

BUDGET HIGHLIGHTS

Financial Year 2008

Creating a Top Quality Economy

Building a Resilient Community

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[I] BUDGET HIGHLIGHTS

- ◆ **FISCAL UPDATE ON FY2007**
- ◆ **FISCAL OUTLOOK FOR FY2008**

1 Fiscal Update on Financial Year 2007

1.1 *Economic Performance in 2007*

The Singapore economy registered a strong performance in 2007. Real Gross Domestic Product (GDP) expanded by 7.7%, higher than the 4.5% to 6.5% growth projected when the Budget for Financial Year (FY) 2007 was set out in February 2007.

This strong growth comes on the back of three consecutive years of robust expansion. Growth was broad-based as our economy continues to become more diversified. While growth in the manufacturing sector moderated to 5.8%, down from 12% in 2006, the construction sector and services producing industries grew faster in 2007, at 20.3% and 8.1% respectively.

The buoyant economy also bolstered wages and job creation. Median wages rose by 7.7%, and 236,600 jobs were created in 2007, compared to 176,000 jobs in 2006. Unemployment went down to 1.6% at the end of last year. Resident unemployment also fell sharply to 2.3%, its lowest level in a decade. The Consumer Price Index (CPI) rose by 2.1% in 2007 on the back of global food and commodity price increases.

1.2 *Expected Budget Outturn for FY2007*

Before taking into account Special Transfers and Net Investment Income Contribution (NIIC), the revised FY2007 position is a Primary Surplus of \$6.3 billion (or 2.6% of GDP), compared to the \$0.6 billion deficit budgeted previously. After taking into account NIIC of \$2.3 billion and Special Transfers of \$2.2 billion, the revised budget position for FY2007 is an overall surplus of \$6.4 billion. The revised FY2007 revenue and expenditure estimates are summarised in [Table 1.1](#)

1.3 *Operating Revenue*

FY2007 Operating Revenue at \$39.6 billion has been revised upwards by \$7.3 billion (22.5% higher), driven primarily by active property market transactions and higher than expected economic growth in 2007. Higher collections came from Stamp Duty, Corporate Income Tax, Goods and Services Tax, property tax and various fees and charges.

BUDGET HIGHLIGHTS

Table 1.1: Fiscal Position in FY2006 and FY2007

| | Actual FY2006 | Estimated FY2007 | Revised FY2007 | Revised FY2007 Compared to | |
|--|------------------|---------------------|-------------------|-------------------------------|---------------------|
| | | | | Actual FY2006 | Estimated FY2007 |
| | \$billion | \$billion | \$billion | % change | % change |
| OPERATING REVENUE | 31.29 | 32.36 | 39.65 | 26.7 | 22.5 |
| Corporate Income Tax | 8.47 | 8.40 | 9.00 | 6.2 | 7.1 |
| Personal Income Tax | 4.71 | 5.16 | 5.56 | 18.1 | 7.9 |
| Statutory Boards' Contributions | 0.95 | 1.36 | 1.67 | 74.9 | 22.6 |
| Assets Taxes | 2.11 | 2.09 | 2.57 | 21.5 | 23.0 |
| Customs and Excise Taxes | 1.89 | 1.96 | 1.96 | 4.0 | 0.1 |
| Goods and Services Tax | 3.98 | 4.85 | 6.00 | 50.8 | 23.7 |
| Motor Vehicle Related Taxes | 1.75 | 1.74 | 2.12 | 21.6 | 22.0 |
| Vehicle Quota Premiums | 0.09 | 0.26 | 0.62 | 559.3 | 137.0 |
| Betting Taxes | 1.57 | 1.62 | 1.71 | 8.5 | 5.2 |
| Stamp Duty | 2.02 | 1.49 | 3.80 | 88.6 | 155.0 |
| Other Taxes | 1.38 | 1.34 | 1.64 | 18.7 | 23.0 |
| Other Fees and Charges | 2.11 | 1.94 | 2.87 | 36.3 | 48.2 |
| Others | 0.26 | 0.16 | 0.13 | (49.6) | (16.0) |
| Less: | | | | | |
| TOTAL EXPENDITURE | 29.90 | 33.00 | 33.30 | 11.4 | 0.9 |
| Operating Expenditure | 23.92 | 25.88 | 26.22 | 9.6 | 1.3 |
| Development Expenditure | 5.98 | 7.12 | 7.09 | 18.5 | (0.5) |
| PRIMARY SURPLUS/(DEFICIT)* | 1.38 | (0.64) | 6.35 | | |
| Less: | | | | | |
| SPECIAL TRANSFERS | 3.57 | 2.07 | 2.20 | (38.5) | 6.0 |
| GST Credits | - | 0.53 | 0.54 | | |
| Senior Citizens' Bonus | - | 0.10 | 0.13 | | |
| Workfare Income Supplement (WIS) Scheme | - | 0.20 | 0.30 | | |
| Top-up to Post-Secondary Education Account | - | 0.20 | 0.20 | | |
| Utilities-Save (U-Save) Scheme | 0.06 | 0.15 | 0.15 | | |
| S&CC and Rental Rebates | 0.04 | 0.08 | 0.06 | | |
| Other measures [#] | - | 0.01 | 0.01 | | |
| Growth Dividends | 1.36 | - | - | | |
| Top-up to CPF Accounts | 0.48 | - | - | | |
| Workfare Bonus Scheme | 0.40 | - | - | | |
| 40th Anniversary NS Bonus | 0.20 | - | - | | |
| Economic Restructuring Shares | 0.08 | - | - | | |
| Top-up to Opportunity Fund | 0.05 | - | - | | |
| Top-up to ComCare Fund | 0.10 | - | - | | |
| Top-up to Medifund | 0.10 | 0.20 | 0.20 | | |
| Top-up to ElderCare Fund | 0.10 | - | - | | |
| Top-up to Lifelong Learning Fund | 0.10 | 0.10 | 0.10 | | |
| National Research Fund | 0.50 | 0.50 | 0.50 | | |
| Add: | | | | | |
| NET INVESTMENT INCOME CONTRIBUTION | 2.13 | 2.02 | 2.30 | 7.9 | 13.9 |
| OVERALL BUDGET SURPLUS/(DEFICIT) | (0.06) | (0.69) | 6.45 | | |

Note: Figures may not add up due to rounding.

* Surplus/(Deficit) before Special Transfers and Net Investment Income Contribution (NIIC).

[#] This includes grants to Citizens' Consultative Committee (CCC) ComCare Fund, Self-Help Groups (SHGs) and low-income households under the Public Transport Vouchers Scheme.

Corporate Income Tax (CIT)

CIT collections are estimated at \$9.0 billion, or 7.1% higher than the budgeted FY2007 estimates. This was driven by higher profits booked by companies due to strong economic growth in 2006 and 2007.

Personal Income Tax (PIT)

PIT collections are estimated at \$5.6 billion, or 7.9% higher than the budgeted FY2007 estimates, in line with strong wage growth in 2006 and 2007.

Assets Taxes

Assets Tax collections are estimated at \$2.6 billion, or 23.0% higher than the budgeted FY2007 estimates. This was largely due to the revision of Annual Values to reflect the rise in residential and commercial rents.

Goods and Services Tax (GST)

GST collections are estimated at \$6.0 billion, or 23.7% higher than the budgeted FY2007 estimates. This was due to higher than expected consumption growth.

Motor Vehicle Related Revenues

Motor Vehicle Related Taxes and Vehicle Quota Premiums (i.e. receipts from Certificate of Entitlement (COE) premiums) are expected to be higher than budgeted by \$0.7 billion. This was attributable to lower rebates paid out with lower deregistration rates and fewer cars with high rebate value.

Stamp Duty

Stamp Duty collections are estimated at \$3.8 billion, 155.0% higher than the budgeted FY2007 estimates. This was due to a buoyant private residential property market, which saw a price increase of 31% and a 60% jump in transaction volume vis-à-vis 2006.

Box 1.1: Volatility in Stamp Duty Collections

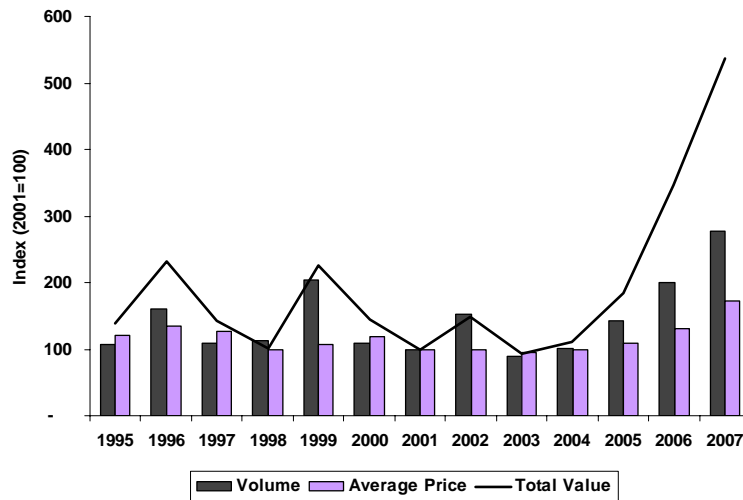
Stamp duty is a tax that is payable on legal paper documents relating to immovable property, unlisted stocks and shares. These include a sale or mortgage of immovable property and shares, and a lease of immovable property.

Stamp Duty collected on property comprises about 98% of our total Stamp Duty collections, since most transactions relating to shares and stocks are undertaken electronically without the need for documents. Of the Stamp Duty on property, about 76% is accounted for by private property sales and disposals.

Record Stamp Duty collections in 2007

Stamp Duty collections are expected to reach \$3.8 billion in FY2007, the highest ever recorded. This is due mainly to the buoyant private residential property market, which saw a record number of property transactions and a new high in prices in 2007. The total value of private residential properties transacted increased by 55% (see [Chart 1.1](#)) and the total value of private commercial properties transacted increased by 37% from 2006.

Chart 1.1: Private Residential Property Volume, Average Price and Total Transacted Value (2001=100)



Source: Urban Redevelopment Authority

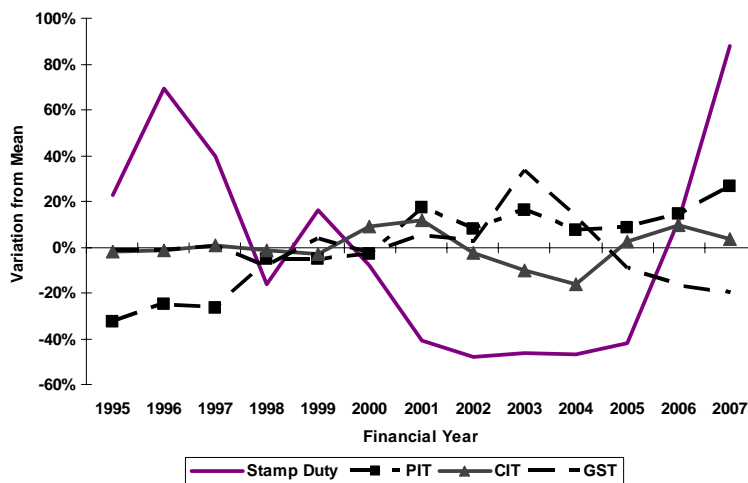
Stamp duty collections much more volatile than other revenue sources

Stamp duty collections are highly subject to the fluctuations in prices and volume of property transactions. These are in turn strongly influenced by market sentiments, which make stamp duty collections volatile from year to year and difficult to project.

As a percentage of total Government Operating Revenue, Stamp Duty has fluctuated between 2.7% in 2001 to an estimated 9.6% in FY2007. Over the property cycle (1995 to 2007), the variation of annual Stamp Duty collections from the average collection over this period is between 88% and -48%. The variations in Stamp Duty collections are much bigger than that of CIT, PIT and GST collections over the same period (see [Chart 1.2](#)).

Stamp duty collections can be significant. However, given the volatile nature of stamp duty collections, the Government does not rely on it as a key source of funding for regular Government expenditures.

Chart 1.2: Volatility in Government Revenue



Note: CIT, PIT and GST have been adjusted for rate changes.

1.4 Total Expenditure

Total Expenditure for FY2007 is expected to be \$33.3 billion (13.8% of GDP), or 0.9% higher than budgeted. While Development Expenditure is estimated to be \$7.1 billion or 0.5% lower than budgeted, this is insufficient to offset the higher Operating Expenditure, which, at \$26.2 billion, is 1.3% above the budgeted amount. The increase in Operating Expenditure was due mainly to service-wide salary revisions and CPF changes.

1.5 Special Transfers

A total of \$2.2 billion in Special Transfers was disbursed in FY2007. This included the GST Offset Package of \$1.1 billion comprising:

- GST credits;
- Senior Citizens' Bonus;
- Post-Secondary Education Account (PSEA) top-ups;
- Utilities-Save rebates;
- Service and Conservancy Charges rebates;
- Rental rebates;
- Public Transport Vouchers Scheme; and
- Other social assistance through Citizens' Consultative Committees (CCCs) and Self-Help Groups (SHGs).

The Workfare Income Supplement (WIS) totalled \$0.3 billion, which is \$0.1 billion higher than budgeted. A total of \$0.8 billion was channelled to top-up endowment funds and National Research Fund (NRF).

1.6 Net Investment Income Contribution

Net Investment Income Contribution (NIIC) for FY2007 is expected to be \$2.3 billion, or \$0.3 billion above the budgeted 2007 estimate. This is due to higher interest and dividend income from the investment of the Government's financial reserves.

