STAT 6108 :

Official Statistics and Structural Equation Modelling

Second Term, 2019-2020

PART 1- OFFICIAL STATISTICS

PowerPoint - 4

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Trade Statistics

- Imports

- Domestic Exports

  natural produce **or** products from "origin conferring" processes

- Re-exports

  Note: these are goods coming into HK under **one** "bill of lading" and then going onto the next destination under **another** "bill of lading"….and there is only minor transformation to the shape and contents of the goods [[i.e. if there is major transformation, then the imports come as "raw materials" or "semi-manufactures"]]

  If there is a "*through* bill of lading", then we have a "trans-shipment. This is **not** " re-exportation".

>>> Total Exports= Domestic Exports + Re-exports

- Without natural resources and the more basic industries, Hong Kong produces products (hence also domestic exports) which have significant "import contents"

Trade Statistics (cont'd)

Some concepts in trade statistics……..

Retained Imports QUANTITY = Imports quantity – re-exports quantity

*** **Retained Imports VALUE** = Imports value at import price – re-exports value at import price

In trade statistics publications, re-exports (RX) are shown at re-export price.

Some people **MISTAKENLY** estimate **Retained Imports VALUE** as
Imports valued at import price – re-exports value at re-exports price ***

Noting that Re-exports value at imports price = [rx value at rx price - trade margin earned by the re-exporters] ,

Retained Imports VALUE
= Imports valued at imports price – re-exports valued at import price
= Imports valued at imports price - [rx valued at rx price - trade margin earned by the re-exporters]
= (Imports valued at imports price - rx valued at rx price) + trade margin earned by the re-exporters

Trade Statistics (cont'd)

Trade classifications:

- For Trade declaration:

  Harmonized System (HS) (more oriented to the materials and production processes)

- For data presentation and analysis :

  Both **HS** and

  Standard International Trade Classification (**SITC**)

  (more oriented to end-uses of the goods) are used;

  but SITC is more popular.

External Merchandise Trade

百萬元(另有註明除外)
$ million (unless otherwise specified)

貿易種類	Type of trade	2008	2013	2014	2015	2016	2017	2018
進口	Imports	3,025,288	4,060,717	4,219,046	4,046,420	4,008,384	4,357,004	4,721,399
與上年比較的變動 (%)	Change over the preceding year (%)	+5.5	+3.8	+3.9	-4.1	-0.9	+8.7	+8.4
整體出口	Total exports	2,824,151	3,559,686	3,672,751	3,605,279	3,588,247	3,875,898	4,158,106
與上年比較的變動 (%)	Change over the preceding year (%)	+5.1	+3.6	+3.2	-1.8	-0.5	+8.0	+7.3
貿易總額	Total trade	5,849,439	7,620,404	7,891,798	7,651,699	7,596,631	8,232,902	8,879,505
與上年比較的變動 (%)	Change over the preceding year (%)	+5.3	+3.7	+3.6	-3.0	-0.7	+8.4	+7.9
商品貿易差額	Merchandise trade balance	-201,137	-501,031	-546,295	-441,141	-420,137	-481,106	-563,292
差額佔進口百分比	As percentage of imports	6.6	12.3	12.9	10.9	10.5	11.0	11.9
留用進口	Retained imports	770,430	1,104,539	1,160,441	1,039,949	997,123	1,098,009	1,215,627
與上年比較的變動 (%)	Change over the preceding year (%)	+5.3	+4.5	+5.1	-10.4	-4.1	+10.1	+10.7

