

# Report on the Statistical Discrepancy of Merchandise Trade between the United States and China

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Department of Commerce	Office of the United States	Ministry of Commerce
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United States of America	United States of America	People's Republic of China

William A. Dugan

马秀红

# Abstract

In April 2004, the 15<sup>th</sup> U.S.-China Joint Commission on Commerce and Trade (JCCT) established a statistical working group. Participating units from the Chinese side include the Ministry of Commerce of the People's Republic of China and the Chinese General Administration of Customs; the U.S. side includes the U.S. Department of Commerce and the Office of the U.S. Trade Representative. In view of the unusually large and growing statistical discrepancies in the bilateral merchandise trade data officially published by two countries, the initial focus of the working group was to examine the bilateral merchandise trade statistics between China and the United States. Members agreed to conduct a reconciliation study, using recent data, to explain and quantify the statistical discrepancies in the bilateral merchandise trade data. The goal of the study is not to alter the official statistics of either country, but to identify the causes of the statistical discrepancies in the official data of the two countries, and to facilitate a common understanding by data users of the actual situation of the bilateral trade and the causes of the statistical discrepancies in the bilateral trade data. Adjustments made to statistical data, to achieve mutually agreed upon sets of trade figures, do not imply errors in the statistical systems of either country. Neither do the adjustments represent revisions or corrections to either country's published trade figures.

Previously, in 1994, a trade statistics working group was established at the 8<sup>th</sup> U.S.-China JCCT meeting to address the issue of discrepancies in the bilateral trade statistics. The main conclusion reached was that goods shipped indirectly from China via Hong Kong and other intermediary countries or regions account for a large part of the discrepancy in the U.S.-China bilateral trade statistics. Although both countries follow the same international guidelines on merchandise trade statistics programs, the corresponding import and export statistics from both countries will not necessarily match. Differences in partner country attribution and value added in intermediary countries or regions are major causes of the discrepancies in indirect trade from China to the United States.

The present reconciliation study covers bilateral merchandise trade data in years 2000, 2004 and 2006. Following are the main findings and conclusions:

1. The level of bilateral trade between the United States and China has continued to grow, and so has the level of the discrepancies. However, the statistical discrepancy in percentage (the absolute statistical discrepancy over the corresponding imports' value) has decreased in both eastbound trade (China to United States) and westbound trade (United States to China). In other words, disregarding the impact of trade expansion, the discrepancy in the bilateral trade statistics has decreased.
2. Eastbound trade contributes to the majority of the statistical discrepancy, about 80-90 percent of the total. This proportion has increased with the recent growth in the volume of bilateral trade. U.S. imports from China increased 187 percent, from \$100.1 billion (U.S. Dollars) in 2000, to USD 287.8 billion in 2006. China exports to the United States rose 291 percent, from USD 52.1 billion in 2000 to USD 203.5 billion in 2006. Discrepancies increased from USD 48.0 billion to USD 84.3 billion over the same period, while westbound discrepancies decreased from USD 6.1 billion to USD 4.0 billion. Due to the larger discrepancies, the efforts of the working group are concentrated on analyzing the eastbound trade.
3. The statistical discrepancy in eastbound trade can stem from conceptual and methodological differences in the collection and processing of the trade data. Differences in statistical territory definitions, differences in timing of recording, and inclusion of re-exports in export statistics contribute to the discrepancy. However, these factors have minimal net impact. The working group further researched eastbound indirect and direct trade separately to study the statistical discrepancies:

(A) Eastbound indirect trade leaves China, enters the commerce of intermediary countries or regions, and is then re-exported to the United States. The proportion of indirect trade has decreased recently; however, it still accounted for as high as 52 percent of the total eastbound statistical discrepancy in 2006. Although both China and the United States follow the same international guidelines for partner country attribution, the discrepancy is hard to avoid due to the attribution of imports to country of origin, and exports to country of last known destination. Discrepancies may occur when goods enter the commerce of the intermediary country or region. New values may be added

due to further processing, re-packing, or a simple price markup when the goods are re-sold. Another source of the discrepancies is when the intermediary country or region, instead of the United States, is the last known destination by Chinese exporters. In this case, the goods are recorded as exports to the intermediary country or region by Chinese customs while recorded as imports from China by the United States based on the principle of Country of Origin. Most indirect trade moves through Hong Kong, but the proportion is decreasing gradually every year. Indirect trade through other countries continues to increase in both volume and its contribution to the statistical discrepancy.

