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IMPLEMENTATION OF THE NEW STATISTICAL STANDARDS FOR GOODS FOR PROCESSING AND MERCHANTING IN HONG KONG, CHINA: FIRST RESULTS OF THE NEW TRADE IN SERVICES SURVEY

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This document has been prepared by Miss Lilian FUNG, Census and Statistics Department of Hong Kong SAR, China, for information and discussion under item 11.1 of the agenda

Contact person: Ms Lilian FUNG, Tel.: (852) 2802 1267 ; E-mail: lycfung@censtatd.gov.hk

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1. Introduction

1. To better reflect the rapid development in globalisation and the latest trend in international trade, new international statistical standards for recording goods for processing and merchanting based on “change of ownership” principle are in place, as set out in the *2008 System of National Accounts (2008 SNA)* and the sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6)*.

2. In the past few years, the Census and Statistics Department (C&SD) of Hong Kong has been actively participating in the deliberation of these new international standards in respect of goods for processing and merchanting. A number of papers which share Hong Kong’s experience on the impact of and the implementation plan of the new standards have been presented to the international statistical community on different occasions. The involvement of the C&SD in the process has enhanced our understanding on many technical and complicated issues in the new manuals, putting Hong Kong in a better position to implement the new statistical standards. Preparation for the implementation of the new standards has already begun in 2008, based on draft versions of the new manuals.

3. After further development and quality assurance work, the C&SD has established the necessary infrastructure for the implementation of the new standards. This paper presents in detail the plans of Hong Kong in implementing the new statistical standards for goods for processing and merchanting, highlights the development work being undertaken by the C&SD over the past years and the preliminary results, and elaborates on the practical difficulties encountered.

2. Outward processing trade and merchanting in Hong Kong

4. Hong Kong is a major trading hub in the world and plays a pivotal role in the global production of goods and services. Hong Kong’s involvement in the activities of goods sent abroad for processing and merchanting is one of the largest in the world. In 2009, about US\$80 billion or 23% of goods imported into Hong Kong, and US\$55 billion or 17% of goods exported from Hong Kong, were related to goods for outward processing in the mainland of China (hereafter referred to as the Mainland), whereas about US\$22 billion or 26% of exports of services of Hong Kong were related to merchanting activities.

5. As early as the 1980s, many manufacturing companies in Hong Kong had started to relocate their production processes to the Mainland to take advantage of the geographical proximity and lower production cost there. Hong Kong’s outward processing activities are predominantly carried out in the Mainland. Processing trade in areas other than the Mainland has been relatively insignificant.

6. Hong Kong’s traders also engage in a substantial amount of merchanting activities because of their extensive network of buyers and sellers in the global market. Also, with the rapid infrastructural

development in the Mainland, particularly ports and related transportation facilities, traders in Hong Kong have diversified their exporting channels by exporting processed goods manufactured in the Mainland directly to overseas markets. Exports of merchanting services to buyers abroad have become more prominent for the Hong Kong economy.

ADDITIONAL DATA REQUIREMENTS AND ENHANCED DATA COLLECTION

1. Goods for processing

7. Given the importance of processing trade between Hong Kong and the Mainland, the C&SD has long been conducting the Survey on Trade Involving Outward Processing in the mainland of China on a monthly basis since the late 1980s. The objective of the Survey is to collect data from establishments to delineate trade involving outward processing in the Mainland¹ from the conventional trade where there exists exportation of raw materials/ semi-manufactures from Hong Kong with contractual arrangement for subsequent re-importation of processed goods into Hong Kong, regardless of whether the outward processing activities are conducted under the arrangement of “*processing and assembling*” or “*processing with imported materials*”. The Survey provides estimates of the value and proportion of trade involving outward processing in the Mainland based on a sample of trade declarations.

8. Previous studies conducted by the C&SD indicate that there has been a large gap between the value of goods exported from Hong Kong to the Mainland for processing and the value of goods returned to Hong Kong from the Mainland after processing. The gap consists of not only processing fees paid by Hong Kong but also a significant amount of raw materials/ semi-manufactures required for processing which are delivered to the Mainland without going through Hong Kong. The value of these raw materials/ semi-manufactures, which could be procured domestically in the Mainland or imported directly from sources other than Hong Kong to the Mainland, are embedded in the value of processed goods imported back into Hong Kong from the Mainland.