External Merchandise Trade by Main Countries/Territories

百萬元
$ million

貿易種類／主要國家／地區	Type of trade/ Main country/territory	2008	2013	2014	2015	2016	2017	2018
進口（供應地）	Imports (supplier)	3,025,288	4,060,717	4,219,046	4,046,420	4,008,384	4,357,004	4,721,399
中國內地	The mainland of China	1,410,735	1,942,131	1,986,964	1,984,048	1,916,831	2,030,145	2,186,267
台灣	Taiwan	192,041	261,895	300,278	274,385	292,072	329,678	338,445
新加坡	Singapore	194,951	246,441	260,801	245,867	261,694	288,107	314,126
韓國	Korea	118,084	158,709	175,537	172,085	196,228	252,056	278,314
日本	Japan	297,552	286,343	288,891	260,294	246,698	253,394	259,964
整體出口（目的地）	Total exports (destination)	2,824,151	3,559,686	3,672,751	3,605,279	3,588,247	3,875,898	4,158,106
中國內地	The mainland of China	1,370,445	1,949,247	1,979,016	1,936,515	1,943,469	2,105,829	2,287,303
美國	United States of America	359,255	331,303	341,456	342,193	324,040	330,198	356,797
印度	India	52,201	83,301	94,224	101,831	116,702	158,635	134,339
日本	Japan	120,952	135,229	131,505	122,772	116,746	128,474	129,318
台灣	Taiwan	54,943	77,359	79,297	65,029	74,516	89,371	86,172

Trade Statistics (Cont'd)

- Compilation of trade statistics

  Trade declarations lodged by traders (within 14 days of importation/exportation). Detailed info. are contained. Late submission is subject to a (small) fine.

  Manifests have to be submitted by carriers (ships, barges, aeroplanes, trucks….) before the goods cross HK's boundary—and customs officials may board carrier to do checking. Non-submission of Manifest is a serious offence. Information in manifests are less detailed. **The availability of the Manifests enables trade declarations to be checked for completeness.**

- Offshore trade – a kind of "**trade in services"** (see below). The goods do not pass HK (normally so; — but " trans-shipment" is possible) and *may OR may not* change ownership in the process.

Trade Statistics (cont'd) – trade indices

- Unit Value (UV) of a commodity item is the average value obtained by dividing its total value by the corresponding quantity.

  UV are subject to the effect of changes over time in quality, product mix and markets or sources of supply for the commodity item ***in addition to pure price changes***

- Unit Value Index (UVI) [see next slide for the formula)

- Specification Price Index (SPI)—

  For some commodities, quality is more uniform and quantity measures are simpler; there, surveys of PRICES can be made to produce SPI…and formula is similar to that for the CPI

Trade Statistics: Formula for the Compilation of the UVI

$$I_t = \sum W_k \left(\frac{P_{tk}}{P_{0k}}\right)$$

where I_t is the **Unit Value index** for period t ;

W_k is the weight of product k ;

P_{0k} is the average **unit value** of product k in the base period;

P_{tk} is the average **unit value** of product k in period t ;

Σ means aggregating the product of weight (W_k) and price relative ($\frac{P_{tk}}{P_{0k}}$) of all products included in the goods basket.

This formula can be compared with that for the CPI

Trade Statistics (cont'd)

- We note :--- Value = Quantity x Price
  So, Quantity = Value/Price

- Value Index(VI)= (Value for time period T)/
  (Value for Base Period 0) x 100

- Quantum Index = (VI/UVI) x 100
- Quantity Index = (VI/SPI) x100
  (only available to limited no. of commodity groups since SPI is available for a limited no. of commodity groups only)

Trade in services

- Exports and Imports in :

  Transportation, Travel;
  Insurance services, Financial services,
  Trade-related services
    [such as “offshore trade – merchanting vs
      merchandising [depending on whether there
      is change in ownership in the process :
      --for the former, the trader buy and then re-sell],
  Communication services,
  Business services (IT, Advertising, Legal,…)….

Exports and imports of services by service component

十億港元
HK$ billion

服務組成部分	Service component	2013	2017@	2018@
服務輸出	**Exports of services**			
運輸	Transport	242.4	237.4	256.2
		(-2.5)	(+8.6)	(+7.9)
旅遊	Travel	302.0	259.8	287.7
		(+17.7)	(+1.9)	(+10.7)
保險及退休金服務	Insurance and pension services	7.9	11.1	11.8
		(+9.5)	(-1.5)	(+6.4)
金融服務	Financial services	128.1	158.7	183.8
		(+6.1)	(+14.6)	(+15.8)
其他服務	Other services	132.3	145.9	152.7
		(+0.9)	(+3.2)	(+4.7)
總計	**Total**	**812.6**	**812.9**	**892.3**
		(+6.4)	**(+6.3)**	**(+9.8)**

