent relationships in need of counselling, both parties carry responsibility for where they stand, both have valid points, and both prefer listening to their own arguments rather than those of the other party. Also, there is a good deal of obfuscation and blame that is disguised as dialogue. The overall US capital account (the mirror of the trade account) does reflect, in part, domestic decisions linked to taxation, savings, and spending. At the same time, the highly symbolic bilateral imbalance does reflect policy set in Beijing, mixed with the general US savings-investment imbalance. (See Francois 2007 for more on this.)

My goal here is not to deconstruct every linkage between the Chinese and US economies. Rather, I aim to focus on a much narrower set of questions of immediate policy relevance. Specifically, working with trade and production data, as well as with a computational model of global trade, I explore the following questions.

- First, what is the impact of US trade with China on US productivity, employment, and overall competitiveness, and how might this be impacted by revaluation of China's currency?
- Second, if we descend into a tit-for-tat tariff war, what would be the impact on these same indicators?
- And finally, to what extent can we disentangle linkages between China's global trade surplus, the US global trade deficit, and the bilateral trade imbalance

The economic landscape

When sorting through economic policy rhetoric, it can be useful to sit down in a quiet place with a cup of coffee and explore the actual, underlying data. Table 1 below presents the recent (2004-2009) evolution of US exports, imports, and the overall

current account balance. China's share of US imports was 19.1% in 2009, up from 13.4% only 5 years ago. There has also been growth in China's importance as an export market, where by now China represents 7.4% of all US exports. By 2009, China was more important than Japan as an export market for American firms, and as important as France and Germany combined. On the import side, China is more important than either NAFTA partner.

Table 1 also presents alternative views of the trade imbalance. In current dollars, the China's bilateral trade surplus was $226 billion in 2009, up from $161 billion only five years earlier. This represents 36.9% of the total trade deficit in 2009. This is a dramatic increase from 2004, where China represented 22% of the total trade imbalance. However, note that the total US deficit with the world is down $121 billion from 2004 to 2009. The global decline in trade and investment flows with the recession is, not surprisingly, reflected in a decline in net investment in the US In the context of this general decline in net investment into the US, China has been crowding out other countries in financing the US deficit (leaving Germany free to shift its surplus to Greece, for example.)

Table 1 also offers an alternative view - in particular in the last columns, where exports are scaled by GDP. Hence, we can see that in 2004, exports to the US, in current dollars, were very large (11.7%) as a share of GDP. This is actually quite misleading, as China's exports involve intermediate stages in global production chains, so that the value added share of exports is much smaller. This point is illustrated in Figure 1, which shows the value added composition of China's economy, in contrast to its trade structure. While mechanical and electrical machinery were over 40% of China's exports in 2004, they represented only 8.9% of value added. Returning to Table 1, China's reliance on the US market has shown a marked decline, when scaled by GDP. While exports to the US are still quite high, China is less dependent on the US market than Canada or Mexico, and this dependence (like Canada's) is trending down.

Table 1 United States commodity trade, 2004-2009

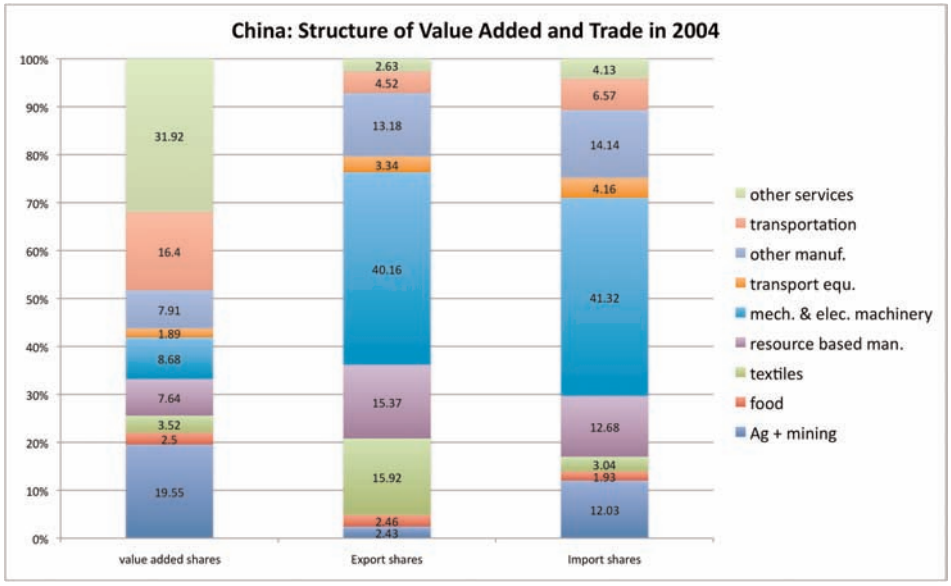
	Exports		Imports		Balance		Exports to U.S. as exporter GDP %		Surplus w/ U.S. as exporter GDP %	
	2004	2009	2004	2009	2004	2009	2004	2009	2004	2009
China	35	70	196	296	-161	-226	11.7	6.2	9.6	4.7
Germany	31	43	76	70	-44	-26	2.8	2.1	1.6	0.8
Japan	54	51	130	96	-75	-45	2.8	1.9	1.6	0.9
Canada	188	205	256	225	-68	-20	26.1	16.7	6.9	1.5
France	21	27	32	34	-10	-7	1.5	1.3	0.5	0.3
Mexico	111	129	155	176	-44	-47	22.7	20.4	6.5	5.5
Other	287	412	617	653	-330	-241	3.9	2.8	2.1	1.0
World	727	937	1460	1549	-733	-612	5.0	3.6	2.5	1.4

Source: US BEA, IMF.

Addendum to composition of US-China trade

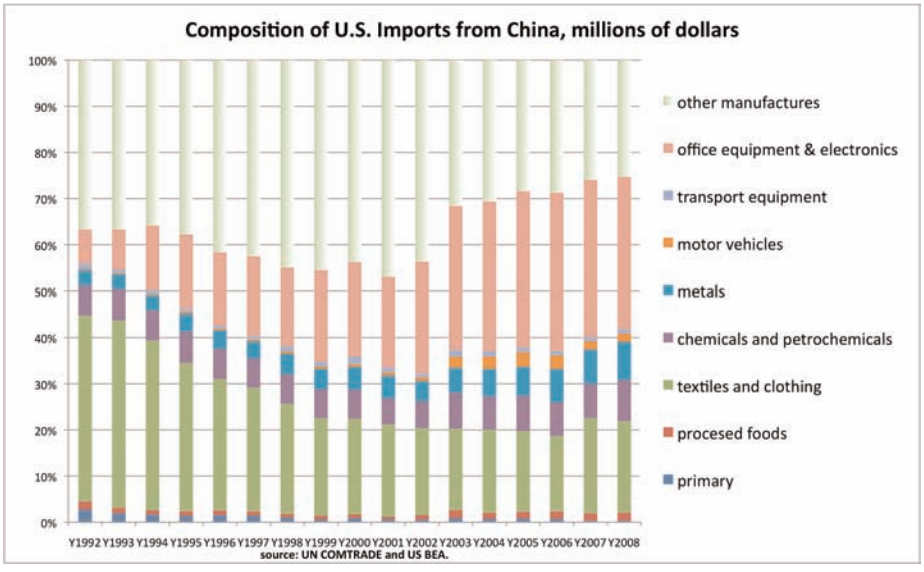
	exports		Imports		balance	
	2004	2009	2004	2009	2004	2009
China	40	70	268	296	-228	-226

Figure 1 China: structure of value added trade in 2004



Source: own calculations from GTAP database, V7.

Figure 2 Composition of US imports from China, millions of dollars



Notes: Constant values in 2009 prices, adjusting for 2004-2009 currency revalution.

There is also an adjustment, in the addendum at the bottom of the table, that reflects both the revaluation in China's currency that has occurred since 2004 and the general increase in price levels from 2004 to 2009. Taking both of these into account,

the addendum adjusts 2004 US imports from China so that the values reflect 2009 prices and exchange rates. This allows for a more direct comparison of the trend in real or physical trade. Once we make this adjustment, it can be seen that from China's perspective (i.e. at the same prices) the trade balance is relatively unchanged. Indeed, while China's economy grew dramatically (at a rate of 9% to 10% annually) over this period, its overall physical surplus with the US has remained stable.

While the overall trade surplus with the US has exhibited stability in the past five years, what has been changing is the composition of exports. This is illustrated in Figure 2. In the early 1990s, almost half of US trade with China was concentrated in textiles and clothing. At that time, the policy debate focused on import protection for textiles and clothing. Since then, there has been a rapid upgrading in the composition of China's exports. Office equipment and electrical machinery (computer components, flat panels, telecommunications equipment, and such) have grown from 7.4% of exports in 1992 to a full one-third by 2009. Table 2 provides another summary of this point, based on the top 15 SITC categories for US imports from China. Note, for example, the five-fold increase in computer and display screen exports. Much of this trade enters the US economy not as consumer goods, but rather as intermediate inputs into manufacturing and service production. Furthermore, even direct consumer goods imports often embody US value added. Look at Figure 1, compare the electronics value added and export shares, and then think about the value added originating from Apple and Dell and Motorola in the US, potentially rendered more competitive globally because it is combined with Chinese inputs.

The composition of trade, and its linkage to firms in the US as inputs, means that trade with China has a direct impact on the cost of production of US firms. At the firm level, freer trade induces a reduction in production costs. At an industry and national level, this means that, in addition to the macroeconomic channels emphasised in the recent debate (basically Keynesian shifting of employment linked to the trade balance) there are channels linked to firm cost structures, productivity, and the ability of the US economy to support better overall employment and wage structures. This means that, in addition to macroeconomic effects (Fair 2009, Krugman 2009, Shedlock 2010) productivity channels linked to global production chains and outsourcing also play a role here. This makes a complicated question even more so. Or to paraphrase Poul Anderson, we have taken a complicated problem which, when looked at in the right way, has become still more complicated. To sort through some of this complexity, we resort to a CGE model in the next section to compute the impact of different policy interventions, from currency revaluations to a tit-for-tat tariff war.

How the composition of US-Sino trade affects the impact of policy

In what follows I report on the results of a CGE model of the global economy,

1 1.USA; 2.Canada; 3.Mexico; 4.China; 5.Brazil; 6.India; 7.Japan; 8.Korea; 9.Germany; 10.France; 11.United Kingdom; 12. other Eurozone; 13. other EU; and 14.RestofWorld.

2 i.primary production; ii.metals; iii. motor vehicles; iv.other machinery; v.other manufactures; vi.construction; vii.commercial services; viii.other services

Table 2

Country	SITC	2004	2009	% Change 2004-9
		In Actual Dollars		
1) Automatic data-processing machines and units thereof; magnetic or	752	24,460,345,511	32,033,575,084	31.00%
2) Telecommunications equipment, N.E.S., and parts, N.E.S, and	764	12,076,198,096	29,654,164,866	145.60%
3) Baby carriages, toys, games and sporting goods	894	17,562,621,131	24,041,984,931	36.90%
4) Television receivers including video monitors and video projectors	761	2,283,333,027	14,502,376,668	535.10%
5) Footwear	851	11,347,815,401	13,415,370,969	18.20%
6) Furniture and parts thereof; bedding, mattresses, mattress supports	821	10,905,506,644	12,750,640,856	16.90%
7) Articles of apparel, of textile fabrics whether not knitted or	845	3,999,148,145	9,199,421,633	130.00%
8) Parts for automatic data-processing machines and units thereof	759	9,229,283,616	7,855,153,079	-14.90%
9) Office machines	751	1,889,807,923	7,590,633,652	301.70%
10) Women's or girls' coats, capes, jackets, suits, trousers, shorts	842	3,647,278,886	6,916,745,582	89.60%
11) Household-type electrical and non-electrical equipment, N.E.S.	775	4,560,250,217	6,254,381,234	37.10%
12) Articles, N.E.S of plastics	893	4,260,162,336	6,190,597,730	45.30%
13) Electrical machinery and apparatus, N.E.S.	778	3,880,984,327	6,155,714,879	58.60%
14) Trunks, suitcases, vanity cases, executive cases, briefcases	831	3,936,872,382	4,907,152,854	24.60%
15) Made-up articles, wholly or chiefly of textile materials, N.E.S	658	3,040,581,852	4,650,849,134	53.00%
Subtotal		117,080,189,494	186,118,763,151	59.00%
of which office machines, electronics, and parts thereof Subtotal		53,819,952,500	97,791,618,228	181.70%
All Other:		79,079,323,919	109,425,746,511	38.40%
TOTAL		196,159,513,413	295,544,509,662	150.67%
total change 2004-2008			99,384,996,249	
change in office machines, electronics, and parts thereof			43,971,665,728	

Sources: Data on this site have been compiled from tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission.

benchmarked to 2009. The dataset includes fourteen regions[1] and eight sectors[2]. The model is a generic version of the one used by Francois et al. (2005) and follows the GTAP database structure (Hertel 1996 and Narayanan and Walmsley 2008). As much as possible, the global database has been updated to reflect available data on trade and production for 2009, whereas the base year for the current GTAP7 database is 2004.

