Building a Fiscal Reserve System: A Review of International Experiences

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Abstract

Thanks to the strong economic growth after its handover to the Motherland, Macao has sustained positive fiscal balances since 2000. Yet, the tax base of the Special Administrative Region (SAR) is narrow and its major source of public revenue is highly sensitive to economic fluctuations. This has made it all necessary for the SAR Government to uphold the principle of prudent management of public finance. In the light of the SAR Government's announcement to improve the fiscal reserve system in the "2007-2009 Public Administration Reform Road Map", this paper reviews the current practices of fiscal reserve system in representative economies, which can serve as a useful reference for Macao.

1. Introduction

Fiscal reserves are major public assets. In a small number of developed economies such as Norway that have abundant endowment in natural resources, their fiscal reserves could reach a level as high as over 90% of gross domestic product (GDP). Yet, there is confusion between fiscal reserves and foreign exchange reserves in public perception.

In fact, the former is accumulated from fiscal surpluses while the latter is defined in the Balance of Payments Manual (5th Edition 1993) published by the International Monetary Fund as "*those external assets that are readily available to and controlled by monetary authorities for direct financing of payments imbalances, for indirectly regulating the magnitudes of imbalances through intervention in exchange markets to affect the currency exchange rate, and/or for other purposes*". In this regard, Macao SAR's foreign exchange reserves are designed to ensure the stability and convertibility of the legal tender – the MOP, currently under a Currency Board Arrangement (CBA).[1]

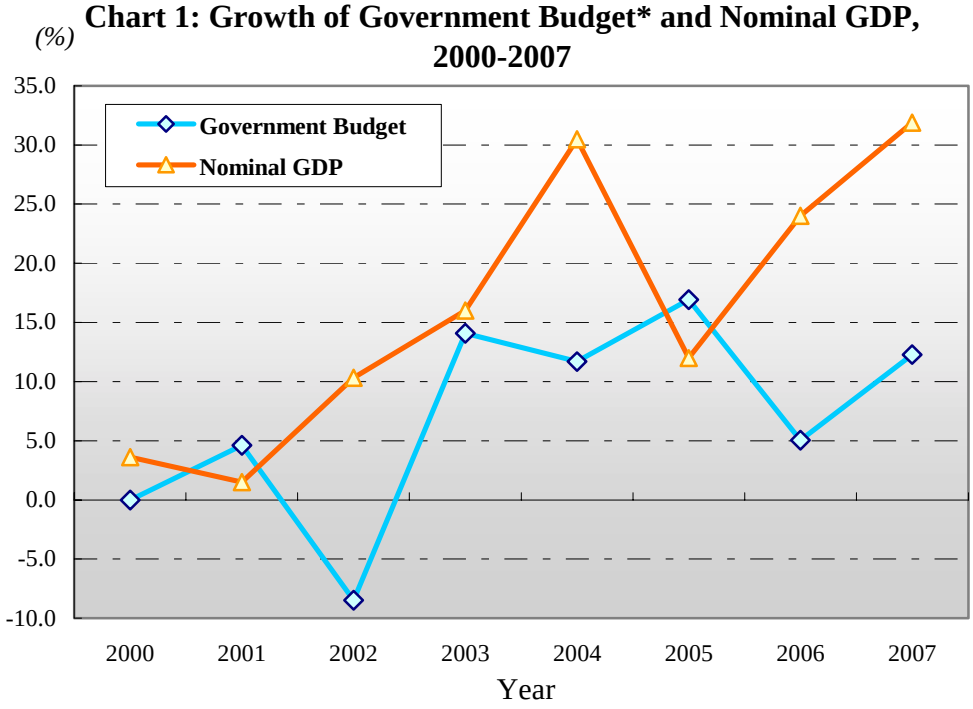
Meanwhile, Macao SAR has adopted a low tax regime with heavy reliance on gaming tax revenues in recent years. Owing to its small and open nature, however, the Macao economy is vulnerable to external shocks, which are not subject to effective influences of local government actions. As Macao SAR has been facing challenges and uncertainties, against the background of a significant slowdown in the global economy and the ongoing consolidation of the local gaming industry, it is particularly meaningful for the SAR Government to uphold the principle of prudent management of public accounts and consider establishing a fiscal reserve system for effective allocation and utilisation of fiscal surpluses.[2]

[1] Under the CBA, the issuance of the local currency must be fully backed by foreign reserve assets. In practice, the prevailing CBA in Macao requires the two note-issuing banks to deliver Hong Kong dollars to the Monetary Authority of Macao (AMCM) in return for the non-interest bearing Certificates of Indebtedness as the backing for the banknote issue. The HKD receipts are then counted as part of the official foreign exchange reserves held by the AMCM.

