Statistics Singapore Newsletter
Issue 2 2019
ISSN 2591-7382

Prevalence of E-Payment Transactions – Findings from the Household Expenditure Survey 2017/18

by Wong Mun Mun and Tham Zheng Kang
Income and Expenditure Division
Singapore Department of Statistics

Introduction

The Singapore Department of Statistics (DOS) conducts the Household Expenditure Survey (HES) in Singapore once every five years starting from 1972/73. The HES collects information on households' expenditure and socio-economic characteristics, as well as ownership of consumer durables. The latest HES was conducted from October 2017 to September 2018.

Data compiled from the HES are used to support studies on income and expenditure, and to update the weighting pattern and the basket of goods and services for the compilation of the Consumer Price Index (CPI). The HES also provides insights on how the lifestyles and spending patterns of consumers change over time.

With the widening use of e-payments in recent years, the HES 2017/18 data facilitated the analyses of how households made payments for their purchases.

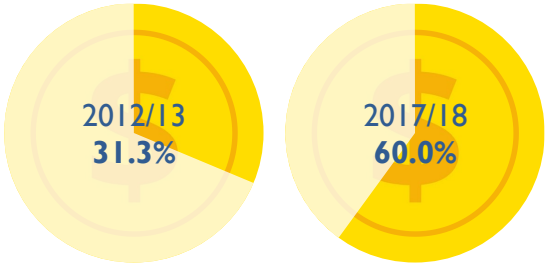
Growing Adoption of E-Payment Transactions

E-payments have grown since the early days of the introduction of credit cards, General Interbank Recurring Order (GIRO) and Electronic Fund Transfer at Point of Sale (EFTPOS) in the 1980s, and contactless stored value EZ-Link cards for use in public transit since 2002.

Today, more e-payment modes are available to consumers, such as mobile payment alternatives (e.g. Apple Pay, Samsung Pay, and Singtel Dash) as well as e-wallets (e.g. DBS PayLah! and GrabPay). As a result, merchants and establishments have adopted e-payment systems to meet the growing demand among their customers. Besides retail shops and restaurants, food courts and hawker centres are also offering e-payment options.

Given the widespread availability, ease and convenience of different e-payment modes for various types of purchases, more resident households have become receptive to making e-payment transactions for a growing range of products and services. The use of e-payment transactions grew in tandem with the rise of e-commerce. From the results of the HES, the proportion of households that reported making at least one online purchase rose from 31 per cent in 2012/13 to 60 per cent in 2017/18 (Chart 1).

CHART 1
PROPORTION OF HOUSEHOLDS WITH ONLINE EXPENDITURE, HES 2012/13 AND 2017/18



Information on E-Payment Transactions Collected in HES 2017/18

DOS collected information on e-payment transactions for the first time in HES 2017/18. In the HES, 'e-payments' refer to purchases made using non-cash or cheque payment modes such as EZ-Link card, NETS/ NETS FlashPay cards, CashCards, credit/debit cards, GIRO, Internet Banking, mobile e-wallets, etc.

The day-to-day expenses of respondents were collected for the HES over two weeks, where they were required to indicate whether each purchase was paid for using e-payment. In addition, e-payment transactions of selected big ticket ad-hoc items, e.g. overseas holidays and purchase of durable goods, were recorded via a 12-month recall[1].

However, not all information on the mode of payment is available for certain expenditure items, in particular, those captured from administrative records such as utilities, hospitalisation bills, expenditure on motor cars, motorcycles, road tax, and health insurance.

Considering that many of these expenses were expected to be paid via cashless means, for example through GIRO and credit/debit cards, the amount and share of e-payments for these items would likely be undercounted.

Almost All Households Adopted Some Form of E-Payment

In 2017/18, almost all resident households (97 per cent) performed at least one e-payment transaction.

Across the income quintiles, the prevalence of e-payment transactions among the higher income groups was greater than that in the lower income groups (Chart 2). Nevertheless, even among households in the lowest 20% income group, 92 per cent of households recorded cashless transactions.

A similar trend is observed for the households across housing types, where the prevalence of e-payment transactions was almost universal among households living in bigger HDB flats and private properties (Chart 3). Among households staying in HDB 1- and 2-room flats, 87 per cent of households recorded e-payment transactions.

The high adoption rate of e-payment transactions could be partly attributed to the wide adoption of stored value cards and other e-payment modes used for public transportation. If the expenditure on bus and MRT/LRT fares is excluded, the total proportion of households which performed e-payment transactions in 2017/18 would be lower at 92 per cent.

