Appendix 2

China's Trade Data

In recent years, attention has focused on differences in the figures reported for China's trade surplus by China and by its trading partners. Over the past decade, Chinese-reported trade data shows lower Chinese global trade surpluses than the data on the total trade deficit with China reported by China's trading partners. For example, in the data set used for this analysis China's trade in goods surplus was $423.3 billion, but was $116.5 billion in 2005 according to Chinese data.[1] Much of this discrepancy is due to differences in destination country assignment in Chinese and partner country trade data. Two adjustments, described below, to make Chinese and partner country trade data comparable eliminate most, but not all, of the discrepancy.

Several important adjustments are needed to make Chinese and partner country trade data comparable, namely for the transshipment of goods through Hong Kong and inclusion of shipping charges.[2] When these adjustments are made, discrepancies between the bilateral trade data of China and its trading partners are greatly reduced. In 2005, making these two adjustments reduces the discrepancy between what China reports as its global trade surplus and what partner countries report from $307 billion to $91 billion.[3]

The fact that discrepancies remain after this adjustment is not surprising. Importantly, remaining discrepancies cannot be attributed as errors by either of the trading partners. A country's trade data differs from its partner country's data for a variety of reasons.[4] Differences in the classification of goods, timing, exchange rate fluctuations, geographic coverage and other factors result in data sets that vary with one another. Additionally, in countries with closed capital accounts such as China, it is common for asset holders to find ways to circumvent controls by using over- and under-invoicing of trade transactions to move capital across borders, which can skew the recorded trade statistics.

Reconciling China's Trade Data and Partner Country Data

The simplest adjustment that must be made to make country and partner trade data compatible is an adjustment for insurance and freight.[5] Most countries, including China, report exports on a

---

[1]For the period 1997-2005, 107 of China's trading partners reported data for bilateral trade with China to the UN Comtrade database. Those 107 countries form the basis of this analysis. At the time of data collection, 3 of these countries had not yet reported trade flows with China for 2004 and 14 had not yet reported for 2005.

[2] This analysis closely follows the bilateral trade data reconciliation methodology as described in Fung, K.C., and Lau, L.J., "Adjusted Estimates of United States—China Bilateral Trade Balances: 1995-2002," Journal of Asian Economies, Vol. 14, Apr., 2003, p. 489-496. One exception is that in this analysis, China's import data is deemed to capture both direct and indirect exports.

[3] These levels indicated for China's trade surplus are useful for illustrating the relative changes between non-adjusted and adjusted data. However, these levels do not purport to present a more accurate reading of the absolute level of China's trade surplus because the sample set of China's trading partners does not necessarily fully reflect the full composition of China's trade flows.

[4] See Yeats, Alexander J., "Are Partner Country Statistics Useful for Estimating "Missing" Trade Data?", World Bank Policy Research Paper 1501, August 1995, and Makhoul, Basim and Otterstrom, Samuel M., "Exploring the Accuracy of International Trade Statistics," Applied Economics, 1998, 30, 1603-1616.

[5] Import data from China Customs and the UN Comtrade database are reported c.i.f.

"free-on-board" (f.o.b.) basis, while imports are reported on a "cost-insurance-freight" (c.i.f.) basis.[6] The estimate used here is that insurance and freight adds about 5 percent to the cost of exported goods.[7]

The most significant adjustments needed to reconcile Chinese and partner-country trade data are for trade that flows through Hong Kong and for the costs of insurance and freight. Hong Kong is an important transshipment trade center in Asia where many goods are imported and then "re-exported" from one country to another. Re-export goods are goods that pass through Hong Kong without having undergone "a manufacturing process which has changed permanently the shape, nature, form or utility of the product," though these may be repackaged and marketed in Hong Kong.[8] From 1997 to 2005, Hong Kong's re-exports of Chinese goods to overseas destinations amounted to one third of China's total reported exports. In 2005, the value of U.S. goods re-exported to China through Hong Kong was 14% of total reported U.S. exports to China.

Correcting for the influence of Hong Kong transshipment trade is made possible by using official Hong Kong data on re-exported goods by country of origin and destination. However, because Hong Kong re-exporters add a markup to goods that they handle, which does not reflect a Chinese or partner country export, the markup must be subtracted from bilateral trade values between China and its trading partners. Re-export markups are measured in an annual survey taken by Hong Kong Customs officials.