服務輸入	**Imports of services**			
運輸	Transport	140.6	136.3	143.7
		(-1.4)	(+3.7)	(+5.4)
旅遊	Travel	164.5	197.9	207.7
		(+5.7)	(+5.6)	(+5.0)
製造服務	Manufacturing services	116.0	91.3	94.8
		(-16.5)	(+3.5)	(+3.8)
保險及退休金服務	Insurance and pension services	10.4	11.3	11.7
		(+10.0)	(+2.1)	(+3.5)
金融服務	Financial services	32.7	42.3	45.9
		(+7.1)	(+15.5)	(+8.7)
其他服務	Other services	119.0	126.5	132.2
		(+1.6)	(+2.4)	(+4.5)
總計	**Total**	**583.2**	**605.5**	**635.9**
		(-1.9)	**(+4.7)**	**(+5.0)**
服務輸出淨額	**Net exports of services**	**229.4**	**207.4**	**256.3**

Statistics on production and industry (in the broad sense)

- Value-added of different industries show their respective contribution to the economy
- Operating characteristics of establishments, categorized by size, reveal cost structures and profitability:

  >> on a more macro- basis, economists and analysts can study industrial structures

  >> on a more micro- basis, investors and entrepreneurs running companies can use the data to conduct relevant studies and make investment and management decisions

Statistics on production and industry ..(cont'd)

Important ratios:

- "Value-added" to total gross output of the industry
- Labout cost to total sales
- Rent to total sales
- Value added per employee – a measure of productivity
- Profit to total sales --profitability

Employment Statistics and Labour Cost Statistics

- On this subject, while household surveys provide data from the supply side (and on a more "social" tone), surveys of establishments provide data from the demand side (and on a more "economic" tone)
- From an household survey, one cannot expect a respondent to provide raw data in a very detailed manner. He can only give ***crude*** indication of his "industry" and "occupation"
- From an establishments survey, more reliable data can be obtained by ***finer*** classifications of industry and occupation. Statistics like wage rates can also be obtained since ***more accurate*** information on jobs (posts) can be obtained.

Employment Statistics and Labour Cost Statistics

- Wage Statistics:

  >>Nominal Wage Index (showing change in unit price of labour – at current money value)

  >>Real Wage Index (Nominal Wage Index adjusted for Consumer Price Index)

……..

Example:

NWI=100 (base period B),

=110 (current period)

CPI= 100 base period B),

{{if base period is B' , being different from B,

we need to convert the series to one with base period B}}

= 107(current period)

RWI=100 (base period B), = (110/107) x 100 = 102.8

That is, workers' unit price has increased by 2.8 %

Employment Statistics and Labour Cost Statistics

- Labour Cost is not just wages of the firm's employees
- **Wage rate** is the unit price of workers. Workers may work different lengths of time ("overtime" is that over and above the regular hours of work)
- Then, of course, overtime too and **overtime payments**
- Also, wage rate can be in terms of **pure wages *or* wages with benefits**
- Costs spent on Accident Insurance, Training etc are part of Labour Costs but not considered as Employee Benefits
- Raw data are obtained through Surveys of Establishments. Note that not only **business establishments** are covered. Establishments such as **charitable organisations** are also covered; but of course the data items covered may then be different.

CLASSIFICATIONS

- ISIC -- **International Standard Industrial Classification**

(HSIC– adapted from ISIC)

Nine Major Divisions(MD)

- 1 Agriculture and Fishing
- 2 Mining and quarrying
- 3 Manufacturing
- 4 Electricity, gas and water
- 5 Construction
- 6 Wholesale, retail and import/export trades, restaurants and hotels
- 7 Transport, storage and communications
- 8 Financing, insurance, real estate and business services
- 9 Community, social and personal services

- Under each MD, there are sub-classifications and sub-sub-classifications. Forming an hierarchy. Thus, we have 4-digit industries, e.g. 3114; 6101…

>>>>>The Classification has recently undergone some major change. See an attachment to this PowerPoint [[on HSIC version 2.0]] <<<<<