The group estimates that the statistical discrepancy attributable to the above causes in eastbound indirect trade contributed USD 28.9 billion to the overall discrepancy in 2000, USD 32.7 billion in 2004, and USD 44.1 billion in 2006.

(B) Eastbound direct trade moves from China to the United States without entering the commerce of other countries or regions. It accounted for the remaining 48 percent of the eastbound statistical discrepancy in 2006. The working group determined that differences in values declared to customs account for a large part of the statistical discrepancy in direct trade. A measurable factor in the direct trade discrepancy was that the values declared to the U.S. customs at the time of importation were higher than the values declared to the Chinese customs at the time of exportation. Goods exported from China may change ownership in route to the United States. The working group determined that this occurs more often with processed goods compared to general goods. The higher values reported for the goods in U.S. imports reflect markups and not any transformation of the products.

The working group held in-depth discussions over several technical issues in an effort to develop a methodology to quantify the statistical discrepancy attributable to markups in the eastbound direct trade data. The group estimates that the differences in reported values in eastbound direct trade contributed USD 13.2 billion to the overall discrepancy in 2000, USD 19.4 billion in 2004, and USD 21.0 billion in 2006.

(C) In summary, the working group identified reasons for the bilateral statistical

discrepancy in eastbound trade, and developed estimates to quantify their contributions to the total discrepancy. After applying adjustments to the trade statistics based on these estimates, the statistical discrepancies for the three years in the study significantly decreased. In 2000, the eastbound statistical discrepancy based on officially published data was USD 48.0 billion, but once adjustments for explainable differences were made, the discrepancy decreased to USD 7.5 billion. In 2004, and 2006, the amount of statistical discrepancy is adjusted from USD 71.8 billion to USD 23.5 billion, and USD 84.3 billion to USD 24.2 billion, respectively. The residual, or remaining statistical discrepancy in eastbound trade that the working group did not account for, is between 8 and 12 percent of the total U.S. imports for each of the three years.

4. Only a small portion of the statistical discrepancy is due to westbound trade, so the working group limited its analysis by studying the conceptual and methodological differences without separating the data between indirect and direct trade. Results revealed that different methods of valuation applied by both countries (China values imports on a basis of cost, insurance, and freight, while the United States values exports on a free alongside ship basis) are the main factor that causes the statistical discrepancy in westbound trade.

# Research Report

## I. Overview

### Background

A statistical working group was formed at the 8th U.S.-China JCCT meeting in 1994 to conduct a reconciliation study to explain and quantify discrepancies in the official U.S. – China bilateral merchandise trade statistics. This original study grew out of concerns that the trade statistics published by each country displayed unusually large discrepancies with the statistics of the partner country. Since the 1990s, the U.S. – China bilateral trade has significantly grown, as have the discrepancies in the corresponding published statistics. In the original reconciliation study, total trade between the two countries reported by China was USD 27.7 billion with a trade surplus of USD 6.3 billion in 1993; while the United States reported USD 40.3 billion with a trade deficit of USD 22.8 billion. According to the Chinese statistics, the trade value between the United States and China was USD 262.7 billion in 2006, with a trade surplus of USD 144.3 billion; while according to the U.S. statistics, the U.S. - China trade had a value of USD 343.0 billion with a trade deficit of USD 232.6 billion.

In order to better understand the causes for the bilateral trade statistical discrepancy considering the recent changes in trade, another joint statistical working group was established at the 15th U.S.-China JCCT meeting in April 2004. This working group serves as a mechanism under the JCCT for both sides to work together on a trade reconciliation study and exchange viewpoints. The Chinese side includes the Ministry of Commerce of the People's Republic of China and the Chinese General Administration of Customs; the U.S. side includes the United States Department of Commerce and the Office of United States Trade Representative.

### Scope of Research

The goal of the study is to identify the causes of the statistical discrepancies in the official data of the two countries, and to facilitate a common understanding by the data users of why the differences exist. These discrepancies can stem from conceptual and methodological differences related to data collection and processing. The focus of the working group is to verify and quantify the major causes for the bilateral statistical discrepancies. Adjustments made during the reconciliation of the bilateral statistical data do not implicate errors in the statistical systems of either country. Neither do the adjustments represent revisions or corrections to either country's published trade figures.