9. Under the new statistical standards, the value of raw materials/ semi-manufactures exported from Hong Kong to the Mainland for processing and the value of goods returned to Hong Kong under the arrangement of *processing and assembling* will no longer be included in Hong Kong’s exports and imports of goods. While the processing fees would be recorded as imports of services (viz. manufacturing services

¹ According to China Customs’ definitions, there are two types of inward processing trade, viz.: processing and assembling and processing with imported materials. Processing and assembling refers to the type of inward processing in the mainland of China in which foreign suppliers provide all or part of the raw materials, parts or components under a contractual arrangement for the manufacture or assembling of products, which are for subsequent exportation and sales by the foreign suppliers. Under this type of processing, the imported inputs and the finished outputs remain property of the foreign suppliers throughout the whole process. Processing with imported materials refers to the type of inward processing in the mainland of China in which the raw materials, parts and components are purchased with foreign currencies and imported by the processing units for the manufacture of products or semi-manufactures, which are for subsequent exportation to foreign markets from the mainland of China. Under this type of processing, the ownership of the imported inputs has been transferred to the Mainland processing units. For the purpose of Hong Kong’s balance of payments account compilation, only Hong Kong’s outward processing in the mainland of China under processing and assembling contracts are adjusted under the new standards.

on physical inputs owned by others) under the new standards, proper statistical treatment is required for those other procurements of raw materials/ semi-manufactures in order to ensure that the overall balance of trade in goods and trade in services would not be affected under the new standards.

10. The issue of treatment in this particular situation was raised, discussed and subsequently clarified in the *BPM6* that such other procurements of raw materials/ semi-manufactures will be recorded as imports of goods of Hong Kong if they are procured by the Hong Kong owners. For those raw materials/ semi-manufactures procured by the Mainland processing units, it was considered that they should be a component of the value of imports of services by Hong Kong from the Mainland.

11. In order to implement the new statistical standards on goods for processing, additional information has to be collected for Hong Kong's outward processing activities in the Mainland under the arrangement of *processing and assembling* which do not involve a change of ownership:

- (i) The value of processing fee paid by Hong Kong; and
- (ii) The value of raw materials/ semi-manufactures used for processing in the Mainland which are not delivered through Hong Kong, with the following breakdown:
 - a) Procured by the Hong Kong producers and delivered directly from sources other than Hong Kong to the Mainland; and
 - b) Procured by the Mainland processing units.

12. The Survey on processing trade has been enhanced since the second quarter of 2008 to collect the additional information required. To support the compilation of more detailed trade statistics under the change of ownership principle and the conduct of more in-depth trade analysis, the quarterly sample size of the Survey has been enlarged from around 7 000 before enhancement to over 25 000 trade declarations at present. This has enabled the compilation of more detailed breakdown of outward processing trade statistics from previously nine commodity groups to 18 commodity groups after enhancement.

13. Information collected from the Survey on processing trade could be available only with longer time lag. As such, Hong Kong adopts a pragmatic modular approach to implement the new statistical standards for recording goods for processing by flexibly combining the options of applying new data models and conducting enhanced surveys, at different stages of implementation.

14. To support timely compilation of major macroeconomic aggregates, such as Gross Domestic Products (GDP) and Balance of Payments (BoP) statistics, new data models have been constructed by the C&SD to produce preliminary estimates of goods related to outward processing trade at an aggregate level under the new standards within short time lags. Regression involving a set of explanatory variables using the relevant time series, with appropriate time lag structures to take into account seasonal patterns, provides a basis for the relevant data models. These data models, with appropriate input assumptions, also produce estimates of processing fees for inclusion into trade in services statistics. They also provide estimates of the values of raw-materials procured by different parties for adjusting trade in goods statistics. Quarterly structural ratios of these processing fees and raw-materials to the import value of processed goods by commodity group, which serve as important parameters to improve the accuracy of model estimates, are being collected by the enhanced Survey on processing trade described above.

