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# Reserve Management, Sovereign Wealth Funds and Prospects of SAARC Region<sup>1</sup>

by

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## Abstract

*Foreign exchange reserve management in the central banking environment gathered pace in the last decade due to increasing reserve accumulations in countries outside the traditional providers of capital. In this environment the reserve managers were frequently challenged with the issues of excess reserves than what is sufficient for monetary policy purposes and optimization of risk return profile. Creation of sovereign wealth funds considered remedying this situation at least to a certain extent. However the sovereign wealth management now faces new challenges in several different areas requiring a fresh approach in a broader framework involving asset allocation, mutual responsibility, skills matching, and transparency. Amid these developments South Asian region being still new to these concepts challenged with rapid reserve accumulation requiring a concerted efforts to deal with these challenges plus the unfamiliarity and low preparedness.*

**JEL Classification:** E 58, F31, F34, F42

**Keywords:** Central Banking, Reserve Management, Sovereign Wealth Funds, South Asias

Reserve management all over the world has seen many changes over the last decade. Many countries that experienced large current account surpluses or capital inflows were seen accumulating large foreign exchange reserves over the decade. Reserve accumulation shifted from wealthy industrialized countries to the so-called developing countries (Table 1). However the developing countries still requiring improvements in their domestic infrastructure and other systems found that increasing foreign exchange reserves carry a huge opportunity cost on such funds not being utilized for activities like improving road and rail networks in their own localities. Instead the funds collected in the form of foreign exchange were used mostly to acquire low risk investments (mostly in fixed income securities) in industrialized countries, which in turn continuously funded the fiscal deficits of countries like US, or their large corporations.

Accumulation of reserves in developing countries without spending them on improving domestic infrastructure, financial system or otherwise brought up many viable ethical as well as economic issues. Redeploying such accumulated reserves in domestic use has obvious macro economic consequences (which will be dealt later in the paper). As a result many central banks (traditional reserve managers) around the world have shown significant levels of diversification of their foreign currency reserve portfolios. However, the conservativeness of the approaches of central banks and possible policy conflicts in which monetary policy would take precedence over other ancillary objectives has created obstacles in reaping maximum benefits from reserve management in its traditional form.

As a result the discussion about how countries should manage these growing reserves remains a challenge requiring further clarity.

This paper attempts to discuss factors that led to creation of sovereign wealth funds, their new role, challenges faced by reserve managers, their future role, creation of sovereign wealth funds and prospects for the South Asian (identified as South Asian Association for Regional Cooperation or SAARC) region. The rest of this article is organized as follows. The first section discusses the international reserve accumulation and the background. Second section tracks the initial challenges faced by reserve managers. Third will look

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\* The writer is grateful to Dr. D S Wijesinghe for his valuable comments and suggestions on this paper.

at appropriate structure for managing such excess reserves. Next two sections will be on the impact on economic and financial market and, the new challenges. The penultimate section will discuss the creation of sovereign wealth funds in SAARC’s perspective. Final section will be on conclusions.

## International Reserve Accumulation and the Background

Today we see a few main factors behind the large reserve accumulation. High commodity prices and resultant commodity revenue helped the reserve accumulations in commodity/natural resources (mainly oil and other mineral) based economies through government surpluses. Monetary and exchange rate policies adopted by countries like Japan, India, Singapore particularly to defend their exchange rates from appreciation to make their exports competitive, pave the way for accumulation of large foreign exchange reserves<sup>1</sup>. Accordingly, irrespective of the background, there are two primary reasons or channels for accumulating larger foreign exchange reserves namely, monetary and exchange rate policy decisions or through government surpluses.

Natural resource exporters were able to accumulate high reserves whenever commodity prices remained at higher levels. However they had to spend such reserves whenever the market prices of such resources were low. Hence those countries experienced high volatility in their earnings as a result of volatile commodity prices. In such circumstances certain countries viewed those excess reserves or a portion thereof as a buffer to earn additional revenue and a usable fund at volatile times (e.g. Russia). Similarly the natural resource extractions were not renewable resource and hence there was an ethical question of using it completely (or mostly) for current consumption. This necessitated the preservation of resources with comparable or higher value and revenue capabilities for the benefit of future generations giving rise to savings funds for future generations (e.g. Norway, Kazakhstan and Australia). In some other instances when the reserves were considered in excess of what is required for monetary policy purposes<sup>2</sup> such excesses were used to create investment funds seeking higher returns with more diversified investments (e.g. Korea, Singapore).