The research is based on the published bilateral merchandise statistical data in the calendar years 2000, 2004, and 2006. Those data include the commodities' harmonized system codes,

starting port, ending port, methods of transportation, and other information.

## **Research Methods**

Although both the United States and China follow the United Nations guidelines on merchandise trade statistics programs, it does not mean the corresponding import/export data from both countries will match. There are several aspects of the guidelines, such as valuation and partner country attribution, that when followed, actually create bilateral discrepancies. For example, China includes international freight and insurance charges in their import statistics, and the United States excludes these charges in their export statistics.

Trade via intermediary countries, particularly Hong Kong, has a measurable effect on the comparability of the bilateral statistics. Both China and the United States attribute imports to the country of origin and exports to the country of final destination as known at the time of export. In the case of trade between China and the United States via Hong Kong, the destination as known at the time of export is often Hong Kong. Yet when the goods are subsequently imported by China and the United States, the importing country's statistics will be based on the country of origin, which may not be Hong Kong.

Even after factoring in known and measurable differences in definitions and methodology, discrepancies exist. These discrepancies are much larger on eastbound compared to westbound trade, so most of the working group's efforts were focused on eastbound trade. The working group divided eastbound trade into two parts to examine the discrepancies: 1) Direct trade, that moves directly from China to the United States without entering the commerce of any other countries or regions; and 2) Indirect trade, that moves from China to the United States via intermediary countries or regions. Details of this research are included in the next section.

## **II. Eastbound Trade**

The largest differences between the partner country official trade statistics are in eastbound trade. The discrepancy between China's exports and U.S. imports has been large and has increased in total dollar value over the study years, but the difference in percentage (percentage of the bilateral discrepancy over the U.S. Imports) has declined. During the three researched calendar years, the eastbound trade's statistical discrepancy reached USD 48.0 billion in 2000, USD 71.8 billion in 2004, and USD 84.3 billion in 2006; accounting for 88.7%, 87.8%, and 95.5% of the total discrepancy for each year, respectively.

As shown in Table 1, the difference in percentage declined from 47.9 percent in 2000 to 29.3 percent in 2006. Even though the percentages indicate a possible shift towards a smaller discrepancy, the remaining difference of USD 84.3 billion in 2006 is much larger due to the increased volume of trade between the countries.

**Table 1: Statistical Discrepancy of Eastbound Trade**  
**Unit: Billions U.S. dollars**

<b>Year</b>	<b>China Exports</b>	<b>U.S. Imports</b>	<b>Bilateral Discrepancy</b>	<b>Difference in Percentage*</b>
2000	52.10	100.06	47.96	47.9
2004	124.95	196.70	71.75	36.5
2006	203.47	287.77	84.30	29.3

\* = Bilateral discrepancy / U.S. imports

**1. Known and Measurable Differences in Definitions and Methodology**

**a. Statistical Territory Definitions**

The United States includes Puerto Rico and the U.S. Virgin Islands as part of its customs territory, while China treats them as separate jurisdictions hence excluding the trade with these territories in exports to the United States. According to the U.S. statistics, the two regions imported from China USD 0.2 billion, USD 0.4 billion and USD 0.7 billion in the calendar years 2000, 2004 and 2006 respectively.

**b. Time Lag**

Time lag discrepancy is the net effect of goods imported in the year after they were exported. This most often occurs on shipments by ocean going vessels because of the long distance. Using dates of exportation and importation in U.S. import statistics, the working group estimated this adjustment to be USD 0.9 billion, USD 2.0 billion and USD 2.7 billion in the calendar years 2000, 2004 and 2006 respectively.

**c. China's Re-exports**

Chinese export statistics include re-exports of goods not of Chinese origin bound for the United States, which are recorded in U.S. statistics as imports from the country of origin. The reported values of re-exports in Chinese export statistics are USD 1.0 billion, USD 2.4 billion and USD 3.0 billion for calendar years 2000, 2004 and 2006 respectively.

**d. Other Differences**

There remains other possible differences that may exist in the eastbound trade. One example is U.S. re-exports of Chinese goods (see Appendix II). This information is incomplete; therefore the working group did not attempt to estimate adjustments for these factors. However, this does not exclude the possibility that these differences add to the statistical discrepancies in the eastbound trade.