[2] In fact, due to Macao's openness and high propensity to import, a significant portion of the positive effect of public spending on income will be "leaked" out through increased imports. This is one economic argument for Macao's conservative policy in reserves usage.

Article 105 of the Macao SAR Basic Law clearly stipulates that "*The Macao Special Administrative Region shall follow the principle of keeping expenditure within the limits of revenues in drawing up its budget, and strive to achieve a fiscal balance, avoid deficits and keep the budget commensurate with the growth rate of its gross domestic product.*" As illustrated in Chart 1, the growth rate of the Government budget has been generally lower than that of the nominal GDP since the establishment of the SAR.

Chart 1: Growth of Government Budget* and Nominal GDP, 2000-2007



*Note: *Initial budget. Figures exclude the provisions for the accumulation of surplus budget.*
Sources: Policy Address, the Government of Macao Special Administrative Region, various issues.
Quarterly Gross Domestic Product, Statistics and Census Service (DSEC).

In Macao SAR, government reserves are generally divided into two fiscal accounts, namely the Macao SAR Reserve Fund and the retained surplus (or "accumulative budget surpluses"). The Macao SAR Reserve Fund (previously known as the Land Fund) was set up under the Sino-Portuguese Joint Declaration in 1987.[3] With the

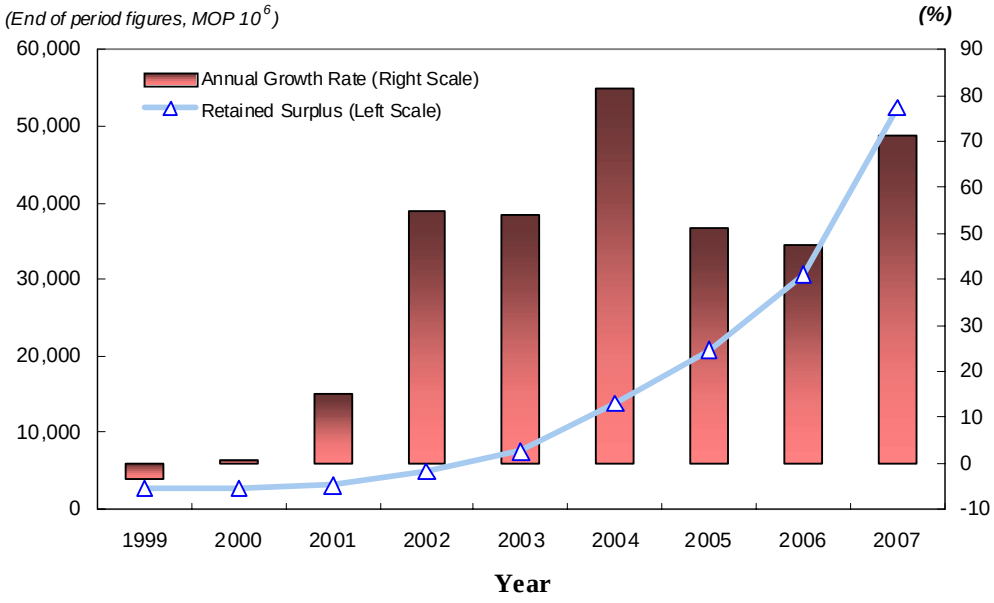
[3] The "Sino-Portuguese Joint Declaration" in 1987 (Annex II, Second Section-1d) succinctly states that "From the entry into force of the Joint Declaration until 19 December 1999, all incomes obtained by the Portuguese Macao Government from granting new leases and renewing leases shall, after deduction of the average cost of land production, be shared equally between the Portuguese Macao Government and the future Government of the Macao Special Administrative Region. …… The Macao Special Administrative Region Government's share of land income shall serve as a reserve fund of the Government of the Macao Special Administrative Region".

establishment of the Macao SAR on 20 December 1999, the assets of the Land Fund were handed over to the SAR Government. It was thereafter for the Macao SAR Government to decide how to mange the Fund.

Since 1 April 2000, in accordance with the Dispatch of the Chief Executive No. 47/2000, the AMCM has been tasked to manage the Land Fund, which has then been renamed as the Macao SAR Reserve Fund. The Fund's assets amounted to MOP10.2 billion when the AMCM assumed responsibility to manage it. Its balance was MOP12.2 billion at the end of 2007.