**Table: 1 - Net Global Capital Flows**

(In US dollar billions)

Country	1996	2000	2001	2002	2003	2004	2005	2006
USA	+138	+486	+400	+503	+539	+557	+777	+805
Canada	-15	-18	-13	-14	-14	-29	-32	-20
Japan	-56	-123	-90	-112	-120	-141	-139	-136
UK	+3	+16	+14	+11	+43	+24	+55	+36
Euro Area	-	+76	-24	-8	0	-13	+52	+138
EM & DvCs	+117	-107	-43	-107	-244	-336	-461	-716

Source: Based on Global Financial Stability Report, IMF April 2008

EM & DvC = Emerging market and developing countries; Plus sign indicates an inflow while minus sign indicates an outflow of capital.

1/ Of course, countries could have accumulated foreign exchange reserves through foreign borrowings in the short to medium term. However, the borrowings could only supplement the more permanent sources such as strong current and capital account surpluses arising from performance of the economy but cannot replace them in accumulating (excess) reserves. Otherwise, the accumulation of foreign exchange reserve depends on factors like structure and vibrancy of the economy, the split between the share of GDP in traded and non-traded sectors, the level rate of capital inflows and attractiveness of the returns offered by the domestic currency.

2/ Except for instances like supporting the implementation of monetary policy (exchange rate channel), deflation fighting and impacting market liquidity to influence short-term interest rates, foreign exchange reserves are aimed mainly for supporting financial system stability. However, financial system stability is essential for efficient and effective implementation of monetary policy. Hence, this paper will continue to identify the required foreign exchange reserves as reserves required for monetary policy purposes.

## Initial Challenges

Unlike Japan which earned positive carry<sup>3</sup> on foreign currency reserves due to very low domestic interest rates, most of the developing countries (as well as some industrial/developed countries) that experienced large reserve accumulations with relatively higher domestic interest rates had to incur negative carry on accumulated foreign currency reserves. On the other hand most of these countries being still in the developing stage were experiencing the necessity for improvements in their domestic facilities and other infrastructure. Such countries were continuously challenged with questions on economic and financial justification for maintaining larger reserves. Macro economic consequences and policy implications prevented these countries from redeploying such excess reserves in improving domestic facilities or systems. The challenge of increasing foreign assets is not easy if it is put to work for domestic development ventures due to macro economic consequences. To do so country has to stop accumulation of foreign assets. Similarly it has to convert some or all of the accumulated stock of reserves back into domestic currency, in effect reversing the policies that led to reserve accumulation<sup>4</sup>, which may not be practical under the circumstances that country faces. Alternatively, any attempts to spend it on imports of goods and services, which are superfluous to its needs/abilities, can create inflationary pressures. These reasons plus risk issues arising from currency mismatches could create problems in borrowing domestically against such assets or using them to support capital positions, allowing little option for rapid reserve accumulating countries other than holding accumulated reserves in foreign assets form. In these circumstances high reserve accumulating countries were compelled to seek alternative ways of managing excess reserves to generate higher returns if not the compensating returns, by investing in foreign assets.

Determining the sufficient level of foreign exchange reserves challenged the authorities that were dealing with the growing demand for higher returns on reserves verses maintaining them in sufficiently liquid and secured form. Prior to 1990s the role of foreign exchange reserves was considered more as a buffer stock to weather unwelcome exchange rate developments. As long as capital account is remained relatively closed exchange rate shocks were resulted from current account imbalances. However, the focus was shifted more towards capital account imbalances and resultant volatility (exchange rate shocks) after a period of capital account liberalization in many countries and increased capital flows. Role of foreign exchange reserves as an insurance against a sudden liquidity crisis recognized with very high importance after the Asian crisis prompted many countries to accumulate reserves soon after the crisis. Traditionally for those countries that were not connected sufficiently to the international financial markets, a benchmark of three to six months' imports was considered adequate for insurance needs. Subsequently the measurement base was shifted from import coverage to capital market exposure. One such approach commonly adopted was the all short-term (less than one year) foreign currency claims (assuming no rollovers during the following year), commonly referred to as "Greenspan-Guidotti<sup>5</sup> rule". The recent research suggests this figure to adjust sufficiently upward particularly when a country has an overvalued exchange rate or experiencing a current account deficit. As such for the countries with current account surpluses, the figure generated through this rule may be too conservative. Another benchmark was to use the broad money as the basis for determining the level of reserves. This is based on the premise of the potential for resident based capital flight from the domestic currency. Again as a rule of thumb the reserve sufficiency was considered depending upon the flexibility of country's de facto exchange rate regime. Under fixed or managed floating regimes, reserves of 10 – 20% of

