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Implicit GDP Deflators

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Introduction

This article provides a brief introduction to the concept of the implicit GDP deflators (IGDs), which are indirect price indices derived from the national accounts. It also discusses recent trends in the expenditure-based and production-based IGDs.

Deriving the Implicit GDP Deflators

IGDs provide a broad measure of the change in the overall level of prices of the goods and services that make up GDP between the base year and any other period. An IGD is derived from the following :

- current price GDP, an indicator of changes in quantity and price, as it measures the value of goods and services in the prices prevailing in the current period.
- constant price GDP, an indicator of changes in quantity, as it measures the value of goods and services in the prices prevailing in the base year.

Illustration

The IGD is derived by dividing the current price value of a component of GDP by its corresponding constant price value, and multiplying the result by hundred, as illustrated in Table 1.

- Current price GDP for each year is obtained by summing the current year's quantities at the current year's prices. For example in Year 2, this is obtained by summing (80 x 300) and (60 x 400) to obtain 48,000.
- Constant price GDP is obtained by summing the current year's quantities at the base year's prices. For example in Year 2, this is obtained by summing (70 x 300) and (50 x 400).
- The IGD for Year 1 and Year 2 are 100 [(29,000 / 29,000) x 100] and 117 [(48,000 / 41,000) x 100] respectively. Price has risen by 17 per cent in Year 2.

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TABLE 1 DERIVING THE IMPLICIT GDP DEFLATOR

	Year 1 (Base Year)	Year 2	Percentage Change from Year 1
Prices			
Goods 1	70	80	14
Goods 2	50	60	20
Quantities			
Goods 1	200	300	50
Goods 2	300	400	33
Current Price GDP	29,000	48,000	66
Constant Price GDP	29,000	41,100	41
Implicit GDP Deflator	**100**	**117**	**17**

The IGDs are important indicators in the national accounts as they reflect how much of the change in current price GDP from the base period to another year is driven by changes in the price level. To illustrate, current price GDP increased by 66 per cent in Year 2, reflecting a 41 per cent change in quantity (as shown by the change in constant price GDP) and 17 per cent in price (as shown by the change in the IGD).

Differences between the IGDs and the Consumer Price Index (CPI)

The IGDs and the CPI are both measures of price changes. While the IGDs serve as a measure of *overall* price changes in the economy, the CPI is a measure of *consumer* inflation, reflecting price movements in goods and services consumed by households.

In addition, as with other Paasche[1] price indices, IGDs reflect the quantity weights of the current period instead of the base period. The implicit weights of an IGD are updated each period with the changing composition of GDP. Thus, the IGDs do not provide a measure of pure price movements, as they also incorporate changes in the composition of goods and services. The CPI, on the other hand, is a direct Laspeyres[2] price index which reflects the quantity weights of the base period. It is designed to measure the change in the price of a fixed basket of goods and services commonly bought by the majority of households. The differences between the IGDs and CPI are summarised in Table 2.

1 The Paasche price index for period n is computed as $P_{paasche} = (\Sigma P_n Q_n) / (\Sigma P_o Q_n)$ where P_n and P_o are prices in period n and base year respectively, and Q_n refers to quantities in period n.

2 The Laspeyres price index for period n is computed as $P_{laspeyres} = (\Sigma P_n Q_o) / (\Sigma P_o Q_o)$ where P_n and P_o are prices in period n and base year respectively, and Q_o refers to quantities in the base year.

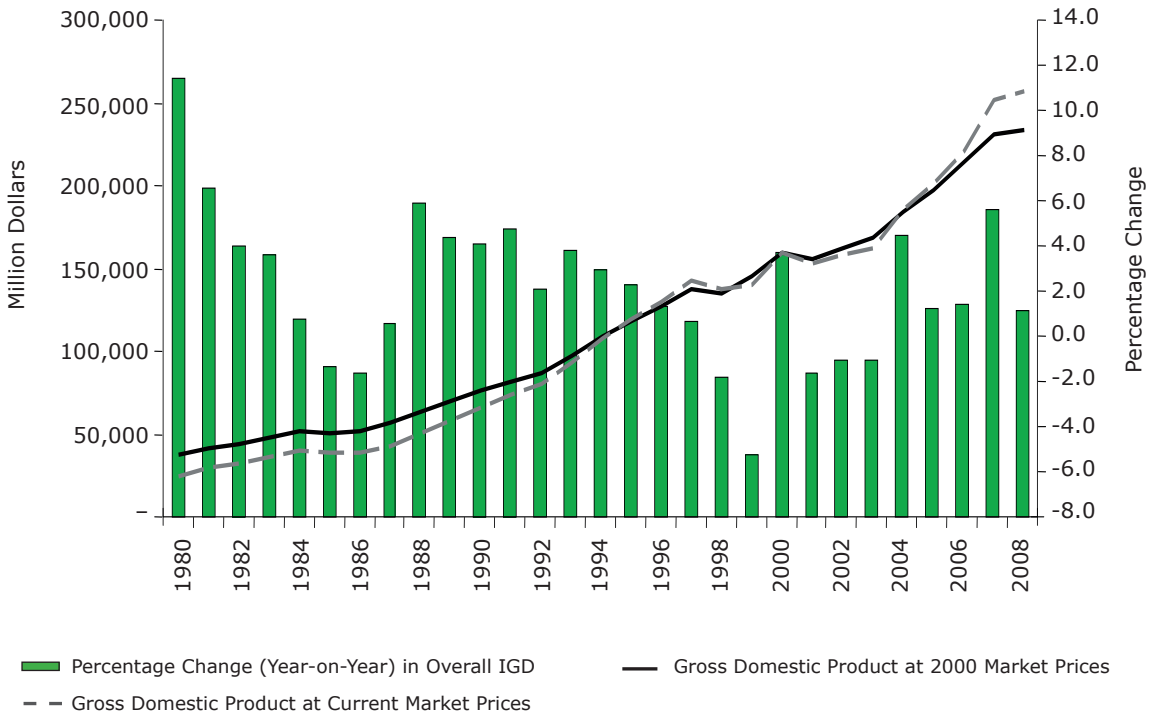
TABLE 2 COMPARISON BETWEEN THE IGDs AND CPI

	IGDs	CPI
Coverage	A broad measure of price changes. The overall IGD reflects price movements of the overall economy. It is derived from current price and constant price values of GDP estimates.	A measure of consumer inflation. The CPI reflects price movements in goods and services consumed by households.
Characteristics	Implicit Paasche price index, i.e. weighted by quantities in the current year. Changes in the IGD could be due to movements in price and/or changes in the composition of goods and services.	Laspeyres price index, i.e. weighted by quantities in the base period. Compares the prices of a constant basket of goods and services between any two periods.