CHART 2

PROPORTION OF HOUSEHOLDS WITH E-PAYMENT EXPENDITURE BY INCOME QUINTILE [2], HES 2017/18

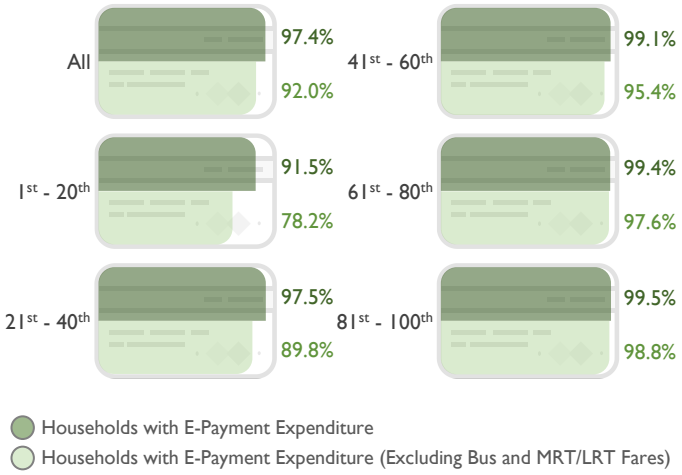
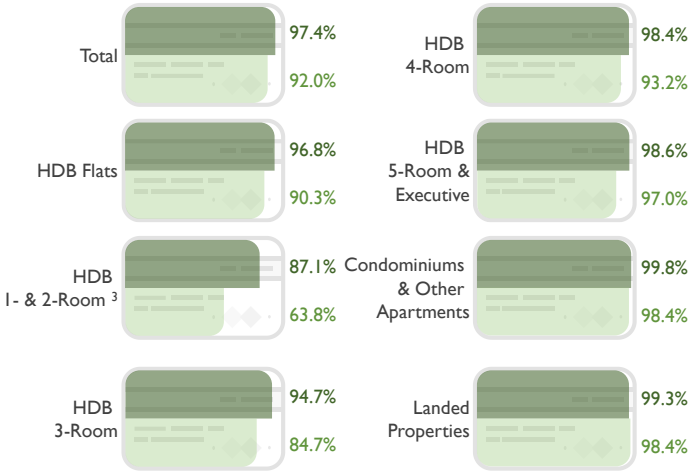


CHART 3

PROPORTION OF HOUSEHOLDS WITH E-PAYMENT EXPENDITURE BY HOUSING TYPE, HES 2017/18



1 Respondents were asked to record transactions of selected big-ticket items, such as expenditure on overseas holidays and purchase of household durable goods like television and furniture, that occurred over the past 12 months.

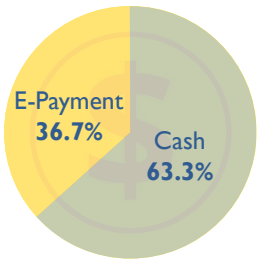
2 Based on the ranking of all resident households by their monthly household income from all sources per household member (including employer CPF contributions).

3 Includes HDB Studio Apartments.

Average Expenditure of E-Payment Transactions

Data from the HES 2017/18 showed that about 37 per cent of average monthly household expenditure or some $1,800 was paid per month via e-payment modes (Chart 4).

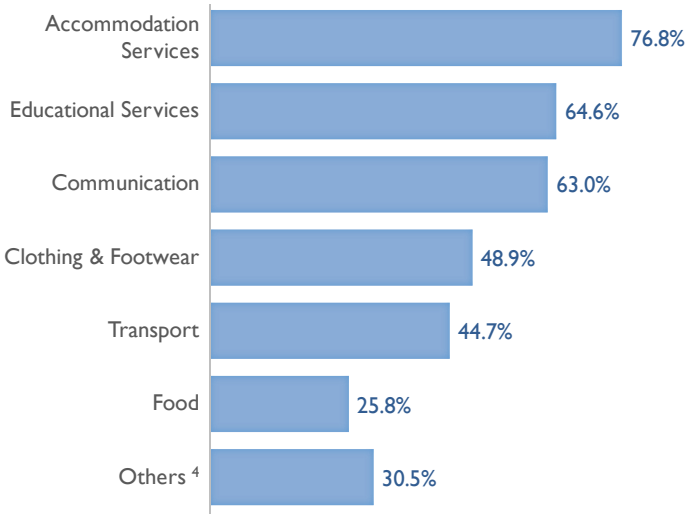
CHART 4
MODE OF PAYMENT FOR AVERAGE MONTHLY HOUSEHOLD EXPENDITURE, HES 2017/18



E-Payment Transactions by Types of Goods and Services

Accommodation Services, in particular hotel bookings, had the highest share of expenditure by e-payments. Close to eight in ten dollars were paid using e-payment (Chart 5). Similarly, about two-thirds of expenditures in Educational Services (65 per cent) and Communication (63 per cent) were transacted through e-payments. With the increasing prevalence of online purchases of clothing and footwear, e-payments accounted for about half of households' expenditure on these items.

CHART 5
SHARE OF E-PAYMENT EXPENDITURE FOR SELECTED TYPES OF GOODS AND SERVICES, HES 2017/18

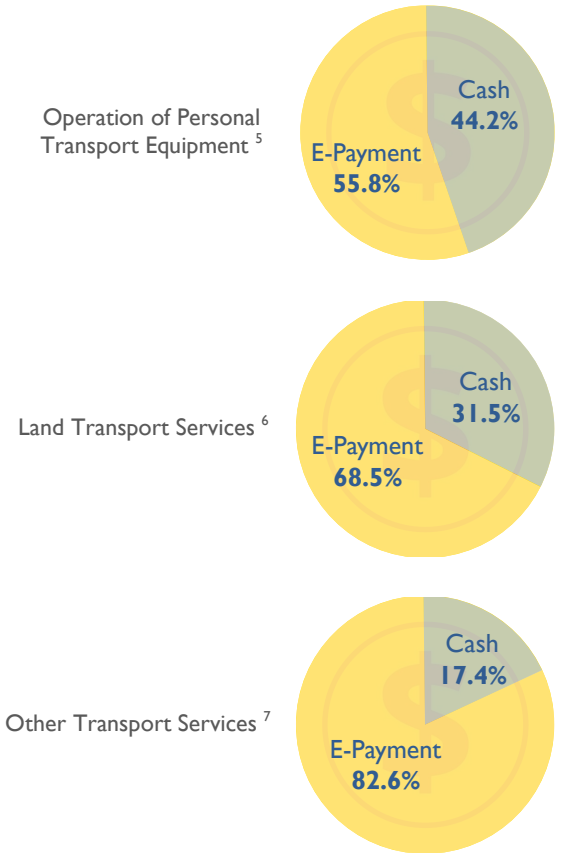


Transport

About 45 per cent of expenditure on transport was paid via e-payment modes. A major contributor was Land Transport Services, which include public transport (Chart 6). With the introduction of ride-hailing apps, users were more likely to pay their transport fares using e-payment modes.