2 Fiscal Outlook for Financial Year 2008

2.1 Budget for FY2008

The FY2008 Budget is summarised in [Table 2.1](#).

2.2 Operating Revenue

Assuming GDP growth of 4.0% to 6.0% in 2008, Operating Revenue for FY2008 is projected at \$39.8 billion, an increase of \$0.2 billion over the revised FY2007 estimates. FY2008 Operating Revenue is expected to be 15.1% of GDP, lower than 16.5% of GDP in FY2007.

Corporate Income Taxes (CIT)

CIT collections are expected to grow by 2.1% (or \$0.2 billion) from the revised FY2007 estimates to \$9.2 billion in FY2008. While strong growth in 2007 and 2008 would increase profits, revenue collection would be affected by the 2 percentage point cut in CIT rate announced in Budget 2007. The lower collections have also considered the impact of tax measures introduced in Budget 2008.

Personal Income Taxes (PIT)

After taking into account the PIT rebates and changes to tax relief for CPF and Supplementary Retirement Scheme (SRS) as announced in Budget 2008, PIT collections are expected to grow by 6.9% (or \$0.4 billion) to \$5.9 billion. This is estimated based on strong wage growth in 2007 and expected continued growth in 2008.

Motor Vehicle Related Revenues

With a diminishing stock of cars with high rebate value, FY2008 collection for Motor Vehicle Related Taxes is expected to rise. However, this is expected to be offset by a reduction in the Additional Registration Fees (ARF) as well as a 15% reduction in road tax rates. Vehicle Quota Premium collections are projected to rise by \$0.3 billion with lower rebates expected to be paid out for deregistrations.

Stamp Duty

Stamp Duty collections are projected to decrease by 36.8% (or \$1.4 billion) to \$2.4 billion, due to moderation in the property market and fewer en-bloc deals. The volume of transactions is expected to be lower while prices appreciate more slowly.

2.3 Total Expenditure

The FY2008 expenditure is estimated to be \$37.5 billion (14.2% of GDP), an increase of \$4.2 billion (12.5%) from the revised FY2007 expenditure. The increase is across the board, led by an increase in expenditures in the economic sector (+\$1.7 billion), in particular for the Ministry of Transport (MOT) (+\$790 million). Social sector expenditure is also expected to rise by \$1.4 billion, mainly due to the Ministry of Education (MOE) (+\$500 million), Ministry of Health (MOH) (+\$420 million) and Ministry of Information, Communications and the Arts (MICA) (+\$260m) (Refer to [Table 6.5](#) in the *Statistical Annex* for details).

FISCAL OUTLOOK FOR FINANCIAL YEAR 2008

Table 2.1: Budget for FY2008

| | Revised | Estimated | Change over | |
|---|--------------|---------------------|----------------|--------------|
| | FY2007 | FY2008 [@] | Revised FY2007 | |
| | \$billion | \$billion | \$billion | % |
| OPERATING REVENUE | 39.65 | 39.84 | 0.19 | 0.5 |
| Corporate Income Tax | 9.00 | 9.19 | 0.19 | 2.1 |
| Personal Income Tax | 5.56 | 5.94 | 0.38 | 6.9 |
| Statutory Boards' Contributions | 1.67 | 1.99 | 0.32 | 19.0 |
| Assets Tax | 2.57 | 2.49 | (0.08) | (3.0) |
| Customs and Excise Tax | 1.96 | 2.01 | 0.04 | 2.2 |
| Goods and Services Tax | 6.00 | 6.19 | 0.19 | 3.2 |
| Motor Vehicle Related Taxes | 2.12 | 2.00 | (0.12) | (5.6) |
| Vehicle Quota Premiums | 0.62 | 0.89 | 0.27 | 44.3 |
| Betting Tax | 1.71 | 1.80 | 0.10 | 5.6 |
| Stamp Duty | 3.80 | 2.40 | (1.40) | (36.8) |
| Other Taxes | 1.64 | 1.78 | 0.14 | 8.6 |
| Other Fees and Charges | 2.87 | 3.02 | 0.15 | 5.2 |
| Others | 0.13 | 0.13 | (0.00) | (0.4) |
| Less: | | | | |
| TOTAL EXPENDITURE | 33.30 | 37.45 | 4.15 | 12.5 |
| Operating Expenditure | 26.22 | 29.00 | 2.78 | 10.6 |
| Development Expenditure | 7.09 | 8.45 | 1.37 | 19.3 |
| PRIMARY SURPLUS/(DEFICIT)[*] | 6.35 | 2.38 | | |
| Less: | | | | |
| SPECIAL TRANSFERS | 2.20 | 5.40 | 3.21 | 146.0 |
| Growth Dividends | - | 0.87 | | |
| Top-up to CPF Medisave Accounts | - | 0.22 | | |
| GST Credits | 0.54 | 0.45 | | |
| Senior Citizens' Bonus | 0.13 | 0.10 | | |
| Top-up to Post-Secondary Education Account | 0.20 | 0.50 | | |
| Utilities-Save (U-Save) Scheme | 0.15 | 0.13 | | |
| S&CC and Rental Rebates | 0.06 | 0.06 | | |
| Other measures [#] | 0.01 | 0.01 | | |
| Assistance to Small and Medium Enterprises (SMEs) | - | 0.05 | | |
| CPF Deferment and Voluntary Deferment Bonus | - | 0.35 | | |
| LIFE Bonus | - | 0.26 | | |
| Top-up to ComCare Fund | - | 0.20 | | |
| Top-up to Medifund | 0.20 | 0.20 | | |
| Top-up to ElderCare Fund | - | 0.40 | | |
| Top-up to Lifelong Learning Fund | 0.10 | 0.80 | | |
| National Research Fund | 0.50 | 0.80 | | |
| Workfare Income Supplement (WIS) Scheme | 0.30 | - | | |
| Add: | | | | |
| NET INVESTMENT INCOME CONTRIBUTION | 2.30 | 2.22 | (0.08) | (3.4) |
| OVERALL BUDGET SURPLUS/(DEFICIT) | 6.45 | (0.80) | | |

Note: Figures may not add up due to rounding.

[@] Incorporating measures announced in FY2008 Budget Statement.

^{*} Surplus/(Deficit) before Special Transfers and Net Investment Income Contribution.

[#] This includes grants to Citizens' Consultative Committee (CCC) ComCare Fund, Self-Help Groups (SHGs) and low-income households under the Public Transport Vouchers Scheme.

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The increase in MOE's expenditure is on account of the salary revision for teachers, higher provisions to match donations to the universities endowment fund, and more operating grants to the Institutes of Higher Learning (IHLs). The increase in MOH's expenditure is to fund new clinical functions and manpower initiatives. Higher development expenditures on the development of the Next Generation National Broadband Network by Infocomm Development Authority (IDA) and the School of the Arts contributed to MICA's increase in expenditure.

Box 2.1: Fiscal Costs of an Aging Population

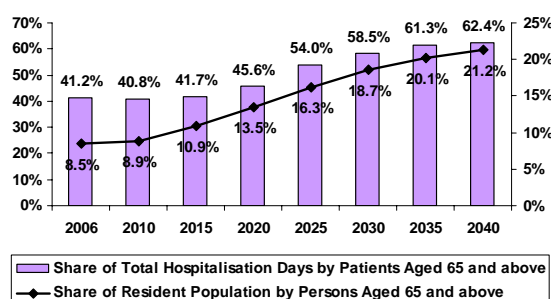
The pressure of demographic change has often been described as one of the key fiscal challenges to any city or country. Population aging, a consequence of the longer life expectancy of baby boomers as well as a declining fertility rate, will undoubtedly affect our economy. Although the net impact on the Government's fiscal position is uncertain, it is clear that expenditures in some areas will increase with aging¹.

Three current areas of expenditure directly affected by an aging population are healthcare, community and social programmes, and employment support.

Healthcare

As the population ages, demand for healthcare services will increase. In 2006, persons aged 65 and above accounted for more than 40% of the total hospitalisation days in our public sector hospitals, despite being 8.5% of our resident population. The average length of stay for this age group is also longer, at 7 days, compared to 4 days for persons aged 15 to 64 years. Going forward, care for the elderly is expected to reach more than half of total hospitalisation days (refer to [Chart 2.1](#)).

Chart 2.1: The elderly consume disproportionately more healthcare services



Source: Ministry of Health

In 2007, 21% of the Government Healthcare Expenditure (GHE), or 0.2 % of GDP, was dedicated to elderly care, With an aging population, the proportion of GHE for the elderly may double in two to three decades' time. To help Singaporeans co-pay for their healthcare on an affordable basis, the Ministry of Health (MOH) is improving the coverage of large hospital bills by MediShield, and will keep Medisave updated and relevant for the evolving healthcare needs of Singaporeans. Medifund will remain the ultimate safety net for needy patients, ensuring no patient will be denied healthcare due to inability to pay.

¹ A smaller working population points to a smaller tax base and hence lower income tax revenues, but higher expenditures by the wealthier older population may offset this by rising consumption tax revenue. Likewise, an aging population causes government expenditure on the elderly to rise but government expenditure on the young to fall.

Community and social programmes

Certain factors will affect the social and welfare expenditure on the elderly in the future. As each successive cohort of older Singaporeans becomes better educated, their employment rates are likely to rise, reducing their dependence on social assistance. However, the elderly are also living longer. The increased prevalence of smaller, nuclear families and the trend of more individuals remaining single could also increase the number of wholly-elderly households.

With more elderly living alone, we need to build an environment with sufficient and easily-accessible facilities and services for the elderly. Operating grants to Voluntary Welfare Organisations (VWOs), Public Assistance and Special Grant expenditures could also go up to provide assistance to older Singaporeans who are unable to work and who do not have the support of their families. To help the elderly lead more active and enriched lives, Government spending on programmes such as the Active Aging Programmes under the People's Association will also increase. The Government's efforts will be complemented by the growth of social enterprises to meet the needs of the elderly.

Employment support

The Workfare Income Supplement (WIS) Scheme was introduced in 2007 as a wage supplement scheme, with the principal target group being older full-time workers aged 45 years and above.

As the population ages, it is likely that more workers will be aged above 45, and more workers at even older ages (e.g. above 65) will remain in the workforce due to longer life expectancy and, therefore, delay retirement. For the initial years, WIS expenditure is projected to be about 0.18% of GDP and this could grow as our population ages.

Conclusion

These three areas are only a selection of the expenditures that could increase with an aging population. In addition, it is not clear how the aging population would interact with rising demand for government services. Regardless, it is clear that an aging population reduces our labour supply for GDP growth, and presents a key long term fiscal challenge for Singapore.

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2.4 Key Changes in Taxes, Fees and Charges

Budget 2008 introduces various incentives to enhance our competitiveness and sustain growth. These include broad-based corporate tax incentives to encourage pervasive innovation in companies, help entrepreneurial companies and support businesses (especially SMEs) in the services sectors in their upgrading of premises. Estate duty is removed, while tax incentives are enhanced to strengthen Singapore as a financial and maritime hub. As part of the Land Transport Masterplan, the structure of taxes on vehicles will continue to shift from ownership to usage. The net impact of these tax changes is expected to be a reduction in tax revenue of around \$0.5 billion in FY2008 and around \$0.8 billion annually from FY2009 onwards (see [Table 2.2](#)).

Personal Income Tax (PIT) Rebates

The Government will provide a one-off PIT rebate of 20% for the Year of Assessment (YA) 2008, up to a maximum cap of \$2,000. This will cost the Government \$380 million.

Table 2.2: Key Changes in Taxes, Fees and Charges

| Tax Change | Estimated Revenue Gain/(Loss) per annum (\$million) |
|--|--|
| R&D Tax Incentives | |
| • 150% tax deduction for expenses on R&D done in Singapore | |
| • R&D Tax Allowance | (250) |
| • R&D Incentive for Start-up Enterprises | |
| Reduction in Additional Registration Fees from 110% Open Market Value (OMV) to 100% OMV | (200) |
| Tax Incentive for fixtures/fittings | (130) |
| Reduction of road tax by 15% | (110) |
| Elimination of estate duty | (75) |
| Incentive for Insurance Brokers | (20) |
| Voluntary Savings: Tax relief for CPF Minimum Sum Top-Up Scheme and Voluntary Contributions to Medisave Account, as well as changes to Supplementary Retirement Scheme | (10) |
| Extend unilateral tax credit to all Foreign Source Income | (10) |
| Allow listed Real Estate Investment Trusts and registered business trusts in infrastructure business, ship leasing and aircraft leasing to claim input GST on business expenses incurred | (10) |
| Net Impact | (815) |

2.5 Special Transfers

Budget 2008 includes \$1.8 billion of surplus sharing (inclusive of \$380 million in PIT rebates effected through reduction in Operating Revenue). The surplus sharing measures include the Growth Dividend package of \$870 million and top-up to Post-Secondary Education Account (PSEA) of \$300 million (which is in addition to the \$200 million top-up committed in Budget 2007). \$220 million will be channelled to Medisave accounts of the elderly to help them cope with the increase in MediShield premiums. Additional assistance to the needy will also be provided through the Citizens' Consultative Committees (CCCs) ComCare Fund, Self-help Groups (SHGs) and Voluntary Welfare Organisations (VWOs).

A total of \$2.2 billion is set aside to top-up endowment funds and provide for future needs. The Medifund and the ComCare Fund will each be topped-up by \$200 million, while the Lifelong Learning Fund and the ElderCare Fund will be topped-up by \$800 million and \$400 million respectively. \$260 million is set aside for the LIFE Bonus and \$350 million will also be used to top-up the trust for future CPF Deferment and Voluntary Deferment Bonus payouts.