## **2. Statistical Discrepancy in Direct Trade**

Since the previous reconciliation study conducted in the 1990s, there has been a significant increase in level of trade moving directly from China to the United States that does not enter the commerce of any intermediary countries. According to China's statistics, in years of 2000, 2004 and 2006, the proportion of direct trade in the total value of China's exports to the United States increased from 71.0% in 2000 to 84.5% in 2004 and 88.7% in 2006. While according to U.S. statistics, the proportion of direct imports from China increased from 56.0% in 2000, to 73.5% in 2004 and 76.7% in 2006.

About 50% of the total eastbound discrepancy is attributed to direct trade shipments during the study years. The majority of the direct trade is in processed goods (60% in 2006 according to Chinese statistics). These processed goods usually possess higher import values when declared to U.S. Customs due to markups by intermediary parties. In general practice, Chinese enterprises import raw materials, fittings and parts or packing materials from foreign countries, including the United States. After processing or assembling them, they export the processed goods to the United States. The Chinese enterprises usually do not directly sell the processed goods to U.S. purchasers, but instead through intermediary parties. Therefore, the export price declared by a Chinese enterprise may be a lower purchase price by an intermediary party, while the import price declared by a U.S. buyer is a higher sale price by the intermediary party, which includes a markup. There may be additional reasons for the discrepancies, but the working group did not identify or explore them.

Neither China nor the United States collects sufficient information to identify direct trade transactions of goods that were bought and resold by an intermediary party. The working group conducted a study comparing a sample of China's direct trade export transactions to corresponding U.S. import transactions, but were unable to draw any conclusions on the causes and effects of the discrepancies in direct trade. This was mainly due to difficulties in matching the transactions. However, anecdotal information exists from both countries to support the idea that direct trade shipments through intermediary parties are likely to occur in trade involving processed goods.

Applying the working group's estimation (see Appendix III for detailed calculations), the statistical discrepancies caused by direct shipments of processed goods sold en route to intermediary parties were USD 13.2 billion in 2000, USD 19.4 billion in 2004, and USD 21.0 billion in 2006.

## **3. Statistical Discrepancy in Indirect Trade**

Goods may be shipped directly from China to the United States, or indirectly by entering the commerce of other intermediary countries or regions. Trade through intermediaries is a major source for the discrepancies in the bilateral trade statistics, even though both China and the United States follow the same U.N. guidelines for partner country attribution. Discrepancies may occur when: 1) Goods entered the commerce of an intermediary country or region and were re-processed or re-packed so new values were added; or 2) The

country of last destination may not be known at the time of export, so the goods are recorded as exports to the intermediary country or region. These situations result in U.S. import statistics being greater than China's export statistics.

Although trade via intermediaries plays an important role in creating the discrepancy between the Chinese and U.S. trade statistics, the level of this trade has continued to decrease since the 1990s. For example, according to statistics from both sides, during the period of 2000 through 2006, the percentage of indirect trade in the eastbound trade decreases from 28.9% to 11.3% in the Chinese statistics; while it decreases from 44.0% to 23.3% in the U.S. statistics. Nevertheless, the statistical discrepancy in the indirect trade still accounts for about 50% of the entire discrepancy in the eastbound trade. Therefore, indirect trade is still considered as an important factor in the eastbound trade statistical discrepancy.

At the same time, the contribution to the eastbound statistical discrepancy from shipments via Hong Kong is decreasing, and is increasing for shipments via other intermediaries. The contribution for shipments via Hong Kong to the total eastbound statistical discrepancy decreases from 49.7% in 2000 to 25.8% in 2006. In year 2000, trade via other intermediaries accounted for 10.6% of the entire discrepancy in the eastbound trade. This increased to 17.6% in 2004, and to 26.5% in 2006.

#### **a. Discrepancy in Shipments Via Hong Kong**

As described above, when goods are shipped via Hong Kong, unless the nature of the good was substantially transformed, the United States will include these goods and their added values in the U.S. statistics as goods imported from China. In addition, some goods that were declared as exports to Hong Kong at the time of exportation from China actually were exported to the United States. Data from the above-mentioned two situations have to be adjusted.

Applying the working group's estimation (see Appendix IV for detailed calculations), the statistical discrepancies caused by shipments via Hong Kong reached USD 23.9 billion, USD 20.1 billion and USD 21.7 billion in calendar year 2000, 2004 and 2006 respectively.