I have modified the basic model structure to include China's currency peg, and armed with model and data I have then conducted a range of notional experiments. I have also imposed less than full employment (with sticky nominal wages) to reflect the current economic climate. The results are reported in Table 3. I focus on three experiments:

- the first experiment involves the impact of a 10% revaluation by China against the dollar;
- the second involves at 10% US punitive tariff, followed by a 10% Chinese retaliation tariff;
- and the third involves a 5% revaluation by China against the dollar.

Bear in mind that, from further simulations with the same model (but not reported here for the sake of space), a 5% revaluation against the dollar more or less closes China's trade imbalance with the world, while a 15% revaluation against the dollar is needed to close the trade imbalance with the US. This is because much of the bilateral imbalance relates to broader US macroeconomic issues, in particular the combined structure of savings, investment, public and private spending, and taxes. In a crude sense, the estimated 5% and 15% values imply that roughly one-third of the bilateral imbalance is related to China's exchange rate policy, while the remaining two-thirds relates to US macroeconomic conditions.

Table 3

Jobs effects

	% change unskilled employment	% change skilled employment	change in U.S.employment
China revalues 10%	-0.336	-0.312	-423,919
US and China impose 10% tariff	-0.725	-0.723	-947,730
China revalues 5% (closes global imbalance)	-0.183	-0.170	-231,008

Macro effects

	% change in GDP	% change in consumer prices	US global trade balance, change	US-China trade balance
China revalues 10%	-0.032	0.157	103,053	111,504
US and China impose 10% tariff	-0.264	0.156	106,279	111,987
China revalues 5% (closes global imbalance)	-0.145	0.087	57,795	61,840

Source: CGE model estimates

The closest exercise to the present one is Fair (2010). His linked macroeconomic model involves a single sector, and as such misses the cost-productivity channels related to inter-industry linkages that were highlighted in the previous section. Fair also focuses on a larger devaluation (25%). Still, the messages are more or less the same. In Fair's analysis, the employment effects are small and negative. With a 10 percent revaluation I find larger employment effects here (a loss of 424 thousand jobs here vs. 50 thousand in his study), partly because the U.S. economy is forced to pay more for imports (a terms of trade loss), costs rise for firms (which acts like a small decline in productivity), and as such U.S. exports also become slightly less competitive because costs rise. While all these effects are relatively small, it is important to note that they outweigh the equally small Keynesian effects linked to trade balances and overall employment. In short, an appreciation of the Chinese renminbi will not create U.S. jobs. Quite the opposite. Predictably, an appreciation also leads to higher consumer prices in the U.S. The 10% revaluation leads to an approximate 0.16% increase in consumer prices, which means that in total the U.S. experiences a mix of falling real wages and falling employment with a Chinese revaluation.

The next experiment in Table 3 focuses on a tit-for-tat tariff dispute. I have modeled a 10% U.S. tariff increase, followed by a 10% Chinese tariff rise, both imposed on bilateral trade only. The consumer price impacts are similar to the 10% Chinese revaluation, but the employment impact in the U.S. is even more negative (roughly 947,000 jobs, based on employment levels in 2009). Both the revaluation and the tariff scenario have a similar impact on the current account. The current account improves by roughly $103 billion to $111 billion. However, this brings with it higher prices, lower investment levels, and an even weaker jobs market.

Finally, the last scenario examines a 5% revaluation of the Chinese renminbi, vis-à-vis the dollar, which is sufficient to close China's global trade gap. (This implies, of course, different relative revaluations against other currencies, depending on any consequent changes in other relative exchange rates, such as the euro.) Note from the last column that, even so, the imbalance with the U.S. persists. This is because, as noted above, the bilateral imbalance has multiple sources. It is also due to domestic conditions in the U.S. Additionally, revaluation affects global trade and investment flows vis-à-vis the U.S. and not just on the bilateral flows with China.

Summary

The current pattern of trade between China and the U.S. points to a complex relationship whereby U.S. firms gain competitiveness by sourcing bilaterally from China. Based on 2004-2009 data, a large and growing share of bilateral trade is in intermediate goods (including parts and components). As a result, the jobs impact of

a Chinese appreciation, or even of a punitive US tariff, is unlikely to work as advertised. Rather it will worsen employment conditions in the U.S. labour market. The adverse impact of a gradual revaluation may go unnoticed in the run up to the U.S. mid-term Congressional elections. The impact of a small tariff war is likely to be more immediately painful, however.

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20. US policy approaches to Chinese currency

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Many US analysts argue that China's currency is undervalued and that its policy significantly impedes global macroeconomic rebalancing. This paper outlines the possible policy responses available to the US. While multilateral policies are slower, they are less likely than unilateral policies to trigger a negative political response. But first the US needs to establish a principled basis for action.

In the increasingly heated American political discourse about China's exchange rate, there have been loud cries for action, often unaccompanied by thorough analysis. At a minimum, before adopting any given policy, the US should identify the actions it wishes China to take; it should assess which policy prompts are most likely to bring about that result; and it should carefully consider the possible ramifications of its actions.

1. What would the US government like China to do?

There is a strong body of opinion in the US that China's currency is undervalued and that China's policy significantly impedes global macroeconomic rebalancing. To those holding this view, China's current peg to the dollar is unacceptable. But what is acceptable? And what would be optimal from a US standpoint?

In lieu of a full answer, we can consider several prominent possibilities.

One is that China could resume the pace of appreciation that it employed from 2005 to 2008, an average rate of roughly 6% per year. This policy would be unlikely to have a dramatic impact on the US in the short term. To the extent history is a guide, China's earlier appreciation was accompanied by growing current account surpluses and foreign exchange reserve accumulation.

A second possibility is a rapid, "one-off" appreciation. Yet with undervaluation estimates ranging from 25% to 40%, such a rapid appreciation threatens massive dislocations in a Chinese economy that is ill-equipped to handle them. Moreover, it is unlikely that such a shock would stimulate Chinese consumption, at least in the short run.

A third possibility is that China could avoid the question of how quickly to appreciate by leaving it up to market forces. It could open its capital account and let the renminbi trade freely against other major currencies. However, this could just add uncertainty to the problems of economic shock described above and it is not obvious that China's currency would appreciate. If Chinese savers were free to put their

money anywhere in the world, there could be a large outflow of renminbi into other currencies and a resulting depreciation.

Where to draw the line?

A key problem for US policy is the lack of a bright line between acceptable and unacceptable Chinese behaviour. As soon as the US puts itself in the position of issuing ultimata, it would need to be able to distinguish between sufficient and insufficient Chinese responses. Would a 1% annual rate of appreciation be acceptable? What about a 5% rate? Is the acceptability of China's behaviour determined by the level of the exchange rate, the pace at which it appreciates, or the extent of Chinese intervention? There are no clear economic answers to these questions.

Without such a principled basis for action, a US response will appear arbitrary. In the absence of clear economic answers, the only credible approach would be to work with like-minded major countries to clarify international rules.

2. What is likely to work?

For the US to adopt an optimal strategy, it must have a clear sense of China's likely reaction. It is commonplace among analysts of Chinese politics to emphasise two sources of legitimacy for China's current regime: economic performance and nationalism (Shirk 2007). The Chinese government must steer a difficult course between the inflation that is likely to result from a continued currency peg and the unemployment that is likely to result from an appreciation. China's delays in fixing its currency policies have made this choice increasingly difficult.

The constraints of nationalist sentiment within China are no less real and are often linked to historical grievances. These grievances may be specific, as with China's war with Japan, or they may relate more generally to the "century of humiliation" dating back to the opium wars of the mid-19th century - an earlier attempt to open China to trade.

The practical implication of Chinese nationalism in this context is that there remains a sensitivity to slights on the international stage. Government officials thus may feel constrained in their actions and may play to this nationalist sentiment. Not only has China's economic success of recent years emboldened its leaders, but as rising Party officials jockey for political prominence, they seek to avoid appearing weak (Wines 2010).

In the context of Chinese currency appreciation, Chinese leaders would likely consider not only the economic implications, but the domestic political repercussions of acquiescing to foreign threats or demands. From the leadership's perspective, the worst possible outcome would be a policy concession that combined economic turmoil with a loss of face from crumbling to Western pressure.

3. Options for action

To date, the past two administrations have pursued a strategy of quiet diplomacy with mixed success. China did appreciate its currency by 20% from 2005 to 2008. Outside of that period, however, the RMB has remained fixed against the dollar.

Alternative policies can be grouped into unilateral and multilateral approaches, based not on the adjudicating authority in the case of a complaint, but on whether the US stands alone in pressing a case or whether it is joined by others. When the US acts alone, it is most likely to trigger a negative political response from the Chinese government.

Unilateral policy options

- Currency manipulation label
  The US Treasury postponed a decision on whether China has been manipulating its currency, but will ultimately have to issue a ruling. Applying the pejorative label would make it more difficult politically for China to change its policies but would apply no additional economic pressure unless it is accompanied with more substantial measures.
- Countervailable subsidy
  Another prominent idea is to treat China's currency undervaluation as a countervailable subsidy. There are three potential problems with such an approach. First, countervailing duty cases are generally narrow in scope and slow to conclude. This limits the extent to which they can have a significant economic impact during the current downturn. Second, it appears doubtful that this approach is consistent with WTO requirements. Gary Hufbauer (2007) of the Peterson Institute has argued that countervailable subsidies must feature a government financial contribution and must be specific rather than general. Broad exchange rate policies would seem to be general, rather than specific to an industry, and there is no precedent for considering such policies as a financial contribution[1]. Finally, a succession of countervailable duty decisions would likely annoy China but would not seem to be of sufficient magnitude to outweigh the concerns mentioned earlier.
- WTO case
  A third idea would be to press a case against China under WTO Article XV. That article says, in part: "Contracting parties shall not, by exchange action, frustrate the intent of the provisions of this Agreement…" If a WTO dispute settlement panel were to rule in favour of the US in an Article XV complaint, the US could be authorised to raise tariff barriers against China if the Chinese refused to change their practices. There are two major problems with this approach. First, WTO dispute settlement cases can take years; thus, this would be unlikely to get results in the near term. Second, there are no precedents for interpreting Article XV nor is there any negotiating language or guidance that would help a dispute settlement panel distinguish between acceptable and unacceptable behaviour. Thus, a panel would either decide against the US, or it would have to engage in

1 "Gerard Optimistic WTO Will Uphold Currency Initiation on China," *Inside U.S.-China Trade,* March 17, 2010.

creative elaboration of vague principles. Despite the fact that the US government has long disapproved of such overreach by panels, this strategy would require it.

- **Unilateral tariff**
  The boldest unilateral action would be the sort of across-the-board tariff recently advocated by Paul Krugman (2010). Compared to the other actions, this would impose the most immediate economic pain on China, but it would also maximise the likelihood of a strong nationalist backlash from China that would preclude Chinese compliance with US demands. By blatantly violating US commitments under the WTO, a unilateral tariff would do lasting damage to the rules-based multilateral economic system. This could be disastrous for a US economy that is integrated into the world economy and likely to become more reliant upon exporting for growth. Nor should one expect that the breakdown in cooperation and relations would be limited to the narrow confines of trade relations and currency.

Tariff advocates have set aside these long-term consequences and argued that a high tariff could achieve US short-term goals whether or not China complies. This is highly dubious. Such a bilateral measure could be readily circumvented by a reordering of world trade flows, effectively reversing the shift in trade patterns that accompanied China's recent rise. For many of the low-cost goods that China produces, its chief competitors are not US firms but other developing nations. Even if the US were to enter lines of business from which China had been excluded, such adjustment takes time. Thus, there are few likely short-term benefits to offset the staggering long-term costs.

Each unilateral approach is marred by the inescapable bilateral tension that would accompany it and by the difficulty of setting global rules without a broader consensus, particularly in the absence of clear technical answers.

Multilateral approaches

Multilateral approaches avoid both these difficulties. In their stead, they present the difficulty of coordinated action, which can be slow and unwieldy.

- **Currency agreement under the WTO**
  Aaditya Mattoo and Arvind Subramanian (2008) have argued for new and clearer currency behaviour rules under the WTO. The appeals of WTO jurisdiction are the obvious link to trade and the potential for more effective enforcement through trade retaliation. Mattoo and Subramanian acknowledge the limited competence of the WTO secretariat in such matters, but argue that it could work in close collaboration with the IMF. There are serious obstacles to adopting such WTO rule changes in the near future, however. The most obvious vehicle for adopting such changes, the Doha Development Agenda, is stalled and, in any case, such change would need to win consensus support by WTO members, including China.

- **Firmer action by the IMF**
  The Managing Director of the IMF has stated the Fund's view that the renminbi is undervalued (Wall Street Journal 2010). This is a topic on which the IMF has great expertise and its Articles of Agreement assign it a role in engaging with member countries to right such wrongs. But the IMF's power to compel action

on the part of a member is generally limited to loan conditionality. This works only when a country is seeking to borrow and has no relevance when a country like China engages in excessive lending. Setting aside enforcement problems, the IMF would be the appropriate institution under which to establish new norms for international financial behaviour, if agreement on those norms could be reached.

- **Explicit norms set by like-minded countries**
  If it turns out that an agreement on new norms is unreachable under the auspices of the IMF, an alternative would be to push for an agreement on principles through a grouping such as the G7 or the G20. While the G20 offers enhanced legitimacy by including countries like Brazil, China, and India, it necessarily makes consensus more difficult to achieve. The return to a smaller grouping could facilitate consensus and action.