Trends in the Overall IGD

Chart 1 shows Singapore's GDP at current and constant (year 2000) market prices, and the year-on-year percentage changes in the overall economy IGD. The overall economy IGD may be inferred as the gap between GDP at current and constant prices. As expected, movements in the IGD are not smooth, reflecting changes in prices in addition to changes in the composition of goods and services.

CHART 1 GROSS DOMESTIC PRODUCT AT CURRENT AND 2000 MARKET PRICES, 1980-2008



Expenditure-Based and Production-Based IGDs

GDP estimates can be compiled by both the expenditure and production approaches. GDP by the expenditure approach is the sum of these components : gross capital formation, private consumption expenditure, government consumption expenditure and net exports (exports–imports). GDP by the production approach is the sum of gross value added of all industries and taxes on products. Therefore, the IGDs can either be expenditure-based or production-based.

Comparison of the Private Consumption Expenditure IGD and CPI

Private consumption expenditure (PCE) measures the final purchase of goods and services by households. As shown in Chart 2, the trends of the PCE IGD and the CPI are broadly similar, since the CPI is a measure of consumer inflation. Over the period 1995-2008, the average growth rate of both indices is less than 1.5 per cent.

The Production-Based IGDs

Production-based IGDs, which are derived from production-based GDP estimates, reflect the implicit price changes of the various industries. Changes in the overall IGD and IGDs of the goods and services producing industries and ownership of dwellings for the period between 1995 and 2008 are shown in Chart 3.

CHART 2 CHANGES IN THE PRIVATE CONSUMPTION EXPENDITURE IGD AND CPI, 1995-2008

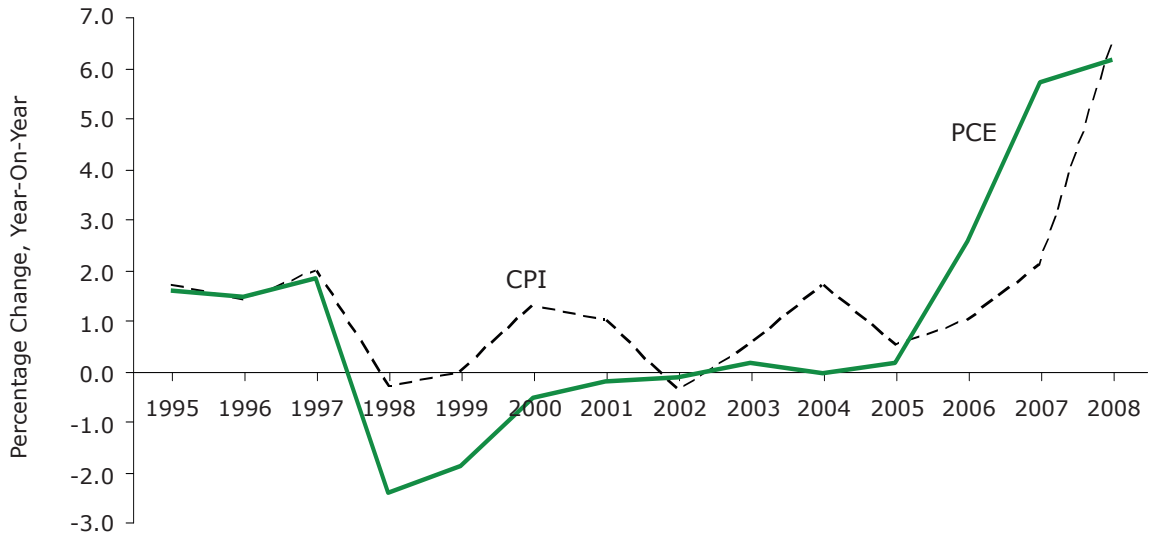
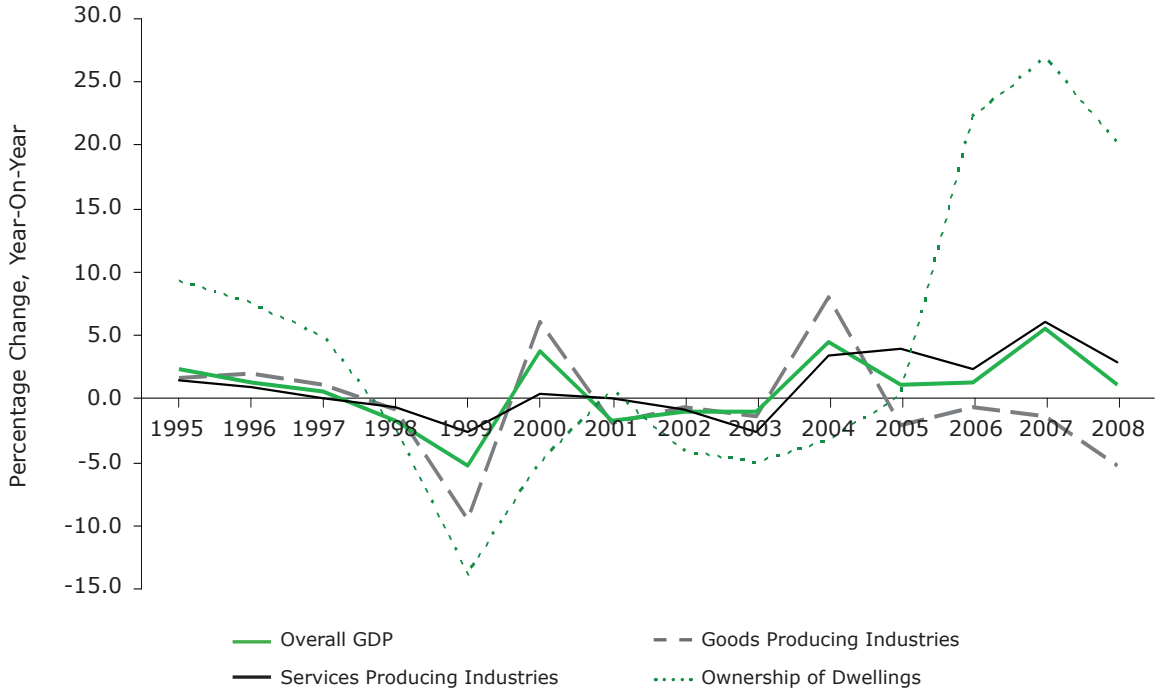


CHART 3 CHANGES IN THE OVERALL IGD AND IGD FOR THE GOODS AND SERVICES PRODUCING INDUSTRIES AND OWNERSHIP OF DWELLINGS, 1995-2008



The goods producing industries' IGD declined by 0.6 per cent from 1995 to 2008. This was mainly due to the manufacturing industry, as the prices of electronics products fell over the same period.