On the other hand, the retained surplus is simply derived from the accumulation in annual fiscal surpluses. In case there are "*actual*" budget deficits, as happened in the fiscal years 1998 and 1999, the Macao Government would use the funds with the retained surplus to finance the shortfall. As shown in Chart 2, the retained surplus has been increased markedly from MOP2.7 billion at end-1999 to MOP52.4 billion at end-2007, attributable to the favourable economic situation as well as the massive increase in tax revenues from the gaming industry.

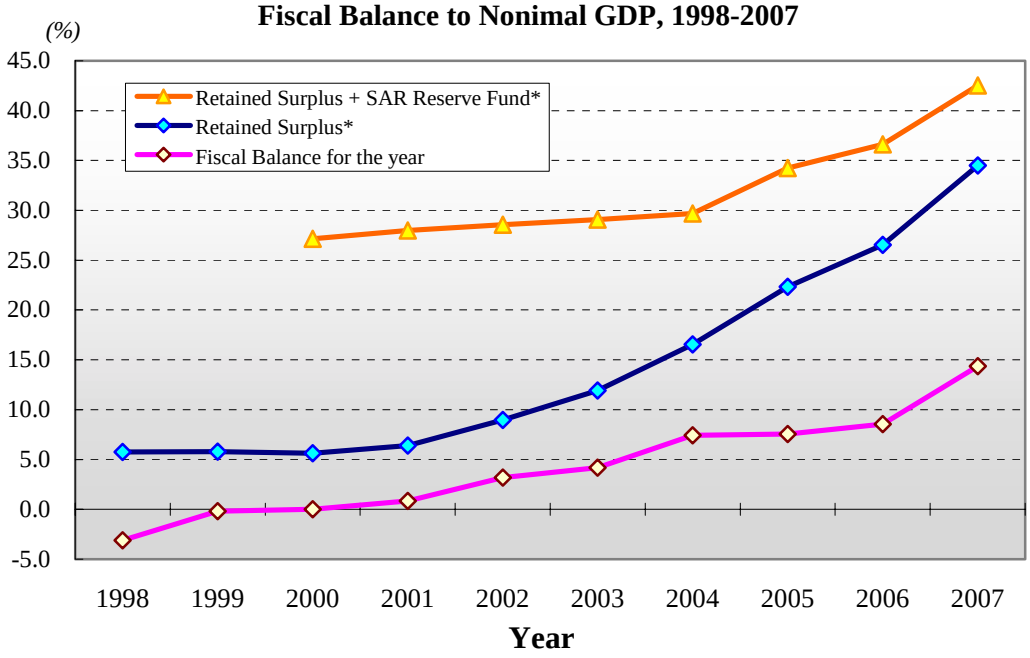
Chart 2: Developments of Retained Surplus, 1999-2007



Note: Figures exclude the operating surplus of government autonomous agencies.
Source: AMCM Annual Report, AMCM, various issues.

With a view to enhancing the efficacy and supervision of the relatively sizeable government reserves (42.5% of 2007 GDP at end-2007), a number of academics and legislators have advocated an open and in-depth debate about the establishment of a fiscal reserve system. This paper, through reviewing the current practices in some representative economies, attempts to pinpoint some features of different fiscal reserve management approaches and draw relevant lessons from those experiences for Macao.

Chart 3: Ratios of Retained Surplus, Macao SAR Reserve Fund and Fiscal Balance to Nonimal GDP, 1998-2007



*Note: *End of period figures.*

The remainder of this paper is organised as follows. Section 2 reviews existing literatures on fiscal reserves. International experiences of fiscal reserves management are presented in Section 3. Findings and implications are drawn in Section 4. The final section contains some concluding remarks.

2. Literature Review

Most of the country experiences indicate that fiscal surpluses are mainly derived from the exploitation of commodity or mineral resources. The authorities establish some commodity reserve funds or national investment funds for which the main purpose is

to offset revenue declines due to falling commodity prices or production levels. Correspondingly, the fiscal budgets of these countries are highly dependent on natural resources, such as oil, gas and copper.

In general, the existing literatures regarding the commodity reserve funds are focused on their efficiency and size. Arrau and Claessens (1992), for example, emphasise the optimal rules for depositing into and withdrawal from commodity stabilisation funds, assuming that the goal of withdrawals is to hedge against a fall in income from commodity exports. By studying the Chilean Copper Stabilisation Fund, they argue that the actual accumulation in foreign assets is much larger than the optimal level estimated by their model. Claessens and Varangis (1994) reach similar conclusion in their case study of Venezuela. In particular, they argue that revenue shocks due to changes in oil price are best offset by the use of a mixture of stabilisation and revenue-seeking investment instruments.