CLASSIFICATIONS

International Standard Classification of **Occupations (ISCO….2008)**

- Managers and administrators
- Professionals
- Associate professionals
- Clerks
- Service workers and Shop sales workers
- Craft and related workers
- Plant and machine operators and assemblers
- Elementary occupations
- Unclassified occupations

CLASSIFICATIONS

Employment Statistics and Labour Cost Statistics

>> Employment status-

- Employer;
- Employee;
- Self-employed;
- Unpaid family worker

Employed Persons by Occupation
[International Standard Classification of Occupation, 2008] (ISCO-08)

千人
Thousands

職業	Occupation	2013	2014	2015	2016	2017	2018
經理及行政級人員	Managers and administrators	375.2	392.3	409.8	442.5	462.1	448.9
專業人員	Professionals	268.8	278.8	303.4	287.2	283.5	304.2
輔助專業人員	Associate professionals	744.1	746.7	743.8	747.8	778.6	797.7
文書支援人員	Clerical support workers	512.9	516.7	520.4	510.6	496.9	495.8
服務工作及銷售人員	Service and sales workers	631.9	629.3	621.1	619.6	622.7	620.3
工藝及有關人員	Craft and related workers	258.8	251.5	249.4	240.0	246.1	244.9
機台及機器操作員及裝配員	Plant and machine operators and assemblers	182.4	178.4	175.0	169.3	170.6	169.8
非技術工人	Elementary occupations	746.3	746.2	747.4	766.8	759.3	782.4
其他	Others	3.6	3.7	3.5	3.5	3.3	3.0
總計	Total	3 724.0	3 743.5	3 773.8	3 787.1	3 823.2	3 867.0

Employed Persons by Employment Status

千人
Thousands

就業身分	Employment status	2008	2013	2014	2015	2016	2017	2018
僱員（包括外發工）	Employees (including outworkers)	3 115.9	3 346.7	3 401.8	3 436.8	3 457.6	3 489.4	3 536.9
僱主	Employers	132.7	120.2	110.1	110.8	105.8	108.5	97.7
自營作業者	Self-employed	241.3	243.9	216.5	213.4	212.6	213.1	223.1
無酬家庭從業員	Unpaid family workers	19.2	13.3	15.1	12.8	11.2	12.3	9.3
總計	Total	3 509.1	3 724.0	3 743.5	3 773.8	3 787.1	3 823.2	3 867.0

Employed Persons by Industry

千人
Thousands

行業	Industry	2008	2013	2014	2015	2016	2017	2018
製造	Manufacturing	165.7	126.3	130.0	113.5	117.8	111.4	103.2
建造	Construction	265.3	309.0	309.7	316.7	328.4	342.0	351.6
進出口貿易及批發	Import/export trade and wholesale	588.9	522.4	502.3	480.2	465.4	449.9	442.8
零售、住宿(1)及膳食服務(2)	Retail, accommodation(1) and food services(2)	551.8	609.3	633.3	625.1	619.5	638.0	631.1
運輸、倉庫、郵政及速遞服務、資訊及通訊	Transportation, storage, postal and courier services, information and communications	433.8	444.3	445.6	454.6	449.8	452.6	450.9
金融、保險、地產、專業及商用服務	Financing, insurance, real estate, professional and business services	638.8	714.2	732.6	750.2	762.2	779.0	794.1
公共行政、社會及個人服務	Public administration, social and personal services	843.3	975.2	967.4	1 008.5	1 018.1	1 029.2	1 069.6
其他	Others	21.5	23.4	22.6	25.1	26.0	21.1	23.6
總計	Total	3 509.1	3 724.0	3 743.5	3 773.8	3 787.1	3 823.2	3 867.0

Price Indices of Residential Properties

There is a lot of useful information in the "Property Review" , which can be downloaded from the website of the Rating and Valuation Department of the HKSARG [-www.rvd.gov.hk].