The services producing industries' IGD recorded an average growth of 1.0 per cent from 1995 to 2008. In 2008, growth of the total services IGD moderated from 6.1 per cent in 2007 to 2.9 per cent. The IGD of the transport and storage industry declined by 1.0 per cent, in line with falling freight rates in 2008. The IGD for the wholesale and retail trade industry also fell by 0.5 per cent on the back of slowing global trade.

The IGD of ownership of dwellings, which refers to housing services provided by owner-occupiers and individuals who let out their residential properties, recorded an average growth of 3.1 per cent between 1995 and 2008. In particular, the IGD rose by 27 per cent and 20 per cent in 2007 and 2008 respectively, consistent with the buoyant property market during that period.

Concluding Remarks

Singapore's economy, being small and open, is influenced greatly by external factors. Movements in the IGDs are pronounced, reflecting changes in price and the composition of goods and services in the economy, especially in significant periods such as the Asian Financial Crisis in 1998-99, and the global economic crisis in 2008.

References

- UK Office for National Statistics : "Economic and Labour Market Review June 2008", pages 53-56.

Consolidated Web-Based IT Architecture for the Singapore Department of Statistics

Introduction

In response to the changing IT technology trends and in support of the new requirements and statistical development plans, the Singapore Department of Statistics (DOS) has put in place a regular IT strategic planning framework to review the direction and approach as well as to establish new, better and more sustainable IT infrastructure / platform and solutions. The main objective is to leverage IT technology to cater to DOS' dynamic business needs and enhance the service level of DOS' outputs and deliverables.

Such infrastructure planning is essential to provide DOS with the adequate level of IT infrastructure more cost-effectively, taking into account the economic lifespan of the IT assets. This would reduce possible system downtime and minimise disruptions to DOS core operations arising from the lack of specialised IT expertise from vendors, replacement parts / components and de-support of software version for the hardware and software acquired earlier.

Consolidated IT Technical Architecture

For the next five years, an overall IT technical architecture has been drawn up to support the various application systems in DOS. It focuses on the consolidation of storage and system hosting to provide for system redundancy and scalability as well as to achieve optimal cost effectiveness.

Alongside with the IT technical architecture, DOS also reviewed, streamlined and re-developed the application systems. The current client-server based software versions will be phased out and the systems will be redeveloped and moved onto the Web-based platform to allow for flexibility going forward.

Why Web-Based?

Web-based applications have evolved significantly over the recent years and there are vast improvements in both the technology and security aspects of web-based platform. DOS is in the process

of revamping its application systems onto the web-based architecture to provide better technical support for the various application systems and facilitate the ease of deployment, expansion and scalability, manageability and security. Some significant features of Web-based platform and applications are highlighted below :

Cross Platform Compatibility

Most web-based applications have a higher degree of compatibility across platforms compared with those developed on traditional installed software. Typically, the minimum requirement to run Web-based applications on a client is the availability of a web browser, for example, Internet Explorer, Mozilla Firefox, Opera and Safari. The web browsers can be installed and launched from a multitude of operating systems which makes deployment easy and the applications could be run with minimal effort and support.

The application once written could be deployed to run on any application server. Users can access the web application via its website address and login via the Internet / Intranet access. In this way, services and information are readily available from any web-facilitated PC or notebook.

Expansion and Scalability

All DOS web-based applications are built on a 3-tier (presentation, application and data) architecture. With this set up, changes in one layer do not greatly affect the others except for the access points that connect the layers. The 3-tier design allows any of the three tiers to be upgraded or replaced independently. This allows DOS greater flexibility in designing and implementing the web-based applications to meet its requirements as well as future growth and expansion.

Improved Manageability

Web-based systems normally need only be installed on the server placing minimal requirements on the end user workstation. This makes maintaining and updating the system much simpler as the enhancement can all be done on the server. Any client updates can be deployed via the web server with relative ease, thus improving manageability of applications.

Secure Live Data

Web-based applications offer better security for data as enforcement of security policies, e.g. firewall and network rules, security patches and disabling of system services, can be done more effectively at the different servers. This helps to enhance the security of the environment as additional layers will further minimise unauthorized access to data.

Benefits

The consolidated infrastructure set-up has enabled DOS to leverage the common IT architecture to optimize servers, storage resources, network and manageability. With a smaller number of servers to be deployed in the consolidated infrastructure, DOS is able to reduce the one-time and recurrent costs. It also facilitates data access to the related systems in a seamless manner as these systems are hosted on the same infrastructure. The consolidated infrastructure which comes with higher capacity will improve DOS IT scalability and system performance. This will better support DOS business operations in providing more timely statistical information.

The Government has embarked on the implementation of a Standard ICT Operating Environment (SOEasy) that aims to increase the agility and robustness of the ICT infrastructure and enhance user convenience while achieving cost savings. By re-developing its application systems into web-based platform, DOS will also be able to better align with the SOEasy and reap the benefits that SOEasy brings as the web-based architecture allows DOS to be client-independent and maintain a standardized desktop. As applications are deployed at the servers' end, this reduces administrative and customization effort in desktop management.

Conclusion

Both the set up of a consolidated IT infrastructure and the re-development of the application systems to the web-based platform underscore the importance of the use of relevant and advanced IT technologies to meet DOS requirements. These offer DOS competitive advantages to consolidate and upgrade its systems and processes to achieve a better outcome of providing more timely data and enhanced service level.

Overseas Visitors

The Singapore Department of Statistics (DOS) received the following visitors over the past seven months.

Topics discussed included the recent performance of the Singapore economy and national accounts topics.