Another \$800 million is to be transferred to the R&D Trust Fund under the National Research Foundation (NRF) to fund projects that are targeted at boosting research and development activity in Singapore.

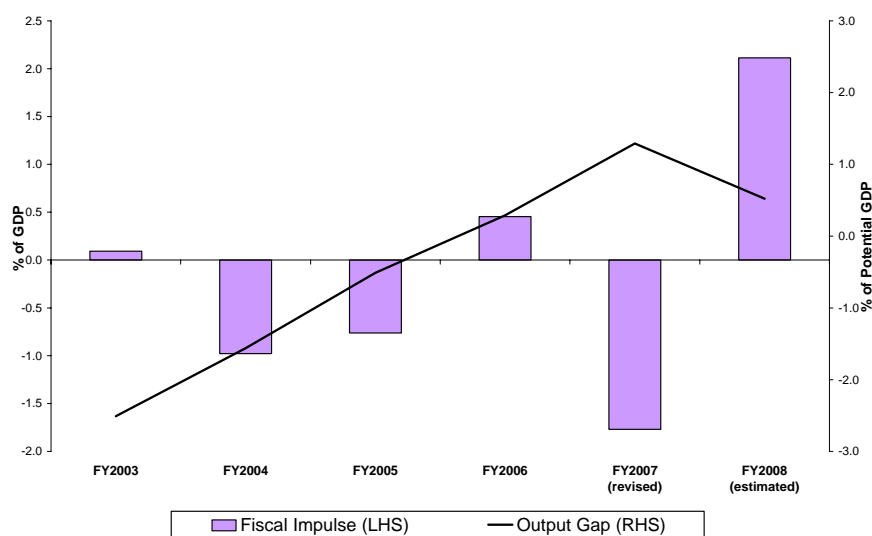
Inclusive of the \$1.0 billion GST Offset Package announced in FY2007, the total Special Transfers in Budget 2008 is \$5.4 billion.

Box 2.2: Macroeconomic Impact of Recent Fiscal Policy

The macroeconomic impact of the Budget may be assessed through the fiscal impulse measure, which estimates the first-order stimulus to aggregate demand arising from fiscal policy during a given period. It focuses on the change in fiscal stance from year to year. A positive fiscal impulse indicates a more expansionary fiscal stance compared to the previous year, while a negative fiscal impulse indicates a less expansionary (or more contractionary) stance than the year before. A deficit position can thus still be contractionary (i.e. a negative fiscal impulse) if it is smaller than the deficit position that occurred in the previous year.

The appropriateness of the fiscal impulse is often assessed against the prevailing state of the economy. The latter is sometimes measured by the output gap, which is the difference between the actual level of activity in an economy (as measured by GDP) versus the sustainable amount of activity given the capacity of the economy (i.e. the maximum level of GDP that can be sustained without creating inflationary pressures).

Strong revenue collections in 2007 reversed the small deficit and neutral fiscal policy stance estimated at the start of FY2007. Amidst the better than expected economic growth and a vibrant property market, revenue collections from stamp duty and income taxes rose significantly to result in a strong negative fiscal impulse in 2007. The tax system acted as a significant automatic stabiliser i.e. countercyclical impact when assessed against the positive output gap over the past year.

Chart 2.2: Strong fiscal stimulus projected amidst slight moderation in pace of growth

Reflecting greater uncertainty in global economic outlook, growth in 2008 is expected to moderate to be in line with the underlying medium-term growth trajectory of the Singapore economy, closing the output gap to around 0.5% of potential GDP. Growth in revenue collections for 2008 is projected to be lower given the 2 percentage point cut in Corporate Income Tax rate which will take effect in YA2008, as well as an expected slowdown in stamp duty collections.

Overall, the fiscal impulse in 2008 is estimated to be positive. This is primarily due to the additional direct transfers to individuals as part of the surplus sharing measures, which are over and above the payments that form the GST-related measures for this year. The direct transfers are designed to be highly progressive and tiered in favour of the lower income, with emphasis on investing in the futures of younger Singaporeans.

From the perspective of macroeconomic stabilisation, the fiscal stimulus in 2008 will provide support for continued economic growth amidst greater uncertainty and downside risks in the global environment.

2.6 Budget Position

With NIIC of \$2.2 billion, the estimated outturn for FY2008 before the announced tax changes and Special Transfers is a budget surplus of \$5.4 billion (2.0% of GDP). After factoring in the Special Transfers of \$5.4 billion and tax initiatives proposed for Budget 2008, the estimated outturn for FY2008 is a modest budget deficit of \$0.8 billion (0.3% of GDP).

[II] FEATURE ARTICLES

- ◆ **HELPING SINGAPOREANS PREPARE FINANCIALLY FOR RETIREMENT**
- ◆ **A STUDY OF ENDOWMENT SPENDING RULES**
- ◆ **CREATING VALUE BY EMBRACING AND CATALYSING INNOVATION**

3 Helping Singaporeans Prepare Financially for Retirement

3.1 Demographic Trends

Life expectancies are rising and fertility rates are falling in many countries around the world. Populations are therefore rapidly aging. Singapore is no exception to this trend. The proportion of Singapore residents aged 65 and above will increase from one in twelve in 2007 to one in eight in 2020. Coping with the demands of our rapidly aging population will be an increasingly important issue.

3.2 Comparison of Pension Systems

Pension systems provide a mechanism to reduce the risk of poverty in old age and smoothen lifetime income in order to maintain living standards in retirement. They can be operated by governments, corporations or unions. There are two broad types of pension systems:

- a. Defined Contribution (DC) pension system: Workers save a defined portion of their wages in individualised accounts and draw down on these accounts during retirement. Such a system is fully-funded in that what the workers get when they retire is based entirely on the value of their savings.
- b. Defined Benefit (DB) pension system: Workers pay a percentage of their wages as contributions in exchange for lifelong benefits that are usually determined by a formula tied to wages, the number of years worked or other criteria. Systems which are Pay-As-You-Go (PAYG), whereby contributions collected from today's workers go towards supporting today's retirees, are unsustainable in societies with aging populations. This is because the benefits promised to retirees will exceed the value of the contributions made by workers.

The aging population poses a major challenge to DB systems, as there are increasingly fewer young workers to support a growing elderly population. Operators of DB systems are thus finding it harder to fulfil their obligations to retirees under such schemes. In the United States, for example, workers and employers pay taxes to a national pension scheme known as Social Security. The tax collections flow back out as monthly benefits to retirees, and surpluses are kept as trust fund reserves. In 2007, the trustees of the Social Security trust funds projected that Social Security's tax income surpluses could soon decline and reserves could run out in 2041. When that happens, tax income would only be able to support about 75% of scheduled benefits and administrative costs². Corporate DB pension plans in the US are unlikely to fare better. A 2006 Organisation for Economic Co-operation and Development (OECD) report³ estimated unfunded pension liabilities of US\$146 billion, and an increasing number of companies have been trying to terminate their workers' DB pension plans. The structural imbalance will become unsustainable unless workers pay higher social security taxes or retirees accept lower benefits.

² Reno, Virginia P. and Gray, Johanna, "Social Security Finances: Findings of the 2007 Trustees Report", Social Security Brief No. 24, National Academy of Social Insurance, April 2007.

³ Sprayregen, James H.M. and Mazza, James J., "Weaving the Safety Net for an Aging World: Lessons Learned from the Pension and Insolvency Systems of the US, the UK and Germany", Organisation for Economic Co-operation and Development (OECD), April 2006.

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This has led several DB pension operators to move towards DC pension systems. Chile, for instance, created a DC individualised account system for workers in the 1980s, after its DB system suffered deficits of up to 2.7% of GDP. Other Latin America countries such as Mexico soon followed suit. Sweden also revamped its traditional DB pension system in the 1990s into a two-tier “notional” DC system which has both a DB and a DC component. Workers continue to pay retirement contributions to support the retirees of the day, but these contributions are tracked in individualised accounts and the notional capital entitles workers to an annuity at retirement. Workers also save part of their wages in individualised accounts and the balances grow with returns from the investments chosen.

3.3 Singapore’s Social Security System

In Singapore, the retirement needs of the elderly are taken care of through a four-pillar framework that comprises:

- a. The Central Provident Fund (CPF);
- b. Affordable public housing;
- c. Affordable healthcare administered through the 3M framework (Medisave, MediShield and Medifund); and
- d. Workfare as a supplement for older low-wage workers

3.4 Retirement Adequacy Challenges and Reforms to the Central Provident Fund

The CPF is the fundamental pillar of our social security framework for the elderly. It is a DC savings scheme and thus does not face concerns over the ability to meet funding obligations of PAYG systems. The CPF system is therefore fundamentally sound. Nevertheless, recent demographic trends have required us to rethink the adequacy of current levels of retirement savings. As Singaporeans live longer, they will need to build up more CPF savings to last them through their old age. In September 2007, the Government announced changes to the CPF system that would:

- a. Improve returns on CPF savings, by re-pegging the interest rates on Special, Medisave and Retirement Accounts to the 10-year Singapore Government Securities plus 1%, and providing an extra 1% interest on the first \$60,000 of combined CPF balances (with up to \$20,000 from the Ordinary Account); and
- b. Stretch CPF savings, by raising the drawdown age gradually from 62 today to 65 in 2018.

These changes were introduced together with increased Workfare Income Supplement (WIS) payouts and planned re-employment legislation to encourage people to work longer and save more for retirement.

3.5 Conclusion

It is fortunate that our CPF started off with a fundamentally sustainable DC system. It lends itself readily to adjustments to provide for our needs as we live longer. The recent CPF changes were in fact made to help enhance our retirement adequacy. The Government will also introduce a longevity insurance scheme (the CPF LIFE Scheme) to enable Singaporeans to maintain a retirement income for life. In addition, the Government will look into how it can help Singaporeans to monetise their housing assets in order to provide an additional source of retirement income.

Box 3.1: Social Insurance and Longevity Risk

Social insurance

Individuals face a number of different risks including income risk, unemployment risk, health risk and longevity risk. Those in the low and middle-income brackets in particular, may face difficulties managing these risks optimally. They may under-save and depend on state support to tide over their financial difficulties, or over-save and cut back on important expenditures such as education and training that could have mitigated the original risk.

Social insurance can be defined as a form of protection against certain social risks that are hard to face as individuals. Social insurance works best when it is used to protect against rare events – instead of saving fully for adverse events that might not happen, it would be more efficient to obtain protection through the payment of insurance premiums. Social insurance is also more appropriate for events that can lead to large losses – if the losses were small, the individual may be better off with risk-coping strategies such as saving.

Longevity risk and insurance

Longevity risk, or the risk of living longer than expected, is an example of a risk that is difficult for individuals to manage. While most people are aware that the average life expectancy is rising, no one knows for certain how long he or she will live. An individual who does not prepare early for the possibility of living longer than planned may run out of retirement savings too soon. At the same time, few would want to spend their retirement years living too frugally in the expectation of living to a very old age.

A kind of social insurance known as longevity insurance can help overcome these problems of under- or over-saving by pooling together individuals with different life expectancies. Individuals pay a premium to insurance providers who in turn invest the premiums and provide the individual with an income for life. Compared to individuals saving on their own, insurance providers are better placed to assess, manage and redistribute risks through pooling. In this way, longevity insurance helps individuals manage longevity risks more efficiently through the sharing of this risk with others.

Government involvement

Singaporeans are largely reliant on their own savings in the CPF for retirement. CPF members who are able to accumulate the full Minimum Sum can expect to receive a monthly income for 20 years from age 62 to 82 today. The CPF drawdown age will gradually increase from 62 to 65 in 2018. However, among those aged 65 in 2006, 67% can expect to be alive at age 80, 47% at age 85, and 12% at age 95⁴. As life expectancies increase, there will be a need to ensure that individuals have sufficient savings to last them beyond 20 years. Longevity insurance is one way of doing so.

While longevity insurance is an efficient risk management tool, it may not take off due to the presence of market failures. One such market failure is the problem of adverse selection. In free markets, those who expect to live longer are more likely to purchase longevity insurance. If the pool of insured persons consists entirely of those with longer life expectancies, the cost to insurance providers will rise and providers will either raise premiums or lower payouts. Another reason for market failure is the lack of awareness and understanding of these products among the public.

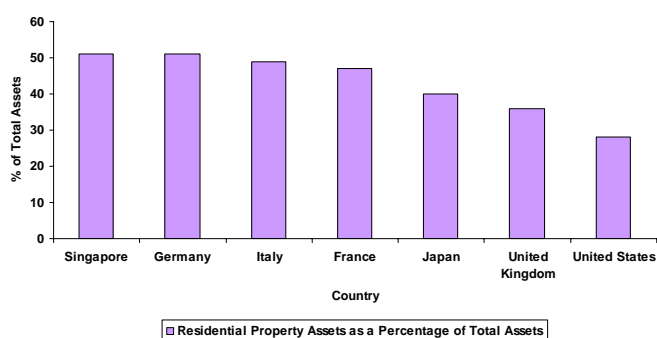
To ensure that a sufficient number of people will be covered and to increase the size and diversity of the risk pool for affordable premiums, the Government is introducing the CPF LIFE Scheme. This is already done in several countries which do not operate or have moved away from DB pension schemes. In the United Kingdom and Sweden for instance, retirees have to purchase annuities out of the retirement savings accumulated under their DC retirement systems.