#### **b. Discrepancy in Shipments Via Other Intermediary Countries or regions**

The discrepancy may occur in two situations. One situation is the value added in the intermediary countries of goods exported from China to the United States. The other situation involves some goods declared as exports to the intermediary countries or regions at the time of exportation from China that were actually exported to the United States.

According to the U.S. statistics, all imports of Chinese goods from intermediary countries excluding Hong Kong had a total value of USD 5.5 billion, USD 13.0 billion and USD 22.8 billion in the calendar years 2000, 2004 and 2006 respectively; and

according to the Chinese statistics, those were valued at USD 0.5 billion, USD 0.4 billion and USD 0.5 billion in the corresponding time period. Based on these statistical data, the bilateral discrepancy for the transshipments via other intermediaries is USD 5.0 billion, USD 12.6 billion and USD 22.3 billion.

#### 4. Adjustment of Statistical Discrepancies in the Eastbound Trade

To summarize the results of study, the working group has adjusted the bilateral statistical discrepancies as follows (See Table 2):

**Table 2: Adjustment of Statistical Discrepancies  
In the Eastbound Trade  
Unit: Millions U.S. dollars**

YEAR	2000		2004		2006	
	U.S. Imports	China Exports	U.S. Imports	China Exports	U.S. Imports	China Exports
PUBLISHED DATA	100,063	52,104	196,699	124,948	287,773	203,472
DIFFERENCES ADJUSTMENT:						
CHINESE RE-EXPORTS		-1,044		-2,374		-2,971
GEOGRAPHIC <sup>1</sup>	-219		-413		-648	
DIRECT TRADE <sup>2</sup>	-13,186		-19,446		-21,035	
INDIRECT TRADE <sup>3</sup>						
TOTAL VIA HONG KONG	-23,861		-20,109		-21,733	
VIA OTHER	-5,067		-12,630		-22,325	
TIME LAG	879		1,991		2,701	
ADJUSTED DATA	58,609	51,060	146,092	122,574	224,733	200,501
RESIDUAL <sup>4</sup>	-7,549	-8%	-23,518	-12%	-24,232	-8%

1 - Puerto Rico and Virgin Islands not included in China's exports to the U.S.

2 - Adjustment made due to valuation differences in processed goods. See Appendix III for calculation.

3 - Adjustment made due to value added in intermediary countries. See Appendix IV for calculation.

4 - Residual is the difference between China's exports and U.S. imports after adjustments.

Residual percentage is the difference as a proportion of the U.S. imports from China.

### III. Westbound Trade

Total westbound trade is much smaller than eastbound trade, as are the differences between the two countries' official trade figures. Specifically, these differences average just under USD 7 billion dollars over the three years covered in the study. The differences found in eastbound trade, averaging just under USD 70 billion, are 10 times larger. This masks the fact that, while small in value terms, the differences in westbound trade values have until recently been proportionally large. In the first two years of the study, differences were nearly 25 percent of the value of China imports from the United States. By 2006, the difference between Chinese and U.S. data had decreased to 7 percent (see Table 3).

**Table 3: Statistical Discrepancy of Westbound Trade**  
**Unit: Billions U.S. Dollars**

<b>Year</b>	<b>U.S. Exports</b>	<b>China Imports</b>	<b>Bilateral Difference</b>	<b>Difference in Percentage*</b>
2000	16.25	22.36	6.11	27.3
2004	34.72	44.66	9.94	22.3
2006	55.22	59.21	3.99	6.7

\*=bilateral difference/China imports

**1. Known and Measurable Differences in Definitions and Methodology**

**a. Statistical Territory Definitions**

The United States includes Puerto Rico and the U.S. Virgin Islands as part of its customs territory. China, on the other hand, treats these territories as separate entities. The U.S. export figures are adjusted for this difference, with the adjustment being uniformly small.

According to the U.S. statistics, goods exported from Puerto Rico and the United States Virgin Islands to China had a value of USD 15 million, USD 74 million and USD 103 million in the calendar years 2000, 2004 and 2006 respectively.

**b. Shipping Costs**

China includes the costs of insuring and transporting goods in its import statistics, thus valuing westbound trade on a c.i.f. (cost, insurance and freight) basis. The United States assesses the value of exported goods on the dock prior to their being loaded on to a ship, or on an f.a.s. (free alongside ship) basis. To account for this differing treatment of international shipping costs, the Working Group made an adjustment to Chinese import values.