Australia

– Australian Bureau of Statistics

Mr Michael Davies
Head, National Accounts Branch

Hong Kong

– Census & Statistics Department

Mr Alvin Li Wong Kong
Assistant Commissioner

More Year-End Births in 2008

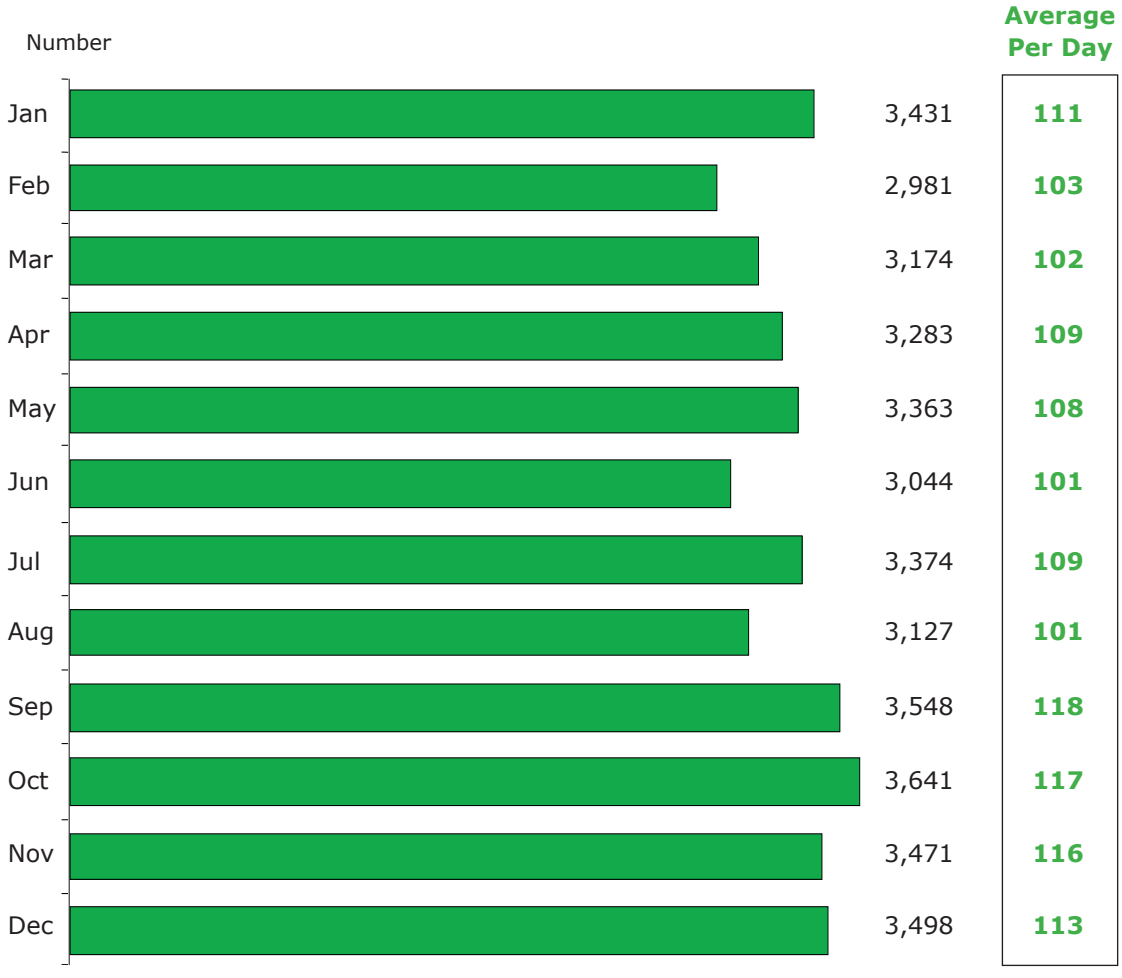
Do you know . . .

that there were more births registered in the later months of the year in 2008 than in the earlier months?

The registered number of births was highest in October with 3,641 birth registrations, followed by September (3,548) and December (3,498). This translated to 113-118 births registered per day for these months, higher than the annual average of 109 births registered per day.

In contrast, the registered number of births in the earlier part of the year (e.g. February, March and June) had 101-103 births registered per day, which was fewer than the annual average.

CHART 1 TOTAL LIVE-BIRTHS BY MONTH OF REGISTRATION, 2008



The Ninth ASEAN Heads of Statistical Offices Meeting

Introduction

The ASEAN Heads of Statistical Offices Meeting (AHSOM) was first convened in October 1997 to discuss and promote regional cooperation in statistics. AHSOM deliberations over the years have contributed significantly to the development, analysis and compilation of relevant, timely and comparable statistical indicators. Importantly, AHSOM has been playing a key role in tracking ASEAN's progress by identifying statistical areas and issues that could potentially hinder progress, and undertaking the necessary initiatives and programmes to develop capabilities and strengthen statistical cooperation.

The Singapore Department of Statistics hosted and chaired the ninth AHSOM (AHSOM 9) on 16 January 2009. The meeting was well attended with over 50 delegates, including the heads and representatives of ASEAN National Statistical Offices, inter-national statistics organisations, donor agencies and dialogue partner countries.

AHSOM 9's agreement on a Sustainable Framework for the Development of ASEAN Statistics (the Framework) marks a significant milestone, with its goal of providing quality and comparable ASEAN statistics to major stakeholders, in particular ASEAN policy makers at the national and regional levels. At the same time, the members pledged their continued support to ongoing and new initiatives and programmes such as the adoption of international statistical standards, and improvements in the dissemination and communication of ASEAN statistics.

A Sustainable Framework to Develop ASEAN Community Statistics

The Framework was a significant deliverable of a two-day strategic planning session held prior to AHSOM 9. It comprises four key elements, namely : (i) the statistical framework, (ii) the broad statistical programmes, (iii) the key enabling mechanisms, and (iv) the statistical outputs/ uses.

The Framework encompasses the priority statistical domain areas covered by the ASEAN Statistical Indicators and is broadly aligned with ASEAN's three-pillar communities of economic, socio-cultural, and political and security. To ensure the production of relevant, good quality and comparable statistics in these priority domain areas, AHSOM will identify or develop programmes designed to harmonise classifications, processes, methodologies, etc. These programmes are then enabled or supported by mechanisms such as clear and effective institutional frameworks, statistical capacity building programmes and statistical development plans. Eventually, relevant statistical information required by major stakeholders for policy formulation, analysis and monitoring will be disseminated and communicated via the appropriate modes.

Whilst providing the 'big picture' or direction for the development of ASEAN statistics moving forward, the Framework is aligned with existing ASEAN initiatives and programmes, including the implementation of the ASEAN Common Industrial Classification and International Standards Industrial Classification Revision 4 in national statistical systems, as well as the updating of the ASEAN Brief and the ASEAN Statistical Yearbook. Future areas or programmes to be pursued – in the harmonisation of manufacturing industry statistics through the East Asia Manufacturing Industry Classification initiatives, the SNA development programmes for ASEAN and the Working Group on Data Sharing, Analysis, and Dissemination – would strategically fit within the structure of the Framework.

In line with the Framework, a strategic plan will be formulated to define the vision and mission, principles and values, as well as specific goals and mechanism for an effective ASEAN statistical machinery that is responsive to the changing needs of the ASEAN Community building efforts.

International Partners and Statistical Capacity Building

As in the past, international organisations, donor agencies and dialogue partner countries actively participated in AHSOM 9. These partners play a critical role in capacity building and levelling up ASEAN's statistical expertise. Their roles include, but are not limited to, funding and expertise support as well as knowledge sharing.