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3/ An investor country experiences a positive carry, when its cost of financing is less than the return obtained from investing such funds. In Japan, the domestic interest rates were so low (lower than the interest rates in USA in which the most of excess reserves were invested) and as a result investments in US dollar securities earned a positive carry compared to the (opportunity) cost of financing such investments.

4/ If reserve accumulations were a result of exchange rate policies (countries maintaining exchange rate at lower or under valued levels than warranted by economic fundamentals) any attempt to utilize them domestically would need to convert them back into local currency negating the benefits expected of the original policies. Similarly if the accumulation of reserves were a result of continued government surpluses, royalties or revenue from natural resource or commodity exports, attempts to convert such reserves to domestic currency for redeploying such funds in domestic investments could cause appreciation of domestic currency removing the price advantage enjoyed by the country causing its exports to decline/less competitive.

5/ Named after former Federal Reserve chairman, Alan Greenspan, and the former deputy finance minister of Argentina, Pablo Guidotti.

the broad money (M2) are considered sufficient while 5 – 10% of M2 would be sufficient for countries with fully flexible exchange rate regime<sup>6</sup>.

Deepening financial integration, particularly of developing countries has increased the risk of possible higher volatility in foreign capital flows as witnessed at Mexican crisis in 1995 and Asian crises in 1997/8. Unlike in matured economies, absence of sufficient flexibility in the exchange rate or markets to absorb such sudden flow variations in these economies increased the necessity for reserves to serve as an insurance against such volatilities. Further the reserve holdings carry large exchange rate and interest rate risk. When such reserves grow larger, the balance sheets of entities holding such reserves would experience considerable risk in terms of exchange rate and interest rate volatilities requiring more sophisticated asset and risk management approaches.

Diversification benefits of foreign exchange reserves into riskier asset classes cannot be ignored. More balanced and diversified type of investment portfolios were seen generating higher risk adjusted returns on longer-term basis<sup>7</sup>. However the temporary losses that could result from seeking higher returns could bring central banks under close public scrutiny resulting in reputational risk, independence questioning, in addition to the possibility for capital erosion. This has prompted many countries to seek alternative style for managing such excess reserves at times separating them from traditional central bank reserves.

### **Demand for Performance Driven by Objectives**

The well known three main objectives of foreign reserve management derived from the functions of foreign exchange reserve namely safety, liquidity and return, gave comparatively lower importance to returns compared to the other two objectives. Of course safety of reserve assets is essential as the reserves are meant to face future shocks and to overcome crisis. Hence preservation of assets over time is essential. Preservation of value could be in terms of main intervention currency, currency in which key imports would have to be paid in an emergency or in terms of the local currency.

Further, foreign exchange reserves must be available promptly in cash form in sufficient amounts in an emergency. Hence reserve assets need to maintain in sufficient liquidity. However in modern capital markets liquid assets need no longer be limited to short-term money market instruments with low yields. In most cases, secondary market for assets are liquid enough for realization of immediate proceeds in many other asset classes including government bonds. Similarly such realizations can be done at a marginal cost without affecting the return prospects of the asset class. Beside these, verity of other market instruments including swaps and repurchase agreements are available to meet sudden liquidity needs of reserve managers. Hence, liquidity has become a less of a concern in today's context particularly for the asset classes generally considered viable in reserve investments.