None of the multilateral approaches offer a quick or easy course of action. They do, however, offer the possibility of a carefully-developed set of rules for international financial behaviour that could govern the international economy for years to come. Further, by avoiding the antagonisms of bilateral conflict, a multilateral approach could make it politically easier for China to accede to the new rules.

A final possibility is that the US government shows patience and allows domestic pressures for revaluation within China to prevail. This is what the Obama administration seemed to choose with its decision to delay its report on currency manipulators. If the gamble pays off and China quickly abandons its peg, pressures should diminish. If China delays action further, the loud cries will return with even greater force.

A longer version of this argument was presented as written testimony before the Committee on Ways and Means of the US House of Representatives, "Hearing on China's Exchange Rate Policy," March 24, 2010.

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Is the 1971 "import surcharge" a useful precedent?

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Many advocates of action over China's exchange-rate policy have pointed to the temporary 1971 US import surcharge as a supporting precedent. This column examines the circumstances and proposals made in 1971 and 2010 to see if policymakers can rest assured that what worked "then" will work "now." It argues that this unilateral US act is found wanting as a precedent for contemporary policymaking.

While over the years many of the US proposals for import surcharges or other supplementary taxes on imports have originated in the US Congress, in fact the one far-reaching import surcharge that was actually imposed during US in postwar times was instigated by the Executive Branch. As part of a broad package of measures to revive the US economy, on 15 August 1971 President Richard Nixon imposed a 10% *ad valorem* import surcharge by Presidential Proclamation (see Box 1). These measures were applied for a four month period and then revoked in December 1971 (in Presidential Proclamation 4098). Several contemporary proponents of levying supplementary tariffs on Chinese imports have pointed to the 1971 surcharge as a supporting precedent, demonstrating (in their view) how the US should use its clout to redress effectively long-standing international economic frictions. Here I assess the contemporary relevance of the August 1971 import surcharge.

At first cut there are many parallels between the circumstances facing the US now and thirty years previously. Both eras witnessed deteriorations in the US current-account and federal-budget deficits bloated by overseas wars and the implementation of ambitious domestic social programmes. Leading trading partners, then Japan and Germany, had refused to revalue their currencies despite running up trade surpluses, much as China has resisted doing so now. Such currency misalignments were said to harm significantly US commercial interests.[1] No doubt what is particularly attractive to contemporary advocates of supplementary tariffs is that a tough US administration managed to wring concessions from major trading partners[2]; Put bluntly, the gambit paid off. The temporary nature of the surcharge no doubt helped brush off some criticism of the legality or wisdom of this move.

1 Destler (2005) quotes President Nixon as saying that the aim was to ensure "that American exports will not be at a disadvantage because of unfair exchange rates. When the unfair treatment is ended, the import tax will end as well." Footnote 1, page 42 of Destler (2005) provides a list of the historical treatments of the 1971 import surcharge.

2 In addition to revaluing their currencies, the US administration is said to have also demanded (a) that the European Community and Japan eliminate certain trade measures and (b) that NATO allies make larger contributions to defense projects of common interest (Stewart and Drake 2009).

Box 1. The import surcharge-related sections of US Presidential Proclamation 4074.
"WHEREAS, there has been a prolonged decline in the international monetary reserves of the United States, and our trade and international competitive position is seriously threatened, and, as a result, our continued ability to assure our security could be impaired;

WHEREAS, the balance of payments position of the United States. requires the

imposition of a surcharge on dutiable imports; . . .

A. I hereby declare a national emergency during which I call upon the public and

private sector to make the efforts necessary to strengthen the international economic

position of the United States.

B. (1) I hereby terminate in part for such period as may be necessary and modify prior Presidential Proclamations which carry out trade agreements insofar as such proclamations are inconsistent with, or proclaim duties different from, those made effective pursuant to the terms of this Proclamation.

(2) Such proclamations are suspended only insofar as is required to assess a surcharge in the form of a supplemental duty amounting to 10 percent ad valorem. Such supplemental duty shall be imposed on all dutiable articles . . . provided, however, that if the imposition of an additional duty of 10 percent ad valorem. Such supplemental duty shall be imposed on all dutiable articles . . . valorem would cause the total duty or charge payable to exceed the total duty or charge payable at the rate prescribed in column 2 of the Tariff Schedules of the US, then the column 2 rate shall apply."

Note: The effect of provision B(2) is to raise tariffs by up to 10 percentage points. In some cases the tariff increase was less.

For a previous policy initiative to have precedential value then contemporary circumstances must replicate the essential preconditions that existed previously. If the key decision makers have different preferences, constraints, and policy options, then there must be some doubt that repeating a given tactic will result in the same responses from others. In what follows, some doubts are expressed the relevant circumstances of 1971 find counterparts in the US-Sino currency dispute. Put another way, those who see the 1971 import surcharge as a useful precedent ought to consider and counter the concerns that arise from the following questions.

Will China respond like Japan and Germany?

Arguably the relationship between the US and China in 2010 is markedly different from those with Japan and Germany in the early 1970s. The legacy of World War II, the US postwar role in the reconstruction of Japan and Germany, de facto or de jure defence guarantees of Japan and Germany, the stationing of substantial numbers of troops in both US allies, and the ongoing Cold War provide a geopolitical backdrop that bears little relation to today. The dependence of the Japan and Germany on the US in the fields of foreign and security policy would have made it harder to resist US

commercial policy demands.[3] China has no such dependence.

Moreover, while Japan may have been seen as a potential rival to the US in the 1980s, it is difficult to find evidence that this view was widely held in the early 1970s. Likewise, German-US geopolitical rivalry was unheard of or expected to intensify. This may have made it easier for American policymakers to accept the concessions made by their leading trading partners in the 1970s, making the deviation from long-standing support for more open markets temporary. Nowadays, in contrast, both the US and China may view their short-term reactions to one another's commercial policy initiatives over the longer time horizon, potentially resulting in a drawn-out tug-of-war.

Has the supply chain revolution altered likely impact of an import surcharge?

One of the most distinctive features of the global commercial landscape of the past 25 years has been the progressive development of supply chains, whereby raw materials, parts, components, semi-finished and finally finished goods cross borders many times before reaching their ultimate customer. As the twenty-first century "workshop of the world" China has played a leading role as a source of much processing of manufactured goods. Likewise, pressures on firms to keep costs under control have encouraged managers of American companies to outsource extensively. These developments have taken place since the 1971 import surcharge.

Surely, the question arises as to whether the supply chain revolution has sufficiently altered the economic calculus associated with imposing an import surcharge. Put differently, how can we be sure that the import surcharges of yesteryear will affect today's economy in the same way as it did in the past? Here the Francois chapter , prepared especially for this ebook, is instructive (Francois 2010). That chapter shows just how much of US imports are made up of parts and components. Since US exporters are significant buyers of the latter, the cost competitiveness of US exports depends in part on the cost of imported intermediate goods. What this means is the following. If the gambit pays off and China revaluates its currency, one consequence is lost US exports and associated jobs. And, if the gambit doesn't pay off and US tariffs are kept on imported intermediates, again US exports suffer and jobs are lost. In short, the world economy has not stood still over the past 30 years. 2010 is not 1971.

Does it matter that proposals for contemporary import surcharges only target China?

Although some exceptions were allowed to the 1971 import surcharge, in principle the associated tariffs were applied across the board, affecting all US trading partners.

3 It is noteworthy that some of the more public Japanese opposition to American commercial policy demands came during the Clinton Administration, after the fall of the Berlin Wall. It may be recalled that the US lost some very high profile cases on photographic film and automobile parts at the World Trade Organisation.

High profile contemporary proposals call for the surcharge to be applied on imports from China alone. Does this make a difference? As far as the likely response of trade flows is concerned, the specific targeting of China is likely to divert sales from Chinese sources to other suppliers. These third party effects are likely to have two further consequences.

- First, the loss in Chinese exports will be greater than under an across-the-board tariff, increasing the pressure on the Chinese. (Again, how the Chinese react to this pressure is another matter.)
- Second, the adverse impact on the cost competitiveness of US exporters arising from paying higher import prices for parts and components may be mitigated. These considerations may favour those arguing for the gambit.

The targeting of China alone may, however, generate an illusion of a surgical strike against a specific trade partner. Unfortunately, the very supply chains mentioned earlier imply that any US tariffs on Chinese goods are going to have adverse knock-on effects on those economies that supply parts and components to exporters based in China. The term "Factory Asia" has arisen precisely because of the complex webs of shipping parts and components across Asia in supply chains (as explained in Garcia-Herrara and Koivu's chapter.) The fallout, then, from an apparently targeted measure may not be as neat as some might think.

Policy recommendations

Advocates of taking measures against Chinese exports frequently point to the temporary 1971 US import surcharge as a supporting precedent. It worked before, didn't it? It didn't wreck the world trading system? So, we are supposed to conclude, it will work again. But will it? In assessing these claims one could have examined whether the 1971 import surcharge was as effective as its proponents claim. That was not the tack taken here. Here, the circumstances and proposals made in 1971 and 2010 were examined to see if they are sufficiently similar that policymakers can rest assured that what worked "then" will work "now." Unfortunately, important changes in geopolitics and the international organisation of production call into question whether the imposition of a 1971-style US import surcharge would have the same effects today on trade flows and foreign policymakers. As a precedent for contemporary policymaking, that unilateral US act is found wanting.

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22. What should the US and China learn from the past US-Japan conflict?

Jenny Corbett and **Takatoshi Ito**
ANU, Oxford and CEPR; University of Tokyo and CEPR

One recently suggested impediment to China revaluing the renminbi is that the authorities believe that a prime cause of Japan's 20-year stagnation was its caving in to US demand for an appreciation of the yen. This paper argues that it was not caving in to US pressure but resisting it that made monetary policy too lax and contributed to the asset bubble.

Although the rhetoric has recently softened, Chinese leaders have repeatedly said that they would not allow a renminbi (RMB) appreciation while foreign countries, notably the US, are demanding action. They have called the measure 'protectionist' and have made clear that it is the measure, as much as the economics of appreciation, to which they object. However another impediment is that Chinese authorities believe that a prime cause of Japan's 20-year stagnation was caving in to the US demand on yen appreciation. .

We argue here that it is important to learn the correct lessons from Japanese experience for coping with US demands, managing the exchange rate, and avoiding 20-year stagnation. The key fallacies in the argument that US pressure for exchange rate appreciation was a disaster for Japan are the timing and the other elements contributing to the lost decades. While there are several important lessons to be learned from Japan's experience, they are about the importance of the appropriate domestic monetary policy settings, about the need for a clear perspective on inflation trends and about the dangers of unchecked asset bubbles. These are all lessons relevant to China's choice of currency regime.

So what did happen?

It is true that the US demanded many things of Japan when the bilateral trade imbalances became large in the mid-1980s and one of the demands was an appreciation of the yen. It is true that the yen appreciated sharply from 260 yen to the dollar in February 1985 to 155 yen to the dollar in August 1986, which was one of the fastest appreciation episodes in history. It is true that Japan underperformed its potential for most of the 1990s and 2000s. The average growth rate from 1993 to 2003 was just above 1%, and the decade was marked by one crisis after another in the banking sector. But it is too simplistic to say that the US pressured Japan into accepting sharp yen appreciation and that, in turn, caused two lost decades.

The US pressure is most vividly remembered in the context of the Plaza Agreement of September 22, 1985. The yen appreciated from 240 yen to the dollar just before the

agreement to reach 200 yen to the dollar by the end of the year. The yen continued to appreciate to 155 yen/dollar by the summer of 1986 - that is, a 45% appreciation in one year following the Plaza agreement. (See Ito, 1987 for details of the Plaza Agreement and the aftermath.)

Was the Plaza Accord, the source of the 20-year stagnation?

Given the timing, if the pressure resulted in making the bubble larger than otherwise, causality could plausibly be suspected. However, the truth is just the opposite.

- First, the Plaza Accord was to correct an overvalued dollar compared with several other major currencies including the German mark, the French franc, and the British pound. So it was not really pressure on the yen but a demand for a coordinated action to change misalignments with the dollar.
- Second, the movement from 240 yen to the dollar to 200 yen to the dollar was well within the range of correcting the overvalued dollar and Japan agreed with the idea. Subsequently the US agreed to stabilise the exchange rates in the Louvre Accord in February 1987 and that, in essence, was the end of US pressure.

How much damage did the yen appreciation cause the Japanese economy?

Exports declined due to the yen appreciation only after 18 months (according to the J-curve) after the Plaza Agreement, and that acted to reduce the surpluses from a very high to a normal level. But the appreciation in 1986 coincided with oil price declines, so the cost of production in Japan was very much reduced, providing a cushion for the squeeze on profits. There is very little evidence that the sharp yen appreciation had major impacts on the Japanese economy in the second half of the 1980s. Those were the famous bubble years - high economic growth with soaring asset prices.