Box 3.2: Home Equity Release

Size of Singaporeans' housing assets

About 95% of resident households in Singapore own the Housing Development Board (HDB) flat that they stay in. On average, Singaporeans store more than half of their wealth in their housing asset. This is relatively high compared to other developed countries (Chart 3.1). In 2003, the average home equity of households staying in owner-occupied HDB flats was estimated at \$154,000, or 3.3 times their annual household income. In particular, home equity formed an even larger proportion of wealth for low income households, at 9.8 times their annual household income. As the population ages, the conversion of housing wealth into streams of income will be an important tool to complement other efforts in ensuring retirement adequacy.

Chart 3.1: Comparison of Total Assets in Residential Property (2000)



Source: OECD National Accounts

⁴ Department of Statistics (DOS) Singapore, "Complete Life Tables 2003-2006 for Singapore's Resident Population", February 2008.

Options for monetising housing assets

For the elderly, several options for monetising their homes are available:

- ***Subletting***: Homeowners can either partially or entirely sublet their homes to obtain a steady stream of rental income.
- ***Downgrading***: Homeowners can downgrade to smaller flats, including HDB studio apartments which have elderly-friendly design features and 30-year leases.
- ***Reverse Mortgages***: Homeowners can take a loan from insurers using their flat as collateral and receive monthly payments while continuing to live in their homes. When the homeowner dies, the total value of the loan (including interest) is re-paid, usually through the sale of the home.
- ***Lease Buyback Scheme (LBS)***: For smaller 2-room and 3-room HDB flats where the above-mentioned options might not be available, elderly homeowners can, after fulfilling eligibility conditions, sell the flat to HDB and repurchase a 30-year lease on the flat. The homeowner will receive a lump sum and monthly payments for as long as he lives, and can continue to stay in his flat for 30 years.

Reverse mortgages

Reverse mortgages (also known as lifetime mortgages) can provide several important assurances for elderly homeowners. In addition to a guaranteed income stream until death, the typical reverse mortgage allows the homeowner to stay in his home for his lifetime (a residency guarantee), and caps his liability at the value of the property when he passes away (a “no negative equity” guarantee). Some reverse mortgage products also allow for gains from property appreciation to accrue to the estate of the homeowner, hence providing a bequest for beneficiaries

In the United States, the most popular reverse mortgage scheme is the Home Equity Conversion Mortgage (HECM), provided by a government agency, the Federal Housing Administration (FHA), in conjunction with private insurers. There is a cap on the value of the house eligible for this scheme and homeowners must be older than 62 and have paid off, or are close to paying off, their home loans. While the reverse mortgages are offered by private providers, the FHA helps share the property price and longevity risks with the providers. This enables the terms to be more attractive to the homeowner. The government shares the risk by taking over the reverse mortgage from the provider if the total loan amount exceeds the value of the home. The take-up of HECM has increased by nearly threefold between 2004 and 2007. In Korea, a similar government guarantee scheme was recently introduced by the Korea Housing Finance Corporation, limited to houses with a value of less than S\$1 million to assist poorer households.

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Reverse mortgages are also increasing in popularity in the United Kingdom. In 2006, the United Kingdom private lifetime mortgage industry was valued at £1 billion. A booming housing market and sound regulatory framework put in place by the industry association and the Financial Services Authority (FSA) has helped the market grow.

Reverse mortgages were introduced in Singapore in 1997 by the private market and extended to HDB properties in 2006. However, there are limited products in the market today and take-up has been low. The Government is exploring how best to promote and assist the reverse mortgage market to enable the provision of more attractive products to homeowners.

4 A Study of Endowment Spending Rules

4.1 Evolving Government's Reserves Management

Singapore is a small island city-state with no natural resources. We have no choice but to build up strong financial reserves to insure us against crises. This requires a disciplined regime of ensuring economic growth and fiscal prudence. Our reserves contribute to a stable Singapore dollar and preserve the value of Singaporeans' savings. They therefore provide confidence in Singapore's future, enhance economic and social stability, and support our security over the long term. It is hence vital that we protect and enhance the value of our reserves.

Whilst keeping the reserves as our "nest egg" meant for "rainy days" remains the *raison d'être*, the investment income from the reserves could be an added source of funding to enhance our competitiveness and to meet longer term social and developmental needs.

Hence, since early 2000, the Government, with the agreement of the Elected President, started to tap on up to 50% of the investment interest and dividend income for our annual Budget. This current spending rule is meant to be conservative, considering the critical importance of the reserves to Singapore. With several years of experience, it is timely to refine it:

"But we can refine the implementation of this 50% rule because, currently, the definition of Net Investment Income only includes dividends and interest. This is not quite right, because a significant part of the returns on our reserves are capital gains. We should look at total returns on the reserves as the basis for deciding how much it has grown."

(Prime Minister Lee Hsien Loong, Debate on President's Address November 2006)

It is crucial that we get the design of our spending rule right. One that leads to over-saving in our reserves would be unfair to the current generation and could deny us opportunities for growth. On the other hand, one that leads to under-saving would be unfair to the future generation and undermine our security. The Ministry of Finance (MOF) is therefore studying, amongst other things, the experiences and best practices of leading university endowments such as Yale and government-owned funds such as the Norwegian Government Pension Fund – Global on how they tap on the returns from their investments.

4.2 *Managing an Endowment – Learning from Best Practices*

Universities

The modern principles for endowment management stem from Yale Professor Emeritus James Tobin's concept of achieving intergenerational equity, while providing a reliable source of income to fund university operations. Coupled with the fact that Yale is the third largest university endowment with exceptional investment returns averaging 16.1% from 1984 to 2004⁵, Yale is a well-regarded role model for other endowments.

Box 4.1: Yale Endowment's Spending Policy

From yield income to total investment returns

Yale, in 1965, was among the first institutions to spend a "prudent portion of the appreciation in market value" of its endowment assets⁶ - viz. on a total returns basis. Prior to that, it spent only yield income (interest from bonds, dividends from stock and rents from property). Given that the endowment assets should be invested to maximise total endowment returns, the change to spend a portion of total investment returns avoids the distortion created when institutions favour investments that generate yield income, although they historically earn lower total returns. Furthermore, spending only annual yield income is not a sound basis to balance between meeting the needs of the present and the future.

Yale decided it needed to design a robust and clear spending policy that balanced the objectives of releasing a substantial and stable stream of income with the competing one of protecting the real value of its assets against inflation. Using fluctuating marked-to-market asset values to compute total spendable returns created too much uncertainty for budgetary planning. Furthermore, some objectivity was needed to determine how to spend unrealised capital gains⁷.

Long-term spending rate based on expected total returns

Yale's spending rule attempts to achieve its two conflicting objectives by using a long-term target spending rate combined with a smoothing rule that adjusts spending gradually to changes in endowment market values. Yale currently sets its target spending rate at 5.25% of total assets, based on projections of its expected real returns of 6.2%⁸, which is well below its actual historical nominal returns of 16.9%⁹. The long-term target spending rate is objectively determined based on considerations of spending needs and probability of maintaining the real purchasing power of its endowment. To enhance the income stream's stability, Yale's smoothing rule places more weight (80%) on the prior year's spending adjusted for inflation and less (20%) on the amount determined by applying the target rate to the current endowment market value.

The benefit of a stable spending rule is that it gives Yale the room to take on sufficient investment risks for high returns, without worries of liquidating its portfolio inopportunistically to meet its expenditure needs.

⁵ Tony Keller in the Financial Post Sep 10 2005 – "How David Swenson beats the market – and why you can't".

⁶ David Swenson's "Pioneering Portfolio Management", pp 32.

⁷ Marked-to-market refers to recording the price or value of a security, portfolio or account to reflect its current market value rather than its book value. Unrealised capital gain occurs when an investment that has not been sold yet would result in a profit if sold.

⁸ "The Yale Endowment Report 2007", available at http://www.yale.edu/investments/Yale_Endowment_07.pdf, pp 35

⁹ Computed from 1984 to 2006 based on Yale Endowment reports.

A long-term spending rule to determine yearly spending is now a common practice for most educational institutions in the United States. By 2003, 95% of such institutions¹⁰ employed a spending rule as an objective basis for distributing investment returns. Today, about 75% of colleges and universities target their endowment spending at about 5% of a three-year rolling average of their total endowment market value¹¹.

Government-owned Funds

The Norwegian Government Pension Fund – Global is often cited as the role-model for foreign reserves management. Since the discovery of oil in Norway, the Norwegian government has enjoyed buoyant revenue growth and large budgetary surpluses. However, the expected decline of petroleum production from 2011 onwards has led the Norwegian government to put in place measures to ensure that the oil wealth is prudently spent to benefit all generations of Norwegians equitably.

Box 4.2: Norwegian Government Pension Fund – Global's Spending Policy¹²

Expected returns spending rule for fiscal prudence

The Norwegian Government Pension Fund – Global was established in 1990 to accumulate budget surpluses arising from petroleum revenues. The Fund has two sources of income - the government's net cash flow from petroleum activities and the Fund's investment returns. In the past, the Fund's petroleum revenues were used to finance the non-oil deficit. However, such a policy did not encourage fiscal prudence and a system of tighter fiscal discipline to accumulate wealth was needed to meet long-term needs of a rapidly aging population.

Therefore, in 2001, the Norwegian government introduced a set of fiscal policy guidelines to limit the Fund's contribution to the government budget to only the expected investment returns earned on the Fund; the petroleum revenues would be entirely used to grow the fund. The Norwegian government established a spending rule (currently about 4% annually) based on the annual expected returns on the fund to provide a clear and objective reference for the amount of transfers from the fund to the Government budget. This spending rule would help to maintain the real value of the petroleum wealth and ensure sustainable fiscal spending so that there will be more equitable distribution of the petroleum wealth across all generations of Norwegians.

Safeguards within the expected returns framework and its benefits

The petroleum revenues continue to act as a liquidity shield for the expected returns spending rule. When the new spending rule was made, the petroleum revenues growth was estimated to keep pace with the expected investment returns on the assets, at about 4% real return yearly. This implies that the spending from the Fund is based on realised petroleum revenues, and avoids unnecessary fiscal pressure to borrow for spending or convert the oil assets to cash at inopportune moments.

¹⁰ Kaufman and Woglom's "Modifying Endowment Spending Rules: Is it the Cure for Overspending?", pp 6.

¹¹ Mehrling, Goldstein and Sedlacek, "Endowment Spending: Goals, Rates, and Rules".

¹² The Norwegian Petroleum Sector and the Government Pension Fund – Global (June 2006), Ministry of Finance, Norway.

4.3 Summary of Observations

In general, spending rules are aimed at ensuring sustainable, disciplined spending over the long term, bearing in mind intergenerational equity. In the examples studied, spending on investments is based on:

- **A total returns perspective**, to remove any sub-optimal bias towards income generating investments.
- **Real (inflation-adjusted) returns**, to ensure preservation of the real value of the asset base over time.
- **Long-term expected returns, with a mechanism for smoothing**, to take into consideration the inherent volatility of actual capital values, while providing a clear and objective basis to what can be spent. This prevents over-spending in good times and lack of funds in downturns.

4.4 Conclusion

In Singapore's ongoing review of the spending rule, we will consider established practices and assess how these may be adapted to suit Singapore's circumstances. With the new formula, which is targeted for implementation from FY2009, the Government ought to be able to draw more from the investment returns from past reserves for its annual Budget, while continuing to preserve and enhance the value of our reserves.

“What we aim to do is to work out a formula that strikes a fair balance between the claims of present and future generations, because the financial security and spending needs of tomorrow are no less important than those of today.”

(Second Minister for Finance Tharman Shanmugaratnam, Budget Statement 2007)

5 Creating Value by Embracing and Catalysing Innovation

5.1 Foundations for Innovation

Innovation

Innovation has been the fuel for economic growth and the driver of far reaching improvements to people's lives throughout the ages. The steam engine, railway, aeroplane and the internet have all ushered in radically new ways to live and work. These examples also show that innovation goes beyond just invention - what distinguishes the former from the latter is widespread adoption. The first steam engine was developed by Hero of Alexandria around 130 BC. Yet, it was not until the mid-nineteenth century that James Watt took it to a form that revolutionised manufacturing and transport. Invention creates new technology but innovation leads to the introduction of new products, new methods of production and new trading relationships.

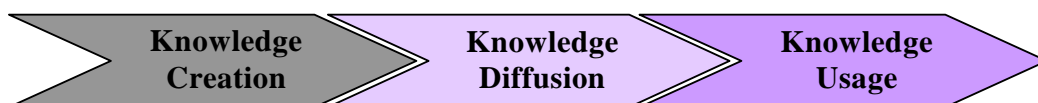
Building a Strong Innovation and Enterprise System

As countries like China and India emerge as industrial powerhouses, the only way Singapore can retain a competitive edge is for our firms to become more innovative. The payoffs can be rewarding. For an US\$224 iPod, Apple kept US\$80 of the value, far more than the US\$3.70 its assemblers in China received¹³. Innovation enables more optimal use of capital and physical resources, and is widely acknowledged to provide increasing rates of return. These are important considerations for resource-scarce Singapore.

Singapore has what it takes to be an innovative city. As a nation, we have an educated workforce, with a good foundation in science and technology. We are an international business and financial hub, where ideas, people and funds flow. We also have a strong base of multinational companies (MNCs), as well as an increasingly vibrant small and medium enterprises (SME) sector.