The meeting concluded on a positive note as the international delegates expressed their commitment to supporting various ASEAN statistical initiatives and updated on the progress of these initiatives. The Framework will guide ASEAN and its partners in the efforts on building a stronger and more purposeful ASEAN Statistical Community.

The joint media statement for AHSOM 9 is available from

http://www.singstat.gov.sg/statsres/conferences/ahsom9/press16012009.pdf

Personal Health Practices – Different Patterns in Males and Females

By
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Introduction

Males and females not only differ in their preference for certain health-related habits but also in their health concerns or attitudes towards health. This article compares the personal health practices among 3,302 male and 3,456 female Singapore residents aged 18 to 69 years who participated in the National Health Surveillance Survey (NHSS) 2007. The survey was carried out by the Ministry of Health between July 2007 and March 2008.

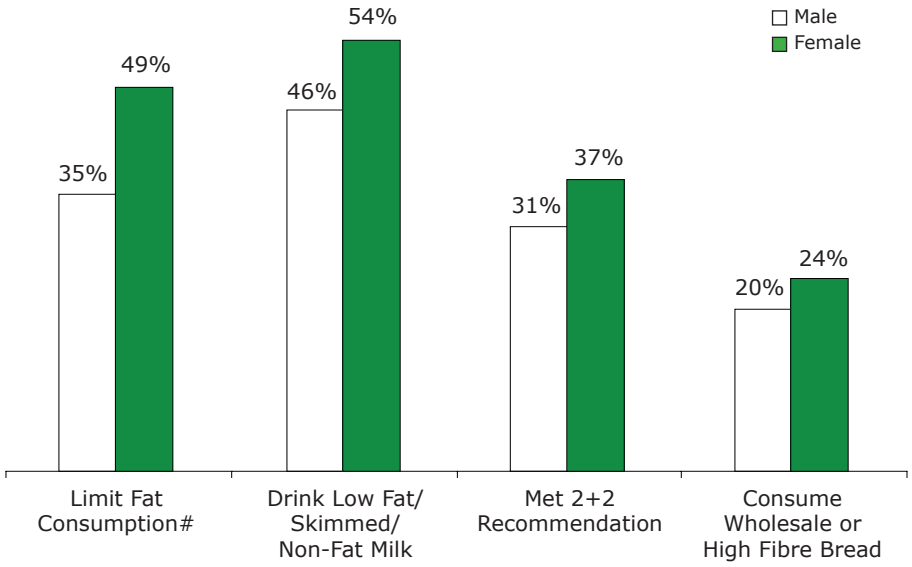
The NHSS 2007 is a national survey conducted to obtain information on the general health status and lifestyle practices of Singaporeans. Data on a wide range of personal health behaviors such as dietary practices, physical activity, dental care, sedentary behaviour, smoking and alcohol consumption were collected.

Healthy Eating

Eating is an essential and important part of life as food gives us the calories and nutrients we need to survive. Food also provides us with the energy we need to go about our daily business. The food we eat has a direct impact on our physical, mental, and emotional health. Healthy eating involves consuming a diet that combines a balance of all the nutrients that the body needs to function properly.

Results from the NHSS 2007 showed that female Singapore residents tended to make healthier food choices and were more weight conscious than males. About 49 per cent of the females compared to 35 per cent of males removed all the visible fat / skin when they eat meat or poultry (Chart 1). A higher proportion of females (24 per cent) consumed wholemeal / high fibre bread compared to males (20 per cent). Females were also more likely to drink low fat / skimmed / non-fat milk compared to their male counterparts (54 per cent versus 46 per cent). A greater proportion of females than males (37 per cent versus 31 per cent) met the Health Promotion Board (HPB)'s recommendation of having 2 servings of fruits and 2 servings of vegetables daily to stay well nourished ('2+2' recommendation).

CHART 1 PROPORTION REPORTING USE OF SELECTED STRATEGIES TO EAT WELL BY GENDER, 2007



Removing all the fat/skin when eating meat with visible fat or poultry such as chicken and duck.

Physical Activity

Physical activity is important for maintaining good health. It has been shown to reduce the risk of premature death in general and in particular the risk of coronary heart disease, hypertension, and non-insulin-dependent diabetes. In addition, physical activity improves mental health, prevents unhealthy weight gain and is important for the health of muscles, bones and joints. Physical inactivity has been established as a major risk factor for cardiovascular disease.

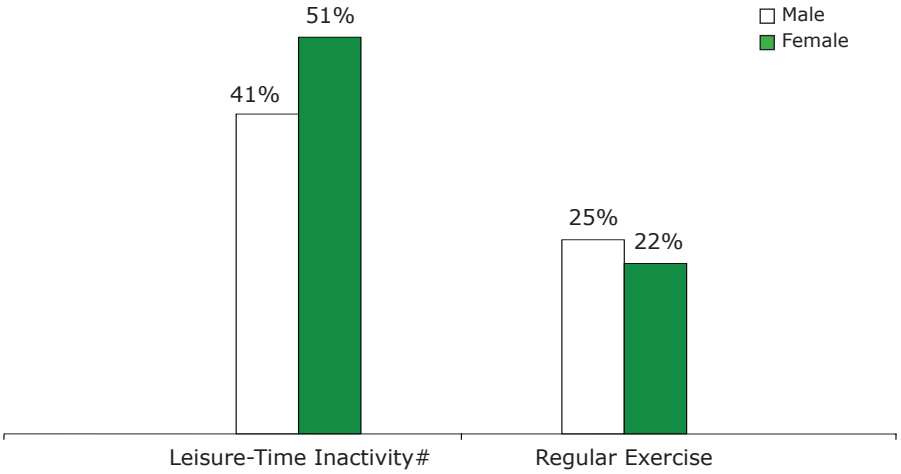
According to findings from NHSS 2007, females were significantly less physically active than males. About 51 per cent reported that they did not participate in any sports or exercise or walking[1] during their leisure time, compared to 41 per cent for males (Chart 2). They also tended to exercise less regularly[2] than males (22 per cent versus 25 per cent).

Dental Care

Oral health is a crucial aspect of maintaining general health. Proper dental care can reduce the presence of bacteria, which reduces strain on the immune system. Regular dental visits allow for early identification and treatment of oral conditions and infections before they develop into serious problems.

1 Continuous walking for at least 10 minutes.
2 Participation in at least moderate-intensity sports or exercise for at least 20 minutes, for 3 or more days a week.

CHART 2 PHYSICAL ACTIVITY LEVEL BY GENDER, 2007



Did not participate in any sports or exercise or walking (i.e. continuous walking for at least 10 minutes) during leisure time.