In relating yen appreciation (which may have been partly the result of US pressure) and the bubble, the following observation is crucially important. Monetary policy was relaxed from 1986 to 1987, and the record-low discount rate (at that point) of 2.5% was maintained from February 1987 to May 1989, in the hope that the low interest rate would stop or moderate the speed of yen appreciation. Hence, it was not caving in to yen appreciation demand but resisting US pressure (or the US "wish" to be more precise) that made monetary policy too lax and contributed to bubble enlargement. The logic is just the opposite of what Chinese officials and those who draw strong parallels between the Japan and China, appear to believe to be the case

The on-and-off, 20-year stagnation has been mainly due to the effects of the bubble burst and a series of policy errors, not a slump in the exporting sector resulting from the yen appreciation. In fact, the export sectors continue to be an engine of growth, despite the yen appreciation. Exports are now a much higher proportion of Japanese output than they were in the 1980s. That is part of what made Japan's industrial production so fragile in the face of the global financial crisis. Furthermore, during the period of the bursting bubble US pressure was mostly helpful in urging

quick actions to repair banking fragility.

There was only one other episode of yen appreciation that could be seen as resulting from US pressure. Trade conflicts in 1994 to 1995 led to US frustration and a heavy-handed approach but the yen appreciation pressure from 1994 to 1995 was more informal than the first episode. This took the form that the yen/dollar market reacted with yen appreciation whenever Japan resisted US pressure for numerical targets of "voluntary import expansion (VIE)." From a macroeconomic perspective there were no factors requiring or supporting the sudden appreciation from 100 yen to the dollar to 80 yen to the dollar that occurred over five months during this period. The rapid V-shape adjustment - sharp appreciation and sharp depreciation - is also evidence that the appreciation had no fundamental basis. Since appreciation was only sustained for such a short a period, it is doubtful that exporting sectors suffered permanent damage. The US demands for voluntary import expansions - in apparent violation of GATT/WTO rules - frustrated Japan but if they caused any further misery to the already weakened Japanese economy it was not through the exchange rate channel.

Policy mistakes

What caused the bubble to expand and become more dangerous was the low interest rate policy of 1987-1989. What brought the onset of the slow growth period was the belated and aggressive tightening of monetary policy from late 1989 to 1990 when interest rates were raised from 2.5% to 6 %. There is still a debate about the full list of causes of the prolonged stagnation in Japan from the early 1990s but it was certainly a complex mix of factors. Among them were the fragility of the banking system, which suffered near collapse over a 5 year period, resulting in a credit crunch at least for small- and medium-enterprises over at least a couple of years in the late 1990s. Worse yet, problems in the banking sector were not addressed properly by the supervisory authority in the early stages. At the same time an ageing population, falling labour force participation and slow productivity growth hampered the supply side of the economy while political inertia was unable to deliver significant deregulation permitting structural change. Major policy failures, such as an aggressive fiscal tightening in April 1997, undermined confidence at moments when recovery might have taken off (see Corbett and Boltho, 2000). Throughout the whole of the 1990s and early 2000s monetary policy was excessively tight, as evidenced by continuing deflation. Though the economy faced a liquidity trap with nominal interest rates at zero, real interest rates in a deflationary environment were high. (See Ito and Mishkin, 2006, for a fuller discussion of monetary policies in the 1990s and early 2000s.)

Deflation and the lost decade

Deflation has also been a chronic problem for Japan for over a decade and, once damaging deflationary expectations set in, credible policy becomes more difficult. It has been argued that continuing reluctance by the US to allow depreciation of the

yen during the lost decades created these deflationary expectations. This is a more subtle version of the "US pressure argument". There are two versions of the argument. One focuses on wage setting and the other on international interest parity conditions. In the first version an expectation of a continuously appreciating currency requires that wage growth be moderated to maintain competitiveness, so employers will hold down wages below productivity increases to maintain profits (see McKinnon, 2006). Wages and prices fall and a deflationary spiral results. But in fact the link between currency movements and wage changes is notoriously unpredictable and the decline in Japanese wages during the 1990s is more likely to have been the result, not the cause, of slow growth. It is virtually impossible to distinguish the causality but with growth falling and unemployment rising to historic highs, the downward pressure on wages was inevitable. Further evidence of the unpredictable link between currencies and wage setting comes from Britain, where wage inflation was expected to undo the real depreciation of sterling after the exit from the European monetary system. It never happened and the depreciating currency turned out to be a benefit for British growth. The link between exchange rate policy and what might happen in labour markets seems an uncertain argument on which to base a currency strategy for China that might have other undesirable consequences.

With mobile capital a similar story can be told via interest rates and international arbitrage. Here the expectation of appreciating exchange rates drives interest rates and price expectations down (McKinnon and Ohno, 1997; McKinnon, Ohno and Shirono, 1999; McKinnon 2000). In this story zero interest rates and a liquidity trap come not from independent policy actions by the Bank of Japan, but from the expectation of falling prices driven by rising exchange rates. Equally plausible however, and borne out by survey evidence, is that deflationary expectations came from the continuing failure of monetary policy to commit to fighting price declines for reasons more to do with political economy than with the value of the exchange rate. Svensson (2001, 2003) argued that the best way out of deflation and liquidity trap for Japan does involve a depreciating currency but that can follow, rather than lead, the change in monetary policy: "the optimal way to escape from a liquidity trap, which involves expectations of a higher future price level, would directly lead to a corresponding depreciation of the currency. Indeed, absence of a currency depreciation indicates a failure to induce such expectations." (Svensson, 2003, p 17).

Even if both these routes contributed to creating deflationary expectations in Japan they were a small component compared with the lack of confidence in the policies of the Bank of Japan. Furthermore, the "pressure" in this case was a desire by trading partners to avoid Japan using beggar-my-neighbour policies to recover from recession. The concern may have been misplaced, but it is common and widespread and is different from the concerted pressure for yuan or yen appreciation aimed at reversing trade imbalances. A critical difference is that Japan was already hopelessly mired in a banking crisis, deflation and stagnation when the yen depreciated from 1995 to 1998, while the Chinese economy is booming as the pressure for appreciation is applied.

The advice for China

Refusing to accept yen appreciation (not caving in to yen appreciation) was one of the causes of the bubble economy toward the end of the 1980s in Japan. This was a grave policy error for Japan with long term consequences. So, the lesson is precisely the opposite of the one most people take from Japan's experience. Do not resist the currency appreciation when the economy is booming. Keeping interest rates low and providing large liquidity, through interventions, in order to prevent the currency appreciation will produce a property bubble and eventual burst - a disaster. There is already a risk that China is underestimating the extent of its property bubble (see Ito, 2010). The fact that appreciation may help global imbalances is an added bonus but need not be a factor in China's decision. China should be looking carefully and critically at the *right* lessons from Japan and also at lessons from successful appreciations which achieved precisely the alleviation of inflationary pressures and structural changes that China needs. One such example is Australia in the 1980s. And China should keep in mind that many of the factors that led to Japan's lost decades either do not apply to China (which is not a mature, post-industrial economy with no "catch-up" possibilities left) or were avoidable policy mistakes. Currency appreciation was not the major factor.

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23. Should Europe join the US in condemning Chinese currency manipulation?

Patrick A. Messerlin
Sciences Po

If the US government does brand China as a "currency manipulator", should the EU follow suit? This paper argues that EU officials are likely to be low key on the issue. There are far too many imbalances within the EU, notably Germany's trade deficit, that any complaints to China are doomed to degenerate into intra-EU discord.

The debate on China as a currency manipulator is showing illuminating twists in Washington.

- First, a very strong campaign echoed by an op'ed of Nobel Prize winner Paul Krugman.
- Second, the unexpected delay of the release of the US Treasury report that could brand China as a "currency manipulator".
- Finally, the announcement of the slide of China's trade balance into a deficit in March 2010 (for the first time since 2004) a few days before President Hu Jintao will attend a nuclear security meeting in Washington.

All this underscores, if needed, how much the debate has shifted from economics to politics.

The situation is quite different in Brussels. There is no sign of revival of the EU-China skirmishes of late -2007 and early-2008. In mid-October 2007, following the confrontational tone adopted by then EC Trade Commissioner Peter Mandelson, the European Commissioner for Economic Affairs breached for the first time the official EU silence on the appropriate exchange rate of the Chinese yuan, unleashing a batch of statements from Eurozone Finance Ministers and the European Central Bank President urging China to let the yuan appreciate against other global currencies.

Since late 2008, European policymakers have been much less vocal. Such a quiet approach could simply mirror ongoing exchange rate variation. The fact that China pegged the yuan to the dollar since July 2008 means that the euro-yuan exchange rate echoed the depreciation of the euro with respect to the dollar. After ups and downs, the euro is now back to its early 2007 value in dollar terms - a 15%depreciation vis-à-vis the yuan.

Beyond these recent currencies' evolution, several strong and mutually reinforcing economic and political reasons may induce EU officials to retain their current low-key line on these matters. In which case, this will be in the interests of the world economy, not just the EU.

Starting with economics…

First is the simple fact that predicting the "right" exchange rate is an impossible mission. During recent years, economists have disagreed markedly on the magnitude of the yuan undervaluation - from zero to nearly 50%, largely for reasons related to assumptions, variables included or otherwise in empirical analysis, etc. These technical differences have been carefully documented in IMF studies (Dunaway and Li 2005, Dunaway et al. 2006). Other studies suggest that, if there were an "undervalued" Asian currency against the dollar, it would be the Japanese yen, and that the euro would be "overvalued" against the dollar by 5% to 35% (all these estimates were made before the late-2007 to mid-2008 slide of the dollar).

Second, the focus on trade balance has relatively little appeal in the EU in the recent years. The EU has a relatively modest trade deficit with respect to the world. More importantly, if China's share in the EU's total imports (excluding the EU-OPEC trade) has doubled (from 8% in 2000 to 18% in 2008) the share of nine other large trading partners of the EU (Japan, Korea, Hong Kong, Indonesia, Malaysia, Singapore, Taiwan, Thailand, and the US) in EU imports has decreased to such an extent that the global share of China and these nine countries has decreased from 55% to 46%. This result underscores the massive reshuffling of trade flows among key EU trading partners. Products that were previously shipped from those trading partners are now imported directly from China. In short, the only difference between today and the mid-1990s is that the EU global trade deficit is not spread over several Asian countries, but that it is concentrated on one of them - hardly a source of deep concern.

Finally, to be credible, an EU line about currency changes should be consistent with the EU's internal economic situation. Out of the fifteen Eurozone members, nine have run a trade deficit more or less continually since 1995 and five almost always a trade surplus (only Italy has significantly shifted from a trade surplus to a trade deficit during the period). In addition, almost all the EU member states having a trade deficit with the other EU member states exhibit intra-EU trade deficits that are (much) larger than their trade deficits with China (Messerlin and Wang 2008).

This last economic reason is already striking strong political chords, one external, one internal. First, the EU could hardly be seen by China as consistent - hence convincing - when complaining about China's persistent trade surplus, while the largest EU economy, Germany, shares the same feature with the rest of the Eurozone and of the world. Second, a chorus of complaints about China's permanent trade surplus was doomed to induce, sooner or later, some EU politicians to use the same litany against Germany. Mid-March 2010, this Rubicon was crossed by the French Minister of Economy, Christine Lagarde, who stated that the German deficit was "unsustainable", without much explanation as to why it was sustained during the last thirty years or so. Of course, German politicians reacted swiftly, some of them beginning to evoke a core Eurozone around Germany, with Mediterranean member states clearly outside, and France somewhere in the limbo. In short, a strong battle with China on trade surplus and exchange rate is doomed to degenerate into intra-EU discord, the last thing that responsible EU leaders would like to see happening in the current circumstances.

Combining these observations generates strange bedfellows. Germany, the

staunchest US ally in Europe and the largest European economy, may have some sympathy for China during this episode. This is not only because China is one of its core markets, but because it is facing the same pressures to do something about its "unsustainable" trade surplus with Europe. It is also because it was threatened by the US to be a "currency manipulator" in the early 1970s and early 1980s. These threats never materialised because Germany, often dubbed at this time as an economic giant but a political dwarf, gave up and revaluated the Mark. At that time, it was politically hard for Germany to swallow, although it ended up in various forms of commercial success that Chinese decision-makers should ruminate on.

...Ending up with politics

Internal political reasons should also induce EU officials to refrain from taking a hardline on Chinese currency changes. First is that, to the great disappointment of most Europeans, the euro is still in its making. When the euro was adopted, all the EU's non-German politicians (and all but a few economists in the EU) dismissed the high risks of such an endeavour - ignoring that any federation (the euro is a federal principle) implies risks of secession for a long time. The euro was proclaimed the heir of the Deutsche Mark, hence endorsing its long history of market-driven appreciations. Such a history has shaped the German economy, in particular its specialisation in products relatively insensitive to price increases. However, key Eurozone members (France, Italy) did not (want to) realise the extent to which they would have to transform their own economies and to reshape their domestic policies in order to adjust to the German approach.

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Since July 2001, he is a special advisor to Mike Moore, WTO Director General. He also serves as a member of the Preparatory Conference to the G7-G8 Summits (a

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24. China: revisiting the issue of mercantilism

François Godement
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The delayed announcement of a US decision over China's exchange-rate policy has stoked the fire of debate over trade relations. This paper argues that the efforts of China's main trade partners - the EU as well as the US - would be better spent on ensuring a steady rebalancing of China's economy towards greater private consumption and imports rather than simply currency revaluation.