Fasano (2000) reviews and examines the experiences of commodity stabilisation fund in Norway, Chile, Alaska, Venezuela, Oman and Kuwait. It is observed that all stabilisation funds are successful in stabilising national budget during declines in commodity prices; yet, stabilisation schemes appear to be more successful in countries with a strong commitment to fiscal discipline and sound macroeconomic management. Besides, less successful experiences in Venezuela and Oman could be attributed to frequent changes in fund rules and deviations from its intended purposes.

For the case of Botswana, the government has been running a budget surplus since the 1980s, reflecting buoyant revenues from diamond mining. Beaulier and Subrick (2007) point out that Botswana's success in de-linking expenditures from revenues has been attributed to its requirements for parliamentary approval of any new public project. In view of the well-designed political system, they argue that strong legislative restrictions on policy markers in discouraging from overspending and altering of fund rules are seen as critical factors for the success of national stabilisation fund.

UNCTAD (2006) examines the key issues such as functions and investment strategies surrounding the use of African surplus revenues. By investigating several cases of oil- and mineral-dependent economies such as Venezuela and Oman, it, however, states that stabilisation funds generally, though not always, fail to fulfil their purpose. Yet, there are a number of good reasons for the funds to fail, linked not just to the inherent difficulties in managing these funds but also the unpredictable nature of commodity prices.

Bevan, Collier and Gunning (1993) review the experiences of 18 developing countries that underwent favourable terms-of-trade shocks during the years 1974–89. It is shown that that these countries did not grow faster than countries that experienced negative terms-of-trade shocks during the period. Two major causes are argued for this occurrence: (i) poor management of windfall revenues from the commodity booms and (ii) loss of competitiveness in non-booming industrial and agricultural activities – a phenomenon known as "Dutch Disease".[4]

In addition to these mineral-rich countries, a few Asian economies have run fiscal surpluses that are not related to natural resources. For example, the fiscal reserves of Hong Kong and Singapore mainly come from budget surpluses and other public savings. However, specific research on non-commodity accumulative reserves is rather limited.

Wu (2002) reviews the operations of fiscal reserves in Singapore, Norway, New Zealand, Argentina, the United States and Hong Kong. The study explores if monetary requirements[5] should be included as one of the purposes of fiscal reserves during the Asian financial crisis, and questions that how far and to what extent fiscal reserves could be utilised for such a purpose. Meanwhile, it is found that Hong Kong is the only place where guidelines are issued to determine the "appropriate" level of fiscal reserves. In view of the absence of an official reserves system, however, Siu, Lam and Chan (2002) explore the attributes and particularities of the Macao SAR Reserve

[4] The term "Dutch Disease" was originated in the Netherlands during the 1960s, when the high revenue generated by its natural gas discovery caused detrimental effects on the competitiveness of its non-energy export sectors and deterioration in economic conditions.

[5] Monetary requirements refer to underpinning the exchange-rate stability.

Fund. By identifying the Fund's particularities, it is argued that the principal of the Macao SAR Reserve Fund should be maintained as the "minimum" amount of fiscal reserves in Macao SAR.

3. International Practices of Fiscal Reserve Management

3.1 Norway

With a population of around 4.6 million, Norway has experienced strong economic growth for years. Its per-capita income is among the highest in the world. At present, Norway ranks as the world's third largest oil exporter and the eighth largest oil producer. The petroleum sector normally accounts for a quarter of Norway's GDP while revenues of direct and indirect taxes from the sector occupy one-third of total government revenues. These figures vary from one year to another, depending on the volatility of oil prices.

The Norwegian "Government Pension Fund – Global" (PFG) was established in 1990 as a tool to support prudent management of petroleum revenues, serving as the fiscal reserves of the Norwegian government. Mainly boosted by soaring oil prices in the past few years, the PFG has grown rapidly in size. The PFG currently has assets of around USD373 billion,[6] making it one of the largest funds in the world.

In fact, the PFG has a twofold purpose of smoothing out the spending of volatile oil revenues, and at the same time acting as a long-term savings vehicle allowing the Norwegian government to accumulate financial assets in order to help cope with future, large financial commitments associated with an ageing population. In addition, by law the PFG has one expenditure line only: the annual transfer to the National Fiscal Budget to cover the non-oil budget deficit. This deficit is estimated to be 4% per year, matching the expected real return of the PFG, and hence leaving the capital untouched.[7]

[6] Estimated by Velculescu (2008).
[7] See Halvorsen (2007).