In addition, transport services that are commonly booked online might have contributed to the high proportion of e-payment expenditure in the Transport category. These include airfares and other holiday transport fares, such as land/coach and ferry fares.

CHART 6
SHARE OF E-PAYMENT EXPENDITURE ON TRANSPORT, HES 2017/18



4 Include alcoholic beverages and tobacco, housing and related expenditure, health, recreation and culture, miscellaneous goods and services.
5 Includes spare parts and accessories, fuel and lubricants, maintenance and repair, and other services in respect of personal transport equipment.
6 Include passenger transport by railway and road, taxi and private hire fares, and overseas land/coach fares.
7 Include airfares, ferry fares, moving services, and delivery services.

Food

About 31 per cent of households' expenditure on Food and Non-Alcoholic Beverages was paid via e-payment modes, higher than the 24 per cent on Food Serving Services, which include meals bought from restaurants, hawker centres, food courts, etc. (Chart 7).

Within Food Serving Services, the proportion of e-payment expenditure in Restaurants, Cafes and Pubs was close to half.

The proportion of e-payment expenditure on food generally increased with household income. About 13 per cent of expenditure on food of households in the lowest 20% income group were paid for using e-payment, compared to 39 per cent for households in the top 20% income group (Chart 8).

CHART 7

SHARE OF E-PAYMENT EXPENDITURE ON FOOD AND FOOD SERVING SERVICES, HES 2017/18

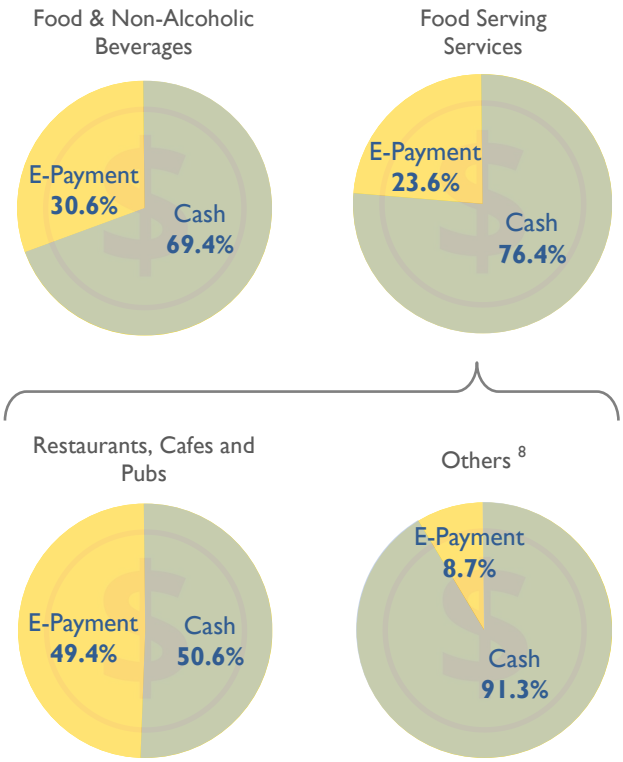
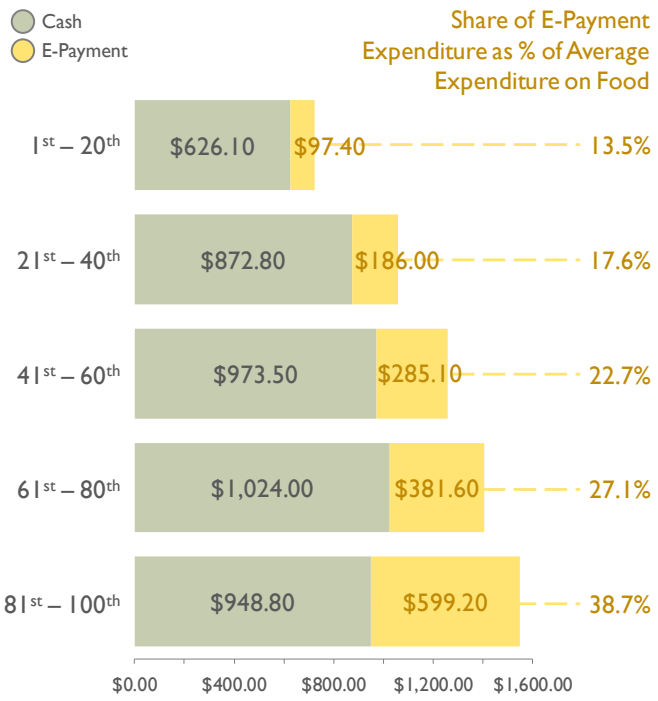


CHART 8

EXPENDITURE ON FOOD BY INCOME QUINTILE 9, HES 2017/18



Concluding Remarks

The HES 2017/18 highlighted the emergence of e-payment transactions as a prevalent and commonly used mode of payment among Singaporean resident households.