Although the return objective of reserve assets is residual to safety and liquidity objectives, return objective of the reserves cannot be considered less important, considering its public ownership. Moreover, when the funding sources of reserves or liability aspect of reserve assets are considered, reserve holdings carry a significant cost. Reserves accumulated through foreign currency borrowing carry a foreign currency cost for servicing the debt. In addition such borrowings will be subject to market risk including foreign exchange risk on the liability side of the balance sheet. Reserves funded by domestic currency liabilities will have to incur borrowing costs domestically<sup>8</sup>. Outright purchase of foreign currency in the domestic market or selling domestic assets for foreign assets involves creation of base money or incurring sterilization costs to absorb

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6/ de Beaufort, Wijnholds, J.O. and Kapteyn, A. (2001)

7/ Summers, Lawrence H, Opportunities in an era of large and growing official wealth, (2007)

8/ For instance, current account surpluses could increase the supply of foreign currency in the market resulting domestic currency to appreciate. In order to prevent local currency from appreciation a central bank can buy this foreign currency from the market. In this case the central bank pays (issues) local currency to acquire foreign currency from the domestic market. When such currency issues financed by the government in some form or the other (in effect the sterilization, e.g. Japan, India) they create liabilities to the Government by way of issuance of new debt or advances from central bank. When it involves direct central bank financing it may create liability in the books of the central bank. In any form, it creates liabilities to the sovereign.

the excess injections. Reserves funded through retained earnings or equity capital will have to forego returns on domestic investments, which would otherwise be possible<sup>9</sup>. As such, irrespective of the way of financing reserves, there will be funding costs that will in most cases be higher than the earnings generated on reserves either due to duration mismatches or due to spreads on higher domestic interest rates. On top of these, reserves compose a significant portion of national wealth and as such demands at least a reasonable return on reserve investments. Managing reserves in risk/return efficient manner enhances the reputation of the reserve manager and addresses the ethical question of maintaining high foreign exchange reserves.

### **Structure for Managing Excess Reserves**

Sovereign foreign exchange reserves managed as liquidity providing short-term portfolio increasingly became more concerned over portfolio returns. Managers of such reserves were challenged with demands for more active reserve management approaches and higher returns. As noted in the report of the Central Bank of Norway (Norges Bank Investment Management 2005), on Foreign exchange Reserves: Investment Strategy, though the accounting profit/loss risk has not influenced the investment strategy, it has been an important criterion in establishment of the rules and regulations for allocating profit. However, the central banks with their conservative approaches were considered falling behind on suitability criterion. As a result the central banks, which felt limits on conservativeness of their approaches, changed those to separate the foreign exchange reserves into different tranches aimed at multiple objectives simultaneously. Each of the tranches has separate investment guidelines and generally referred to as liquidity and investment tranches. This paves the way to manage investment tranche reserves with a greater focus on return without compromising primary objectives of safety and liquidity taken care of by the liquidity tranche.

The stronger focus on return and the required differences in the investment approaches changed the ways that sovereign reserves were looked at. Return oriented strategy was not encouraged very much in the traditional central bank environment due to several reasons in addition to the monetary policy concerns. Chief among them were likelihood that central banks could face significant public scrutiny of their investment performance, concerns about capital losses and possible threat for independence.

In addition, at times there were common arrangements to buffer the impact of volatility on reported returns only selectively. Exclusion of unrealized gains in foreign exchange<sup>10</sup> and mark to market variation from income statement prior to distributing profits were seen a common practice among the central banks. In this environment, a possible remedy to reduce income volatility for central bank could be to transfer the riskier assets to a separate fund with a mandate quite different from the management of foreign exchange reserves. The sovereigns who experienced higher reserve accumulations went such a further step to create separate funds out of the foreign exchange reserves of central bank balance sheets with stronger mandate to focus on returns.

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9/ Financing by way of new equity infusions by the Government to the central bank and, retained earnings of the government or the central bank would fall in to the category of liabilities in different forms. Using such funds in domestic investments would generate higher return, which would be required to forego when such funds were utilized to acquire foreign exchange reserves.

10/ Bakker 2007 as cited in Managing international reserves: How does diversification affects financial costs?, Ramaswamy, S. BIS quarterly Review, June 2008.