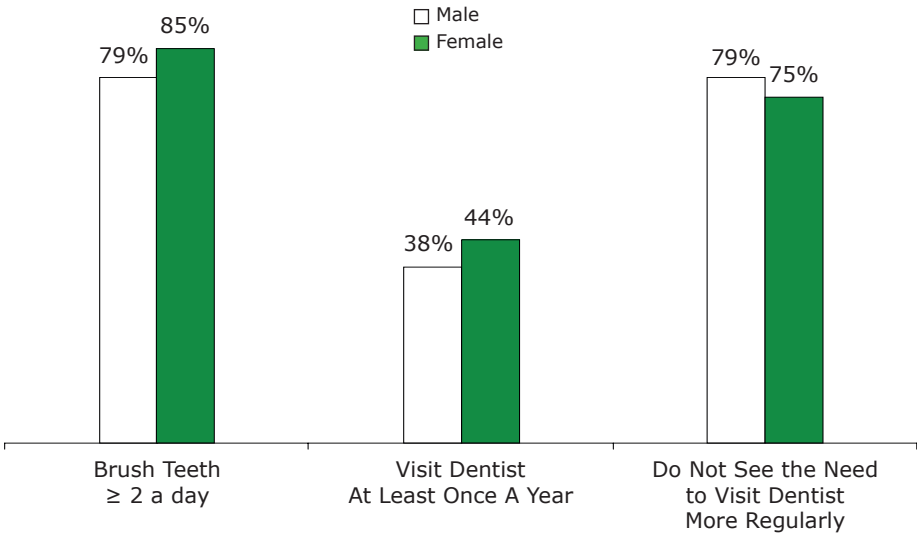
Based on findings from NHSS 2007, females paid more attention to their dental health than males, with a higher proportion brushing their teeth twice or more times daily (Chart 3). About 44 per cent visited the dentist at least once a year compared to 38 per cent of males, as the latter were more likely to deem it unnecessary to visit a dentist more regularly.

Smoking

Cigarette smoking is a major risk factor for hypertension, heart disease, stroke, cancer and respiratory problems and has been identified as the single most avoidable cause of death.

In 2007, smoking[3] prevalence in males was 24 per cent whilst that in females was

CHART 3 DENTAL CARE BY GENDER, 2007

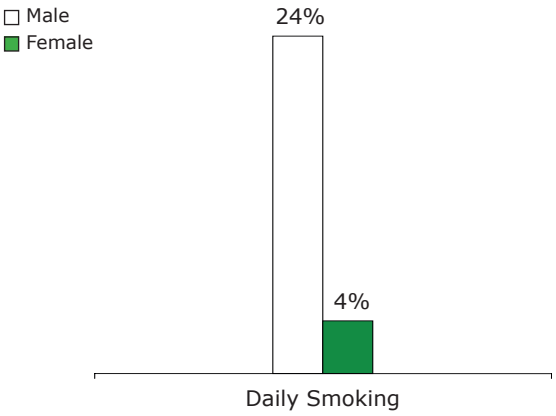


3 Smokes at least once a day.

4 per cent (Chart 4). Males also smoked more cigarettes daily. The mean number of cigarettes smoked per day by male smokers was 13 sticks compared to 9 sticks among female smokers.

The main reason for smoking also differed between the two genders. Females cited "to feel relaxed/to relieve stress/to help me cope with problems" (33 per cent) as their top reason while for males, it was "addiction" (31 per cent).

CHART 4 DAILY SMOKING BY GENDER, 2007



Alcohol Consumption

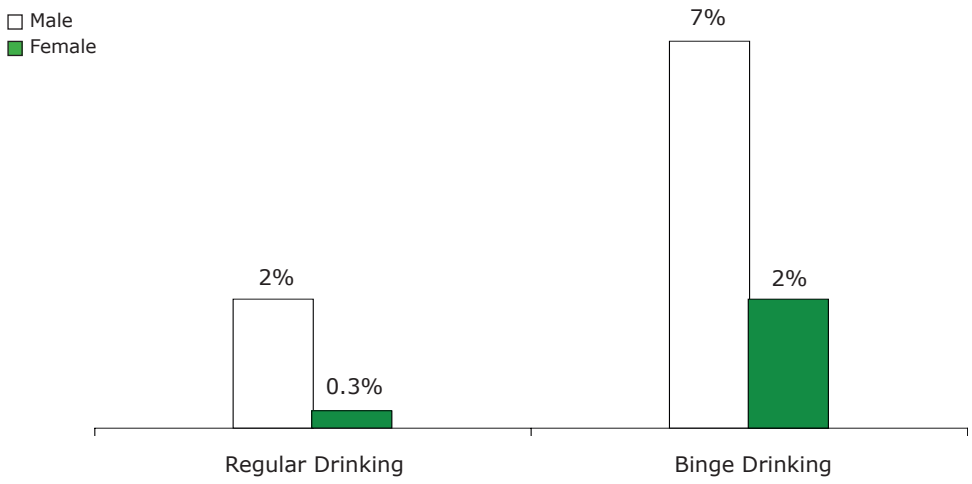
Excessive alcohol consumption is associated with an increased risk of hypertension, stroke and certain cancers. It may also lead to liver cirrhosis, inflammation of the pancreas and damage to the brain and heart.

More males than females drink alcohol. In 2007, the proportion of males (2 per cent) who consumed alcohol regularly[4] was close to 7 times that of females (0.3 per cent) (Chart 5).

Binge drinking is defined as consumption of five or more alcoholic drinks[5] for men or four or more alcoholic drinks for women in any one drinking session during the past month preceding the survey. The prevalence of binge drinking was also more common among males (7 per cent) than females (2 per cent).

Close to two-thirds of all male drinkers chose beer as their most preferred alcoholic

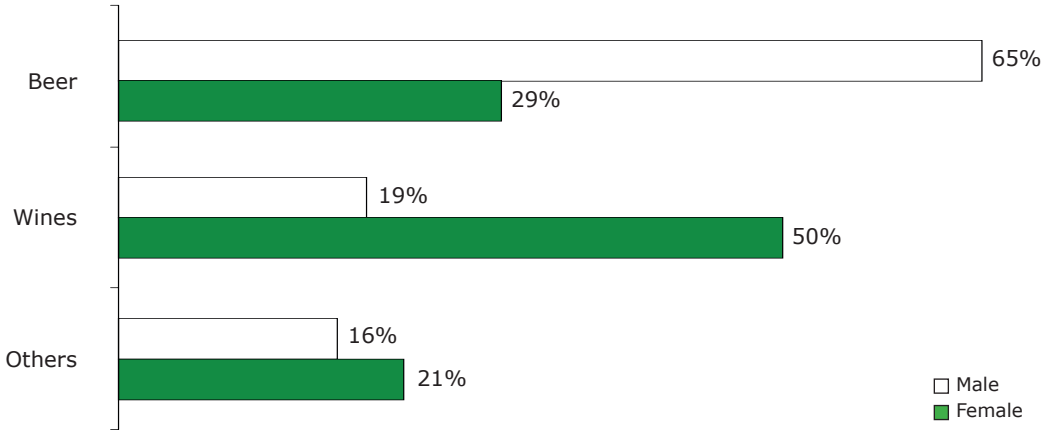
CHART 5 ALCOHOL CONSUMPTION BY GENDER, 2007



4 5 or more days a week.