	All Classes	Small/medium (up to 99 sq.m)	Large (100 sq.m or more)
1980	**19.9**	**19.8**	**20.8**
1981	**24.4**	**24.3**	**25.6**
1986	**21.3**	**21.5**	**18.5**
1989	**40.2**	**40.6**	**33.3**
1992	**85.2**	**86.4**	**68.0**
1994	**114.9**	**114.9**	**116.3**
1996	**116.9**	**116.9**	**116.5**
1997	**163.1**	**162.7**	**169.7**
1999	**100.0**	**100.0**	**100.0**
2003	**61.6**	**61.0**	**72.0**
2007	**103.5**		

Price Indices [[Residential properties]]

(1999年 = 100)
(Year 1999 = 100)

類別	Type	2008	2013	2014	2015	2016	2017	2018
私人住宅	Private domestic							
少於40 平方米	Less than 40 sq. m.	117.6	260.3	278.7	326.7	314.8	368.3	416.6
40 - 69.9 平方米	40 - 69.9 sq. m.	116.1	230.1	243.2	282.8	272.9	318.4	359.3
70 - 99.9 平方米	70 - 99.9 sq. m.	138.5	233.5	238.2	265.4	258.8	296.9	333.0
100 - 159.9 平方米	100 - 159.9 sq. m.	157.2	244.9	247.8	269.4	264.5	293.1	320.1
160 平方米或以上	160 sq. m. or above	183.6	267.4	264.7	283.4	275.1	306.1	325.2
合計	Overall	120.5	242.4	256.9	296.8	286.1	333.9	377.3
私人零售業樓宇	Private retail	192.2	506.8	521.2	559.2	526.9	558.4	591.4
私人寫字樓（甲級、乙級及丙級）	Private offices (Grades A, B and C)	199.0	409.8	423.0	448.9	426.9	487.1	554.7
私人分層工廠大廈（樓上單位）	Private flatted factories (upper floor units)	235.9	655.4	668.0	723.9	692.7	778.1	888.1

註釋： 住宅樓宇的首次買賣並不會用作分析。

Note : Primary sales of domestic premises are excluded from the analysis.

Rental Index of Residential Properties (fresh lettings and renewal of old contracts)

	All Classes	Small/medium (up to 99 sq.m)	Large (more than 100 sq.m)
1980	**17.4**	**17.4**	**17.5**
1981	**41.5**	**40.9**	**44.5**
1986	**42.7**	**42.2**	**44.3**
1989	**69.4**	**69.8**	**68.4**
1992	**90.4**	**93.7**	**81.9**
1994	**118.1**	**116.3**	**125.3**
1996	**119.0**	**118.3**	**121.5**
1997	**134.5**	**133.3**	**139.0**
1999	**100.0**	**100.0**	**100.0**
2003	**73.6**	**72.7**	**78.8**
2007	**182.6**		

私人住宅樓宇新訂租約租金指數
Rental indices of residential properties
(fresh lettings and renewal of old contracts)
(2008, 2013, 2014, 2015, 2016, 2017, 2018)

租金指數（1999年=100）	Rental indices (Year 1999 = 100)							
少於40平方米	Less than 40 sq. m.	113.2	163.6	171.8	187.4	184.8	201.2	213.4
40 - 69.9 平方米	40 - 69.9 sq. m.	111.7	153.8	158.9	172.7	165.8	181.7	192.4
70 - 99.9 平方米	70 - 99.9 sq. m.	119.2	141.0	143.3	154.0	148.4	159.4	166.7
100 - 159.9 平方米	100 - 159.9 sq. m.	133.4	142.0	142.3	150.5	146.3	153.5	159.2
160 平方米或以上	160 sq. m. or above	141.1	143.8	141.9	145.7	141.9	143.9	148.7
合計	Overall	115.7	154.5	159.5	172.8	168.2	182.6	193.0

資料來源： 差餉物業估價署　　Source : Rating and Valuation Department

HK Annual Digest of Statistics (2019) : LAND USE DISTRIBUTION
- data as at end-2018-
(Note: Total area of "COUNTRY PARK" = 44,000 sq km i.e. about40% of HK 's area)
[Note: 1 sq. km.=100 hectare; 1 hectare =10,000 sq. m.]