In 2017/18, a high proportion of households across income groups and housing types reported the use of e-payment modes for at least one expenditure.

As information on e-payment transactions were captured for the first time in HES 2017/18, comparison with previous years cannot be made. The relevance of the information and data collection methodology used in HES 2017/18 will be assessed and fine-tuned in future rounds of the HES to provide up-to-date and pertinent insights into the changing lifestyles and spending patterns of households in Singapore.

8 Include fast food restaurants, hawker centres, food courts, coffee shops, canteens, kiosks and street vendors, other catering services (including vending machines), and food serving services not elsewhere classified.

9 Based on ranking of all resident households by their monthly household income from all sources per household member (including employer CPF contributions).

AVERAGE MONTHLY HOUSEHOLD EXPENDITURE ON SELECTED ITEMS BY SHARE AND AMOUNT PAID USING E-PAYMENT, HES 2017/18

Download the Report on the Household Expenditure Survey 2017/18 from the SingStat Website to find out more!

Estimating Singapore's Dependency on Exports Using the Singapore Supply, Use and Input-Output Tables

by Ng Dong Yang
Input-Output Tables Division
Singapore Department of Statistics

Introduction

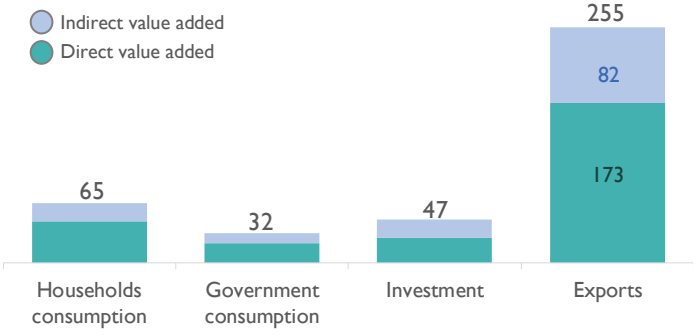
Production arrangements have become more complex with globalisation and greater fragmentation of the production processes across many countries worldwide. Singapore, as an open economy, hosts many companies that contribute to the production of goods and services in this global value chain. This article examines the impact of globalisation on the Singapore economy using the Singapore Supply, Use and Input-Output Tables (SU-IOTs) 2015 to measure Singapore's dependency on exports based on the value added contribution of exports.

Estimating the Value Added Contribution of Exports

Production of Exports Contributed $255 billion of Value Added

Singapore's exports of goods and services contributed $255 billion of value added in 2015 (Chart 1). Households consumption, government consumption and investment accounted for the remaining $144 billion of value added.

CHART 1
TOTAL VALUE ADDED
BY FINAL DEMAND ($ BILLION), 2015

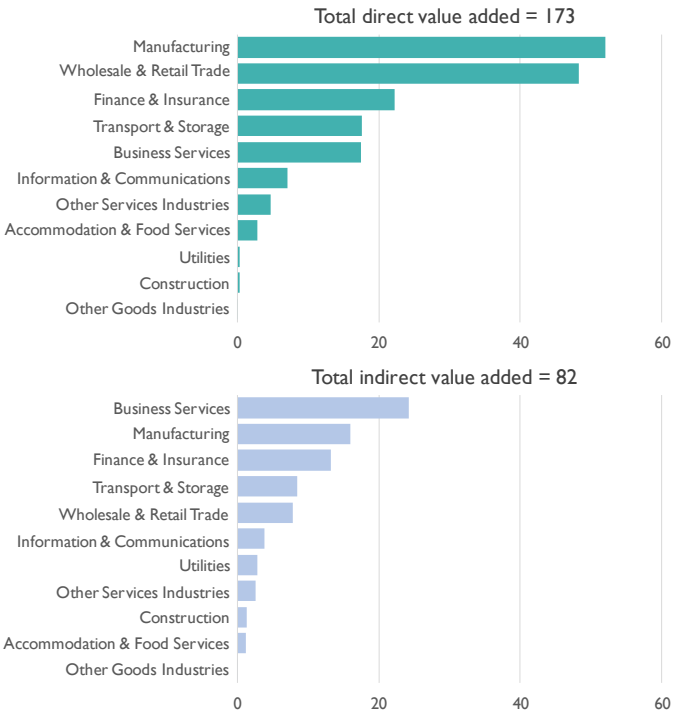


The SU-IOTs measure both the direct effect of exports on the exporting industries, and the indirect effect of exports on the other industries supporting the production of the exporting industries. The value added of $255 billion comprised the direct value added[1] of $173 billion generated from the production of exports from the exporting industries and the indirect value added[2] of $82 billion generated from the increased production by all industries supporting the exporting industries.

The Manufacturing Industry was the Largest Contributor to Direct Value Added

Exports of the Manufacturing industry contributed the highest direct value added of $52 billion in 2015 (Chart 2).

CHART 2
DIRECT AND INDIRECT
VALUE ADDED ($ BILLION) BY INDUSTRY, 2015



1 Direct value added refers to the value added generated directly by an industry in response to the demand for its exports.