There are 3 stages in innovation, and our approach to each is as follows:

- a. **Knowledge Creation.** Ensure that we do top quality research to generate new knowledge and technologies.
- b. **Knowledge Diffusion.** Strengthen the linkage between academia, the research institutes (RIs) and enterprises to facilitate a free flow of ideas and talent.
- c. **Knowledge Usage.** Encourage enterprises and the public sector to use knowledge and technology to come up with new products and services, processes and business models.



¹³ Linden, Kraemer and Dedrick, "Who Captures Value in a Global Innovation System? The case of Apple's iPod", UC Irvine, 2007.

Singapore is increasing our investment in research and development (R&D). Total R&D expenditure – public and private – increased tenfold from \$570 million in 1990 to \$5 billion in 2006. Building on this momentum, \$13.6 billion¹⁴ of public funding has been set aside for 2006 to 2010 to promote R&D activities, so that together with the private sector, our national research spending will reach 3% of GDP a year by 2010.

Over the past years, we had been focusing much of our effort on Knowledge Creation by building up the R&D capacity of our universities and RIs. Going forward, we will step up our effort to foster world-class research in these institutions. At the same time, we will also devote greater attention to Knowledge Diffusion and Knowledge Usage. In particular, we will strengthen the linkages between the universities, polytechnics, RIs, government and industry **to encourage knowledge and inventions to be translated into *innovations* that will benefit society.**

5.2 Knowledge Diffusion

Building Bridges between Research Players and Industry

Universities, polytechnics and RIs play a key role in diffusing knowledge and translating technology into applicable forms that companies can use. We will step up efforts to enhance the collaborations and synergies between the research players and businesses.

Box 5.1: Examples of Collaborations between Research Players and Industry

Temasek Life Science Laboratories (TLL)

TLL is a RI that has close affiliations with the National University of Singapore (NUS) and the Nanyang Technological University (NTU). Even though two thirds of their projects are basic, upstream research aimed at scientific excellence, TLL operates several teams organised in the Strategic Research Program (SRP) that have very focused and directed projects addressing medium to long-term needs of the industry and society. Some of the focus areas include novel bio-based materials, alternative fuel sources and emerging infectious animal and human diseases. As a result, industries have found it fruitful to turn to TLL for joint collaborative research. One-sixth of TLL's funds come from the private sector and many firms like Qian Hu, an ornamental fish company, has benefited from research partnerships with TLL. TLL also works with other international collaborators in projects such as the development of diagnostic kits as well as human and animal vaccines and therapeutics against bird flu.

Centres of Innovation (COIs)

Since 2007, several COIs have been established to encourage SMEs and the polytechnics and RIs to collaborate. One example is the Food Innovation and Resource Centre housed in Singapore Polytechnic. This is a one-stop shop to help SMEs create and test new food products and packaging methods, from concept right up to market testing, using the latest technologies. The other COIs include the Environmental and Water Technology Centre and the Marine and Offshore Engineering Centre of Excellence in Ngee Ann Polytechnic, and the Precision Engineering Centre of Innovation in SIMTech, a public RI.

¹⁴ Of this, \$5 billion will be allocated to the National Research Foundation (NRF) for longer-term strategic programmes, \$7.5 billion to the Ministry of Trade and Industry (MTI) for economic-oriented R&D and related investment promotion activities, and \$1.05 billion to the Ministry of Education (MOE) for academic research.

Public Private Partnership (P3) Research Programme

The Agency for Science, Technology and Research (A*STAR) launched the P3 programme in 2007, which aims to provide co-funding for R&D projects between public agencies and companies in emerging areas like plastic electronics, new materials and nanotechnology, as long as they demonstrate a pathway to economic benefit. The purpose is to accelerate the diffusion of research outcomes to market by establishing a mechanism to initiate and support R&D partnerships between public sector organisations and private sector companies.

Radio Frequency Identification (RFID) Innovation Platform

In January 2008, A*STAR launched a Call For Collaboration (CFC) with industry for the RFID Innovation Platform. Companies are encouraged to propose solutions involving RFID for a number of public service projects. A*STAR will provide technology assistance, while a number of government agencies will facilitate the test-bedding of RFID solutions in the retail, tourism, healthcare and logistics sectors.

5.3 Knowledge Creation

Doing Research with Application in Mind

Since it started in 2006, the National Research Foundation (NRF) has been initiating programmes which promote knowledge creation with the *diffusion* elements built in. One example is the Campus for Research Excellence and Technological Enterprise (CREATE). Its first research centre with MIT (Singapore-MIT Alliance for Research and Technology) and those in the planning stage (such as with *ETH* of Switzerland) will focus on inter-disciplinary, use-inspired areas like infectious diseases and environmental sustainability that will benefit society. Starting the research with identified big societal problems and eventual applications in mind will increase the chance that the knowledge generated will result in products that will reach the market. CREATE will draw in talent from the most entrepreneurial departments in renowned research universities around the world, and establish an Innovation Centre to push technology to market. NRF also funds three strategic areas (Biomedical Sciences Translational and Clinical Research¹⁵, Environmental and Water Technologies and Interactive and Digital Media) that will cover the range of activities from basic research to technological innovations that are ripe for commercialisation.

Academic Entrepreneurship

Universities, which are a main source of knowledge generation, can also be the fountain of knowledge enterprises. For example, the economic contributions of the 4,000 companies founded by MIT graduates and faculty are estimated to be equivalent to the GDP of Thailand¹⁶. Universities are the training grounds for future entrepreneurs and knowledge workers, and faculty members play a critical role as mentors, advisors and a focal point for new ideas and technology.

¹⁵ Medical research typically begins at “the bench” with basic research - in which scientists study disease at a molecular or cellular level - then progresses to animal trials (translational level), and then moves on to the “clinical level”, where drugs and therapy are tested at the patient’s “bedside.” More than just a downstream phase, translational and clinical research make novel observations about the nature and progression of disease that often stimulate basic investigations.

¹⁶ “MIT: The Impact of Innovation”, BankBoston study, 1997.

Box 5.2: Cultivating Entrepreneurs in the Universities

Many Institutes of Higher Learning (IHLs) have found great value in infusing entrepreneurship courses into their curriculum. The NTU's Technopreneurship and Innovation Programme (MSc TIP) is now in its seventh year. The MSc TIP is a Masters programme offered in both English and Chinese. It gives students the confidence to start their businesses and guides them through the process of creating start-ups based on intellectual property (IP) from universities and IP organisations in Singapore, United States and China. More than a third of the students ended up starting 46 companies after graduation in diverse sectors including biomedical, information technology, gaming, media, services and lifestyle sectors. Some of them have founded companies with very innovative business concepts. One example is a product design company called Renewe, started by Mr Ngiam Tee Woh, which aims to create products for the elderly that are functional and aesthetically pleasing. Another example is a company initiated by Mr Chew Chee Yong called Ozone Barter, which facilitates barter trading by SMEs to enable them to better manage their cash flow.

The NUS operates several Overseas Colleges in thriving centres of entrepreneurship like Silicon Valley and Shanghai, where NUS students are immersed as interns in start-ups while pursuing degree-related and technopreneurship coursework at top universities like Stanford and Fudan. The aim is to cultivate and nurture them into enterprising, resourceful and independent self-starters. In the five years since the first batch graduated, more than 20 companies have been started by graduates who went through the NUS Overseas Colleges. One of them is First Meta which makes credit cards – the MetaCard – for virtual world (e.g. Second Life) residents to make purchases from *the real world* on credit. The company just won the Red Herring 2007 Asia Award for the 100 Most-Promising Private Technology Ventures.

5.4 Knowledge Usage

Enterprise Innovation

It is enterprises that ultimately convert knowledge into real value and thereby bring about innovation-driven growth. We are encouraging MNCs to further intensify R&D in Singapore, conduct more product design and development work and base their corporate laboratories here. Seagate, Siemens, GlaxoSmithKline and Hewlett-Packard are all examples of MNCs which have steadily built up a strong research and product development presence in Singapore. Our SMEs are much further behind in R&D – in 2006, 73% of SMEs did not invest in R&D at all. We will incentivise and assist SMEs to invest more in R&D, as well as give high-tech start-ups a boost to their innovation activities.

Box 5.3: A Favourable Tax Regime for R&D and Firm Innovation

Budget 2008 introduces new tax incentives and enhances existing ones to encourage private sector R&D spending across the board

- (a) **Enhanced deduction of expenses for R&D done in Singapore:** Increase in the quantum of existing tax deduction from 100% to 150% of expenditure for R&D done in Singapore. This means that for every \$100 of expenditure a company incurs on R&D done in Singapore, businesses can claim \$150 as a tax deduction for income tax purposes. Also, the deduction will be applicable to expenses for R&D done in Singapore, even if the R&D is not related to the company's existing trade. This is to encourage more upstream R&D to be done in Singapore, even if the R&D does not yield economic payoffs for the company in the near term;
- (b) **R&D tax allowance:** A new incentive to allow an amount equal to 50% of the first \$300,000 of a company's chargeable income to be accumulated as R&D tax allowance each year. Companies can utilise the allowance to offset against taxable income within three years from the year in which the allowance is granted, provided the company itself does incremental R&D (in excess of its R&D level in a base year) in Singapore; and
- (c) **R&D Incentive for Start-up Enterprises (RISE):** A new incentive to encourage high-tech start-up companies. Turning R&D into marketable product takes time, during which the start-up company does not yet have taxable profits. Currently, the start-up can carry forward its losses for tax purposes. Under RISE, a start-up company which has yet to make any taxable profits can exchange losses that arise from tax deduction for the first \$150,000 of expenses on ongoing R&D done in Singapore, capped at the company's actual tax loss for the year, for cash grant. Start-ups can qualify for this incentive if they do at least \$150,000 of R&D in Singapore during the year. This incentive will be available to start-up companies in their first three years of assessment.

These tax changes are formulated to encourage pervasive R&D and innovation through the economy, and will benefit all companies, big and small. Tax-paying SMEs can claim subsidies (in terms of benefits) of up to 45% of their R&D expenses from these tax incentives. Start-up companies in their first three years can expect about 13.5% of their R&D expenses to be reimbursed in cash if they do not pay any taxes.

FEATURE ARTICLES

Innovation in the Public Sector

The Public Service 21 (PS21) initiative was launched in 1995 to nurture a culture of change in the public service so that continual innovation can take place. A new **Public Service Innovation Framework** rides on the PS21 culture to further promote public-private collaborations in bringing about breakthrough public services. This is important since the public sector is a major player in sectors like education, healthcare and transport. It will have to strive for continual innovation just like private firms to provide more efficient services and better products.

Some past examples of how the Government has placed itself at the forefront of innovation include: NEWater to supplement our water supply, TradeXchange to provide a seamless electronic platform to facilitate trade and logistics, and Electronic Road Pricing to relieve traffic congestion. The Public Service Innovation Framework will give a greater push to the Government to seek solutions which might not be tried and tested, and to invest resources and effort in developing innovative solutions.

The Government has set aside \$90 million over three years in a seed fund for experimentation, test-bedding and capability building, with the goal of achieving breakthrough public services. Each ministry will manage such investments through a Chief Innovation Officer.

In addition, the Government will involve the private sector more intimately in delivering better products and services for the future. This will be done through a collaborative framework known as Innovation Platforms. In an Innovation Platform, user government agencies, industry promotion agencies, technology developers and private sector players work together to develop solutions for long-term societal problems. The Government will move the collaboration upstream and bring in firms at an earlier stage of development to jointly address longer-term requirements to which there are no off-the-shelf solutions. This will develop the capabilities of the firms, thereby increasing their competitiveness.

Box 5.4: Infocomm Technology in Healthcare

In October 2007, the Ministry of Health (MOH), the Infocomm Development Authority of Singapore (IDA) and The Enterprise Challenge¹⁷ launched a call for collaboration (CFC) to help develop innovative infocomm technology (ICT) solutions for the healthcare sector. This CFC would also serve as a platform for companies and healthcare institutions to network and collaborate. This follows on from the success of a previous CFC launched two years ago, which resulted in 12 innovative projects.

In one of the projects from the first CFC, Cadi Scientific, a Singapore-incorporated company, piloted a web-based system that was able to monitor patients' vital signs wirelessly with the Singapore General Hospital. This wireless sensing solution helped free nursing staff from having to walk around wards collecting patients' vital signs and allowed them to devote their time to other patients' needs. The system is now being tried out in hospitals in Thailand and Taiwan.

¹⁷ The Enterprise Challenge is a seed fund launched by the Government for testing innovative ideas that have the potential to improve the delivery of public services.

Box 5.5: Mobile Wallets with Near Field Communication Technology

Taking public transport in Singapore is a breeze today – commuters simply tap their contactless ez-link cards when they board the bus or go through the Mass Rapid Transit (MRT) gantry. Near Field Communication Technology (NFC), a contactless technology, will bring even more convenience to Singaporeans by putting the card and the reader inside the mobile phone. This transforms the mobile phone into a contactless card with a screen, keypad and mobile connection, opening up new possibilities that will change the way people interact and transact in the future. In the near future, Singaporeans may no longer need to carry physical wallets anymore. Instead, they can take the MRT, get cinema tickets and buy food, all using the same mobile phone loaded with their ez-link, credit and debit cards.

Similar contactless technologies have been deployed world-wide. For example, more than 25 million NTT DoCoMo subscribers use the Osai-fu-Keitai service, which allows them to use their mobile phones as electronic wallets, movie tickets, membership cards and keypasses. But the Singapore eco-system for NFC-enabled innovations will be built up on open standards. This would enable more vendors and applications to be developed upon a common platform, ensuring inter-operability in the process. IDA is working with the Ministry of Finance (MOF), Land Transport Authority (LTA), Monetary Authority of Singapore (MAS), local telecommunication companies, banks and payment service providers to realise NFC applications in Singapore.

