Keynote Speech 2

Measuring Value Added Trade and its Potential Implications for Applied Trade Policy Analysis

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Recently Pascal Lamy, Director General of the World Trade Organization, suggested "…by focusing on gross values of exports and imports, traditional trade statistics also gives us a distorted picture of trade imbalances between countries." He went on to argue that value added trade statistics helps reveal that the macro economic imbalances present in the current global economy are not likely to be corrected through focus on bilateral trade deficits.[2] In addition work on value added in trade and global value chains has provided a clearer empirical picture of the nature of "connectedness" of global commerce. Understanding this connectedness, the role of policy in creating or preventing it, and the implications for the ability of applied trade policy analysts to accurately advise policy-makers is the topic of this paper. I illustrate that this data does matter based on some recent work done on using the new GVC data in empirical settings to look at US-China rebalancing and then provide some comments on the

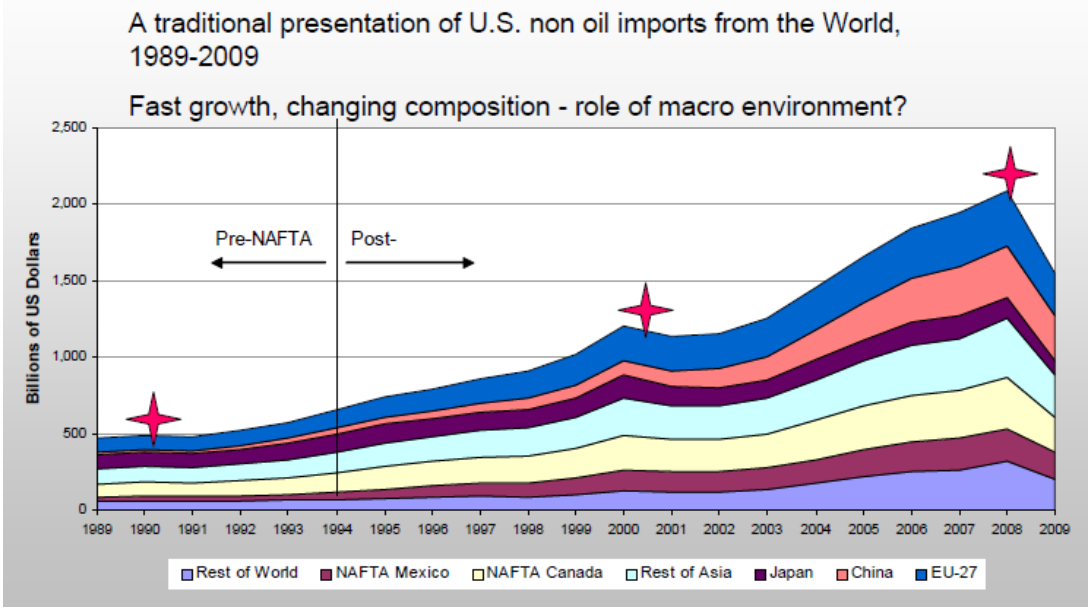
[1] These comments are my own and do not reflect the views of the United States Trade Commission or any of its individual Commissions.

[2] Pascal Lamy, Keynote address at WTO/ IDE-JETRO launch of joint publication "Trade Patterns and Global Value Chains in East Asia", June 6th, 2011. Found at http://www.wto.org/english/news_e/news11_e/miwi_06jun11_e.htm

possible implications for major policy initiatives such as the Regional Comprehensive Economic Partnership and the Trans Pacific Partnership.