2 Indirect value added refers to the value added generated by an industry to support the production of exports for the entire economy. The size of the indirect value added varies across industries, depending on the inputs composition of each industry.

The next two highest contributors were the Wholesale & Retail Trade and Finance & Insurance industries, generating $48 billion and $22 billion of direct value added respectively.

In terms of indirect value added, the largest contribution of $24 billion came from the Business Services industry.

Services Producing Industries were Important to Production of Exports

In 2015, the services producing industries played a significant role in the production of exports, generating $182 billion of value added, comprising $120 billion and $62 billion of direct value added and indirect value added respectively (Table 1).

Of the $62 billion of indirect value added originating from the services producing industries, $11 billion and $51 billion were generated to support the Goods Producing and Services Producing industries respectively.

In contrast, a lower indirect value added of $20 billion was generated by the goods producing industries. This comprised $15 billion and $5 billion of indirect value added to support the production of exports by the Goods Producing and Services Producing industries respectively.

TABLE 1
IMPACT OF EXPORTS IN TERMS OF VALUE ADDED ($ MILLION), 2015

	Direct Value Added	Indirect Value Added	Indirect Value Added to Support Production of	
			Goods Producing Industries	Services Producing Industries
Goods Producing Industries	**52,812**	**20,211**	**15,332**	**4,879**
Other Goods Industries	91	31	15	16
Manufacturing	51,956	15,975	12,669	3,305
Utilities	407	2,859	1,791	1,068
Construction	359	1,347	857	489
Services Producing Industries	**120,342**	**61,679**	**11,163**	**50,516**
Wholesale & Retail Trade	48,230	7,878	3,846	4,032
Transport & Storage	17,651	8,475	642	7,833
Accommodation & Food Services	2,896	1,289	108	1,180
Information & Communications	7,092	3,858	400	3,458
Finance & Insurance	22,193	13,262	1,064	12,198
Business Services	17,519	24,259	4,886	19,373
Other Services Industries	4,759	2,659	216	2,443
Total	**173,154**	**81,890**	**26,494**	**55,395**

Note: Figures may not add up due to rounding.

Statistics to Better Understand Globalisation

The SU-IOTs of an economy play a key role in the development of statistics related to globalisation. For example, the inter-country IOTs and Trade in Value Added (TiVA) indicators can be used to better understand globalisation and its impact on economic activities across the different economies.

The compilation of such international statistics require national SU-IOTs to be internationally comparable. For the recently released 2015 SU-IOTs, the Singapore Department of Statistics made several improvements which helped to enhance the tables' international comparability (Table 2).

At the same time, the 2010 benchmark SU-IOTs were revised to incorporate the same improvements.

TABLE 2

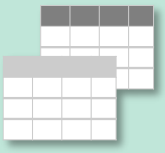
SUMMARY OF IMPROVEMENTS TO THE 2015 SU-IOTS

	2015 Benchmark Tables	2014 Annual Tables
Industry and Product Breakdown	105 industries and products	71 industries and products
Product Balancing of SUTs	Total use is balanced at purchasers' prices to derive domestic and import use	Domestic and import use are balanced simultaneously at basic prices
Valuation of Total Supply, Intermediate, Final and Total Use	Purchasers' and basic prices	Basic prices only
Recording of Imports for Re-exports, and Re-exports	SUTs include imports for re-exports, and re-exports	SUTs exclude imports for re-exports, and re-exports
Recording of Non-residents' Expenditure Locally	Expenditure is recorded as Exports of Goods and Services at product level	A row adjustment is recorded under Private Consumption Expenditure in the Import Use table to exclude this expenditure
Recording of Residents' Expenditure Abroad	Expenditure is recorded as Household and Non-Profit Institutions serving Households (NPISHs) final consumption expenditure at product level	A row adjustment is recorded under Private Consumption Expenditure in the Import Use table to include this expenditure

More information are available for downloading:

Publication on Singapore Supply, Use and Input-Output Tables 2015

Full set of tables for Singapore Supply, Use and Input-Output Tables 2015



Benchmarking of Singapore's National Accounts to Reference Year 2015

by Leow Geng Hui and Yen Wai Yee
Economic Accounts Division
Singapore Department of Statistics

Introduction

The Singapore Department of Statistics (DOS) recently completed the benchmarking of Singapore's national accounts from reference year 2010 to 2015, incorporating conceptual and methodological reviews and improvements for better reflection of the current economic landscape.

This exercise also reconciled the three estimates of Gross Domestic Product (GDP) from the production, expenditure and income approaches, cross-validating the data sources and ensuring the coherence of the three separate measures. As such, no statistical discrepancy is recorded among the different approaches of GDP for 2015.

This article highlights the major enhancements in concepts and methodologies undertaken in this benchmarking exercise. One significant improvement is the adoption of the recommendation of the United Nations System of National Accounts (SNA) to compile annually reweighted chain volume measures (CVM) of GDP. The impact of the benchmarking exercise on key national accounts aggregates is also presented.

Real Gross Domestic Product

Constant price or real GDP estimates, are volume indices which measure changes in the volume of economic activity while maintaining constant relative prices. However, as prices of goods and services change over the years, the relative price weights of a particular year become less representative. Hence, the relative price weights will have to be periodically updated to a more recent year.

Following the SNA recommendations, DOS implemented the CVM of GDP from the 1st Quarter 2019 results reported in the Economic Survey of Singapore.