5 One alcoholic drink refers to 1 can/small bottle (~285mls) of beer or 1 glass (~120mls) of wine or 1 measure (~30mls) of spirits.

CHART 6 MOST PREFERRED ALCOHOLIC DRINK BY GENDER, 2007



drink (Chart 6). In comparison, half of all female drinkers ranked wine as their most preferred type of alcoholic drink.

Health Care Utilization

Females tend to value health more than males and are more likely to seek care during the initial stages of a health disorder.

In 2007, a higher proportion of females (40 per cent) than males (37 per cent) reported that they had a regular family doctor or general practitioner whom they would consult when they have a health problem. More females also indicated that they would usually visit a private general practitioner or a polyclinic when they contracted mild illnesses such as colds or coughs (28 per cent versus 24 per cent).

The use of preventive medical services also differed among the elderly of both genders in 2007. Screening coverage for some chronic diseases such as hypertension and high blood cholesterol were higher in elderly females aged 60 to 69 years compared to males in the same age group. About 77 per cent of females aged 60 to 69 years had at least a blood pressure check for hypertension in the past one year compared to 75 per cent among males. In addition, a higher proportion of females compared to males had their blood cholesterol checked at least once in the past three years (91 per cent versus 86 per cent).

Conclusion

Survey findings from NHSS 2007 showed striking gender differences in health practices with females reporting overall better health behaviour. They took greater conscious effort to achieve healthy nutrition such as limiting fat-intake and eating sufficient fruits and vegetables. Females were also less likely to consume alcohol and indulge in binge drinking, and more likely to practise good oral hygiene, make regular visits to the dentist, and access health care services with the onset of mild ailments.

Formation and Cessation of Companies and Businesses, 2008

Companies

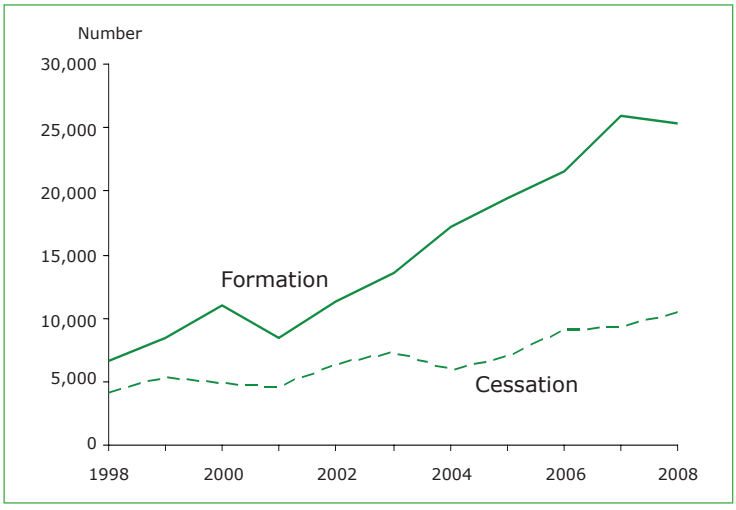
The number of companies formed in 2008 was 25,330, a 2.2 per cent decrease from the 25,900 formed in 2007. It was the first year-on-year decrease since 2001. Double-digit declines in company formation were recorded in the real estate, rental & leasing activities (36 per cent) and financial & insurance activities (17 per cent) industries. Wholesale & retail trade, transport & storage, and hotels & restaurants industries also recorded declines of 1 to 2 per cent in company formation in 2008. On the other hand, industries which recorded increases in company formation included arts, entertainment, recreation & other service activities (21 per cent), manufacturing (8.2 per cent), education, health & social work (4.9 per cent), and information & communications (3.7 per cent).

There were 10,480 company cessations in 2008, a rise of 14 per cent from 9,210 in 2007. All major industries recorded increases in company cessation, ranging from 8.4 per cent (wholesale & retail trade industry) to 58 per cent (hotels & restaurants) industry.

Businesses

The number of businesses formed rose slightly from 24,750 in 2007 to 24,850 in 2008. Growths in business formation were recorded in industries such as financial & insurance activities (22 per cent), professional, scientific & technical activities (13 per cent), and manufacturing (8.9 per cent). Conversely, business formation decreased for the education, health & social work (27 per cent), hotels & restaurants (4.2 per cent), and arts,

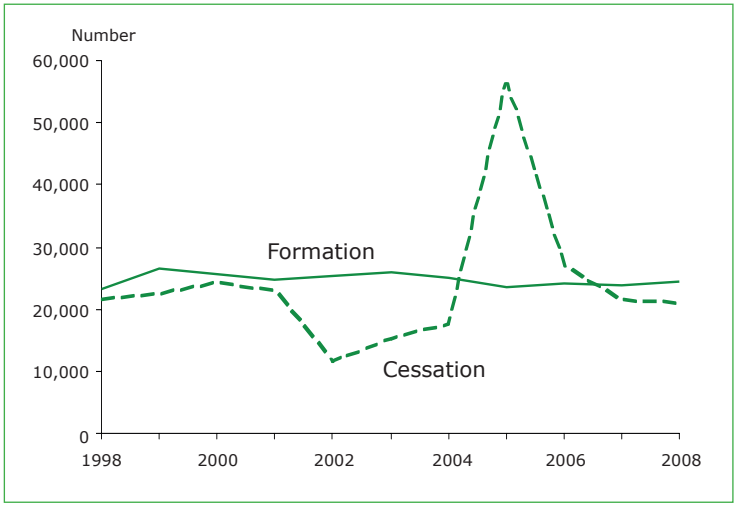
CHART 1 FORMATION AND CESSATION OF COMPANIES



entertainment, recreation & other service activities (4.0 per cent).

The number of business cessations declined by 1.5 per cent, from 21,310 in 2007 to 20,980 in 2008. Most major industries recorded lower business cessation, with the largest decline recorded in real estate, rental & leasing activities (11 per cent). Other industries registered smaller declines in business cessation, for example, construction (5.6 per cent), wholesale & retail trade (4.1 per cent), and transport & storage (3.7 per cent).