In the U.S. there has been great political and press attention paid to the long term current account deficit, and particularly the bilateral trade deficit with China. At the USITC, beginning shortly after China's accession to the WTO in the early 2000's we started receiving requests from our governmental customers regarding the growing trade imbalance with China.[3] We first gathered data similar to that seen in Figure 1, traditional import values showing rising imports from China, and much of the rest of the world in value terms. Of course when the questions first came in we had not yet experienced the recession of 2008 related to the Financial Crisis so the path of import

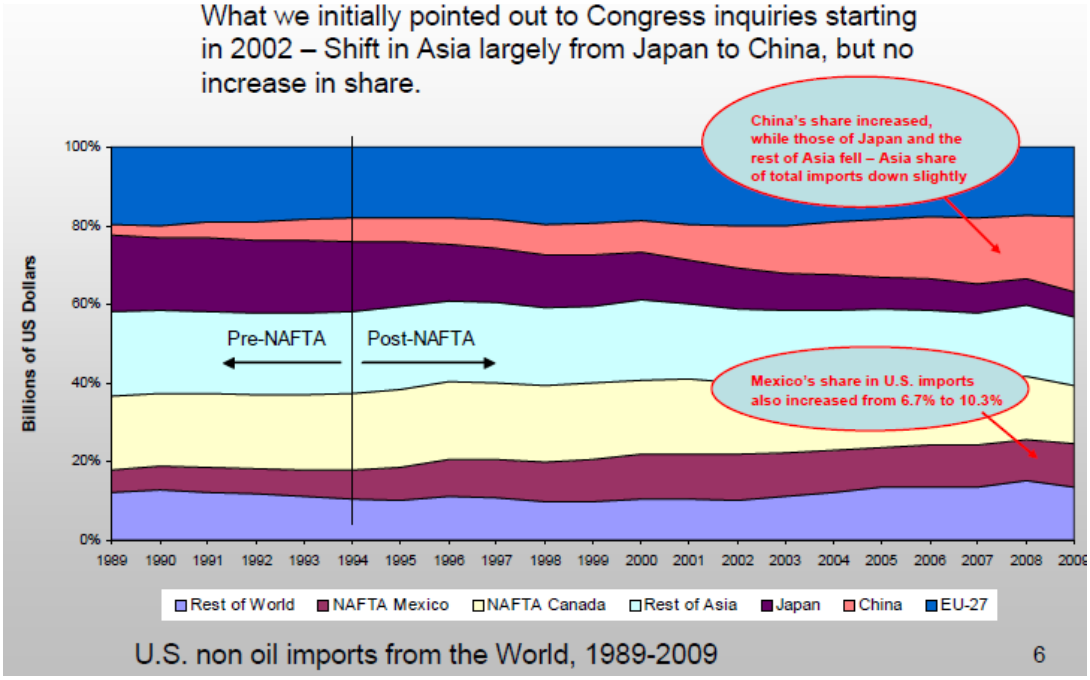
Figure 1. U.S. Imports from Asia and NAFTA, 1989 – 2009.



[3] The USITC is an independent U.S. Government agency. It is not part of the Presidential Administration nor Congress and it does not make policy. The ITC provides independent and unbiased information and analysis to help inform policymakers such as the President, through USTR, and Congress – mainly the two Congressional Committees responsible for trade, the Senate Finance Committee and the House Ways and Means Committee. This separation, and its design, with balanced political representation, is to ensure it remains independent and objective.