Changes and Improvements in Conceptual Treatment and Methodologies

Annual Chain-linking

DOS now compiles annually reweighted CVM of GDP where real GDP estimates are expressed in terms of previous years' prices. Compared to the five-yearly reweighted volume measures of GDP compiled previously, the CVM of GDP better reflect prevailing economic conditions.

The implementation of the CVM requires the use of previous years' weights, compiled using data from various annual and quarterly surveys or administrative data. These weights will be updated annually during the annual Economic Survey of Singapore. This approach allows for a timely annual update of the weights used and ensures that the CVM compiled are reflective of the current economic landscape.

Revisions to annual real GDP growth in previous years as a direct consequence of the adoption of annual chain-linking are moderate, ranging from -0.3 to 0.2 percentage points between 2015 and 2018.

The implementation of annual chain-linking aligns Singapore's national accounting practices with those of other economies, such as Australia, Hong Kong, Canada and the United States, and improves the international comparability of Singapore's GDP estimates.

Goods for Processing

Goods for processing refer to goods that are sent for processing overseas, with the processing activity undertaken by an entity that does not own the goods concerned.

According to the International Monetary Fund's Balance of Payments and International Investment Position Manual (BPM) and the SNA, the physical movement of goods across national borders for a processing activity without a change in ownership is not considered as an import or export of these goods.

Hence, while the goods account of the balance of payments (BOP) cover goods transacted between residents and non-residents, goods sent abroad or received from abroad for processing with no change in ownership between residents and non-residents should not be recorded as exports and imports.

In accordance with the BPM and SNA, the goods account has been adjusted to reflect the inward and outward processing arrangements of goods. Such adjustments have been incorporated into gross exports and imports as well as net exports of goods, improving the treatment and coverage of the BOP and national accounts.

Insurance Service Charge

The output of an insurance company is estimated based on the sum of insurance premiums and investment income less claims.

During periods in which insurers face exceptionally large or volatile claims, the estimation of insurance output could be extremely volatile and may even be negative.

The "expectations approach" in the measurement of insurance output was implemented, taking guidance from the United Nations Statistics Division and the European Central Bank.

This provides a stable measure of insurance output and addresses the issue of having volatile and negative estimates of output arising from unforeseen large claims.

Impact on Major Macro-Economic Aggregates

Other than the reconciliation of the GDP estimates, the revaluation of the national accounts and adoption of CVM, revisions also resulted from the conceptual changes and methodological improvements introduced during the benchmarking exercise.

The impact of these revisions on major macro-economic aggregates are examined below.

GDP Growth Rates

Revisions to real GDP growth are moderate, ranging between -0.2 and 0.4 percentage points from 2015 to 2018 (Table 1).

The revisions vary across industries. The Wholesale and Retail Trade industry recorded slightly higher revisions in annual growth rates, compared to other industries.

TABLE 1
REAL GDP GROWTH, 2015-2018

Year	Before Benchmarking (a)	**After Benchmarking (b)**	Per Cent Change (b)-(a)
	Per Cent		Percentage Point
2015	2.5	**2.9**	0.4
2016	2.8	**3.0**	0.2
2017	3.9	**3.7**	-0.2
2018	3.2	**3.1**	-0.1

Nominal GDP

From 2015 to 2018, nominal GDP levels, or GDP at current market prices, revised 0.5 to 0.8 per cent upwards (Table 2).

TABLE 2
GDP AT CURRENT MARKET PRICES, 2015-2018

Year	Before Benchmarking (a)	**After Benchmarking (b)**	Per Cent Change [(b)-(a)]/(a)
	$ Million		Per Cent
2015	421,046.3	**423,444.1**	0.6
2016	437,339.1	**439,411.6**	0.5
2017	464,928.3	**467,305.5**	0.5
2018	487,087.5	**491,174.5**	0.8

Among the industries, while the nominal gross value-added (GVA) estimates for Manufacturing, Information & Communications, Finance & Insurance, and Business Services were revised upwards, these were partially

partially offset by the downward revisions of the estimates for the Construction, Wholesale & Retail Trade, Transportation & Storage, as well as Other Services Industries.

Composition of GDP Components

Component Share by Industry

The relative GVA shares of industries were also updated during the benchmarking exercise. The GVA shares of the Manufacturing and Finance & Insurance industries were revised upwards, while the GVA shares of Construction, Transportation & Storage, and Other Services Industries were revised downwards (Table 3).

Component Share by Expenditure

The relative share of private consumption expenditure in expenditure-based GDP estimates was revised upwards, while that of gross fixed capital formation was revised downwards (Table 4).

TABLE 3
NOMINAL GVA SHARE BY INDUSTRY, 2015 AND 2018

	2015		2018	
	Before Benchmarking	**After Benchmarking**	Before Benchmarking	**After Benchmarking**
Total	100.0%	**100.0%**	100.0%	**100.0%**
Goods Producing Industries	25.6%	**25.8%**	26.1%	**26.7%**
Manufacturing	19.0%	**19.2%**	21.4%	**22.0%**
Construction	5.2%	**5.1%**	3.5%	**3.4%**
Utilities	1.5%	**1.5%**	1.2%	**1.2%**
Services Producing Industries	70.0%	**69.7%**	70.4%	**69.6%**
Wholesale & Retail Trade	16.6%	**16.4%**	18.0%	**17.6%**
Transportation & Storage	7.6%	**7.5%**	6.9%	**6.7%**
Accommodation & Food Services	2.2%	**2.2%**	2.1%	**2.1%**
Information & Communications	4.0%	**4.0%**	4.1%	**4.1%**
Finance & Insurance	12.4%	**12.5%**	12.9%	**13.0%**
Business Services	15.9%	**15.8%**	14.9%	**14.9%**
Other Services Industries	11.4%	**11.3%**	11.5%	**11.3%**
Ownership of Dwellings	4.3%	**4.5%**	3.5%	**3.7%**