When setting up the management system of the fiscal reserve, the Norwegian government had laid down three major requirements: professionalism, accountability and transparency. Like other investment funds, the Norwegian government requires its assets to be managed by professional team, such as the in-house expertise in central bank. It also implies extensive use of external fund managers for those assets that the central bank has little experience with. In addition, a system of checks and balances is in place to ensure accountability and a clear division of responsibilities between the Ministry of Finance and the central bank of Norway (Norges Bank). Lastly and more importantly, the need to build a consensus for accumulating substantial financial wealth on the hands of the government, makes it necessary for policy makers to be able to tell the public exactly how the money is invested, and what the returns are.

The guidelines for PFG management draw up a clear division of responsibilities between the Ministry as "owner" of the PFG and the Norges Bank as "manager". The Norges Bank invests the PFG's capital in accordance with guidelines and the benchmark portfolio issued by the Ministry. Until 1997, the entire PFG had consisted only of fixed income assets. Yet, the Norwegian government in its revised National Budget 1997 put forward a proposal to allow the PFG to invest in equities since the beginning of 1998.

At the moment, all of the PFG's capital are invested abroad; 60% in equities and 40% in bonds. Investment guidelines for the PFG are highlighted as follows:

- The aim of the investment strategy is to achieve high financial returns subject to moderate risk;
- The Fund is only invested "abroad"[8] in financial instruments, and acts as a financial investor with a small ownership share in individual companies;
- The Fund's financial results are primarily assessed in international currency terms, in order to gauge the development in the Fund's international

[8] After suffering from "Dutch Disease" in the 1970s, Norway has recognised that the PFG should only be invested abroad in financial assets. This strategy ensures risk diversification and good financial returns, and helps protect the non-oil economy. For detailed explanations why the PFG is only invested outside Norway, see Skancke (2003). In addition, Gjedrem (2000) offers a brief discussion about the Norwegian economy infected by "Dutch Disease" in the 1970s.

purchasing power;

- Equities account for 60% of the PFG's strategic benchmark portfolio, consisting of equities listed in exchanges in Europe (50%), America/Africa (35%) and Asia/Oceania (15%);[9]
- Fixed income instruments account for 40% of the strategic benchmark portfolio, consisting of fixed income instruments issued in currencies of Europe (60%), America/Africa (35%) and Asia/Oceania (5%).

3.2 Singapore[10]

Singapore maintains large fiscal reserves to sustain its long-term economic growth. The city state has run budget surpluses for around 20 years, even in the midst of the Asian financial crisis of 1997/98.[11] The Singapore government has two major reserve funds or institutions, Temasek Holdings and the Government of Singapore Investment Corporation, both with a mandate to manage Singapore's government reserves.[12] The two funds, through their asset allocation approaches, attempt to nurture domestic industries identified as strategically important.

3.2.1 Temasek Holdings

Temasek Holdings was established in 1974 with an aim to better manage investments and assets (mostly in equities) previously held by the Singapore Ministry of Finance. The fund is accountable to the Singapore government for its overall performance. As the only shareholder, the government assumes the role in ensuring that a

[9] In 2007, the Ministry of Finance decided to increase the equity portion of the PFG from 40% to 60%. Inclusion of real estate in the PFG's strategic benchmark is under consideration. See statements of Norges Bank (http://www.regjeringen.no/en/dep/fin.html?id=216) for more details.

[10] Published information about the practices of Singapore in maintaining its fiscal reserves is scant and at most general.

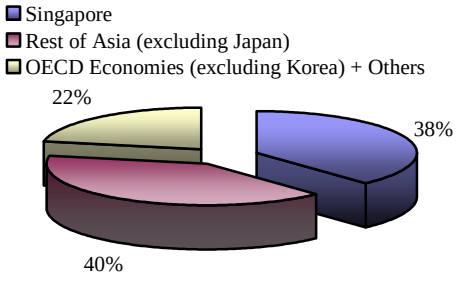
[11] Fiscal year starts from 1 April and end on 31 March.