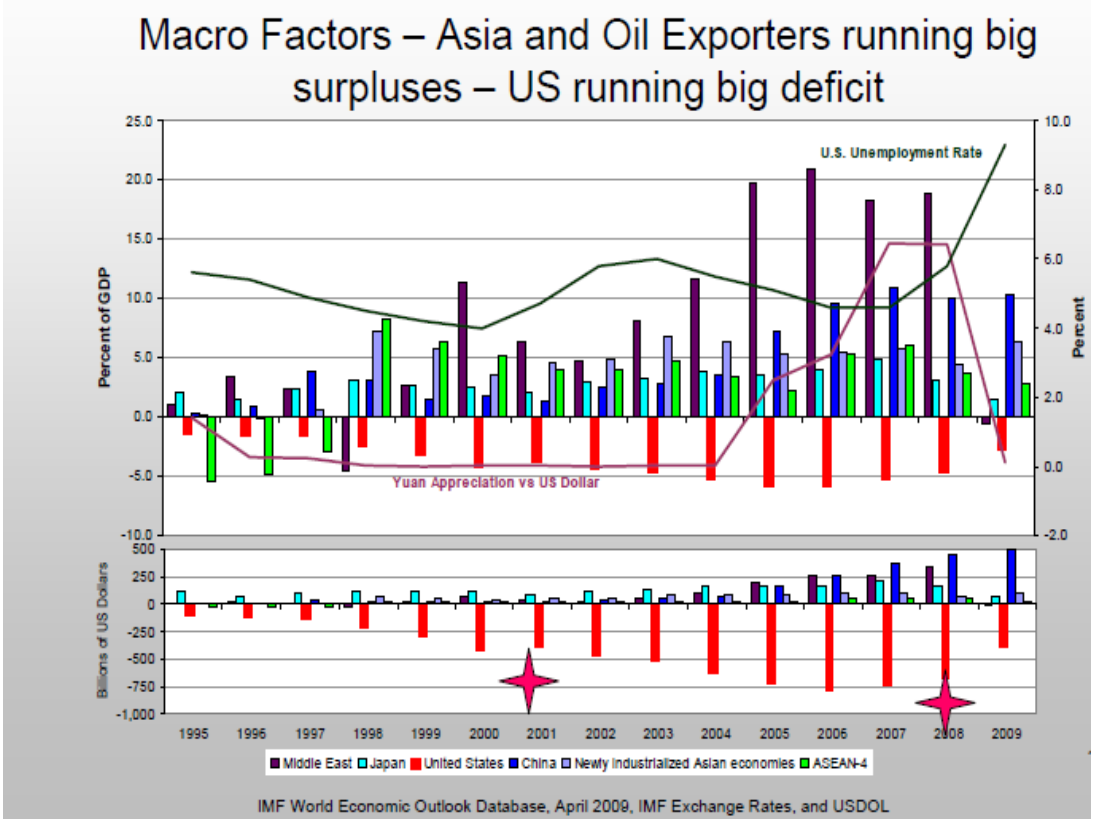
growth was fairly steadily upward, except for the 2001 recession. We next transformed the data into shares as seen in Figure 2. This figure makes it quite clear that something important was going on in Asia, and we knew that much of it was related to Asian supply chain realignment and a focus on China as a point of final assembly in those chains. However we had no way of clearly showing these links in the aggregate trade data at that time. Groups highly critical of trade referred to data such that as in Figure 1 and generally focused on China for keeping its currency artificially low in order to increase exports to the U.S., among other countries. The view was articulated that since other Asian countries continued to expand exports to the U.S., and this would suggest that China's increased exports were essentially completely offsetting domestic production, not substituting for other Asian exports. Further, trade critics often pointed out that low prices from China, due to the currency undervaluation, stimulated demand in the U.S. for Chinese imports, and was then generating a growing current account

Figure 2. U.S. Import Shares from Asia and NAFTA, 1989 – 2009.



deficit.[4] To better address these kinds of comments we then developed data similar to that presented in Figure 3, which suggest that macro factors, particularly relatively strong economic growth, exhibited in this figure through a stable, low unemployment rate through most of the period, and relatively robust economic growth in the U.S. compared to other developed countries, combined with a low savings rate, were the main contributor to growing trade deficits. Despite the various forms of data presented there was no clear "smoking gun" linking other Asian countries to Chinese exports. Similar arguments and concerns were expressed regarding NAFTA trade flows. These

Figure 3. Current Account Deficits, U.S Unemployment and the RMB - $ Exchange Rate



[4] For an interesting discussion of the implications of measuring import prices and their potential impact on productivity calculations see Mandel and Carew (2012) and Houseman, et al. (2012).

efforts to inform our customers and the need to more fully understand what was happening in global trade flows led us to delve fairly deeply into value added trade issues.[5] More recently we have tried to build on our own efforts, and those of European Commission's World Input Output Database and the joint World Trade Organization and Organization for Economic Cooperation and Development value added database, and the Global Trade Analysis Project database to assess how these new approaches to measuring trade might affect the insights we generate from some traditional applied trade policy tools.[6]