TABLE 4
EXPENDITURE COMPONENTS AS A PERCENTAGE OF NOMINAL GDP, 2015 AND 2018

	2015		2018	
	Before Benchmarking	**After Benchmarking**	Before Benchmarking	**After Benchmarking**
Private Consumption Expenditure	36.4%	**37.2%**	34.8%	**35.4%**
Government Consumption Expenditure	10.3%	**10.2%**	10.9%	**10.7%**
Gross Fixed Capital Formation	27.3%	**27.2%**	25.0%	**24.5%**
Changes in Inventories	-1.0%	**-1.9%**	2.6%	**2.5%**
Net Exports of Goods & Services	27.0%	**27.3%**	26.7%	**26.9%**

Note: Figures are expressed as a share of expenditure-based GDP.

Component Share by Income

The relative share of compensation of employees in the current price income-based GDP estimates was revised downwards (Table 5). Correspondingly, the relative share of gross operating surplus increased.

Conclusion

The successful completion of the benchmarking exercise improves the coherence and reliability of Singapore's GDP estimates, enhancing their relevance to the underlying and changing economic conditions.

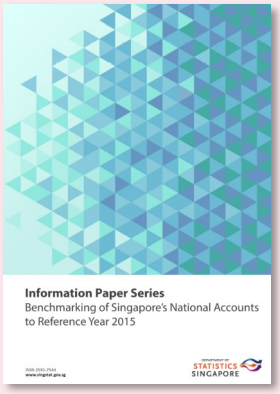
In addition, the international comparability of Singapore's GDP estimates has been enhanced with the adoption of the SNA recommendation to compile CVM of GDP, and the continuous improvements in methodologies and data sources.

TABLE 5
INCOME COMPONENTS AS A PERCENTAGE OF NOMINAL GDP, 2015 AND 2018

	2015		2018	
	Before Benchmarking	**After Benchmarking**	Before Benchmarking	**After Benchmarking**
Compensation of Employees	42.2%	**42.0%**	39.8%	**39.7%**
Gross Operating Surplus	50.3%	**50.6%**	53.0%	**53.1%**
Taxes less subsidies on Production & on Imports	7.5%	**7.4%**	7.2%	**7.2%**

Note: Figures are expressed as a share of income-based GDP.

Download the Information Paper
Benchmarking of Singapore's National Accounts to Reference Year 2015
for more information!



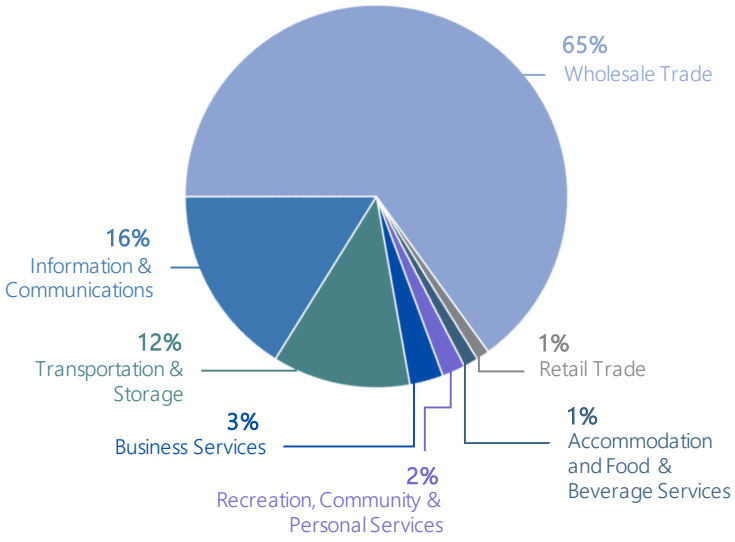
Watch the introductory video on the chain-linking of real Gross Domestic Product (GDP) and the chain volume measures (CVM)!

E-commerce Revenue of the *Services Sector*

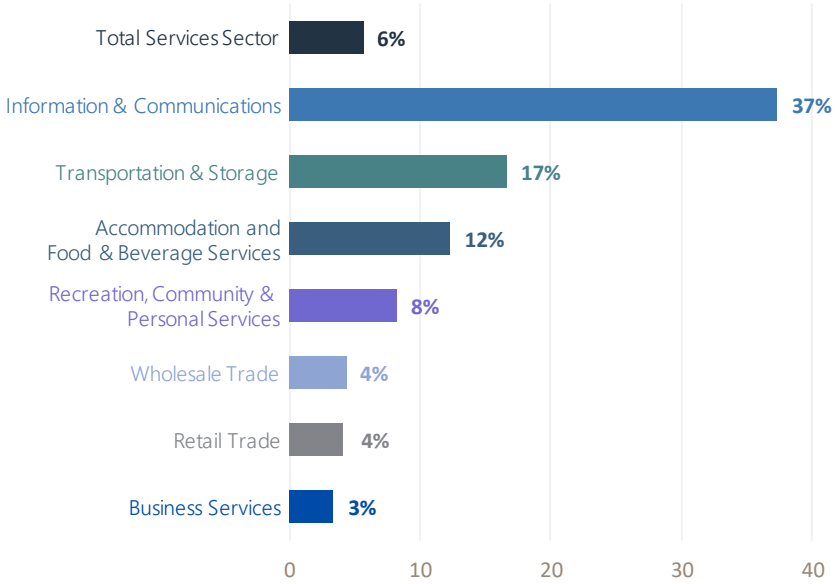
Share of E-commerce Revenue by Industry, 2017

In 2017, the e-commerce revenue[1] of the Services Sector [2] was $175.3 billion, accounting for 6% of the total operating receipts.