The following section outlines the adjustments needed to reconcile Chinese and partner-country trade statistics. What we do below is adjust both Chinese and partner country trade data to the f.o.b. value at the point of original export of goods, in order to make the two sets of data comparable. The section begins with China's outbound trade (China's exports and partner imports) then describes adjustments for China's inbound trade (China's imports and partner exports), accompanied by Figure 1. The upper portion of Figure 1 shows outbound trade, the lower, inbound trade.

---

[6] U.S. exports are reported "free-along-side" (f.a.s.), that is, not yet loaded onto vessels for shipment.

[7] See Schindler, J. and Beckett, D. "Adjusting Chinese Bilateral Trade Data: How Big is China's Trade Surplus", *International Journal of Applied Economics*, vol. 2 (September 2005) for a discussion of c.i.f. charges in Chinese trade. The estimate used in this analysis for c.i.f. charges is a simple 5%: between the standard 10% used in IMF Direction of Trade Statistics and the lower levels shown in Schindler and Beckett.

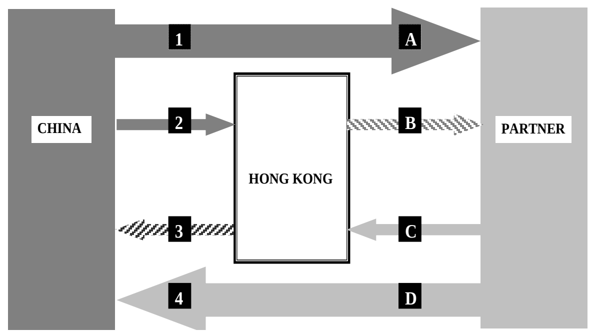
[8] Hong Kong Census and Statistics Department, "Concepts and Methods" http://www.censtatd.gov.hk/hong_kong_statistics/statistics_by_subject/concept/external_trade/index.jsp. Chinese goods re-exported through Hong Kong are often part of a manufacturing process outsourced from Hong Kong.

China’s Outbound Trade

Because Chinese Customs does not know the final destination of most goods exported to Hong Kong, Hong Kong is the recorded export destination for Chinese goods that pass through Hong Kong, even for goods that are re-exported. Therefore, the reported figure for China’s exports to its partners (1 in Figure 1) does not capture goods that are transshipped via Hong Kong (2 and B in Figure 1). To correct China’s export figure, the figure for re-exports to that particular trading partner (B in Figure 1) are added to China’s export figure, less the markup added in Hong Kong. In addition, an approximated 0.8% c.i.f. fee is subtracted for travel between China and Hong Kong.

Figure 1

The Role of Hong Kong in PRC Trade



From the partner country’s perspective, adjustments are slightly different. Partner country customs officials can identify China as the country of origin through goods documentation when Chinese goods are imported, even if they have passed through Hong Kong. The partner’s trade data include A and B in Figure 1. However, the partner’s data includes c.i.f. costs, as well as the Hong Kong markup. These are subtracted from the reported partner country import data to make partner data on imports from China comparable with (adjusted) Chinese data on exports to partners. This procedure "looks through" Hong Kong to the original Chinese source of goods that are re-exported through Hong Kong, and adjusts their value accordingly to f.o.b. China.

China’s Inbound Trade

Similar to its partners, China is able to identify imports from partner countries that pass through Hong Kong (3 in Figure 1). However, these import values include the Hong Kong markup, which must be subtracted, along with the corresponding c.i.f. charges for trade that occurs through Hong Kong as well as trade directly with the partner.

From the partner’s perspective, partner customs authorities do not know the final destination of most goods destined to Hong Kong, so those goods (C in Figure 1) are recorded as exports to Hong Kong even if they end up in China. To make partner data comparable with Chinese data, the value of partner country goods re-exported to China (3 in Figure 1) must be added to partner’s reported exports to China, less the markup.