Since no direct measure of shipping costs is available in either the U.S. or Chinese westbound trade statistics an estimate of these costs was used. The United States tracks shipping charges on imported goods separately (eastbound trade in this study), therefore the ratio of shipping charges to import values (f.a.s.) in each year of the study was used to estimate costs of shipping on westbound trade. This ratio was very stable, staying close to 7 percent for all three years of the analysis.

From this information, the working group derived the statistical discrepancies caused by differences in valuation. Their values are USD 1.2 billion, USD 2.4 billion and USD 3.9 billion in 2000, 2004 and 2006 respectively.

**c. U.S. Re-exports**

U.S. export statistics include goods that did not originate in the United States, but were exported from the United States. Such exports, however, appear in Chinese statistics as imported from the country of origin. Since re-exports are not “U.S. goods,” the adjustment was made to U.S. export data.

By U.S. measures, westbound re-export values hovered around 6 percent of U.S. exports for all years included in the study. The U.S. statistics indicate that the value of the U.S. re-exports is at USD 0.9 billion, USD 2.1 billion and USD 3.6 billion in the calendar years 2000, 2004 and 2006 respectively.

**d. Value of Repairs**

The United States includes goods for repair at the value of the repairs in their exports while China does not include goods for repair in their imports. As a result, the analysis subtracted the cost of repairs from U.S. export values.

According to the U.S. statistics, the values of repaired goods exported by the United States are USD 76 million, USD 103 million and USD 146 million in the calendar years 2000, 2004 and 2006 respectively.

**e. Other Differences**

Because the statistical discrepancy in westbound trade only accounts for a small portion of the whole, and data identifying direct and indirect trade and time lags are not available, the working group did not attempt to estimate adjustments for these factors. However, this does not exclude the possibility that these differences are causes for the statistical discrepancies in the westbound trade.

**2. Adjustment of Statistical Discrepancies in Westbound Trade**

The results of the analysis of westbound trade explained small portions of the differences (see Table 4). The reason for this was that in all three years of data, re-export adjustments made to U.S. export values were offset by shipping adjustments made to Chinese import values. A number of definitional and conceptual differences were noted, but not measured, including trade via intermediaries, due to the small and decreasing size of the westbound discrepancy, and unavailability of data. The rate of the residual discrepancy remains at a range between 7% and 27%.

**Table 4: Adjustment of Statistical Discrepancies  
In Westbound Trade**

**Unit: Millions U.S. dollars**

YEAR	2000		2004		2006	
	U.S. Exports	China Imports	U.S. Exports	China Imports	U.S. Exports	China Imports
PUBLISHED DATA	16,253	22,363	34,721	44,657	55,224	59,209
DIFFERENCES ADJUSTMENT:						
RE-EXPORTS	-918		-2,115		-3,600	
GEOGRAPHIC <sup>1</sup>	-15		-74		-103	
SHIPPING		-1,188		-2,430		-3,866
REPAIRS	-76		-103		-146	
ADJUSTED DATA	15,244	21,175	32,429	42,226	51,375	55,343
RESIDUAL <sup>2</sup>	-5,931	-27%	-9,797	-22%	-3,968	-7%

1 - Puerto Rico and Virgin Islands not included in China's imports from the U.S.

2 - Residual difference is the difference between the U.S. exports and China's imports after adjustments, and the residual difference in percentage is the residual difference as a proportion of the China imports from the U.S recorded in the Chinese statistics.

## IV. Conclusion

By comparing and studying the statistical data of the bilateral merchandise trade between the United States and China as well as other relevant information, the working group has identified the main characteristics of the statistical discrepancies in bilateral trade and main causes for the discrepancies. The group has also adjusted for those discrepancies that can be quantified. The relevant conclusions are as follows:

1. Even though the U.S.- China bilateral trade increases every year, the percentage of the statistical discrepancy has decreased in both eastbound and westbound trade. The rate of discrepancy in eastbound trade decreased from 47.9% to 36.5% then to 29.3% in years 2000, 2004 and 2006 respectively; while it decreased from 27.3% to 22.2%, then to 6.7% in westbound trade in the corresponding time periods. In other words, the bilateral statistical discrepancy decreases if we disregard the impact of the growth in the volume of bilateral trade.
2. The greatest discrepancy in the merchandise trade statistics between the United States and China existed in the eastbound trade. The discrepancy in the eastbound trade accounts for 80% to 90% of the entire discrepancy. That is to say the amount of imports from China in the U.S. statistics is greater than the amount of exports to the United States in the China's statistics. Statistics for U.S. exports to China and China's imports from the United States are rather close. The discrepancy in eastbound trade is growing along with the growth in the bilateral trade. Therefore, the reconciliation study focused on eastbound trade due to the higher volumes and larger discrepancies.
3. The working group analyzed the causes for the discrepancy in the eastbound trade. The major findings are:

- a. Eastbound trade that moves directly from China to the United States without entering the commerce of intermediary countries or regions accounts for almost 50% of the total eastbound discrepancy. Processed goods cover a high proportion in the bilateral eastbound direct trade (60% in 2006 according to Chinese statistics). These processed goods usually possess higher import values when declared to U.S. Customs due to markups by intermediary parties. The proportion of direct trade has grown between 2000 and 2006, as has its contribution to the eastbound discrepancy.
  - b. The amount of goods shipped via intermediary countries or regions and value added in those countries or regions account for large part of the discrepancy. Even though the proportion of intermediary trade in the bilateral trade has decreased, the discrepancy caused by intermediary trade still accounts for almost 50% of the entire discrepancy. Among which, the discrepancy of intermediary trade via Hong Kong has the greatest impact on the discrepancy although it has become less influential over recent years.
  - c. The discrepancy is also caused by the conceptual and methodological differences in the compilation and processing of the trade data. These differences include statistical territory definitions, timing of recording, and the difference of re-exports from China. However, these factors do not have much net impact on the bilateral trade discrepancy because they cancel out each other.
4. Only a small portion of the statistical discrepancy is attributed to westbound trade and due to the unavailability of data that could identify indirect shipments and time lags, the working group only studied the known factors and discrepancies that can be quantified in aspects of definitional and conceptual differences. The working group found that different methods of valuation applied by both countries are the main factor that causes the statistical discrepancy in westbound trade. However, the difference was cancelled out by the difference caused by U.S. re-exports, so the net impact on the discrepancy is minimal.

Appendix I

## Comparing the Statistical Concepts and Definitions in Trade between the United States and China

	China	United States
<b>Trading System</b>	General Trading System	General Trading System
<b>Valuation:</b>		
<b>Exporting</b>	FOB	FAS
<b>Importing</b>	CIF	FAS and CIF
<b>Partner Countries</b>		
<b>Exporting</b>	Final Destinations or countries (ports) of arrival	Final Destination
<b>Importing</b>	Country of Origin or Starting country	Country of Origin or Exporting Country
<b>Classifying System</b>	Harmonized System Code 10(6+4)	Harmonized System Code 10 (6+4)
<b>Source of Data</b>	Exporter's /Importer's Declarations	The Same
<b>Statistical Timing</b>	Starting at goods being cleared by the customs	The Same
<b>Territory Bounds</b>	Custom districts in the People's Republic of China, excluding Hong Kong, Macao and Taiwan	Including the United States, Puerto Rico, and the United States Virgin Islands
<b>Low Value Limits</b>		
<b>Exporting</b>	No Specific Regulation	2500 U.S. dollars
<b>Importing</b>	RMB 5000	1250 or 250 U.S. dollars
<b>Intangible Trade</b>	No Specific Regulation	The best estimate
<b>Non-Commercial Trade</b>	Include the trading value	The Same
<b>Donations and Aids</b>	Include the trading value	The Same
<b>Re-export</b>	Partially included and not recorded separately	Included and recorded separately
<b>Re-import</b>	Included	Partially included

## Appendix II

### **U.S. Re-exports of Chinese Goods**

The United States can be an intermediary country that re-exports Chinese origin goods to other countries or regions, such as Canada or Mexico. In this situation, discrepancies in the bilateral trade statistics may occur, even though both the United States and China follow U.N. guidelines for country attribution. U.S. imports may be higher than Chinese exports because the United States records the country of origin (China), and China records the country of final destination (e.g. Canada or Mexico).

The country of origin is not collected by the United States on re-exports bound for Mexico, or any other countries. But, through a data exchange agreement with Canada, information on U.S. re-exports of Chinese origin goods is available on shipments bound for Canada. This value for each year of the study was: 2000 - \$1.0 billion; 2004 - \$2.4 billion; 2006 - \$3.0 billion.