類別	Class	平方公里 sq. km 大約面積 Approximate area
住宅	Residential	
私人住宅(1)	Private residential(1)	26
公營房屋(2)	Public residential(2)	17
鄉郊居所(3)	Rural settlement(3)	35
商業	Commercial	
商業／商貿和辦公室	Commercial/Business and office	5
工業	Industrial	
工業用地	Industrial land	7
工業邨／科技園	Industrial estates/Science and technology parks	3
貨倉和露天貯物	Warehouse and open storage	17
機構／休憩	Institutional/Open space	
政府、機構和社區設施	Government, institutional and community facilities	25
休憩及康樂(4)	Open space and recreation(4)	28
運輸	Transportation	
道路及運輸設施	Roads and transport facilities	46
鐵路	Railways	4
機場	Airport	13
港口設施	Port facilities	4
其他都市或已建設土地	Other Urban or Built-up Land	
墳場／殯葬設施	Cemeteries/Funeral facilities	9
公用事業設施	Utilities	9
空置／正在進行建築工程的土地	Vacant land/Construction in progress	15
其他	Others	12
農業	Agriculture	
農地	Agricultural land	50
魚塘／基圍	Fish ponds/Gei wais	16
林地／灌叢／草地／濕地	Woodland/Shrubland/Grassland/Wetland	
林地	Woodland	276
灌叢	Shrubland	264
草地	Grassland	187
紅樹林／沼澤	Mangrove/Swamp	6
荒地	Barren land	
劣地	Badland	2
岩岸	Rocky shore	4
水體	Water bodies	
水塘	Reservoirs	25
河道和明渠	Streams and nullahs	6
總計(5)	Total(5)	1 111

(Remarks on the “Land Use” table)

有關的土地用途數據已根據2018年12月和2019年1月的衞星圖像（©AIRBUS DS(2018、2019)），截至2018年年底由規劃署內部調查所得的資料，以及各政府部門的其他相關資料而更新。由於部分土地用途分類的定義和方法不時更新，所以年內的數字未必能與往年的數字直接比較。

(1) 包括私人發展商發展的住宅用地（村屋、資助房屋和臨時房屋區除外）。

(2) 包括資助房屋和臨時房屋區。

(3) 包括村屋和臨時搭建物。

(4) 包括公園、運動場、遊樂場和康樂設施。

(5) 包括高水位線下約4平方公里的紅樹林和沼澤。

資料來源： 規劃署

The land use data was compiled using satellite images dated December 2018 and January 2019 (©AIRBUS DS (2018, 2019)), in-house survey information of the Planning Department up to end-2018 and other relevant information from various government departments. As definitions of some land use classes and methodology are updated from time to time, the figures this year may not be comparable directly to those provided in previous years.

(1) Including residential area developed by private developers (excluding village houses, subsidised housing and temporary housing area).

(2) Including subsidised housing and temporary housing area.

(3) Including village housing and temporary structures.

(4) Including parks, stadiums, playgrounds and recreational facilities.

(5) Including about 4 km^2 of mangrove and swamp below the High Water Mark.

Source : Planning Department

Financial Statistics

>>Money Supply

M1, M2, M3 are all widely used

>> Exchange Rate Index (of the HK Dollar):

Weighted Index of exchange rates--

trade-weighted (trade with different countries)

>>Stocks : trading volume; Hang Seng family of stock price indices (the Hang Seng Index being the flagship index)

>>Statistics on Loans and Deposits

>>Statistics on Government finance

Balance of Payments

**CURRENT ACCOUNT (net flows of the following, in and out)

>> Goods

>> Services

>> Income

>> Transfers

**CAPITAL AND FINANCIAL ACCOUNT

>>Capital and financial non-reserve assets(net change)

e.g. capital transfers, direct investment, portfolio investment, ….

>>Reserve Assets

***NET ERROR AND OMISSIONS

Financial Secretary's Annual Budget Speech
(End February/ Early March of Year T)

A few accompanying documents containing very useful statistical data:

> Hong Kong in Figures (Year T)

> Economic Background (Year T-1) and Economic Prospects (Year T)

> Gross Domestic Product

(some data up to Year (T-1)

and some up to Year (T-2))

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