Within the Services Sector, the Wholesale Trade, Information & Communications and Transportation & Storage industries contributed to over 90% of the e-commerce revenue.



Percentage Share of E-commerce Revenue to Operating Receipts, 2017



More than a third of the Information & Communications industry's operating receipts in 2017 was derived from e-commerce revenue, the largest share among the services industries.

1 Refers to the revenue earned from the sale of goods and services whereby the company receives orders or agrees on the price and terms of sale via online means, e.g. through company's website, third-party websites, mobile applications, extranet or Electronic Data Interchange. Payment and delivery may or may not be made online. The scope excludes telephone calls, facsimile or emails.

2 Excludes Financial & Insurance Services and Public Administration Activities.

CENSUS 2020
YOUR RESPONSE MATTERS.
TOGETHER, WE SHAPE OUR FUTURE.

Census of Population 2020

About the Census

Conducted once in ten years, the Census of Population is the largest national survey undertaken in Singapore. Census of Population 2020 (C2020) will be the sixth Census after Singapore's Independence and the 15th since the first Census taken in 1871.

Objective

The Census collects information on key characteristics of the population and households. The information is used by government agencies for policy formulation and review, and planning of programmes and services for the community. It is also used for research and understanding of the Singapore population by members of the public, academia and the international community.

Conduct of C2020

C2020 will adopt a register-based approach, similar to the Censuses conducted in 2000 and 2010, where the basic population count and characteristics such as age, sex and ethnicity will be compiled from administrative sources.

To collect the data on detailed socio-economic and household characteristics, a large-scale sample survey will be conducted. An improved sampling design has been adopted, which reduces sample size by 25%, from 200,000 household addresses in C2010 to 150,000 in C2020.

Survey information required from households relate to housing, socio-economic characteristics (including occupation, industry, income), education, language and literacy, transport, religion and difficulty in performing basic activities. Households can submit their survey returns through various modes viz. Internet, telephone or face-to-face interview.

Improvements

With the increased usage of mobile devices and growing demand from respondents to enumerate online, the C2020 will provide a mobile-friendly interface for online submission of survey returns. Respondents will use SingPass for login, and undergo two-factor authentication for added security.

Field interviewers will be using tablets in face-to-face interviews. Information collected from the online survey, telephone and face-to-face interviews can thus be updated directly in the backend server to allow a consistent set of the information provided through the different modes of submission.

CENSUS TIMELINE

First Census in Singapore — 1871

First Census After Independence — 1970
- Introduction of sample enumeration with main census
- Used computer for preparation of tables

Second Census After Independence — 1980
- Introduction of systematic computer editing and "cleaning" of data

Last Traditional Census — 1990
- Surveyed all households in Singapore
- Trialled the use of administrative records for basic particulars in Census
- Used paper-and-pen approach for data collection

First Register-Based Census — 2000
- Used administrative data for basic population count and profile
- Enumerated 20% sample to supplement data not available from administrative sources
- Introduced tri-modal data collection strategy with Internet self-enumeration, telephone interviews via Call Centre, paper-and-pen approach for face-to-face interviews, and optical character recognition form scanning

Second Register-Based Census — 2010
- Used more administrative data for population profile
- Adopted tri-modal data collection strategy, with Internet self-enumeration, Call Centre interviews, and paperless Census
- Deployed ultra mobile personal computers for face-to-face interviews

Third Register-Based Census — 2020
- Use administrative data in a more integrated manner
- Improvements will be made on each mode of the tri-modal data collection strategy:
  - ✓ Mobile-friendly web-design
  - ✓ Tablets with secured wireless real-time data transmissions
  - ✓ Artificial Intelligence (AI)-assisted data processing

The Sustainable Development Goals (SDGs) are a set of goals under the 2030 Agenda for Sustainable Development (2030 Agenda), which is adopted by World Leaders at the UN Sustainable Development Summit in September 2015. It comprises 17 SDGs with 169 targets and there are 244 indicators used to measure progress towards reaching the targets.

Singapore supports the 2030 Agenda. For statistics on SDG indicators showing Singapore's progress in achieving the SDG goals, visit us at: www.singstat.gov.sg/find-data/sdg

CONTENTS

DEPARTMENT OF STATISTICS SINGAPORE

Statistics Singapore Newsletter Issue 2, 2019

The Statistics Singapore Newsletter is issued twice a year by the Singapore Department of Statistics.

It aims to inform readers on recent statistical findings as well as latest information on statistical methodologies, processes, products and services.

We have relocated to:
109 North Bridge Road, #08-01
Funan, Singapore 179097

www.singstat.gov.sg
info@singstat.gov.sg