Up to the summer of 2008, qualifying China's economic strategy as a case of mercantilism looked like an open and shut case. China's global trade surplus had been snowballing, particularly with the EU and the US. Its external account surplus exceeded 10% of GDP, a unique case made even more unique by the huge population size of China - we are not talking about a city emporium economy such as Hong Kong or Singapore, where re-export is a way of life and external trade a multiple of GDP. A peg, since 1994, to the currency of the country which had the largest symmetrical trade deficit and current-account deficit - the US - literally ensured that the trade imbalance would only get larger, until something gave way in either economy. In the race to the bottom which characterises competition under conditions of globalisation, China seemed to lead the way. Household income relative to GDP had declined to a record low share of 34 %. That China had conceded, after years of stonewalling, a crawling revaluation of its own currency against the dollar looked suspiciously like an indirect admission of guilt. The revaluation was certainly not on the scale of what was needed to take care of the problem, but it was a political recognition of its existence. This revaluation did reach 21% between 2005 and 2008, but at a time when the dollar had entered into a steep decline against the euro, the yen and other currencies. China's competitive advantage was mostly preserved, albeit redirected.

Even then, various arguments were used to counter the accusation of a mercantilist use of currency valuation to capture surplus value. China was really assembling final products from goods and parts imported from the rest of East Asia, resulting in a triangular trading pattern. Foreign firms were involved in as much as 60% of China's exports - and the slice of added value accruing to China could be quite small. The classic example used to be the Nike shoe, where design, process, distribution and advertising made up most of the costs, and manufacturing in China was trivially low. The contemporary example is Apple's iPhone, assembled in China by a Taiwanese firm from imported parts, where it is claimed the Chinese added value is no more than $4 per phone.

It's the imbalance, stupid

Two macroeconomic arguments were also used to defend China's trade surplus. One was the asymmetry resulting from the conditions of China's admission to the WTO. As a developing country, it had not had to open up services, capital markets and public procurement, while its manpower supply ensured a nearly flat level for wages in the assembly sector. The second argument, still widely used, results from the asymmetry with the US itself. For cognoscenti, the argument is not about currency manipulation and mercantilism or protectionism. "It's the imbalance, stupid", is the prevailing assumption. Since the US had chosen to run a deficit and favour spending and borrowing over saving and producing, the resulting financing need had by definition to be made up by a corresponding supply from China. The imbalance between US spending and Chinese saving was the factor behind the trade surplus, and not a mercantilist monetary policy. And US economic policy was driving the trend, not China's own decisions.

It's not the imbalance, actually

This argument was never correct, since other major economies also run major current-account surpluses towards the US, but not necessarily a trade surplus. Japan may not be a good comparison point, since one can argue that a large share of its trade surplus with the US is acquired indirectly, via re-exports through China. But Europe - which has a strong private savings rate and where private capital flows to the US have always been at least as substantial as China's public flows - nonetheless does not run a major trade surplus with the US, and now experiences the same level of trade deficit with China as the US. By providing capital to the US and a market for China's exports, Europe may in fact have been unwittingly the third party which bears a large share of the adjustment in the global economy. Today's situation for Europe's public deficits results from what appears superficially as a balance. Large European private savings are exported rather than invested, low priced imports from China are preserving consumer purchasing power. In the short term this is a balance. Lower spending allocation is compensated by lower prices for coin summer goods. But in both cases, the diminution in economic activity impairs public fiscal resources.

Sharpened focus

Until 2008, the US-China imbalance has only mattered politically as a bilateral issue, with the EU, Japan (and others) as bystanders, even when they bore some of the adjustment. Politically, the goals of the Bush administration with China were such that monetary and trade complaints came a distant second, after strategic constraints such as Iraq, Iran, and North Korea.

The global crisis of 2008 has changed all this in a fundamental way, and the case for or against China must be revisited in view of new trends and policies. First, 2009 has been an exceptional year for China's growth, where net foreign trade has made a negative (-4.8 %) contribution to GDP, while domestic growth has skyrocketed (+13.9

%). This was made possible by China's low level of central public debt. The giant size of China's stimulus and lending "plan" in 2009 (in fact, an irrational and exuberant unleashing of bank lending on top of a powerful programme of public infrastructure and consumer incentives) was made possible, and is hostage to, a policy of near-zero interest rates in China. This is what makes the sterilisation of massive foreign trade surpluses into dollar reserves painless for China's central bank, because the interest it pays on domestic borrowing remains lower than the interest it receives on its dollar lending. This policy is biased towards domestic hyper growth, since it allows for quasi-free access to capital resources, much like the Japan of the late 1980s. Hence the talk about a giant lending and real estate bubble. In turn, China's gigantic foreign currency reserves insure the country against a crash landing. However large the true lending liabilities of China may now be (and they include a lot of local indebtedness as well as cross-lending by banks at unlimited levels), the possibility of buying back yuans and draining bad debt remains. Opacity and centralisation also make it highly unlikely that a Chinese Lehman Brothers case might happen.

On the surface also, China's growth has began rebalanced towards domestic consumption, as evidenced by huge growth rates for housing and auto industries, by a rise in social outlays, and by an increased share for private consumption in China's GDP. Helped by a global trade recession, China's political economy might be entering a virtuous circle, where the dependence on external growth is slowly decreasing. The current-account surplus has fallen from 9.4% to 5.8 % of GDP in 2010, a high but not unsustainable rate.

Yet the devil is the details. China's household income is not increasing, but decreasing relative to GDP, even in 2009. What is increasing is borrowing by households (as well as by companies and administrations), and also massive infrastructure spending - which includes outlays undistinguishable from individual spending. China has made a huge and concerted effort to buoy its domestic economy, and as such has contributed to increase global demand minus China (when in all preceding years it decreased global demand minus China). But it is a voluntary and artificial policy, that carries with it bubbles and excess investment. The size of China's infrastructure investment is such that it has fuelled a new boom for global energy and raw material prices.

Ridiculous consequences

Here we come to a ridiculous consequence. The US Treasury was not asking seriously for a renminbi revaluation when China's policy was decidedly mercantilist. It is doing so on the very month when, for the first time in six years, China's trade balance turns negative, and China is giving unofficial hints it might resume a crawling peg to the dollar,. True, there is an artificial element in this trend. To a degree, China can turn on and off its purchases of energy and raw material, stocking and destocking when it sees fit. Timing purchases and a trade deficit for Secretary of the Treasury Tim Geithner's visit to Beijing seems astute.

Nonetheless, China's macroeconomic policy and balance have changed. Public, banking, and private indebtedness are growing. Wage flexibility downwards - to retain an external edge - reached a peak in late 2008-2009. It may well be that China's

huge leap forward in infrastructures (25 airports, 50,000 kilometres of bullet trains, a gigantic expressway system, all of it underpriced to users) brings with it a new advance in productivity. Nonetheless China is consuming ever increasing amounts of capital investment. With it have also come wage increases, particularly in the export processing sector. This is only the second time in the past 25 years that these wages rise quickly, the last occasion had been in 2007-2008.

Labelling China as a currency manipulator or to stick the label of mercantilism on its economic policies is not without validity. But the consequences should be clearly seen. Either the label comes with no penalties, and it simply undercuts future bargaining power vis-à-vis China. Or it does trigger trade sanctions with teeth. The EU, which has no permanent need for Chinese public lending, might well enact them before the US does. The economic and psychological shock from a ceiling on external demand would prick China's confidence bubble, particularly the so-called "middle-class" borrowing and housing boom. The resulting bust for debtors - public and private - would precipitate the sale of currency reserves by China's central bank in order to shore up domestic reserve ratio and bail out some imprudent lenders. True, in previous cases China has shored up banks with foreign currency reserves - not yuans. But this time, the magnitude of the debts and the claims that can be made would necessitate a conversion of the reserves in yuans. Since an investment-led domestic boom would end at the same time, deflation would occur much more surely than inflation. Rebalancing towards domestic growth and consumption would end. Freed from excess currency reserves, the renminbi would be likely to fall, not to rise. China's export competitivity would increase again, bringing exactly what we are trying to avoid - another phase of export-led growth.

There is every indication that China's leadership is trying to steer a middle path - a token adjustment to the exchange rate, with a widened exchange band (we don't know if it will be a fixed or crawling exchange rate). Given the present trade results, it is likely that this will result in almost no currency appreciation. So long as these trends remain incremental, Chinese purchases of US public debt will not diminish substantially, thus helping to stabilise international finance.

Justified by their own investment and lending bubble, helped by an apparent trade deficit and by the reluctance of China's neighbours to bear the consequences of a trade war on their own investment in China, the country's leaders are unlikely to accept a significant revaluation of the renminbi. That semi-official spokesmen and second track figures are hinting a measure of goodwill is mostly a show of public diplomacy in advance of Secretary Geithner's China trip.

A better solution

The efforts of China's main trade partners - the EU and US - would be better invested at this point on ensuring a steady rebalancing of China's economy towards genuinely private - e.g. household - purchasing power and consumption. Reaching a "second opening" of the Chinese market (after the "first opening" with WTO accession in 2001), with better access to China's capital market and service sector, public procurement, carries more promise than the simple tool of currency revaluation. Providing diversification at home of avenues open to China's savers is probably the

greatest service that China's partners could render to achieve both a rebalancing of China's economy and ultimately a sustainable rise in domestic consumption and imports. Until now, China's savers have been the biggest losers in the game, and an episode of trade war would increase their losses, as they are ultimately the deep pockets where the Chinese government now digs to sustain economic growth.

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SECTION 7

Potential responses by China

25. Beijing blinks first – the currency debate in diplomatic context

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The approaching US decision over China's exchange-rate policy is drawing attention from well beyond the field of economics. This paper argues that the coming months will define the pathway of Sino-US relations. The good news is that Washington and Beijing seem to be stepping back from a bruising test of strength. The bad news is that this is only round one.

While the US Treasury's decision on whether to label China a currency manipulator is inevitably political in nature, rarely has it ever been so geopolitically loaded. In previous years, it has mainly been the economic relationship at stake. This time the implications run from Middle Eastern security to nuclear proliferation, and will do much to define the broader shape of the US-China relationship in the coming years.

The good news is that Washington and Beijing recently seem to have found a carefully choreographed way of stepping back from what would have been a bruising test of strength.

The bad news is that this is only round one.

The structural tensions and strategic mistrust between the US and China have not gone away - and the restraining influences on both sides that once served to keep the relationship in equilibrium have become markedly weaker. Next time, if Beijing doesn't blink first there is no guarantee that Washington will.

A more assertive China

The global financial crisis shifted the strategic context for the Treasury's decision significantly. Having emerged as a relative winner from the crisis, Chinese officials believed that they could extract some direct political benefits from their country's augmented power position. The focus of these efforts has been the US, which holds the key to the Chinese government's most sensitive domestic issues - Taiwan and Tibet - and continues to shape China's security environment both regionally and globally. Not only has Beijing pushed for a shift in Washington's approach to what it now describes as its "core interests", it has made it clear that Chinese cooperation on other global security concerns - such as Iran - may only come at a price, if at all. This has been coupled with forceful demonstrations that Beijing is far more willing than ever before to resist international pressure on issues ranging from the Copenhagen climate talks to the environment for overseas investors in China.

Beijing's perspective on the changing relative strengths of the US and China initially derived from economic facts: the seeming resilience of the Chinese economy,

continued US economic fragility, and China's large stake in US Treasury bills. But at the same time, in its first year, the Obama administration's China policy tended to feed Beijing's sense of political entitlement and perceptions of US weakness. Sometimes intended as conciliatory gestures, sometimes just mistakes, the messages coming consistently from Washington were seen in China to reflect a growing US reliance on Chinese assistance.

A statement by US Secretary of State Hillary Clinton during her first Asia trip in February 2009 that Taiwan, Tibet and human rights issues "can't interfere with the global economic crisis, the global climate change crisis, and the security crisis" set the tone. US Treasury Secretary Timothy Geithner's visit to China in May saw claims in the state media that the days of US "complaint diplomacy" over currency and trade issues are over, and his reassurances that "Chinese assets are very safe" were met with laughter from a combative student audience at Beijing University. Barely a week later, Speaker of the House, Nancy Pelosi, once one of China's harshest human rights critics, broached the topic in only in the most oblique terms during her visit. The capstone was President Obama's inaugural trip to China in November, which attracted a wave of criticism in the US and international press. Another gesture to Chinese sensitivities - deferring a presidential meeting with the Dalai Lama in advance of the visit - again produced no reciprocal goodwill on Beijing's part. Instead, the public diplomacy elements were characterised by tightened conditions: unlike for previous presidents, Obama's townhall meeting with students was not broadcast live on Chinese television. Worse, there was a near-absence of deliverable outcomes beyond a lengthy but largely aspirational joint statement.

Neither did any of this grease the wheels on the issues of substance. On the two areas where hopes of soliciting Chinese cooperation were highest, Beijing had instead become the biggest obstacle. On Iran, China was the principal holdout on deepening sanctions at the UN Security Council. And in Copenhagen, China not only took the lead in blocking efforts to reach a serious deal but did so in a manner that raised diplomatic hackles all round - sending junior ministers to represent China in meetings of heads of state, going so far as to engage in literal finger waving in President Obama's face. The narrative in Beijing, repeatedly in even cruder form among a chorus of nationalistic "netizens", was of a weakening American position and a weak US President - to which a stronger China should be more assertive in defending its interests.