5.5 Conclusion

Singapore has made good progress in her innovation journey. We have invested heavily in R&D and will continue to do so, but we need to go beyond invention. Going forward, we will promote innovation activities from knowledge creation to technology adoption and commercialisation. We will encourage various innovation players such as IHLs, RIs and enterprises to interact synergistically to form a vibrant innovation system. In the provision of public services, the Government is committed to continuous service improvement and innovation, and will work with enterprises and research players to develop innovative solutions that address long-term societal issues. With these initiatives, our hope is to move Singapore into the next phase of development as an innovation-driven, knowledge-intensive economy.

[III] STATISTICAL ANNEX

**Table 6.1: Overall Fiscal Position for FY1999 to FY2008
(\$million)**

| | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> | <u>FY2003</u> | <u>FY2004</u> | <u>FY2005</u> | <u>FY2006</u> | <u>FY2007 (Revised)</u> | <u>FY2008 (Budgeted)</u> |
|--|---------------|---------------|----------------|----------------|----------------|----------------|---------------|---------------|-----------------------------|------------------------------|
| Operating Revenue | 30,645 | 31,439 | 28,496 | 25,469 | 25,315 | 27,469 | 28,171 | 31,289 | 39,650 | 39,836 |
| Tax Revenue | 22,623 | 25,628 | 24,172 | 21,502 | 21,501 | 23,799 | 25,687 | 28,827 | 36,028 | 35,794 |
| Fees and Charges | 4,564 | 5,650 | 4,134 | 3,805 | 3,492 | 3,366 | 2,246 | 2,203 | 3,491 | 3,912 |
| Others ¹ | 3,458 | 162 | 190 | 162 | 321 | 305 | 238 | 259 | 131 | 130 |
| Total Expenditure | 25,079 | 27,908 | 27,305 | 27,152 | 28,499 | 28,957 | 28,634 | 29,905 | 33,304 | 37,455 |
| Operating Expenditure | 14,868 | 18,415 | 18,536 | 19,359 | 19,991 | 20,355 | 21,445 | 23,925 | 26,218 | 29,001 |
| Development Expenditure ² | 10,211 | 9,494 | 8,769 | 7,793 | 8,508 | 8,602 | 7,189 | 5,980 | 7,086 | 8,454 |
| Primary Surplus/(Deficit) | 5,566 | 3,531 | 1,190 | (1,683) | (3,184) | (1,487) | (463) | 1,384 | 6,345 | 2,381 |
| Special Transfers: | 682 | 1,835 | 5,264 | 1,802 | 603 | 1,661 | 829 | 3,570 | 2,196 | 5,402 |
| New Singapore Shares | - | - | 2,450 | - | - | - | - | - | - | - |
| Growth Dividends | - | - | - | - | - | - | - | 1,362 | 0 | 865 |
| Economic Restructuring Shares | - | - | - | 1,201 | 600 | 854 | - | 80 | - | - |
| GST Credits | - | - | - | - | - | - | - | - | 544 | 450 |
| Senior Citizens' Bonus | - | - | - | - | - | - | - | - | 131 | 102 |
| Workfare Bonus Scheme Fund and Workfare Income Supplement Scheme | - | - | - | - | - | - | - | 400 | 301 | - |
| Utilities-Save Scheme | - | - | - | - | - | 8 | 63 | 64 | 150 | 133 |
| Service and Conservancy Charges/Rental Rebates ³ | - | - | - | - | - | - | 59 | 36 | 65 | 64 |
| 40th Anniversary NS Bonus | - | - | - | - | - | - | - | 201 | 0 | - |
| Top-Up to Endowment Funds ⁴ / Skills Development Fund | 300 | 800 | 1,800 | 600 | - | 700 | 250 | 448 | 300 | 1,600 |
| National Research Fund | - | - | - | - | - | - | - | 500 | 500 | 800 |
| CPF Top-Up ⁵ | 382 | 913 | 1,010 | 0 | 4 | 99 | 412 | 479 | 0 | 220 |
| Edusave Account and PSEA | - | - | - | - | - | - | 45 | - | 200 | 500 |
| MediShield Scheme for the Elderly | - | 108 | 4 | - | - | - | - | - | - | - |
| Other measures for elderly and lower income ⁶ | - | 14 | - | - | - | - | 0 | - | 5 | 8 |
| CPF Deferment and Voluntary Deferment Bonus | - | - | - | - | - | - | - | - | - | 350 |
| LIFE Bonus | - | - | - | - | - | - | - | - | - | 260 |
| Assistance to SMEs | - | - | - | - | - | - | - | - | - | 50 |
| NII Contribution | - | 2,287 | 1,375 | 3,675 | 1,900 | 3,043 | 2,777 | 2,131 | 2,300 | 2,222 |
| Overall Budget Surplus/ (Deficit) | 4,885 | 3,983 | (2,698) | 191 | (1,887) | (105) | 1,486 | (55) | 6,449 | (799) |

* Fiscal position might not be comparable across financial years due to reclassification of revenue and expenditure items. Figures may not add up due to rounding.

¹ Prior to the Constitutional amendments to protect 50% of NII in FY2000, interest on development loans was classified as 'Others'.

² Development Expenditure excludes land-related expenditure from FY2001.

³ Prior to FY2005, Service and Conservancy Charges and rental rebates were subsumed under Ministry of National Development's Operating Expenditure.

⁴ Consist of top-ups to Edusave, Medical, Lifelong Learning, Community Care (formerly known as Community Assistance) and ElderCare Funds.

⁵ Consist of CPF Ordinary Account, Pre-Medisave, Medisave and CPF Share Ownership Top-Up Schemes.

⁶ Consist of Senior Pensioners Grant Scheme, public transport vouchers and assistance through Citizens' Consultative Committees (CCCs), Self-Help Groups (SHGs) and Voluntary Welfare Organisations (VWOs).

**Table 6.2: Revenue Collections for FY1999 to FY2008
(\$million)**

| | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> | <u>FY2003</u> | <u>FY2004</u> | <u>FY2005</u> | <u>FY2006</u> | <u>FY2007 (Revised)</u> | <u>FY2008 (Budgeted)</u> |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|------------------------------|
| Operating Revenue | 30,645 | 31,439 | 28,496 | 25,469 | 25,315 | 27,469 | 28,171 | 31,289 | 39,650 | 39,836 |
| Corporate Income Tax | 6,565 | 8,316 | 7,821 | 6,822 | 5,921 | 6,107 | 7,340 | 8,474 | 9,000 | 9,193 |
| Personal Income Tax | 3,507 | 4,030 | 4,547 | 4,049 | 3,862 | 3,956 | 4,324 | 4,707 | 5,560 | 5,942 |
| Statutory Boards' Contributions | 1,676 | 1,192 | 862 | 625 | 488 | 1,405 | 1,249 | 955 | 1,669 | 1,986 |
| Assets Taxes | 1,314 | 1,606 | 1,517 | 1,308 | 1,512 | 2,058 | 1,910 | 2,112 | 2,566 | 2,490 |
| Customs and Excise Taxes | 1,574 | 1,847 | 1,803 | 1,730 | 1,901 | 1,924 | 1,973 | 1,887 | 1,962 | 2,005 |
| Goods and Services Tax | 1,995 | 2,121 | 2,134 | 2,165 | 2,957 | 3,470 | 3,815 | 3,978 | 6,000 | 6,190 |
| Motor Vehicle Taxes | 1,719 | 2,506 | 1,972 | 1,446 | 1,486 | 1,392 | 1,432 | 1,745 | 2,123 | 2,003 |
| Vehicle Quota Premiums | 2,513 | 3,105 | 2,089 | 1,778 | 1,543 | 1,257 | 321 | 93 | 616 | 889 |
| Betting Taxes | 1,373 | 1,494 | 1,575 | 1,550 | 1,524 | 1,534 | 1,501 | 1,571 | 1,705 | 1,800 |
| Other Taxes ¹ | 2,901 | 2,516 | 1,939 | 1,809 | 1,851 | 1,952 | 2,143 | 3,399 | 5,443 | 4,184 |
| Other Fees and Charges | 2,051 | 2,545 | 2,045 | 2,027 | 1,949 | 2,109 | 1,925 | 2,109 | 2,874 | 3,023 |
| Others ² | 3,458 | 162 | 190 | 162 | 321 | 305 | 238 | 259 | 131 | 130 |

**Table 6.2b: Revenue Collections for FY1999 to FY2008
(% of GDP)**

| | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> | <u>FY2003</u> | <u>FY2004</u> | <u>FY2005</u> | <u>FY2006</u> | <u>FY2007 (Revised)</u> | <u>FY2008 (Budgeted)</u> |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|------------------------------|
| Operating Revenue | 21.2% | 19.3% | 18.7% | 16.1% | 15.3% | 15.0% | 14.2% | 14.6% | 16.5% | 15.1% |
| Corporate Income Tax | 4.5% | 5.1% | 5.1% | 4.3% | 3.6% | 3.3% | 3.7% | 3.9% | 3.7% | 3.5% |
| Personal Income Tax | 2.4% | 2.5% | 3.0% | 2.6% | 2.3% | 2.2% | 2.2% | 2.2% | 2.3% | 2.3% |
| Statutory Boards' Contributions | 1.2% | 0.7% | 0.6% | 0.4% | 0.3% | 0.8% | 0.6% | 0.4% | 0.7% | 0.8% |
| Assets Taxes | 0.9% | 1.0% | 1.0% | 0.8% | 0.9% | 1.1% | 1.0% | 1.0% | 1.1% | 0.9% |
| Customs and Excise Taxes | 1.1% | 1.1% | 1.2% | 1.1% | 1.1% | 1.1% | 1.0% | 0.9% | 0.8% | 0.8% |
| Goods and Services Tax | 1.4% | 1.3% | 1.4% | 1.4% | 1.8% | 1.9% | 1.9% | 1.9% | 2.5% | 2.3% |
| Motor Vehicle Taxes | 1.2% | 1.5% | 1.3% | 0.9% | 0.9% | 0.8% | 0.7% | 0.8% | 0.9% | 0.8% |
| Vehicle Quota Premiums | 1.7% | 1.9% | 1.4% | 1.1% | 0.9% | 0.7% | 0.2% | 0.0% | 0.3% | 0.3% |
| Betting Taxes | 0.9% | 0.9% | 1.0% | 1.0% | 0.9% | 0.8% | 0.8% | 0.7% | 0.7% | 0.7% |
| Other Taxes ¹ | 2.0% | 1.5% | 1.3% | 1.1% | 1.1% | 1.1% | 1.1% | 1.6% | 2.3% | 1.6% |
| Other Fees and Charges | 1.4% | 1.6% | 1.3% | 1.3% | 1.2% | 1.2% | 1.0% | 1.0% | 1.2% | 1.1% |
| Others ² | 2.4% | 0.1% | 0.1% | 0.1% | 0.2% | 0.2% | 0.1% | 0.1% | 0.1% | 0.0% |

* Figures may not add up due to rounding.

¹ Consist of Stamp Duty, Foreign Worker Levy, etc.

² Prior to the Constitutional amendments to protect 50% of NII in FY2000, interest on development loans was classified as 'Others'.

**Table 6.3: Operating Expenditure by Sector for FY1999 to FY2008
(\$million)**

| | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> | <u>FY2003</u> | <u>FY2004</u> | <u>FY2005</u> | <u>FY2006</u> | <u>FY2007 (Revised)</u> | <u>FY2008 (Budgeted)</u> |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|------------------------------|
| Total | 14,868 | 18,415 | 18,536 | 19,359 | 19,991 | 20,355 | 21,445 | 23,925 | 26,218 | 29,001 |
| Social Development | 5,410 | 6,654 | 7,770 | 7,946 | 8,615 | 8,500 | 8,778 | 10,520 | 11,582 | 12,847 |
| Education | 3,257 | 4,277 | 4,767 | 4,824 | 4,997 | 4,975 | 5,215 | 6,352 | 6,796 | 7,414 |
| National Development | 358 | 325 | 398 | 409 | 414 | 377 | 336 | 671 | 900 | 761 |
| Health | 936 | 1,072 | 1,445 | 1,451 | 1,904 | 1,604 | 1,680 | 1,840 | 2,058 | 2,416 |
| Environment and Water Resources | 329 | 390 | 414 | 448 | 453 | 479 | 408 | 414 | 465 | 658 |
| Community Development, Youth and Sports | 310 | 377 | 513 | 572 | 619 | 814 | 844 | 903 | 1,006 | 1,178 |
| Information, Communications and the Arts | 220 | 213 | 234 | 241 | 228 | 251 | 294 | 341 | 357 | 421 |
| Security and External Relations | 7,901 | 8,041 | 8,865 | 9,468 | 9,634 | 10,228 | 10,981 | 11,540 | 12,506 | 13,345 |
| Defence | 6,647 | 6,561 | 7,089 | 7,694 | 7,714 | 8,243 | 8,889 | 9,273 | 9,727 | 10,473 |
| Home Affairs | 1,101 | 1,300 | 1,580 | 1,563 | 1,708 | 1,752 | 1,825 | 2,010 | 2,463 | 2,526 |
| Foreign Affairs | 153 | 180 | 196 | 211 | 212 | 233 | 267 | 257 | 316 | 346 |
| Economic Development | 865 | 2,908 | 1,113 | 1,133 | 995 | 884 | 919 | 984 | 1,135 | 1,727 |
| Transport | 409 | 2,390 | 406 | 385 | 292 | 289 | 277 | 285 | 326 | 388 |
| Trade and Industry | 366 | 412 | 553 | 564 | 497 | 392 | 436 | 473 | 540 | 620 |
| Manpower | 91 | 107 | 130 | 156 | 158 | 161 | 166 | 188 | 232 | 687 |
| Info-Communications and Media Development ¹ | - | - | 24 | 28 | 47 | 42 | 39 | 38 | 37 | 32 |
| Government Administration | 692 | 811 | 788 | 812 | 747 | 743 | 768 | 880 | 995 | 1,082 |
| Finance | 339 | 388 | 352 | 379 | 333 | 318 | 345 | 428 | 423 | 465 |
| Law | 109 | 120 | 112 | 103 | 96 | 97 | 100 | 106 | 122 | 126 |
| Organs of State | 136 | 170 | 173 | 186 | 182 | 187 | 186 | 195 | 261 | 277 |
| Prime Minister's Office | 108 | 134 | 151 | 143 | 135 | 141 | 136 | 151 | 188 | 213 |

* Figures may not add up due to rounding.