2. Merchanting

15. Considering the significance of merchanting to Hong Kong's trade in services, the C&SD has been collecting data related to merchanting activities via the Annual Survey of Imports and Exports of Services (ASIES) since the 1990's. Data on the sales of goods and the cost of goods sold for merchanting

are collected to compile the value of merchanting services provided, which is the difference between the two components. However, such data are not collected on a quarterly basis with an aim to reducing the respondents' burden. Furthermore, only trade margins derived from merchanting (i.e. net data) are collected on a quarterly basis via an existing sub-annual economic survey.

16. In the statistical standards recommended in *SNA 2008* and *BPM6*, merchanting of goods, which is the net value of sales of goods less the cost of purchasing these same goods, is reclassified from exports of services to exports of goods. As well, the gross values of purchases and sales of goods under merchanting are to be separately recorded. To meet the new data needs arising from the implementation of the new statistical standards on merchanting, the frequency of collecting gross flows data on merchanting has to be enhanced to collect quarterly breakdown on values of sales of goods and cost of goods involved in merchanting with a reasonable time lag to support compilation of quarterly GDP and BoP statistics.

17. A feasibility study was conducted in end 2008 and 2009 to thoroughly assess the practicability of collecting quarterly data from, and the additional reporting burden on, respondents via establishment survey. After considering the encouraging results of the feasibility study, a new Quarterly Survey of Merchanting and Other Trading Activities (QSMTA) was launched in 2010 to collect quarterly data on merchanting and other trading activities related to imports and exports of services as from the reference quarter of Q1 2010. It helps to provide support in meeting the data requirements on merchanting arising from the new statistical standards in a timely manner and enabling the compilation of reliable quarterly statistics to facilitate economic analysis of international trade flows and trade structure of Hong Kong.

18. To minimise respondent burdens, however, only more aggregated data are collected at quarterly intervals for the timely compilation of quarterly GDP and BoP statistics under the new standards. More detailed data, e.g. the value of sales of goods under merchanting by broad commodity group and economy, are collected on an annual basis, via the ASIES.

19. Apart from collecting the sales and the cost of goods sold for merchanting, the new survey also collects data related to offshore trade activities involving outward processing, which could not otherwise be collected from trade declarations or the Survey on outward processing trade of which the sampling unit is trade declarations, as these goods do not cross the border of Hong Kong. The following additional data is collected for outward processing activities which do not involve a change of ownership :

- (i) The value of goods sold offshore after processing;
- (ii) The value of cost of goods sold offshore after processing, with further breakdown into:
 - (a) Processing fees paid by Hong Kong;
 - (b) Raw materials/ semi-manufactures procured by Hong Kong traders and delivered to processing units through Hong Kong;
 - (c) Raw materials/ semi-manufactures procured by Hong Kong traders but delivered to processing units without passing through Hong Kong; and
 - (d) Raw materials/ semi-manufactures procured by the processing units.

20. To improve the efficiency of data collection, the QSMTA has been designed with reference to the experience gathered in previous rounds of the ASIES to cover those industry strata with significant merchanting or trade in services transactions. Establishments found to be very prominent (in terms of trade in services or merchanting receipts based on the returns for previous rounds of ASIES and QSMTA) in their respective business sectors are included in the QSMTA as certainty cases. These cases are selected at the start of a reference year and are enumerated for the four survey quarters in that year. For 2011 survey rounds, around 1 000 certainty cases are selected. The other establishments in the sampling frame are

enumerated on a sample basis. In total, about 4 000 establishments are selected for enumeration in each survey quarter of QSMTA. The coverage of QSMTA is reviewed on an annual basis to guarantee a satisfactory coverage of establishments engaged in merchanting and trade in services activities.

21. The same survey form was used for all industry sectors covered in QSMTA for the reference year of 2010. Based on the experience of the Q1-Q4 2010 rounds, some types of service items are observed to be concentrated in a few industry groups only. For example, the main bulk of merchanting activities were carried out by establishments within the imports and exports trade sector which together accounted for over 99% of the values of sales of goods and costs of goods sold under merchanting. It is considered more cost-effective to include such data items for the most relevant firms only. Starting from 2011 survey rounds, industry-specific QSMTA questionnaires have been issued to respondents. Four industry-specific survey forms are designed for specific industry groups, requesting respondents to provide only data items relevant to their business, aiming at minimising respondent burden and enhancing the efficiency of data collection.