The US that can say "no"

The challenge for the US has been acute: how to impress upon Beijing that it is overreaching, which US officials overwhelmingly believe it is, without escalating tensions and derailing cooperation on the wide spectrum of issues on which the two sides share interests. The first step has simply been to push back. 2010 has seen a marked change of tone by the US and a clear drawing of lines on the issues where Beijing's positions have been most unrealistic. Public US criticism and a marshalling of international pressure over China's stance on Iran has been accompanied by critical statements by Secretary Clinton on censorship and cyber-security following the Google imbroglio. Even more importantly, President Obama pressed ahead in

rapid succession with a package of arms sales to Taiwan and the pre-planned Dalai Lama meeting.

Beijing's initial response was to threaten sanctions on US companies involved in the sales and to float threats about other acts of economic retaliation, such as a sell-off of Treasury bills, as well as the suspension of cooperation on third country issues. But looming over all of this has been the currency issue - and the April 15th deadline.

Typically, China has been able to rely on certain forces in any given administration, supported by US business, to resist Congressional pressure. Not this time. US lobby groups have made it clear that corporate attitudes are changing quickly, commensurate with worsening conditions for foreign companies in China. Myron Brilliant, senior vice-president for international affairs at the US Chamber of Commerce stated in March: "I don't think the Chinese government can count on the American business community to be able to push back and block action [on Capitol Hill]." The dilemma has therefore fallen squarely on the shoulders of the administration: play it too hard and risk feeding the increasingly nationalistic forces in China; play it too softly and risk reinforcing the emerging narrative of US weakness, further reducing China's willingness to be cooperative.

Beijing saw the writing on the wall - in a context where it was doing the administration no favours on any of its priority issues, risking Chinese ire was starting to look like a far better option. And the Chinese government is well aware that - while its capacity to retaliate has grown - it has far more to lose from a trade war and an upsurge in popular nationalism than the US.

The April deadline hence resulted in a flurry of activity to restore calm to the broader relationship - though any climb-down required going well beyond the currency issue itself. Following a visit to Beijing from Deputy Secretary of State, James Steinberg and National Security Council Senior Director for Asian Affairs, Jeffrey Bader, both sides have taken a series of choreographed steps. President Obama personally welcomed new Chinese ambassador to the US, Zhang Yesui, reinforcing in a White House meeting the message about developing a "positive relationship" with Beijing and reaffirming the "one-China policy". Steinberg agreed to make some relatively boilerplate remarks at the US press club to the effect that "the one-China policy…has not changed", which the Chinese Ministry of Foreign Affairs and official press could welcome as "positive". China then agreed to join discussions on a new UN Security Council resolution to tighten Iranian sanctions and confirmed President Hu Jintao's attendance at the Nuclear Security Summit in Washington. Last but not least, China fed out increasing hints that it would move ahead with a currency revaluation - and the Treasury formally announced that it would delay the issuing of its finding until after a series of meetings that will include Secretary Geithner's April visit to Beijing and the Strategic and Economic Dialogue in May.

Ultimately, it appears that the strong pragmatic strand in US policymaking has won out. It has been Beijing that has needed to do the most pedalling back from a series of publicly assertive positions that outran its capacity to deliver on them. But this was a near miss. The trends that produced it are still on the rise in China: popular nationalism; perceptions of growing Chinese power; and the desire both to test its scope and to translate that strength into political rewards. It will become increasingly difficult to separate the currency issue - and the corollary risks to trade - from this broader dynamic.

All sides face challenges here but the most difficult are for Beijing. Its efforts to use China's newfound power to gain concessions on issues such as defensive arms to Taiwan will continue to come up against strong resistance. And its economic weight within the system is now such that any attempts to free-ride are going to attract heightened criticism, and even the building of countervailing coalitions. Some in China are frustrated, as they see growing power resulting not in tangible political rewards and greater freedom of action but instead mounting international demands. But it will not be helpful for the global system if these frustrations are simply accommodated: Western policymakers must show that China's best path to power and influence is a greater willingness to act to strengthen the system on which its economic growth depends. This will mean that other paths for China do need to have costs attached to them, as they so nearly did this April. And Chinese policymakers need to find a story to sell to their public that places international prestige and secure economic growth at the heart of their national narrative. Otherwise - though we may have dodged a bullet this time - the stage will still be set for a series of fights from which no side will come out a winner.

About the author

Andrew Small joined the German Marshall Fund of the United States (GMF) in 2006 and coordinates GMF's new strand of work on Asia and transatlantic relations, with a focus on China. He previously worked as the director of the Foreign Policy Centre's Beijing office and ran the Centre's 'China and Globalisation' program, which was launched by Tony Blair and Wen Jiabao in May 2004. He has been a columnist for Global Times, China's international affairs daily, and a visiting fellow at the Chinese Academy of Social Sciences. His most recent focus has been on China's relationships with problem states, with particular concentration on Burma / Myanmar, Sudan, Iran, North Korea, and Zimbabwe. He is currently researching China's role in Afghanistan and Pakistan. He has been published in *Foreign Affairs*, the *New York Times,* and the *International Herald Tribune* and has testified to the U.S.-China Economic and Security Review Commission and the European Parliament. As well as his work on China he has advised European governments on public diplomacy strategy and was an ESU scholar in the office of Senator Edward M. Kennedy in the summer of 2001.

26. Great expectations: (Competing) domestic drivers of Chinese policy deliberations

Shaun Breslin
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The global crisis has intensified calls for Western governments to pressure China to liberalise its economy - particular its exchange-rate policy. This paper argues that the power of China's policymakers should not be overestimated - just like elsewhere, they must bow to public sentiment. An outside call for the country to change its policies might actually make the change more difficult.

Although China is a one-party state, this does not mean that China's leaders are free to do whatever they want. To be sure, compared to other countries, the level of organisation and control from the top down is indeed very strong; and China's leaders do not exactly shy away from presenting themselves as being "in control". Moreover, the way in which those leaders responded to the global economic crisis by mobilising resources to boost domestic sources of growth as exports fell was remarkable (and for many, impressive) - when the final scorebook of who gained and who lost in the global crisis is totted up, China will probably be near or at the top. But despite being stronger than most, we should not imbue the Chinese leadership with total power, authority, and capacity. Even in a state as strong as this, state power has clear limitations - and crucially is much more limited than some of the official words of Chinese government seem designed to have us believe. There is more to politics and policy than the preference of key individuals. China is becoming an increasingly diverse and complicated society with different interests resulting in different demands being articulated and/or anticipated by policymakers.

Maintaining support for exchange-rate policy

Currency control is a good example. The vast majority of China's exports are produced in just eight coastal provinces, and not surprisingly, it is from within these provinces that we have seen the strongest pressure to maintain employment by supporting exporters. So when the central leadership decided to deter low cost and low value-added exports by fully implementing labour laws, removing tax breaks and allowing the renminbi to appreciate,[1] the impact was felt most clearly in the coastal provinces. Put bluntly, the policy worked - but not everybody liked it. By the summer of 2008, low value-added processing exporters were laying off workers and closing

1 The RMB appreciated by about 20% in the three years from the removal of the currency peg in July 2005.

down factories and it is notable that China's top leaders all visited the coastal provinces with the greatest concentration of export industries over that summer - Hu Jintao went to Shandong, while Wen Jiabao and other central leaders visited Guangdong, Zhejiang, Jiangsu and Shanghai.

The result was that, just over a year after cutting tax rebates and after a series of meetings of top officials in Beijing, the policy was partially reversed and some rebates restored in July 2008. The leadership also cut back on currency appreciation, and adjusted other policies in an attempt to restore some of the support for exporters that had previously been withdrawn (Naughton 2008).

Difficult to move on

The way in which the Chinese economy has (partially) engaged the global economy has by most accounts been incredibility successful. But the growth has established patterns of economic and political relationships that make it difficult (though not impossible) to move on. Immediately, this statement needs to be qualified. Things can change and indeed are changing. But the importance of maintaining employment combined with the powerful economic and political interests in coastal China that have benefited from locating China as the workshop of the world has resulted in strong incentives to resist attempts to promote a new pattern of global engagement.

Or put another way, promoting new patterns is all well and good; it's getting rid of the old patterns that generates problems. Employment in China's export industries only accounts for around 5% to 6% of all employment leading some very well informed analysts to question if a renminbi appreciation could really do much harm to the overall employment situation (see Goldstein and Lardy 2007). But the Chinese response is that this still equates to over 40 million actual jobs, and that China needs up to 15 million new jobs every year just to absorb new entrants into the workforce (see for example Chen and Wheatley 2010). And we shouldn't forget that there are profits to made - nor should we forget that many of those who are making (or want to make profits) from exports have close relations with local party and state officials (Dickson 2007).

Unwritten contracts

The maintenance of Chinese Communist Party rule in China is built on a sort of unwritten social contract between the leaders and the people. As long as the people accept one party rule and do not challenge the system,[2] then one party rule will provide stability and growth and defend China's national interests in an often hostile global order. The global crisis and RMB policy are related to all three. With margins already low for many exporters, a loss of competitiveness through currency changes might bring not only a threat to growth, but also instability through increased

2 For those that are deemed to be providing a challenge to party rule, then the full force of the state can be deployed against them.

unemployment and a reduction in the money sent back to the countryside where poverty still remains a fact of life for millions of Chinese. More importantly for this discussion, it also has resonance in Chinese nationalist communities.

Despite the apparent success of joining the global economy, there remains considerable debate within China over the logic of where to go now (or even if things have gone too far). There are also practical (if not outright ideational differences) within the top leadership itself over the efficacy of liberalisation. These critical voices tend to use the language of national power and security, focusing on the extent to which China has become "dependent" on external actors, and/or vulnerable to the unplanned vagaries of economic shocks and the more sinister US dominance of the global economy. International economic relations are thus often seen as a subset of more traditional international relations that can build, or weaken "comprehensive national power".[3] And this is not just an elite endeavour. As many have predicted, the expansion of the internet has created a space in China for the articulation of popular interests. But contrary to the expectations of some - perhaps more correctly, hopes - this space has not been filled by voices calling for political liberalisation and democracy. Rather, research suggests that the articulation of what we might call "nationalist voices" has tended to dominate. Indeed, while the leadership has been criticised by the public through discussion forums and bulletin boards, such criticism can take the form of complaining that leaders aren't forceful enough when it comes to promoting and defending China's interests (Shen and Beslin 2010). The leadership has in some ways created and legitimated a nationalist sentiment that it is occasionally difficult to control.

Playing high politics

The benefits and drawbacks of currency appreciation (and depreciation) are highly technical and highly contested. This complexity is reflected in the debates among economists within China and the range of different policy positions that these debates generate; including those that point to the long-term benefits of currency reform. But as with many issues in China, when complicated technical issues become part of nationalist discourses, they move out of the realm of specialist discussion and consideration and into the realm of "high politics". They also become subject to increased popular scrutiny and comment where technical specialist knowledge becomes subordinate to considerations of the national interest - and perceived challenges to the national interest.

Alistair Johnston (2008) argues that there is a strong and deliberately constructed link between the Chinese state, China's leaders and the Chinese people. So what foreign governments, journalists, NGOs and individuals might think is simply a criticism of a specific policy can be perceived as a criticism of "China" as a whole.

3 Comprehensive National Power or *zonghe guoli* is an attempt to create a quantifiable assessment of relative strength by combining a whole range of indices that includes military force but also economic development including societal conditions, global influence, natural endowments and so on. Associated with new thinking under Deng Xiaoping in the 1980s, the term is used here to indicate how economic relations are thought of as comprising one part of a greater whole centering on conceptions of national strength and security.

Thus, for example, when US journalists claimed that their negative remarks about Chinese actions in Tibet were aimed at the government and not the Chinese people, this was simply dismissed as sophistry in China; indeed, one Chinese analyst argued that the attempt at "separating Chinese government and people is so naive that deserves to be boycotted" (Pan Yaling cited in Shen and Breslin 2010).

Offending the people

This association of people, leaders and state is manifest in official Foreign Ministry statements that point to how the actions of others have hurt the feelings of the Chinese people. One Chinese blogger went back through the archives of the People's Daily online and discovered that the Chinese people's feelings had been hurt a total of 115 times between 1946 and 2006 by 15 countries, the Vatican City, the EU, NATO and the Nobel Prize Committee. (Kecheng 2008 cited in Martinson 2008). The single most offending country was (perhaps not surprisingly) Japan with 47 cases followed (again not surprisingly) by the US with 23. These slights have included criticisms of China's paramount leaders - Albanian attacks on Mao Zedong and Japanese foreign ministry's criticism of Deng Xiaoping. But the overwhelming majority of the rest involve foreigners interfering in some way with matters pertaining to Chinese sovereignty.

Crucially, while this can be actual harm as in the bombing of the Chinese embassy in Belgrade, it is more often a psychological harm caused by outsiders interfering with issues that are wholly domestic in nature and therefore not legitimate areas for external comment. And this is where external criticism of Chinese currency policy is transformed from a technical issue for specialists to debate into a national discussion. In short, for many in China, it is essentially about sovereignty - being able to do what is best for the country and not being dictated to by the West. Currency reform might well be the best thing - but it should emerge because China decides that it is in its best interests to reform, and not because of external pressure for change.