[12] As noted in Wu (2002), the Constitution of Singapore has provisions for safeguarding the country's fiscal reserves. First, the Constitution provides the President with the veto power to safeguard fiscal reserves of the past government (i.e. fiscal reserves not being accumulated by the government during its current term of office). Essentially, the government is required to achieve a balanced budget over the term of the government in order not to draw on past fiscal reserves. Second, the Constitution stipulates that the government is required to safeguard at least 50% of the net investment income earned from past fiscal reserves. In other words, the government can only use up to 50% of the net investment income to finance its expenditure. The rest of net investment income is kept in fiscal reserves.

competent board is in place while investment decisions remain the responsibility of the management.[13]

As depicted in Chart 4, the majority of Temasek assets are allocated in Asia, accounting for around 80% of the fund's total portfolio value. Yet, around half of their Asian portfolio is invested within the domestic market. Temasek adopts a long-term approach to investment, with a focus on both listed and private equities, and real estate investments. For the past three decades it has reported an annual average return of around 18%.[14]

Chart 4: Temask's Asset Allocation by Geography



Source: Temasek Review 2007, Temasek.

Table 1: Temasek's Investment by Sector

(%)

	2006	2007
Financial Services	35	38
Telecommunications	26	23
Transportation	13	12
Real Estate	7	9
Infrastructure	6	6
Energy & Resources	6	6
Others	7	6

Source: Temasek Review 2007, Temasek.

At end-2007, Temasek managed a portfolio of around USD160 billion[15] and tended to take reasonably large stakes in the invested companies. Yet, Temasek has not been involved in the day-to-day operation or investment decisions of its portfolio companies.

3.2.2 The Government of Singapore Investment Corporation (GIC)

The GIC was established in 1981 to maintain the purchasing power of Singapore's substantial reserves (including fiscal reserves and foreign exchange reserves). The fund manages a portfolio estimated at USD330 billion,[16] with the majority of the portfolio allocated to equities and fixed income assets. Their investments have

[13] See Temasek Review 2007.
[14] See Temasek Review 2007.
[15] Estimated by Velculescu (2008).
[16] Estimated by Velculescu (2008).

achieved a 9.5% annual average return over the past 25 years.[17]

Unlike Temasek, which holds substantial domestic assets, the GIC invests a large proportion of its portfolio in US and European markets. More recently, the GIC has indicated that it would begin to shift its focus to emerging markets (Lee and Chua 2006). In addition to managing the sizeable reserves, the GIC aims to further entrench Singapore as the major financial centre in Southeast Asia. It is claimed that the Singapore government has used the GIC as a vehicle for developing Singapore's fund management industry since the early 1990s and has increasingly placed GIC funds under private management.

Since 2007, global credit markets have sporadically grounded to a halt amidst growing concern about financial institutions' exposure to sub-prime markets. Mainly caused by sub-prime-related write-downs, major banks in the US and Europe have sought additional capital injections from institutional investors around the world including Temasek and the GIC (Table 2). To reflect its investment strategy, the GIC was reported to seek commercial returns on a long-term basis.

Table 2: Significant Acquisitions by Temasek and GIC in 2007 - 2008

Date	Target	Acquirer	USD in billion	Size of Stake (%)
23/07/2007	Barclays	Temasek	2.0	2.1
24/12/2007	Merrill Lynch	Temasek	4.4	9.4
10/12/2007	UBS	GIC	9.8*	9.0
15/01/2008	Citigroup	GIC	6.9	4.0

*Note: * CHF11 billions.*
Sources: Financial Times and GIC.

3.3 Hong Kong

The Hong Kong government has accumulated its fiscal reserves, which are placed with the Exchange Fund under the management of the Hong Kong Monetary Authority (HKMA) for investment purposes. In the accounts of the Exchange Fund, exchange reserves and fiscal reserves have different treatments. The former is primarily used for the regulation of the exchange rate of the HKD on the assets side of the balance sheet of the Exchange Fund while the latter is to meet general government

[17] See GIC Report 2006/07.

operational and contingency requirements on the liabilities side of the Fund's balance sheet.

The Hong Kong government in 1998/99 Budget announced a set of guidelines on the level of fiscal reserves in order to cope with the Asian financial crisis and stabilise the HKD exchange rate. There are three purposes for which fiscal reserves are needed, namely operating, contingency and monetary requirements.[18] Yet, in view of the stability of the HKD and sizeable level of the Exchange Fund in 2002, the government said that there was no further need to link the level of fiscal reserves to money supply, and it should be sufficient to have fiscal reserves equivalent to around 12 months of government expenditure to meet operating and contingency requirements.

Table 3: Guidelines on the Fiscal Reserves Level of Hong Kong

	1998	2002
Operating Requirement	3 months of government expenditure	12 months of government expenditure
Contingency Requirement	(9 months ± 3 months) of government expenditure	
Monetary Requirement	M1 ± 25%	--

Sources: The 1998/99 Budget, the Government of Hong Kong Special Administrative Region, 18 February 1998.
The 2002/03 Budget, the Government of Hong Kong Special Administrative Region, 6 March 2002.