¹ Media Development programme has been reclassified from social development to economic development.

**Table 6.4: Development Expenditure by Sector for FY1999 to FY2008
(\$million)**

| | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> | <u>FY2003</u> | <u>FY2004</u> | <u>FY2005</u> | <u>FY2006</u> | <u>FY2007 (Revised)</u> | <u>FY2008 (Budgeted)</u> |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|------------------------------|
| Total¹ | 10,211 | 9,494 | 8,769 | 7,793 | 8,508 | 8,602 | 7,189 | 5,980 | 7,086 | 8,454 |
| Social Development | 5,141 | 4,517 | 4,170 | 3,971 | 4,387 | 3,858 | 2,944 | 2,141 | 2,893 | 3,023 |
| Education | 1,601 | 1,591 | 1,473 | 1,774 | 1,218 | 1,239 | 867 | 608 | 743 | 622 |
| National Development | 2,172 | 2,069 | 1,770 | 1,089 | 1,865 | 1,153 | 1,010 | 675 | 1,208 | 1,384 |
| Health | 153 | 140 | 145 | 82 | 103 | 114 | 85 | 96 | 154 | 217 |
| Environment and Water Resources | 945 | 528 | 502 | 771 | 952 | 1,101 | 775 | 570 | 390 | 349 |
| Community Development, Youth and Sports | 132 | 92 | 118 | 112 | 90 | 97 | 97 | 103 | 298 | 154 |
| Information, Communications and the Arts | 139 | 97 | 162 | 143 | 160 | 155 | 110 | 89 | 100 | 297 |
| Security and External Relations | 1,403 | 1,585 | 1,362 | 1,068 | 1,020 | 899 | 869 | 840 | 786 | 780 |
| Defence | 620 | 861 | 730 | 509 | 524 | 377 | 363 | 355 | 351 | 330 |
| Home Affairs | 729 | 654 | 570 | 478 | 439 | 473 | 460 | 399 | 352 | 388 |
| Foreign Affairs | 53 | 70 | 62 | 81 | 57 | 49 | 46 | 86 | 84 | 62 |
| Economic Development | 2,882 | 3,147 | 2,906 | 2,255 | 2,615 | 3,016 | 2,746 | 2,786 | 3,202 | 4,317 |
| Transport | 720 | 1,130 | 1,508 | 1,203 | 1,115 | 1,776 | 1,617 | 1,518 | 1,622 | 2,355 |
| Trade and Industry | 2,073 | 1,820 | 1,293 | 1,009 | 1,421 | 1,154 | 1,055 | 1,207 | 1,528 | 1,899 |
| Manpower | 6 | 18 | 82 | 38 | 54 | 52 | 36 | 15 | 24 | 38 |
| Info-Communications and Media Development ² | 82 | 179 | 23 | 5 | 25 | 33 | 39 | 46 | 28 | 25 |
| Government Administration | 786 | 245 | 331 | 499 | 486 | 828 | 630 | 213 | 205 | 334 |
| Finance | 199 | 57 | 70 | 100 | 214 | 308 | 350 | 10 | 51 | 142 |
| Law | 310 | 131 | 213 | 325 | 184 | 329 | 218 | 167 | 128 | 158 |
| Organs of State | 251 | 38 | 30 | 33 | 47 | 151 | 31 | 11 | 8 | 11 |
| Prime Minister's Office | 25 | 18 | 18 | 41 | 42 | 40 | 32 | 25 | 19 | 23 |

* Figures may not add up due to rounding. Expenditure on research and development has been reclassified as part of ministries' expenditure for FY1998 to FY2000.

¹ Development Expenditure excludes land-related expenditure from FY2001.

² Media Development programme has been reclassified from social development to economic development.

**Table 6.5: Total Expenditure by Sector for FY1999 to FY2008
(\$million)**

| | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> | <u>FY2003</u> | <u>FY2004</u> | <u>FY2005</u> | <u>FY2006</u> | <u>FY2007 (Revised)</u> | <u>FY2008 (Budgeted)</u> |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|------------------------------|
| Total¹ | 25,079 | 27,908 | 27,305 | 27,152 | 28,499 | 28,957 | 28,634 | 29,905 | 33,304 | 37,455 |
| Social Development | 10,551 | 11,171 | 11,940 | 11,917 | 13,001 | 12,358 | 11,721 | 12,661 | 14,475 | 15,871 |
| Education | 4,857 | 5,868 | 6,240 | 6,598 | 6,214 | 6,214 | 6,082 | 6,959 | 7,539 | 8,036 |
| National Development | 2,529 | 2,393 | 2,167 | 1,498 | 2,278 | 1,529 | 1,346 | 1,347 | 2,108 | 2,145 |
| Health | 1,089 | 1,212 | 1,591 | 1,533 | 2,007 | 1,718 | 1,765 | 1,936 | 2,212 | 2,633 |
| Environment and Water Resources | 1,274 | 918 | 916 | 1,219 | 1,405 | 1,579 | 1,183 | 984 | 855 | 1,007 |
| Community Development, Youth and Sports | 442 | 469 | 631 | 684 | 709 | 912 | 941 | 1,006 | 1,304 | 1,332 |
| Information, Communications and the Arts | 359 | 311 | 396 | 385 | 388 | 406 | 404 | 430 | 457 | 718 |
| Security and External Relations | 9,303 | 9,626 | 10,228 | 10,536 | 10,654 | 11,127 | 11,850 | 12,380 | 13,292 | 14,125 |
| Defence | 7,267 | 7,422 | 7,819 | 8,203 | 8,238 | 8,620 | 9,252 | 9,628 | 10,078 | 10,803 |
| Home Affairs | 1,830 | 1,954 | 2,150 | 2,040 | 2,147 | 2,225 | 2,285 | 2,409 | 2,814 | 2,914 |
| Foreign Affairs | 206 | 250 | 258 | 293 | 270 | 282 | 313 | 343 | 400 | 408 |
| Economic Development | 3,747 | 6,055 | 4,020 | 3,389 | 3,610 | 3,900 | 3,665 | 3,770 | 4,337 | 6,044 |
| Transport | 1,129 | 3,520 | 1,914 | 1,588 | 1,408 | 2,066 | 1,894 | 1,803 | 1,949 | 2,743 |
| Trade and Industry | 2,439 | 2,232 | 1,846 | 1,573 | 1,918 | 1,545 | 1,491 | 1,680 | 2,068 | 2,520 |
| Manpower | 97 | 124 | 212 | 194 | 212 | 213 | 202 | 204 | 256 | 725 |
| Info-Communications and Media Development ² | 82 | 179 | 47 | 33 | 73 | 75 | 78 | 83 | 65 | 57 |
| Government Administration | 1,478 | 1,056 | 1,118 | 1,310 | 1,233 | 1,571 | 1,398 | 1,094 | 1,200 | 1,415 |
| Finance | 538 | 445 | 422 | 479 | 547 | 626 | 696 | 438 | 474 | 607 |
| Law | 419 | 251 | 325 | 427 | 280 | 426 | 318 | 273 | 250 | 284 |
| Organs of State | 387 | 208 | 202 | 219 | 229 | 338 | 217 | 206 | 269 | 288 |
| Prime Minister's Office | 133 | 152 | 169 | 185 | 177 | 181 | 167 | 177 | 207 | 236 |

* Figures may not add up due to rounding. Expenditure on research and development has been reclassified as part of ministries' expenditure for FY1998 to FY2000.

¹ Development Expenditure excludes land-related expenditure from FY2001.

² Media Development Programme has been reclassified from social development to economic development.

**Table 6.5b: Total Expenditure by Sector for FY1999 to FY2008
(% of GDP)**

| | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> | <u>FY2003</u> | <u>FY2004</u> | <u>FY2005</u> | <u>FY2006</u> | <u>FY2007 (Revised)</u> | <u>FY2008 (Budgeted)</u> |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|------------------------------|
| Total¹ | 17.3% | 17.2% | 18.0% | 17.1% | 17.2% | 15.8% | 14.4% | 13.9% | 13.8% | 14.2% |
| Social Development | 7.3% | 6.9% | 7.9% | 7.5% | 7.8% | 6.7% | 5.9% | 5.9% | 6.0% | 6.0% |
| Education | 3.4% | 3.6% | 4.1% | 4.2% | 3.8% | 3.4% | 3.1% | 3.2% | 3.1% | 3.0% |
| National Development | 1.7% | 1.5% | 1.4% | 0.9% | 1.4% | 0.8% | 0.7% | 0.6% | 0.9% | 0.8% |
| Health | 0.8% | 0.7% | 1.0% | 1.0% | 1.2% | 0.9% | 0.9% | 0.9% | 0.9% | 1.0% |
| Environment and Water Resources | 0.9% | 0.6% | 0.6% | 0.8% | 0.8% | 0.9% | 0.6% | 0.5% | 0.4% | 0.4% |
| Community Development, Youth and Sports | 0.3% | 0.3% | 0.4% | 0.4% | 0.4% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% |
| Information, Communications and the Arts | 0.2% | 0.2% | 0.3% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.3% |
| Security and External Relations | 6.4% | 5.9% | 6.7% | 6.6% | 6.4% | 6.1% | 6.0% | 5.8% | 5.5% | 5.4% |
| Defence | 5.0% | 4.6% | 5.1% | 5.2% | 5.0% | 4.7% | 4.7% | 4.5% | 4.2% | 4.1% |
| Home Affairs | 1.3% | 1.2% | 1.4% | 1.3% | 1.3% | 1.2% | 1.1% | 1.1% | 1.2% | 1.1% |
| Foreign Affairs | 0.1% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% |
| Economic Development | 2.6% | 3.7% | 2.6% | 2.1% | 2.2% | 2.1% | 1.8% | 1.8% | 1.8% | 2.3% |
| Transport | 0.8% | 2.2% | 1.3% | 1.0% | 0.8% | 1.1% | 1.0% | 0.8% | 0.8% | 1.0% |
| Trade and Industry | 1.7% | 1.4% | 1.2% | 1.0% | 1.2% | 0.8% | 0.7% | 0.8% | 0.9% | 1.0% |
| Manpower | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.3% |
| Info-Communications and Media Development ² | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Government Administration | 1.0% | 0.6% | 0.7% | 0.8% | 0.7% | 0.9% | 0.7% | 0.5% | 0.5% | 0.5% |
| Finance | 0.4% | 0.3% | 0.3% | 0.3% | 0.3% | 0.3% | 0.3% | 0.2% | 0.2% | 0.2% |
| Law | 0.3% | 0.2% | 0.2% | 0.3% | 0.2% | 0.2% | 0.2% | 0.1% | 0.1% | 0.1% |
| Organs of State | 0.3% | 0.1% | 0.1% | 0.1% | 0.1% | 0.2% | 0.1% | 0.1% | 0.1% | 0.1% |
| Prime Minister's Office | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% |

* Figures may not add up due to rounding. Expenditure on research and development has been reclassified as part of ministries' expenditure for FY1998 to FY2000.

¹ Development Expenditure excludes land-related expenditure from FY2001.

² Media Development Programme has been reclassified from social development to economic development.

**Table 6.6: Total Expenditure by Expenditure Type for FY1999 to FY2008
(\$million)**

| | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> | <u>FY2003</u> | <u>FY2004</u> | <u>FY2005</u> | <u>FY2006</u> | <u>FY2007 (Revised)</u> | <u>FY2008 (Budgeted)</u> |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|------------------------------|
| Total Expenditure | 25,079 | 27,908 | 27,305 | 27,152 | 28,499 | 28,957 | 28,634 | 29,905 | 33,304 | 37,455 |
| Operating Expenditure | 14,868 | 18,415 | 18,536 | 19,359 | 19,991 | 20,355 | 21,445 | 23,925 | 26,218 | 29,001 |
| Running Costs | 13,589 | 15,047 | 16,387 | 17,051 | 17,295 | 17,797 | 18,874 | 19,666 | 21,948 | 23,775 |
| Expenditure on Manpower | 2,872 | 3,276 | 3,351 | 3,370 | 3,375 | 3,535 | 3,629 | 3,914 | 4,845 | 5,036 |
| Operating Grant | 2,247 | 3,031 | 3,735 | 3,858 | 4,042 | 4,039 | 4,244 | 3,918 | 4,216 | 4,751 |
| Other Operating Expenditure | 8,469 | 8,740 | 9,302 | 9,824 | 9,878 | 10,222 | 11,001 | 11,835 | 12,887 | 13,987 |
| Transfers | 1,278 | 3,368 | 2,149 | 2,308 | 2,696 | 2,558 | 2,570 | 4,259 | 4,271 | 5,226 |
| Social Transfers | 295 | 309 | 394 | 491 | 457 | 485 | 546 | 611 | 706 | 1,188 |
| Subventions | 983 | 3,058 | 1,754 | 1,817 | 2,240 | 2,073 | 2,024 | 3,648 | 3,564 | 4,038 |
| Development Expenditure¹ | 10,211 | 9,494 | 8,769 | 7,793 | 8,508 | 8,602 | 7,189 | 5,980 | 7,086 | 8,454 |
| Direct Development | 6,371 | 5,462 | 4,503 | 3,962 | 4,221 | 4,349 | 3,522 | 2,760 | 3,078 | 3,464 |
| Capital Grant | 3,840 | 4,032 | 4,266 | 3,831 | 4,287 | 4,150 | 3,663 | 3,162 | 3,788 | 4,912 |
| Capital Injections | - | - | - | - | 1 | 103 | 4 | 58 | 220 | 77 |

* Figures may not add up due to rounding.