Model debate

Moreover, not least because of the global financial crisis, there is an increasing confidence in China that its own developmental experience has not only proved to be the best thing for China, but might also provide lessons for others to learn from. The idea of a "China model"- what it might actually be and how it might be applied in other settings - is being widely debated in China.[4] And this new self confidence in the viability and durability of the Chinese alternative to the Western neoliberal "Washington Consensus" strengthens the resolve of those who want to resist outside pressure to liberalise China's currency regime.

So China's policymakers face a number of dilemmas with different domestic

4 The idea of the Beijing Consensus was popularised in China by Joshua Cooper Ramo (2004) *The Beijing Consensus: Notes on the New Physics of Chinese Power* (London: Foreign Policy Centre). However, most of the contemporary debates are framed in terms of a china model rather than consensus.

interests and dynamics pulling in different directions. Being seen to "give in" to foreign pressure would damage the leadership's nationalist credentials, and currency controls make it easier for thousands of Chinese enterprises to make profits. But notwithstanding the desire to shift the balance of growth more towards domestic demand, exports will continue to be important and access to the global economy remains crucial for future growth prospects. And here it is not just any specific trade sanctions that might damage these prospects, but also the impact on perceptions of China as a "responsible" economic partner - an image that those responsible for promoting China's international economic relations have been so keen to cultivate.

How might China react to sanctions?

So given the different demands on China's policy makers, what might this mean in terms of the options available to the Chinese government and how might they react should some form of sanctions be imposed? It is important to note that while much of the debate over Chinese currency policy is framed in terms of China's response to the downturn in global demand, as noted at the start of this chapter, the decision to restore various forms of support for exporters actually preceded the full blown outbreak of the global financial crisis. To be sure, global recovery and an increase in demand in key markets might make it easier for exporters to accept renminbi appreciation. But even under "normal" trading conditions, we can expect exporters (and their political representatives) in low cost industries to continue to press the government for help to survive and maintain employment.

Such support does not have to take the form of currency controls. There are a whole range of other devises available for deployment by national and local governments to either support exporters, or to keep foreign actors out of the Chinese economy (or both). For example, local companies can negotiate tax deals that are typically not available to foreign companies, and gain preferential access to investment through government directed bank lending. A distinct lack of transparency in the dissemination of information can also privilege favoured domestic actors in addition to the more blunt approach of simply telling local companies to buy local instead of international. And while WTO entry formally opened many sectors to foreign companies, this opening was often conditional, and subject to numerous regulatory conditions and clauses (see Beslin 2006 for details). This regulatory environment (and its opacity) means that foreign companies can be frustrated in their attempts to access the Chinese market and it seems reasonable to expect that these tools might be put to use to protect and penalise should any action be taken against China. Indeed, there is anecdotal evidence to suggest that such measures are already being used to privilege domestic producers and restrict the opportunities for foreigners with both the US and EU Chambers of Commerce in China reporting worsening "market" conditions (see for example Wuttke 2010). Given that online activists called for a boycott of French goods and companies after the Olympic Torch relay was attacked in Paris, it is likely that a similar campaign would follow any US led action on China's currency policy as well.

Of course, China is not the only country where a sense of national indignation has an impact on policymakers; the same could be said about the pressure on the US

government to do something about China's currency policy. Moreover, doing nothing is not a very palatable option and is seen by many observers to empower China. What this suggests, then, is that pressuring China's leaders to liberalise might actually end up restraining their ability to do so. Outside pressure - particularly when it comes in the shape of the US government - "nationalises" technical issues and brings them to the forefront of popular attention. It also gives succour to those who oppose further (indeed, even existing) liberalisation and favour a more national-based Chinese economic future. As already noted, the need to "rebalance" the economy to rely more on domestic consumption and demand as opposed to investment and exports is widely accepted in China. What is open to question is how far a newly expanded domestic market will be "open" to foreigners. For those who are concerned that Chinese policy gives Chinese produces an unfair advantage - both in terms of exporting overseas and in serving the domestic Chinese economy - pressing for more liberalisation might ironically result in the total opposite through a hardening of Chinese attitudes and policies.

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27. Absent revaluation, retaliation? Reactions to US restrictions on Chinese exports

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Should the US take action over China's exchange-rate policy? This paper argues "yes". But while China would be momentarily hurt by any tariffs, the longer-term sufferers would be US companies, workers, and consumers. The US should instead follow C Fred Bergsten's three-stage plan of engaging the IMF and WTO. The column adds that a long-run solution should be fleshed out within the G20.

Introduction

There is no question that Chinese currency is blatantly undervalued, and there is no question that it is undervalued because of deliberate measures by the Chinese government. There is also no question that in part because of the undervalued currency, China contributes to US trade deficit and global imbalances. By subsidising Chinese exports, the currency regime unfairly tilts the level playing field the GATT/WTO system has pursued for six decades.

US anguish must be judged against this backdrop. Action against China is warranted. But action requires analysis of its consequences and trade-offs. The purpose of this article is to weigh the repercussions of one plausible line of action, unilateral restrictions against Chinese commercial interests, and to recommend alternative ways of proceeding.

What would be the trade effects of US commercial restrictions?

The simplest way for the US to retaliate against China is by imposing a unilateral tariff. About a fifth of China's exports (almost $300 billion in 2009) go to the US market. Under one estimate, a 27.5% tariff on China, threatened by Congress in 2003 and approximating the 25% tariff recently proposed by Krugman, is estimated to cause a nearly 30% drop in Chinese US-bound durables and a 37% drop in non-durables, and a 3% drop in its real GDP (McKibbin and Stoeckel 2005). A recent analysis finds that a 25% tariff on China would cause a 1% drop in Chinese GDP (Business Monitor 2010).

The effects on China would unlikely be long lasting, as it would seek demand from elsewhere, such as Europe, to absorb the excess capacity. The measure would, however, have two counterproductive effects on the US.

First, nearly 60% of Chinese exports come from (and imports are bought by)

foreign multinationals in China (Morrison and Labonte 2008). The tariff would thus penalise the many US and other foreign companies that export from China to the US. A tariff on goods imported from China that are produced in a global supply chain could also hurt American jobs in such areas as engineering, design, finance, marketing, and retail (Ikenson 2010). It might not do so to the same extent in China. On average, 50%-61% of the value of goods exported from China is added in countries other than China, including in the US (Ikenson 2010, Koopman et al. 2008, and Lau et al. 2006).

Second, a retaliatory tariff against China could hurt US consumers and retailers sourcing from China, such as Wal-Mart. Since China and the US hardly (or no longer) produce the same goods, a tariff would not entice Americans to purchase US goods (Bernand et al. 2006). If the tariff on China were prohibitive, it would shift the Chinese share of US imports to another, higher-cost producer, and only exacerbate US trade deficit. A lighter tariff might trap Americans into buying the still competitive yet now more expensive Chinese goods. In short, while a US tariff might momentarily hurt China, the longer-term negative effects would be on US companies, workers, and consumers.

What might China do in reaction to US restrictions, and with what effect?

China might do nothing in reaction to US restrictions. If it does react, there are two main scenarios.

A consenting China

In this scenario, Beijing would relent and agree to revalue its currency. Recent Chinese comments have signalled a greater willingness to consider exchange rate adjustments, and in Beijing's bureaucratic politics, the central bank favours a revaluation. China's July 2005 revaluation, albeit small at 2.1%, was triggered by similar pressures by US Congress as are simmering today (Eichengreen and Irwin 2007 and Obstfeld and Rogoff 2005). The measure also reflected Beijing's worry about the fallout on US-China relations and efforts to show deference to Washington in world affairs. In trade-weighted terms, the renminbi ended up rising by some 20%-25% against the dollar until July 2008, when it was again fixed. It has since depreciated, so that the net rise in the past five years is 15% (Bergsten 2010).

To start closing the US-China trade gap or boost US jobs, Chinese revaluation would have to be large, 25%-50% (Bergsten 2010 and 2007, Cline and Williamson 2009a, Ferguson and Schularick 2009). Bergsten argues that a 25%-40% revaluation would reduce the US trade deficit by $100-150 billion annually and add between 750,000 and one million US jobs (Bergsten 2010, Cline and Williamson 2009b).

A large-scale overnight appreciation could, however, have negative effects. It would exacerbate US trade deficit and stunt Chinese growth. It would also be a political non-starter in China. The undervalued currency is rooted in Beijing's self-made political economy trap where instead of stoking domestic consumption, China

recycles profits in the state-owned enterprises. Absent domestic demand, foreign markets are necessary for the Chinese leadership to sustain growth - its political lifeline. The road to currency reform has to travel through, and be accompanied by, reforms that increase consumption.

Gradual economic impact

A consenting China that enacts a gradual revaluation starting at 10%-15% - perhaps converging to a floating regime - would, however, be in US and Chinese interests (Mussa 2007). The economic effects would, to be sure, be gradual; the exchange rate is only one factor affecting trade balances, and changes in it seldom have immediate effects (Engel 2009, Lee and Chinn 2006, Broda 2004, Chinn 2004, Chinn and Wei 2000, and Hooper et al. 2000;). Besides, even if China were subsequently to increase imports, US exports per se would unlikely benefit. Over time, revaluation should have positive effects: reducing pressure on the US current account and dollar, and reducing China's massive reserves and dollar exposure that makes Beijing criticise US fiscal management. It should also defuse inflationary pressures in China. The dollar peg makes China import US monetary policy, which is inflationary for its fast-growing economy (see also McKinnon and Schnabl 2009). Commitment to a staged revaluation would also soothe Congress in a way not achieved by the 2005 token revaluation. Moreover, it would signal China's willingness to at last become a responsible stakeholder in the world economy, practically the US aim ever since Nixon went to China.

A cantankerous China

US action could alternatively bring about a cantankerous China - something that is already taking shape. In the wake of the financial crisis, China has become more assertive on the global stage and in its relations with the US. Beijing has so far refuted accusations of currency mercantilism (Wines 2010, The Economist 2009).[1] Eked on by the commerce ministry eager for exports, it might only grow more antagonistic in the face of US action, especially if domestic political pressures, strategic considerations, and the leadership's sensitivities about loss of face prove compelling enough.

One way in which a cantankerous China might react is by counter-retaliating against US commercial interests. Protectionist ricochet would not be out of character for Beijing. Although China has made great strides in its trade and investment regimes since joining the WTO in 2001, it still implements measures - counterfeiting, export subsidies, standards, taxation policies, and the like - that unfairly favour domestic companies (USTR 2010).[2] Beijing retaliated against the US anti-dumping

1 During President Obama's visit in November 2009, the Chinese argued they had done enough to propel global growth and marshaled numerous arguments against the claims of an unfair exchange rate. See The Economist (2009).

2 China has also imposed various seemingly arbitrary investment barriers. For example, in March 2009 Chinese regulators cited new anti-trust rules in rejecting Coca-Cola Company's $2.3 billion bid for China HuiRMB Juice Group Ltd., China's largest juice company. (See Hufbauer and Suominen 2010).

tariffs on Chinese tires in September 2009 with a 36% tariff on US nylon products, followed by preliminary anti-dumping duties of up to 105% on US broiler chicken.

A Chinese blanket tariff could bite

China is America's third largest export market after Canada and Mexico, absorbing some 7% of total in 2009. If resulting in a 1% of lost American exports, Chinese retaliation could cost 6,500 US jobs.[3] Beijing could also make life harder for US companies in China, something increasingly frequent (Anderlini 2010).

A cantankerous China might also play a game of chicken and only further devalue the renminbi, and/or promote exports by other means. China used to promote tradables with trade and industrial policies, but since WTO rules bar such practices, it has turned to the exchange rate instead. Sufficiently garrulous, Beijing might resurrect some of the old practices, even at the risk of a WTO case.

A cantankerous China might also project its wrath onto other policy arenas - set hurdles to the US-sponsored G20 framework for balanced growth, torpedo the Doha Trade Round as in July 2008, or turn more antagonistic global climate change talks. It might also step up efforts to diversify away from dollar-denominated reserves. This is less likely: by divesting, China could plausibly undermine the dollar and make long-term US real interest rates rise, but it cannot shed dollars without undermining its remaining dollar assets and exports. However, in a measure taken to herald a trend, Beijing did sell some Treasury holdings in early 2010 (Rappeport 2010).[4] This could be positive to the extent that it compelled the US to pursue fiscal discipline. However, ideally China reduces US Treasury purchases *because* it implements a more flexible exchange rate.

What might other countries do in the face of such US action?

US tariff retaliation against China could have thorny global implications. First, it would place America's Asian allies, Japan and Korea, in an uncomfortable position. Japan's new government has moved closer to China, its trade partner and next-door future military power, and refrained from criticising Beijing's exchange rate policies. Korea is disposed to Washington and eager for the trade agreement, but careful not to antagonise China. If pressed, Tokyo and Seoul might have to take sides in ways that have lasting geo-economic implications for the US in the Asia-Pacific.

Second, unilateral US retaliation would likely violate US obligations at the WTO and undermine the rules-based multilateral trade regime the US has championed in the post-war era (see Levy 2010 for a similar argument). If brazenly opportunistic, China could bring a WTO case against the US. US tariff would also give other nations, especially China and India, a license to claim that Washington is uninterested in Doha.

3 The result by Hufbauer and Schott (2009) is from a more general, not China-specific, study.

4 Of funds raised by the United States in 2009, China provided 4.6%, down from 20.2% in 2008 and a peak of 47.4% in 2006. (See Ferguson 2010).