DIFFICULTIES ENCOUNTERED IN DATA COLLECTION

1. Goods for processing

22. When the enhanced Survey on processing trade was initially implemented, one major difficulty regarding data collection was encountered. In undertaking fieldwork, it was discovered that a certain proportion of respondents were logistics companies² (rather than the owners of imported processed goods) which did not have readily available information about the new data required. To resolve this issue, the C&SD has made considerable efforts in establishing rapport with major logistics companies through liaison meetings, courtesy visits and education in the past few years, so that these logistics companies can either acquire the relevant information from the goods owners themselves or provide the contact details of the goods owners for subsequent follow-ups by the C&SD. This established practice has successfully reduced the non-response rate of logistics companies to a reasonably low level. As a result, the overall response rate of the enhanced survey is maintained at a relatively high level of around 85%.

2. Merchanting

23. Implementing the new treatments for merchanting is more challenging than anticipated. It involves not just simply reclassifying readily available net merchanting data from services to goods, but also presenting merchanting data on a gross basis. Fieldwork experience of QSMTA indicates that many respondents do not have readily available updated quarterly information on the values of sales of goods and costs of goods sold in respect of merchanting, though they have rather updated quarterly information on trade margin related to merchanting activities readily available on hand. The reason is due to the late availability of bills of sales which is a common business practice for companies to receive them with a certain time lag after transactions. For supporting timely compilation of GDP and BoP statistics, preliminary estimates of quarterly merchanting statistics under the new standards have to be available

² It is a common phenomenon in Hong Kong that logistics companies are delegated by the owners of processed goods to handle the shipment of goods as well as the submission of trade declarations. Logistics companies which are sampled in the survey on outward processing trade activities are mainly freight forwarders/ cargo consolidators, carriers (e.g. airline and transportation companies) and couriers.

within very short time lags. The proportion of cases available for preliminary estimates compilation (at about three weeks after the end of the reference quarter) in QSMTA is around 40%. Refined imputation procedures have to be constructed based on historical reported data of outstanding sampled cases as well as other market information. The C&SD will assess the data quality of merchanting data collected via QSMTA by comparing the quarterly estimates for 2010 with the same data collected for the full year via the 2010 round of ASIES which is now being conducted.