In a recent paper[7] we examined how using these new datasets in two traditional empirical models, a trade based computable general equilibrium model and an econometric estimation of exchange rate pass through, generate new and quite different insights on some traditional questions that could improve empirical information being developed to support policy making. First we built a version of the now standard computable general equilibrium (CGE) trade model, using a GTAP based database and a model that uses information derived from the USITC global value chains work instead of traditional trade data and examined the impact of two scenarios – a US tariff placed on Chinese imports aimed at offsetting a low exchange rate and a second scenario approximating an appreciation of the renminbi by a similar amount as the US tariff. We then compared the results of this global value chains (GVC) based model with results from a model based on traditional data and found that the GVC trade model had quite important differences that more clearly illustrate how global value and supply chains work through the global economy and how they can cause some unexpected and unintended effects within and across economies. The second application was to use the WIOD value added trade database to empirically estimate exchange rate and other price

[5] Koopman, Wang and Wei, De La Cruz Koopman, Wang and Wei, Koopman, Powers, Wang, and Wei are among some of the papers generated from this effort.

[6] The EC funded WIOD database can be found here: http://www.wiod.org/database/, the joint WTO-OECD database can be found here: http://www.oecd.org/industry/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm, and a summary of the value chain based GTAP database can be found here: https://www.gtap.agecon.purdue.edu/events/Board_Meetings/2012/documents/Wang_IO.pdf.

[7] Koopman, Tsigas, Riker and Powers, forthcoming.

change pass through and compare the results of those estimations from the same data but using gross trade data instead of value added trade. There is a broad literature that examines a long running question on why exchange rates, and other global price changes have less than perfect pass through to domestic prices. Again we found substantial differences between the estimates, with the value added based estimates providing a statistically superior fit and intuitively more appealing results than those based on the literature.

Understanding the development and implications of value chains is a critical element to understanding trade and commercial developments in the Pacific area. Currently major trade initiatives for this region of the world include the Trans Pacific Partnership (TPP) and the Regional Comprehensive Economic Partnership (RCEP). The TPP approach has been described as a "deep" agreement with negotiations covering a wide array of commercial policy categories, well beyond tariffs to include behind the border measures for things like intellectual property rights, investment, and regulatory coherence. Considering Baldwin (2013) and WTO/IDE-JETRO (2011) it seems quite clear that there is both conceptual and empirical support for the notion that global production networks thrive and develop when deep reform and agreements are implemented. And the WTO/IDE-JETRO data highlight how useful GVC based data can be in providing empirical support for examining the effects of various kinds of trade agreements on trade flows and growth.

Attempts to analyze the potential effects of agreements like TPP and RCEP include Petri et al (2011), Kawasaki (2010 and 2011), and Todo (2013). These efforts often try to capture the nature of deep integration and some of the factors that seems to influence their development. However, none of the modeling efforts explicitly include either global value chain theory or global value chain data. It would be very interesting to examine the impacts of TPP and/or RCEP from the context of a global value chain analysis as Koopman et al (forthcoming) illustrated that the data and structure appear to matter for applied policy analysis. In applied general equilibrium analysis the structure

of sector specific affects can be quite different, and when informing policy decisions, while aggregated economic effects matter, often the political debates and trade offs occur at the sectoral level.

Todo, Petri, and Kawasaki examine the GDP growth, economic welfare and trade effects of expanding current regional trade agreements in the Asia Pacific region, and their analysis suggests potentially big effects. Todo emphasizes the importance of deep reform on innovation and growth and illustrates that TPP could have substantial growth impacts due to innovation, while both Petri and Kawasaki emphasize the importance of behind the border changes through reductions in NTMs and other factors. Kawasaki explicitly addresses the issue of sectoral trade offs in Japan. As Koopman et al and the WTO/IDE-JETRO work have illustrated clearly, understanding and measuring accurately the role of global value chains in the global commerce is critical for developing informed and effective policy environments. Improving some of our standard applied trade policy theory, data and tools to keep pace with the global economy is critical to ensure economists provide high quality and accurate insights to policy makers during their deliberations.

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