Third, a US tariff could make unilateral currency retaliation more acceptable around the world. Washington should not underestimate the extent to which its trade policies are both emulated and employed as convenient excuses abroad. Many nations have qualms with China: in 2009, 58 countries imposed trade measures against it (Evenett 2009). They could now be keen on currency retaliation. Similar measures might become directed against the other Asian nations - Hong Kong, Malaysia, Singapore and Taiwan - that peg their currencies to the renminbi to remain competitive with the Chinese juggernaut. If currency mercantilism leads to a proliferation of currency protectionism, the global trading system would suffer.

What alternative policies should Washington consider?

US policy toward China's currency mercantilism should be assertive, but it must also be constructive rather than self-defeating. Two lines of action could be pursued.

The first is to target China's currency practices. Instead of unilateral action, Washington should tap the global discontent with China's trade practices and engineer a coalition in the global trading system. As proposed by Bergsten (2010), the US should label China as a "currency manipulator", launch bilateral negotiations with China, and call for a WTO dispute settlement panel to judge whether China violates its obligations under WTO Article XV ("frustration of the intent of the agreement by exchange action"). WTO rules on currency matters are long overdue, notwithstanding the methodological difficulties in assessing currency manipulation (see Subramanian 2010 and Staiger and Sykes 2009 and 2008). Moreover, a US-China case would set a powerful precedent. The risk of losing would, however, need to be weighed beforehand. Washington and other nations should simultaneously request a special IMF consultation to secure action from China (Bergsten 2010).

Multilateral pressure might still result in a cantankerous China. However, when pursued through rules-based global institutions, such an approach would be broad-based and legitimate, and reinforce US commitment to the post-war multilateral trade and financial order also in the 21st century. Even if China agreed to a small revaluation, concerted action should be pursued until Beijing credibly commits to and carries out substantial revaluation.

Second, longer-run policy needs to pursue realigning global consumption, primarily via the G20 framework for balanced growth. Washington needs to ensure that the G20's agent, the IMF, has powers and resources for the task, and that the G20 leaders regularly monitor each other's progress and single out laggards. Particularly useful would be to agree on imbalance thresholds, which, if surpassed, would trigger concerted action. Success, to be sure, presumes unilateral adjustments: toward domestic consumption in China, and fiscal discipline in the US. In addition, the US and others need to advance market access in China. Unilateral retaliation would do little to further President Obama's goal of doubling US exports, but an open Chinese trade and investment regime might help. Part of the answer lies in the Doha Round.

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28. China's holdings of US government debt: A dagger pointed at the heart of the US economy?

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Could the rising level of Chinese ownership of US government debt be a weapon in the hands of the Chinese government to destabilise the US economy? This paper argues that it is indeed a plausible and potent weapon - but not for the reasons normally presumed. Moreover, China has tied its own hands in terms of how effectively it can threaten to wield this weapon.

Double-edged sword

Over the past year, the US has become less dependent on China's financing of its deficits, particularly as the US private saving rate has gone up and the current-account deficit has fallen. Nevertheless, given the sheer scale of the US deficit financing requirement - a budget deficit of about $1.6 trillion in 2010 and prospects of nearly $9 trillion of deficits over the next decade - sentiments in bond and currency markets are fragile. A precipitous action by China to shift aggressively out of dollar-denominated instruments, or even an announcement of such an intention, could act as a trigger that nervous market sentiments coalesce around, leading to a sharp fall in bond prices and the value of the dollar.

However, such a move would not be without cost for China. Certainly, China would like to tear itself away from the US Treasury market but faces the prospect of a capital loss on its large accumulated stock of holdings (on a mark-to-market, domestic currency basis) if US Treasury bond prices were to fall as a result of a spike in interest rates or if the renminbi were to appreciate in value relative to the dollar. But the US leaves itself vulnerable as China might well view these costs as worth bearing in order to preserve its national sovereignty or if trade and other economic disputes with the US came to a head. Indeed, I argue that the direct costs could in fact be rather modest from the Chinese perspective.

An awkward tango

The global financial crisis is likely to intensify the awkward economic embrace between the two economies. In the short run, China needs export growth in order to maintain job growth and preserve social stability. Moreover, the fiscal and monetary stimulus programme put in place to fight the recession could end up worsening the balance of growth by tilting it even more towards growth led by investment rather than private consumption. This investment-led growth sets the stage for export-led

growth, exactly the reverse of the balanced private consumption-led economy that Chinese leaders want (see Chaman and Prasad 2010 and Prasad 2009).

As China continues to run current-account surpluses by exporting to the US and other advanced country markets, it has little alternative to buying US Treasuries with the reserves it accumulates while managing its exchange rate. The US will continue to need willing buyers for the debt issued to finance its budget deficit, especially if the household saving rate starts drifting back towards pre-crisis levels.

There appears to be a strong perception among the China leadership and population that the balance of power in the bilateral relationship has shifted decisively in their favour. In fact, the bargaining strengths of the two countries are finely balanced. But the changing narrative in each country could set up a potentially dangerous level of government pandering to domestic audiences by acting tough on the other country.

One encouraging sign is that developments over the last two weeks - including Treasury Secretary Geithner's visit to Beijing, President Hu's visit to Washington, and conciliatory words from both sides - suggest the strong desire of the senior leadership on both sides to maintain this relationship at an even keel.

Uphill capital flows

The major financial link between the two countries remains Chinese official purchases of dollar-denominated financial assets. China does not make public the currency denomination or composition of its foreign-exchange reserves. US data from the government's Treasury International Capital System (TIC) are potentially misleading as they capture the location rather than identity of a purchaser of US instruments. For instance, China's purchases of Treasury bonds routed through a British bank would be counted as a purchase by a British resident or institution. Notwithstanding these caveats, estimates based on the TIC data suggest some interesting trends.

Chinese holdings of US Treasury securities amounted to about $895 billion at the end of 2009 (see Table 1, Panel B). More than one-third of China's holdings of foreign exchange reserves are in US Treasury securities. The true proportion is likely to be higher for the reasons noted above.[1] It is intriguing that, even based on these data, the share of China's reserve accumulation going into US Treasuries in 2008 was much higher than during the period 2004 to 2007. During 2009, there was initially some month-to-month whipsawing from net sales to net purchases of US Treasuries. In the latter half of the year, there was a discernible shift away from short-term Treasury bills to longer-term Treasury notes (see Table 2 for monthly TIC data related to China).

Apprehensions, based on TIC data for the last few months of 2009, that China may be dumping US Treasuries are probably an overstatement. Some analysts have argued that China might simply be shifting out of US short-term Treasury bills, which currently have a very low yield, to longer-term Treasury notes that have a higher yield and that these purchases of Treasury notes are being channelled through

1 Analysts believe that the actual stock of Chinese holdings of US Treasury instruments is likely to be about $150-200 billion higher than the reported number. For example, see Setser and Pandey (2009).

intermediaries in the UK and elsewhere. This is plausible but not entirely convincing. Given the high levels of US deficits and debt, which the Chinese have expressed considerable concerns about, this hardly seems like a propitious time to lock into long-term US government bonds for the sake of modestly higher returns if they expect long-term yields to soon rise significantly.

How dependent is the US on financing from China?

US government debt held by the public stood at $7.8 trillion at the end of December 2009. China's share has risen steadily over the years, but fell slightly in the latter half of 2009 and now stands at 11% (or about one-quarter of all US debt held by foreigners, see Table 3). This represents about a 0.6 percentage point increase relative to the share in August 2009, consistent with the rise of about $100 billion in China's overt holdings of US Treasuries from August to December 2009. China's share of outstanding US agency bonds (Fannie Mae, Freddie Mac) was 6.4% in 2007 but fell below 6% in 2009.

In short, even based on official data that probably understate the true picture, China has contributed to a significant proportion of US government debt financing in recent years. If one were to take the TIC data literally, China has apparently cut its shares of holdings of net US public and agency debt in the latter half of 2009. As noted earlier, this conclusion based on TIC data should be interpreted with considerable caution.

While it is difficult to ascertain exactly what share of US government debt is held by China, the TIC data do allow us to put some bounds on this calculation. Identified Chinese holdings of US Treasuries and government-sponsored enterprise (GSE) debt amounted to about $1.3 trillion at the end of 2009 ($895 billion + $405 billion; see Table 3, last panel). Based on the widely-held assumption that about 70% of Chinese foreign exchange reserves are in dollar-denominated bonds and also assuming that the remainder that are not accounted for in TIC are all in Treasuries, this would imply an additional holding of about $380 billion in Treasuries.[2] This would amount to a total of $1.34 trillion, or 17% of outstanding US net public debt (excluding GSE debt).[3] In other words, it is a significant but not overwhelming share.

Threat level

Is it a credible threat that China could dump a significant share of its holdings of US Treasuries? Many analysts argue that any threat by China to shift a large portion of its reserves out of US government paper is just bluster as such a move would impose huge costs on China itself. But these costs tend to get overstated in popular discussions of the matter.

2 $2.4 trillion × 0.70 = $1.68 trillion - $895 billion - $405 billion = $380 billion.

3 China's share of total foreign holdings of US Treasuries would then be about 36%. Of course, the total share of all foreign holdings of US Treasuries would not be affected under the assumption that all of China's purchases were through non-US intermediaries.

- If interest rates in the US spiked as a consequence of Chinese actions, there would be a capital loss to China on the value of its Treasury bond holdings. This is correct on a mark-to-market basis, but it is likely that China has a hold-to-maturity approach on its bond portfolio, given that it has such a large stock of reserves and has no immediate liquidity needs. Hence, the actual capital loss may not be significant enough to feature in the political calculus.
- A plunge in the value of the dollar against other major currencies would reduce the domestic currency value of China's dollar-denominated holdings. This is indeed accurate. But only if the renminbi appreciated significantly relative to the dollar. Otherwise, China would lose a modest amount on the value of its euro and yen holdings and this would be more than made up for by the benefits of higher trade competitiveness if the renminbi rode down with the dollar against other major currencies.
- Currency appreciation would lead to a big loss on reserve holdings in local currency terms. If the renminbi appreciated substantially relative to the dollar, as economists believe it eventually must given the much higher productivity growth in China relative to the US, China would certainly take a capital loss. But this is likely to be at least partially offset by seigniorage revenue that China can get as it moves forward in tandem on exchange-rate flexibility and capital account liberalisation. By preparing the ground for the internationalisation of the renminbi, China stands to gain some of the benefits that accrue to an international reserve currency, although this might happen only over a period of a decade or so. China is already taking measures to foster the adoption of the renminbi in trade and financial transactions in Asia.

In short, any Chinese threat to move aggressively out of Treasuries is a reasonably credible threat as the short-term costs to the Chinese of such an action are not likely to be large.

But can China make a big difference to US interest rates given that its share of the financing of the US budget deficit has fallen over time? The answer lies not in the absolute amounts of financing that China brings to the table, but in how its actions could serve as a trigger around which nervous market sentiments could coalesce. Given that there are no clear prospects of reining in exploding deficits and debt in the US, especially if one factors in rising health care and entitlement costs, changes in availability of deficit financing at the margin can have potentially large consequences.

The real constraint to any Chinese desire to shift significantly out of investing in US Treasuries may actually have more to do with the sheer size of the US Treasury bond market relative to other available investments, including euro and yen government bonds. Through the China Investment Corporation - its sovereign wealth fund, which has a capital base of $200 billion - China has been seeking to diversity its investments into a broader range of asset classes. But this is a modest amount relative to the overall size of China's foreign assets. The reality is that, so long as China continues to accumulate reserves at a pace of around $400 billion a year, there are few relatively safe investments other than US government bond markets that are deep and liquid enough to absorb a significant portion of such massive inflows.

Getting the balance right

While talk of the G2 (China and the US) defining the global economic agenda is premature, the relationship between these two countries does set the tone for a variety of issues on the international policy agenda, from trade to climate change. Maintaining the relationship on an even keel is important not just for the principals but also for the broader world economy as the cooperative or conflicted nature of this relationship will set the tone for progress on a number of multilateral issues, including global macroeconomic stability, reform of the international monetary system and tackling climate change.

Rather than focusing on the effects of China's currency on the US-China bilateral trade balance, the implications of China's currency policy for its own economic stability and those of other emerging markets should be highlighted (see Prasad 2007 and Prasad and Rajan 2006). Greater currency flexibility could have considerable long-term benefits for China by allowing its monetary policy to become more independent, reducing its dependence on exports and rebalancing its economy towards domestic consumption. This would be good for China's growth and would also make a useful contribution to the stability of the international financial system. It would also ease the pressure on other emerging markets that are facing a dire loss of competitiveness relative to China if their currencies appreciate while China's doesn't, complicating their macroeconomic policy management.

As for the US, the simple reality is that - once the recovery is on firmer ground - its government has to summon the political will to decisively tackle its mammoth budget deficit and rising public debt, which have contributed to its current-account deficits and dependence on funds flowing in from the rest of the world. The US needs a clear commitment and a credible plan to bring down the deficit through a combination of revenue increases and expenditure reductions. Otherwise, the US will face a worsening balance of power in its relationship with China, increasing vulnerability to external influences, and the risk of greater global financial instability.

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