Other Adjustments and Remaining Differences

In order to reconcile China’s trade data with that of its partners, additional adjustments are necessary for China’s reported trade with itself and for China’s trade with Hong Kong, which is a separate customs zone from the mainland. First, Chinese trade data are peculiar in that there is an entry for imports from *China*, and as there are no entries for exports to China, this has the effect of reducing China's reported global trade surplus. In 2005, Chinese imports from China were $55 billion. This quirk in the data is explained in large part by goods that are exported to Hong Kong and then re-exported back into China. Recall that China Customs does not know the final destination of good exported to Hong Kong, but can identify the origin of imports. So, Hong Kong data for re-exports from China to China, adjusted with the markup for outward trade, is used to create an estimate for China's exports to itself. This adjustment further reduces the trade balance discrepancy between Chinese and partner data. [9]

Second, the reported trade data for trade flows between China and Hong Kong's domestic economy (exports produced in Hong Kong and imports consumed in Hong Kong) are difficult to fully reconcile, and are excluded because they are not material to this analysis. For example, Hong Kong's re-exports of Chinese goods to the world (less the markup) exceed China's reported exports to Hong Kong (though this difference has gotten progressively smaller since 2000). As such, it is impossible to derive an estimate for Chinese exports that stay in Hong Kong.[10] Since the aim of this analysis is to reconcile China's trade data with other trading nations, China-domestic Hong Kong trade is not essential to this analysis and so is excluded from the overall final balances.

Findings

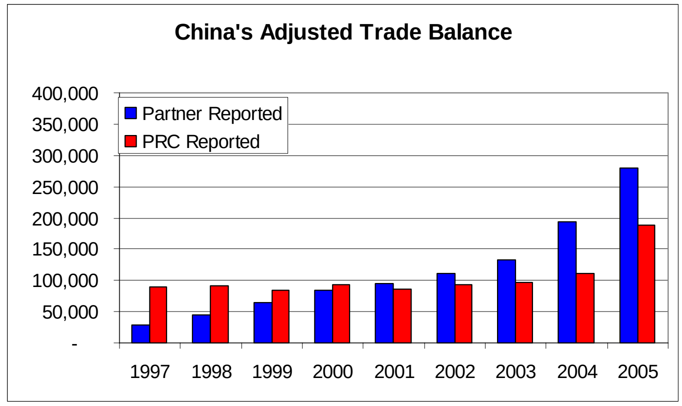
This analysis corroborates the findings of several other studies that have attempted to reconcile China's trade data with that of its partners and also conclude that adjustments for Hong Kong's re-export trade and for the costs of insurance and freight are necessary. When these adjustments are made, much of the discrepancy between the two sets of trade data is eliminated, as shown in Figures 2 and 3. For example, in 2005, the discrepancy between Chinese and partner data was $306.8 billion as published, but reduced to $91.0 billion when the requisite adjustments were made. While some discrepancy remains, it is also true that limitations on the available data make it impossible to adjust Chinese and partner country trade data so that they are fully comparable. Timing and valuation adjustments will affect the two sets of data, as well as trade with China that is conducted through Taiwan and Macao. At the same time, discussions on the true size and importance of the discrepancy between Chinese and partner country data should not obscure the fact that, by any measure, including Chinese data, China's global trade surplus and its global current account surplus have grown very large in recent years.

[9] A "one-day tour in Hong Kong" is often a means to take advantage of tax loopholes and differences in domestic and foreign trade taxes, such as collecting export rebates without actually exporting any goods overseas. See in Chinese 滕晓萌, 顺差里的泡泡(Bubbles in the Trade Surplus), 21世纪经济报道, 2007-03-13, <http://www.nanfangdaily.com.cn/jj/20070314/zh/200703130004.asp>

[10] Hong Kong presents an ideal location for Chinese portfolio diversification and it is possible that China-domestic Hong Kong trade is distorted by financial flows moving through the current account, which could be achieved through the under-reporting of exports or over-reporting of imports. Additionally, Chinese funds are reportedly taken out of the country and then reinvested in China as foreign funds in order to take advantage of the favorable tax treatment for foreign investors, referred to as "round-tripping" of funds. Trade transactions present one possible vehicle to evade capital controls on the outward flow of funds from China.

Figure 2

Figure 3



Source: *UN Comtrade, China Customs, GTI World Trade Atlas, IMF DOT*