CHART 2 FORMATION AND CESSATION OF BUSINESSES



Popular Months for Marriage in Singapore

Do you know . . .

that December was the most popular month for marriage in 2008? A total of 24,596 marriages were registered in 2008, of which 2,867 (or 12 per cent) occurred in December (Chart 1). November was the next popular month for marriage, followed by September. December was also the most popular month for marriage in 2006 and 2007.

For Chinese couples, September was the most popular month to tie the knot in 2008 (Chart 2). The eighth month of the Chinese lunar calendar, which has traditionally been regarded by the Chinese as an auspicious month to get married, coincided with September in 2008. Of the 15,738 Chinese couples who were married in 2008, about 12 per cent registered

their marriage in September.

In 2008, the largest number of Muslim marriages was registered in August, and the least in September (Chart 3). The low number of Muslim marriages registered in September could be due to the Ramadan month of fasting, which coincided with September in 2008.

CHART 1 TOTAL NUMBER OF MARRIAGES BY MONTH, 2008

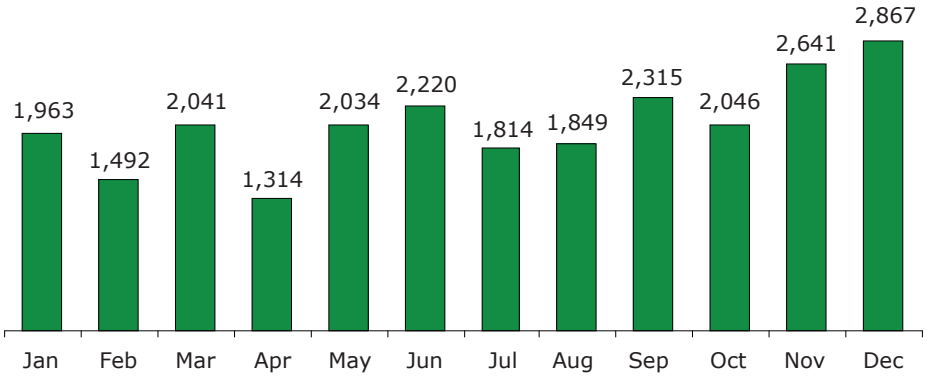


CHART 2 TOTAL NUMBER OF MARRIAGES AMONG CHINESE COUPLES BY MONTH, 2008

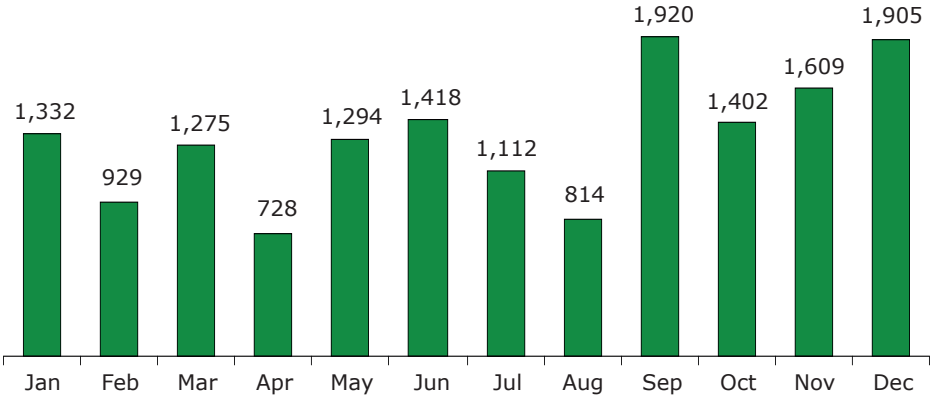
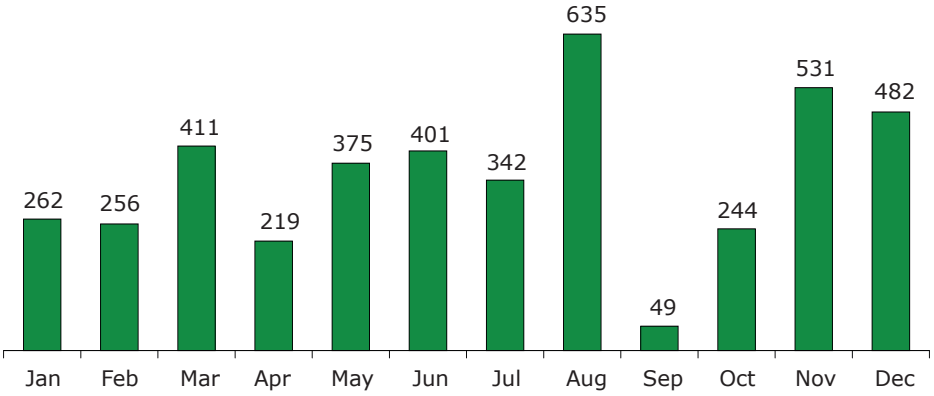


CHART 3 TOTAL NUMBER OF MUSLIM MARRIAGES BY MONTH, 2008



Note : Data are preliminary.

2008 in Brief

Singapore's population
... reached 4.84 million in June 2008.

Singapore's economy
... grew 1.1 per cent.

Mean years of schooling
... was 10.2 years for male resident non-students aged 25 years and over and
9.1 years for female resident non-students aged 25 years and over.

Home ownership rate
... was 90.1 per cent.

Per capita gross national income
... increased to S$51,739.

Gross national saving
... was S$117.7 billion.

Official foreign reserves
... increased to S$250.3 billion.

Labour force participation rate
... reached 76.1 per cent among males and 55.6 per cent among females.

Resident unemployment rate (seasonally adjusted)
... was 3.1 per cent.

Inflation rate
... was 6.5 per cent.

Value added for the manufacturing sector
... amounted to S$47.9 billion.

Investment commitments for the manufacturing sector
... reached S$18.0 billion.

Total trade
... reached S$927.7 billion.

Visitor arrivals
... was 10,116 thousand.

Sea cargo handled
... reached 515 million freight tonnes.

Air cargo handled
... was 1,861 thousand tonnes.

Mobile phone subscribers
... reached 1,310 per 1,000 population.

Residential broadband subscribers
... increased to 239 per 1,000 population.

Crime rate
... declined to 670 per 100,000 population.

Contents

The *Statistics Singapore Newsletter* is issued half-yearly by the Singapore Department of Statistics. It aims to provide readers with news of recent research and survey findings. It also serves as a vehicle to inform readers of the latest statistical activities in the Singapore statistical service.

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