¹ Development Expenditure excludes land-related expenditure from FY2001.

Table 6.7: Headcount by Ministry for FY1999 to FY2008

| | FY1999 ¹ | FY2000 | FY2001 | FY2002 | FY2003 | FY2004 | FY2005 | FY2006 | FY2007 (Revised) ² | FY2008 (Budgeted) ³ |
|--|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------------------------|-----------------------------------|
| Civil List | 45 | 45 | 50 | 47 | 51 | 53 | 52 | 48 | 55 | 55 |
| Attorney-General's Chambers | 209 | 212 | 255 | 276 | 282 | 274 | 270 | 254 | 302 | 302 |
| Auditor-General's Office | 167 | 150 | 163 | 157 | 146 | 127 | 112 | 103 | 127 | 127 |
| Cabinet Office | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 |
| Judicature | 752 | 739 | 707 | 678 | 716 | 571 | 540 | 513 | 791 | 799 |
| Parliament | 47 | 48 | 53 | 55 | 54 | 48 | 52 | 50 | 57 | 55 |
| Presidential Councils | 6 | 5 | 7 | 8 | 8 | 8 | 8 | 8 | 10 | 10 |
| Public Service Commission | 8 | 9 | 8 | 9 | 8 | 9 | 9 | 9 | 10 | 10 |
| Community Development, Youth and Sports | 3,568 | 3,968 | 4,054 | 4,194 | 4,009 | 3,719 | 3,709 | 3,708 | 3,975 | 3,988 |
| Defence | 1,525 | 1,525 | 1,526 | 1,527 | 1,524 | 1,525 | 1,524 | 1,525 | 1,525 | 1,525 |
| Education | 45,640 | 48,933 | 49,370 | 51,128 | 51,099 | 51,462 | 52,844 | 45,745 | 49,995 | 50,361 |
| Environment and Water Resources | 5,449 | 4,958 | 4,751 | 4,757 | 4,500 | 4,501 | 3,817 | 3,350 | 3,765 | 3,958 |
| Finance | 3,944 | 3,569 | 3,900 | 3,614 | 3,044 | 2,649 | 2,529 | 2,750 | 3,139 | 3,232 |
| Foreign Affairs | 1,002 | 1,062 | 1,081 | 1,082 | 1,111 | 1,074 | 1,121 | 1,138 | 1,304 | 1,309 |
| Health | 4,855 | 1,670 | 948 | 939 | 1,038 | 1,125 | 1,097 | 1,115 | 1,251 | 1,257 |
| Home Affairs | 18,366 | 18,135 | 18,928 | 19,373 | 20,173 | 20,965 | 20,899 | 20,510 | 22,022 | 22,193 |
| Information, Communications and the Arts | 1,405 | 1,454 | 2,002 | 2,058 | 2,063 | 2,547 | 2,530 | 2,592 | 3,179 | 3,262 |
| Law | 773 | 820 | 787 | 853 | 741 | 709 | 677 | 734 | 824 | 829 |
| Manpower | 970 | 1,020 | 1,069 | 1,208 | 1,277 | 1,327 | 1,397 | 1,606 | 2,030 | 2,089 |
| National Development | 10,985 | 10,601 | 10,596 | 10,259 | 7,391 | 7,136 | 6,666 | 6,679 | 7,406 | 7,406 |
| Prime Minister's Office | 528 | 558 | 421 | 425 | 421 | 415 | 450 | 475 | 516 | 520 |
| Trade and Industry | 2,097 | 1,970 | 2,487 | 2,545 | 2,503 | 2,491 | 2,544 | 2,539 | 2,764 | 2,905 |
| Transport | 3,230 | 3,977 | 3,822 | 3,756 | 3,776 | 3,623 | 3,534 | 3,520 | 3,775 | 3,867 |
| Total | 105,582 | 105,439 | 106,995 | 108,958 | 105,945 | 106,368 | 106,391 | 98,981 | 108,834 | 110,071 |

¹ Numbers for FY1999 to FY2006 are for actual headcounts.

² Numbers for FY2007 are for revised establishments.

³ Numbers for FY2008 are for budgeted establishments.

Note:

Establishments reflect the number of officers that ministries *could* hire, but is not reflective of actual headcount, as establishments may not be filled by ministries even though they may be kept in anticipation of a future need. E.g. the revised establishments for FY2006, as reported in Budget Highlights 2007, was 115,974, but the actual headcount for FY2006, reported here, was only 98,981.

[IV] GLOSSARY

7 Glossary of Terms

3M Framework

The 3M framework refers to the Medisave, MediShield and Medifund schemes which together, help to keep healthcare affordable for Singapore. See also *Medifund*, *MediShield*, *Medisave*

Adverse Selection

Adverse selection happens in the purchase of insurance where only the riskier customers actively seek out insurance. This is because the insurer has less accurate information about the customer, and hence is unable to distinguish between a risky customer and a less risky customer. In essence, adverse selection is a consequence of market failure arising from asymmetric information. See also *Market Failure*

Bequest

A gift from a person to his descendents upon his death.

Budget Outturn

Refers to the resulting budget position for a specified time period. It may be positive (budget surplus) or negative (budget deficit).

Call For Collaboration (CFC)

A process through which proposals that lead to collaborative work between two parties are solicited. Unlike a tender, where specific procurement parameters are laid out for bidders, CFCs spell out broad parameters around which a joint working relationship can be assembled.

Central Provident Fund (CPF)

A fully-funded compulsory defined contribution scheme in which workers and employers set aside a portion of wages in individualised accounts for retirement.

Countercyclical

Moving in the opposite direction compared to the overall economic cycle: rising when the economy is weakening, and falling when the economy is strengthening. See also *Procyclical*.

Customs Duty

A tax on goods imported into Singapore. In Singapore, customs duty is principally imposed on stout and porter, beer and ale, medicated samsu and other samsu.

Development Expenditure

Generally refers to expenses that represent a longer-term investment and results in the formation of a capitalisable asset of the Government. Examples of spending areas are the acquisition of heavy equipments, as well as capitalisable assets, e.g. buildings and roads.

Estate Duty

Duty charged on the assets of a deceased person.

Excise Tax

A tax on goods whether manufactured in Singapore or elsewhere. In Singapore, excise tax is imposed principally on tobacco, petroleum products, motor vehicles and liquor to achieve social and transport policy objectives.

Fiscal Impulse (FI)

A measure of the first-order impact of the Government's net injection or withdrawal from the economy arising from its fiscal policy. If the Government extracts more revenue than it spends as compared to a previous year, it is subtracting from the aggregate demand pressures inherent in the economy, fiscal impulse would be deemed as contractionary. Conversely, if the Government extracts less revenue than it spends as compared to a previous year, this would be deemed as an expansionary fiscal impulse.

GLOSSARY

Financial Year (FY)

Singapore Government's Financial Year 2008 is from 1 April 2008 to 31 March 2009.

Goods and Services Tax (GST)

Goods and Services Tax (GST) is a tax on domestic consumption of almost all goods and services in Singapore. The tax is paid when money is spent on goods or services, including imports. It is a multi-stage tax which is collected at every stage of the production and distribution chain. GST is often used inter-changeably with the Value Added Tax (VAT).

Government Endowment Fund

A fund established with an injection of Government monies as principal on which the income generated will be used to finance specific programmes on an ongoing basis. The 5 government endowment funds include the Lifelong Learning Fund, the Eldercare Fund, Medifund, Edusave Fund and ComCare Fund.

Government Reserves

This is defined in the Constitution as the excess of assets over liabilities of the Government.

Gross Domestic Product (GDP)

A measure of the total flow of goods and services produced by the economy over a specified time period, normally a year. It is obtained by valuing outputs of goods and services at market prices. Real GDP refers to GDP figures adjusted for inflation.

Institute of Higher Learning (IHL)

A graduate school, university or polytechnic.

Intergenerational Equity

In the context of endowment fund spending, it is the concept of striking a fair balance in wealth distribution between the present and future generations.

Market Failure

Market failure occurs when the allocation of goods and services by a market is not efficient. See also *Adverse Selection*

Medifund, Medisave, MediShield

Medisave is a national medical savings scheme which helps individuals put aside part of their income into their Medisave Accounts to meet their future personal or immediate family's hospitalisation, day surgery and certain outpatient expenses.

MediShield is a low cost catastrophic illness insurance scheme. It is designed to help members meet the medical expenses from major or prolonged illnesses from which their *Medisave* balance would not be sufficient to cover. *MediShield* operates on a co-payment and deductible system to avoid the problems associated with first-dollar, comprehensive insurance. The premiums for *MediShield* are payable by *Medisave*.

Medifund is a Government Endowment Fund to help needy Singaporeans who are unable to pay for their medical expenses. This fund acts as a safety net for those who cannot afford the subsidised bill charges despite *Medisave* and *MediShield* coverage.

Minimum Sum (MS)

The amount that CPF members have to set aside when they turn 55 to support a modest standard of living during retirement. Members who turn 55 between 1 July 2007 and 30 June 2008 are required to set aside a Minimum Sum of \$99,600.

Net Investment Income (NII)

Under the Constitution (Article 142(2) & (4)), Net Investment Income (NII) refers to the dividends, interest and other income received from investing our reserves, as well as interest received from loans, after deducting expenses arising from raising, investing and managing the reserves.

Net Investment Income Contribution (NIIC)

NIIC, as reflected in the budget statements, is the part of NII that is taken into the budget to augment the Government's revenues, and ensure a sustainable fiscal position.

Nominal Returns

Nominal returns are the rate of return on an investment without adjustment for inflation. See also *Real Returns*.

Operating Revenue

Refers to Government receipts credited to the Consolidated Revenue Account and Development Fund Account excluding investment and interest income, capital receipts (lumpy and less regular in timing) and investment adjustments. The main components are Corporate Income Tax, Personal Income Tax and Goods and Services Tax.

Operating Expenditure

Generally refers to expenses incurred to maintain the operations and other regular activities of the Government. Components include expenditure on manpower (EOM) – for wages of public service officers, other operating expenditure (OOE) – for all other forms of expenditure incurred in the running of the Government, and operating grants to statutory boards and aided educational institutions, which support the day-to-day running of these agencies.

Output Gap

The output gap is the difference between the actual level of activity in an economy (as measured by GDP) versus the sustainable amount of activity given the capacity of the economy (i.e. the level of GDP that the economy could potentially achieve without creating unhealthy inflationary pressures). It measures the degree of resource utilisation of the economy. The output gap is typically reported as a percentage of GDP to give a sense of the proportion with which the economy is over or under capacity. Where the output gap is negative (deflationary gap), the economy is not operating at full capacity,

and may well be in danger of sliding into a recession if demand is not boosted. Where the output gap is positive (inflationary gap), it indicates that the economy is operating over-capacity, resources are stretched and inflation pressures are strong.

Primary Budget Position

The Primary Budget Position, defined as Operating Revenue less Total Expenditure, measures the ability of the Government to meet its annual expenditures through its regular collection of revenue (taxes, fees and charges).

Procyclical

Moving in the same direction as the overall economic cycle: falling when the economy is weakening, and rising when the economy is strengthening. See also *Countercyclical*.

Real Returns

Real returns refer to the gains from an investment over and above the rate of inflation. See also *Nominal Returns*.

Research Institute (RI)

An establishment endowed for doing research. In the Singapore context, it refers to the research institutes under the Agency for Science, Technology and Research, as well as other university and public-affiliated research centres.

GLOSSARY

Ordinary, Special, Medisave and Retirement Accounts

Ordinary Account: Account from which savings can be used to buy a home, pay for CPF insurance, investment and education.

Special Account: Account for old age, contingency purposes and investment in retirement-related financial products.

Medisave Account: Account from which savings can be used for hospitalisation expenses and approved medical insurance.

Retirement Account: Account created when members turn 55, to hold the Minimum Sum.

Subletting

Leasing out a rented property to a third party

Stamp Duty

A tax imposed on commercial and legal documents relating to unlisted stock and shares and immovable property.

Value Chain

A series of activities through which products pass through and gain in value along the way.

Workfare

Income supplement for older low-wage workers.

Total Returns

All the returns arising from an investment, including income from dividends and interest, as well as appreciation or depreciation in value of the investment.

Total (Government) Expenditure

Sum of Operating and Development Expenditure. It excludes Special Transfers unless otherwise mentioned.

Year of Assessment (YA)

Refers to the year in which tax on the income earned in the preceding year is assessed.