Before 1 April 1998, fiscal reserves had been placed with the Exchange Fund as HKD deposits to minimise market risk.[19] Since the reserves had grown over the years,[20] it was decided in 1998 that the reserves placed with the Exchange Fund should be more actively managed to achieve a higher long-term "real" rate of return. With effect from 1 April 1998, the return of fiscal reserves placed with the Exchange Fund would be linked to that achieved by the entire Exchange Fund. In this context, the asset

[18] (1) The operating requirement refers to the need to meet the cash flow requirement of the operation of government. An amount equivalent to three months of government expenditure is considered adequate. (2) The contingency requirement refers to the need to have funds reserved for some unexpected and urgent uses. An amount equal to nine months' expenditure, allowing a margin of plus or minus three months' expenditure, is considered sufficient. (3) The monetary requirement refers to the need to maintain stability in the exchange rate of HKD. An amount equal to HKD money supply under the M1 definition, allowing a margin of plus or minus 25%, is necessary.

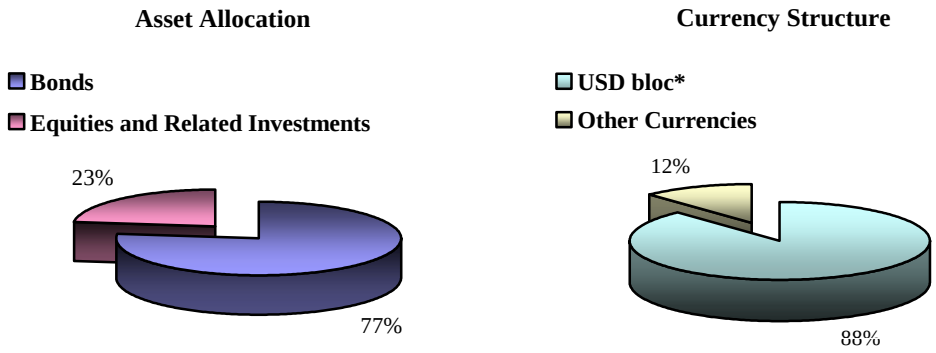
[19] Since 1976, the Hong Kong government has deposited its fiscal reserves with the Exchange Fund. The original purpose of this arrangement was to boost the financial position of the Exchange Fund for regulating the HKD exchange value.

[20] A sizeable amount of fiscal reserves was built up between 1985 and 1997 as a result of the booming property market.

allocation and currency structure of the Exchange Fund would indirectly reveal the assets portfolio of fiscal reserves. According to the HKMA Annual Report 2007, the Exchange Fund's asset allocation and currency mix set out in the investment benchmark were shown in Chart 5.

The HKMA directly manages the investment of about two-thirds of the Exchange Fund, while external managers manage the remainder of the Fund. At end-March 2008,[21] fiscal reserve assets held by the Exchange Fund amounted to HKD492.9 billion, equivalent to 25.2 months of government expenditure in the fiscal year of 2007/08. During the year 1999-2007, the return of reserve assets reached an average of 6.8% while the average CPI noted a slight decline of 1.2%.

Chart 5: Hong Kong Exchange Fund's Asset Allocation and Currency Structure in 2006 and 2007^



Notes: ^ End of period figures.
**HKD, USD and other foreign currencies including AUD, CAD and NZD.*
Source: HKMA Annual Report 2007, HKMA.

4. Implications for Macao

Norway possesses huge fiscal surplus and its government sector is virtually debt-free. To help set aside real resources for its future social insurance obligations, Norway is, in essence, selling oil and buying securities worldwide with the proceeds after paying for current government operations. The Norwegian government chooses to invest much of its fiscal surplus outside of Norway not only because it has an intention to diversify its portfolio, but also because it can earn better returns on international

[21] Provisional figure. Like Singapore, Hong Kong has its financial year to begin on 1 April and end on 31 March.

investments than on domestic investments.

Unlike the practice of Norway, Temasek's investment strategy has focused on developing expertise in particular domestic industries. Around 60% of Temasek's investments are in the financial and communication sectors (see Table 1), reflecting the Singapore government's goal to promote Singapore's role as a regional financial centre.