PRELIMINARY RESULTS OF ENHANCED/NEW SURVEYS

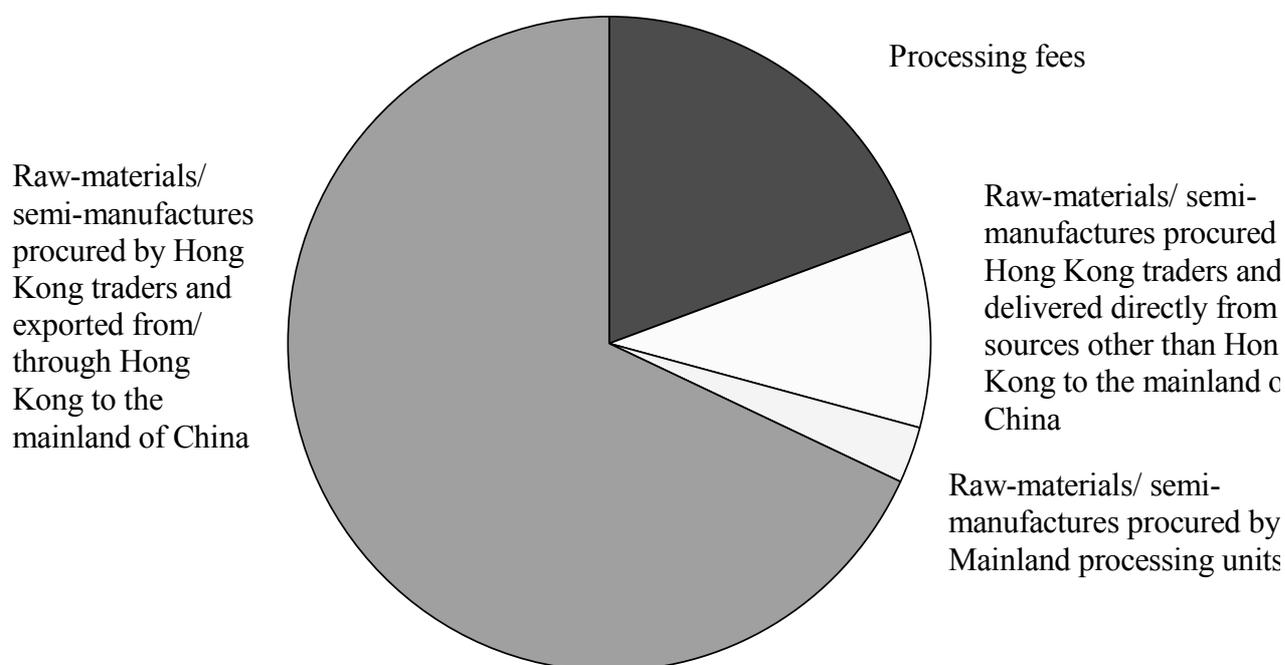
1. Enhanced Survey on Processing Trade

24. Preliminary estimates from the enhanced Survey have been evaluated and found to be stable and consistent with Hong Kong's trading pattern. For example, *machinery and mechanical appliances, electrical equipment* consistently contributed to the largest proportion of imports from the Mainland involving outward processing under the arrangement of *processing and assembling*, followed in descending order of prominence by *sound recorders and reproducers, television image and sound recorders and reproducers* and *articles of apparel and clothing accessories (textile garments)*.

25. The enhanced Survey also enables the analysis of the import value from the Mainland involving outward processing under the arrangement of *processing and assembling* by component for 2008-2010 as follows (Chart 1),

- (a) Around 20% was processing fees;
- (b) Around 70% was raw-materials/ semi-manufactures procured by Hong Kong traders and exported from/ through Hong Kong to the Mainland;
- (c) Around 10% was raw-materials/ semi-manufactures procured by Hong Kong traders and delivered directly from sources other than Hong Kong to the Mainland; and
- (d) around 2-3% was raw-materials/ semi-manufactures procured by Mainland processing units.

Chart 1 Import value from the Mainland involving outward processing under the arrangement of processing and assembling by component (based on survey results for 2008-2010)



26. These structural ratios are relatively stable at an aggregate level across different time periods. At commodity level, processing fees consistently contributed to a relatively higher proportion of the import value of *toys, games and sports requisites* than other commodity groups across time, which also appears reasonable as these goods generally require more man-made components and higher quality standards.

27. Although information collected from the Survey is available only with longer time lag, they can be used to revise the preliminary estimates of trade aggregates produced by data models, and to support more in-depth analysis. This information, especially the structural ratios at commodity level, also serves to regularly update the parameters of data models.

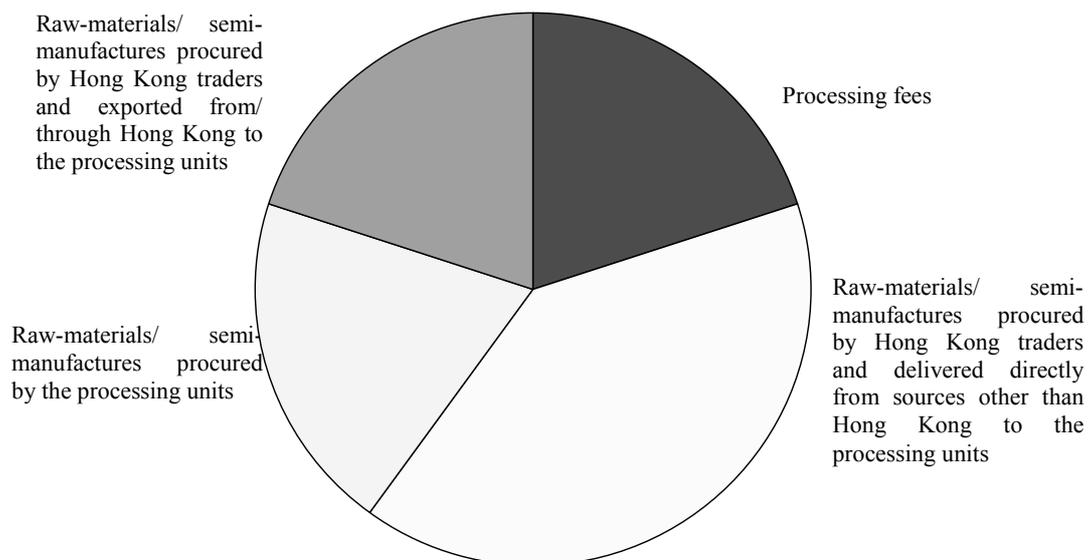
2. New Survey on Merchanting and Other Trading Activities