Since information on U.S. re-exports of Chinese goods is incomplete, the working group did not attempt to estimate an adjustment.

## Appendix III

### Calculation of the Added Value for Direct Trade of Processed Goods

Chinese exports of processed goods that were shipped directly to the United States may be valued higher in U.S. import statistics than in China export statistics. This is because the goods may be purchased by an intermediary party after export and resold to a U.S. buyer at higher prices, so that the added values were not included in the China's exports statistics but were included in the U.S. import statistics. This is an important factor in causing the statistical discrepancy in the bilateral trade of the United States and China.

The rate of added value of these shipments is the rate of increase derived from comparing the U.S. import values of these shipments with the price adjusted values of the Chinese exports. The same method used to estimate the added value of indirect shipments via Hong Kong was used to calculate the added value of direct trade of processed goods (See Appendix IV). The formula for the calculation is as follows:

Adjusted Export Value = Chinese Processed Trade Unit Price \* U.S. Trade Quantity

Processing Export Adjusted Value = Adjusted Export Value \* Processed Trade Ratio

$$\begin{aligned} \text{Percentage of added value} &= \frac{\sum \text{Processed Export Adjusted Value}}{\sum \text{Imports U.S. Value}} \\ &= \frac{\text{The sum of (unit price of these shipments) * (quantity of these shipments)}}{\text{The sum of U.S import value}} \end{aligned}$$

Based on the percentage of added value calculated, the rate of increase in the shipments of direct trade of processed goods can be derived by the following formula:

The Amount of Value Increased = (rate of Value Increase - 1) \* Import value of these shipments

Sources for the calculation of the percentage of added value are from three areas. They are as follows:

- (1) Using China's export statistics of direct trade of processed goods, for 6 digit Harmonized System (HS) codes where processed goods trade accounts for 50% or more of the value, and U.S. import statistics for the same 6 digit HS codes. The working group used the 50% threshold to approximate where trade in processed goods exists in U.S. imports, since this trade cannot be identified in the U.S. statistics.
- (2) Comparing the adjusted value of direct trade of processed goods based on the unit price of Chinese goods and U.S. import values;

- (3) Including commodities (with 6 digit HS codes) whose unit price can be obtained, and where adjusted value is less than U.S. value. The working group felt that resulting adjustments to the values were unreasonable for 6 digit HS codes when they were more than the reported U.S. import values, so calculations for the estimates excluded these codes.

## Appendix IV

### Calculation of the Added Value of Shipments via Hong Kong

Chinese goods that were shipped via Hong Kong to the United States usually have higher values than goods imported by Hong Kong from China. This is because goods have been further processed in Hong Kong for an added value or their prices were raised for higher profits. The added values or raised prices were not included in the China's exports statistics but were included in the U.S. import statistics. This is an important factor in causing the statistical discrepancy in the bilateral trade of the United States and China.

The rate of added value of these shipments is the rate of increase derived from comparing the values of these shipments of Chinese goods shipped via Hong Kong and values of Chinese goods imported by Hong Kong. In other words, this is the ratio of value added in Hong Kong to the entire value of shipments via Hong Kong. The formula for the calculation is as follows:

$$\text{Percentage of added value} = \frac{\text{Hong Kong re-exports of Chinese goods}}{\text{Imports of goods re-export value}}$$

Percentage of added value = Value of Chinese goods shipped to the United States via Hong Kong divided by the import value of these shipments

$$= \frac{\sum (\text{Re-export price} * \text{re-export quantity})}{\sum (\text{Import price} * \text{re-export quantity})}$$

$$= \frac{\text{The sum of (unit price of these shipments) * (quantity of these shipments)}}{\text{The sum of (unit price of imported goods) * (quantity of these shipments)}}$$

Based on the percentage of added value calculated, the rate of increase in the shipments via Hong Kong can be derived by the following formula:

$$\text{The Amount of Value Increased} = (\text{rate of Value Increase} - 1) * \text{Import value of these shipments}$$

Sources for the calculation of the percentage of added value are from three areas. They are as follows:

- (1) Using Hong Kong's statistics of the goods imported and shipped via Hong Kong;
- (2) Comparing the unit price of Chinese goods imported by Hong Kong and the change in the unit price of the Chinese goods shipped to the United States via Hong Kong;
- (3) Including all commodities (with 6 digit HS codes) whose unit price can be obtained