Although there is no consensus for an appropriate level of fiscal reserves, the guidelines on the fiscal reserve level in Hong Kong could be used as a reference for reserves adequacy. As demonstrated in Table 4, fiscal reserves reached 25.2 months, 41.2 months and 30.0 months of government expenditures in Hong Kong, Macao and Norway respectively, all well above the Hong Kong government's guideline of 12 months. It might indicate that a more aggressive investment strategy or expenditure policy, given no specific concern for macroeconomic stability, is allowed.

Table 4: Comparison of Reserve Assets in Selected Countries and Regions

Country/Region	Name of Reserve Fund	(A) Total Assets at end-2007 (USD 10^6)	(B) Norminal GDP in 2007[4] (USD 10^6)	(C) = (A)/(B) (%)	(D) Public Expenditure in 2007 (USD 106)	(E) = (A)/(D) (Months)
Hong Kong	Fiscal Reserve	$63,195[1]	$207,171	30.5	$30,104[6]	25.2
Macao	Retained Surplus + SAR Reserve Fund	$8,083[2]	$19,003[5]	42.5	$2,357[7]	41.2
Norway	Government Pension Fund - Global	$373,000[3]	$389,457	95.8	$149,402[8]	30.0
Singapore	Government of Singapore Investment Corporation* + Temasek Holdings	$489,210[3]	$161,349	303.2	$20,751[9]	282.9

*Notes: * Due to the assets of GIC is consisted from the fiscal reserve and foreign exchange reserves, thus it should not be directly compared with others.*

(1) End of March 2008 figure, Exchange rate: USD1= HKD7.8, The Treasury of HKSAR Government.

(2) Exchange rate: USD1=MOP8.0, Monetary Authority of Macao (AMCM).

(3) The total reserve assets of Norway and Singapore were estimated by Velculescu (2008).

(4) Unless otherwise stated, GDP data are mainly from the International Monetary Fund (IMF), http://www.imf.org, accessed December 2008.

(5) Exchange rate: USD1=MOP8.0, Macao Statistics and Census Service (DSEC).

(6) Figure refers to the government expenditure for the fiscal year of 2007/08, Exchange rate: USD1=HKD7.8, The Treasury of HKSAR Government.

(7) Figure refers to the calendar year, Exchange rate: USD1=MOP8.0, Macao Financial Services Bureau (DSF).

(8) General government expenditure, Exchange rate: USD1=NOK5.85, Statistics Norway.

(9) Government expenditure refers to operating expenditure plus development expenditure, Exchange rate: USD1=SGD1.51, Singapore Department of Statistics (DOS).

Sources: Velculescu (2008), The Treasury of HKSAR Government, AMCM, IMF, DSEC, DSF, Statistics Norway and DOS.

Meanwhile, according to relevant experiences of the representative economies, a sound fiscal reserve management should be made to work in parallel with:

1. Welfare generation. The fiscal reserves should be utilised to promote overall welfare of the society.
2. Wealth distribution. There must be a just distribution of the public wealth in the society.
3. Sustainable development. Investment policies should pave the way for the sustainable development of the society.

In fact, both the Norwegian and Singaporean governments are aware that a sustainable approach[22] to long-term development is essential if they aim to improve the quality of life for current and future generations. In this context, their reserve assets also serve as a sustainable development tool by investing in education and infrastructure, as well as funding environmental protection and research & development. Under well-designed, unambiguous saving and withdrawal mechanisms, fiscal reserve management could demonstrate a high degree of transparency and accountability with sufficient public scrutiny.

5. Concluding Remarks

Macao is a small open economy, which is vulnerable to external shocks. With the rapid accumulation in fiscal surplus in recent years, the establishment of a fiscal reserve system should therefore provide room for policy manoeuvre during future economic downturn and adversities, potentially promoting macroeconomic stability, budget optimisation and inter-generational equity. The financial buffer is particularly important when we consider Macao's economic structure that is highly concentrated. Hence, the recent government announcement on establishing a fiscal reserves system is largely welcomed by the public.

[22] The concept of sustainable development cuts across a range of areas including, but not limited to, economic development, environmental awareness, social inclusion, urban planning and development and promotion of cultural diversity.

Yet, there is no “one-size-fits-all” reserve system, especially when cases of surplus government are rare in developed countries. The economies under study in this paper, however, would provide some pertinent experiences and practices for Macao’s reference. Like the SAR, they are small open economies and tend to accumulate their reserves on a narrow base of revenues. Through reviewing the management of fiscal reserves in those selected economies, certain principles emerge for a well-designed fiscal reserve system. They include clear criteria for saving and spending to ensure strong fiscal discipline, sufficient checks and balances, as well as a high degree of transparency.

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