28. Preliminary results of the QSMTA indicate that the magnitude of goods sold offshore involving outward processing under the arrangement of *processing and assembling* is not large for Hong Kong in 2010, especially when compared with goods sold offshore. For every ten dollars of goods sold offshore, there is around only one dollar of goods sold offshore involved outward processing under the arrangement of *processing and assembling*. Out of the cost of goods sold offshore under the arrangement of *processing and assembling* for 2010 (Chart 2),

- (a) Around 20% was processing fees;
- (b) Around 20% was raw-materials/ semi-manufactures procured by Hong Kong traders and exported from/ through Hong Kong to the processing units;

- (c) Around 40% was raw-materials/ semi-manufactures procured by Hong Kong traders and delivered directly from sources other than Hong Kong to the processing units; and
- (d) Around 20% was raw-materials/ semi-manufactures procured by the processing units.

Chart 2 Cost of goods sold offshore under the arrangement of processing and assembling by component



29. Final response rates of the survey approached 90% each quarter. Results of this new survey would be carefully monitored and compared with those of the ASIES to ensure that the quality of estimates would not be compromised for timeliness.

IMPACT OF IMPLEMENTING THE NEW INTERNATIONAL STATISTICAL STANDARDS

30. In order to assess the impact of implementing the *2008 SNA* and the *BPM6* on the trade in goods and services statistics of Hong Kong, an adjustment was made to the statistics for the year 2008 based on preliminary survey results. The adjusted figures help illustrate the likely magnitude of the change brought by the new standards.

31. It can be seen from Table 1 that implementation of the new international statistical standards would have a sizeable impact on the external trade statistics of Hong Kong. In particular, the balance of trade in goods in 2008 would be revised from a deficit of US\$23 billion to a surplus of US\$27 billion, and the balance of trade in services from a surplus of US\$45 billion to a deficit of US\$5 billion. In addition, given the importance of goods for processing and merchanting for the Hong Kong economy, the significant downward revision in the figures in respect of exports of goods and exports of services would change the relative ranking of Hong Kong in world exports of goods and services.

WAY FORWARD

1. In the past few years, the C&SD has successfully established the necessary infrastructure for the implementation of the new standards on goods for processing and merchanting, including the set-up of data models and the enhancement and the launch of relevant surveys which yield stable and robust results. In the near future, the C&SD will focus on further strengthening the quality of data, especially for preliminary estimates, and will continue to engage major data users to ensure correct understanding of the statistics. With the extensive work done and solid foundation laid, Hong Kong is prepared to formally implement the change of ownership principle with confidence in 2012, making Hong Kong one of the first few economies in the world to implement the new standards.

Table 1 Impact of implementation of the 2008 SNA and the BPM6 on goods for processing and merchanting (US\$ billion)

External Trade of Hong Kong in 2008	Under BPM5	Outward Processing	Merchanting	Offshore Trade with Outward Processing	Under BPM6	Percentage Change
Exports of goods	365	-57	+19	+18	345	-5%
Imports of goods	388	-77		+8	319	-18%
<i>Balance of trade in goods</i>	-23				27	
Exports of services	92		-19	-3	69	-25%
Imports of services	47	+20		+7	74	+58%
<i>Balance of trade in services</i>	45				-5	
<i>Balance of trade in goods and services</i>	22				22	

Figures may not add up to the respective totals due to rounding.