**Table 2: Sovereign Wealth Funds (Estimates of Assets under Management)**

(Assets in USD billions)

Country	Name of the Fund	Assets	Inception	Fund Source
UAE	Abu Dhabi Investment Authority	875	1976	Commodity
Norway	Government Pension Fund - Global	397	1990	Commodity
Singapore	Government Investment Corporation	330	1981	Non Commodity
China	SAFE Investment Company	312	-	Non Commodity
Saudi Arabia	SAMA Foreign Holdings	300 <sup>1</sup>	-	Commodity
Kuwait	Kuwait Investment Authority	264	1953	Commodity
China	China Investment Corporation	200	2007	Non Commodity
Russia	National Welfare Fund	163 <sup>2</sup>	2008	Commodity
Singapore	Temasek Holdings	159	1974	Non Commodity
Qatar	Qatar Investment Authority	60	2000	Commodity
Australia	Australian Future Fund	59	2004	Non Commodity
Libya	Libyan Arab Foreign Investment Company	50	1981	Commodity
Algeria	Revenue Regulation Fund	47	2000	Commodity
Ireland	National Pensions Reserve Fund	31	2001	Non Commodity
Brunei	Brunei Investment Agency	30	1983	Commodity
S/ Korea	Korea Investment Corporation	30	2005	Non Commodity
Malaysia	Khazanah Nasional	26	1993	Non Commodity
Kazakhstan	Kazakhstan National Fund	22	2000	Commodity

Source: Sovereign Wealth Funds Institute, 12/6/2008

Notes 1 = Best guest estimate; 2 = Includes the oil stabilization fund of Russia

At times these funds were created as a result of growing real wealth of the country but in some other times they were created by foreign exchange reserves financed through foreign or domestic currency borrowings, which cannot be considered as representing the real natural wealth (Rhee, 2007 and Rozanov, 2008) Both of these types were commonly known as Sovereign Wealth Funds (SWFs). The State Foreign Exchange Investment Corporation of China (2007) and National welfare fund of Russia (2008) provide the latest example for SWF. High commodity prices (particularly oil) and export earnings contributed to the substantial growth in SWF's experienced later on.

The latest estimates suggest foreign asset holdings of sovereigns exceed USD 7 trillion. A further USD 3 – 4 trillion is held in SWFs. This may be substantial in terms of the assets held by fund management entities, but it is relatively smaller compared to global financial assets or global real assets (Table 3).

**Table 3: Selected Capital Market (Size) Indicators, 2006**

(In US dollar billions)

Region	GDP	Stock Market Capitalization	Public Debt Securities	Private Debt Securities	Bank Assets <sup>1</sup>
World	48,434	50,827	25,781	43,420	74,435
France	2,252	2,313	1,241	2,255	8,035
Germany	2,916	1,638	1,479	3,358	4,644
Japan	2,402	11,692	3,874	2,198	13,219
UK	4,377	4,796	6,751	1,973	6,590
USA	13,195	19,569	6,234	20,815	10,203
EM Countries <sup>2</sup>	14,263	11,692	3,874	2,198	13,219

Source: Global Financial Stability Report, IMF, 2008.

Notes: 1 Assets of commercial banks, 2 all emerging market countries

Growth of SWFs exceeded the growth of the sovereign official foreign reserve holdings in the recent past. Funds under the management of SWFs are expected to exceed the official reserve holdings within the next couple of years<sup>11</sup>. In terms of asset allocation, though the information is not widely available on SWF investments, some SWFs, particularly the larger ones reflect more diversified asset allocations than that of traditional official reserve holdings. For instance Norway General Provident Fund managed by the Norges Bank allocates about 40 percent of its assets to equities while the balance is invested in fixed income securities. It plans to allocate 60 percent of the holdings to equities by 2010.

True SWFs generally have longer-term investment objectives and as a result are able to hold an even broader array of assets. These funds created particularly for intergenerational wealth transfer that may fall into this category and involve all activities of reserve management, stabilization as well as transfer of wealth across generations. Natural resources are exhaustible sovereign assets and hence it is often argued that benefits of their extraction should be belonging not only to the present generation but also for future generations. In other words these revenues arise from depleting resource and represent debit to the country's natural resource stock or natural patrimony and credit to government's financial accounts. Drawing on these balances for current spending raises policy concerns as it deplete the country's capital and future earnings base. Though these arguments contain complex ethical dimensions, intergenerational revenue transfer can be motivated by practical concerns. Case in point is shifting demographics where countries with aging populations would incur high cost in the future to maintain public pension schemes. Retirement of baby boomer generations is also expected to add significant increase to future public pension expenses. This concerns motivated countries to seek ways to transfer wealth across generations. The outcome was the establishment of national savings funds commonly known as future funds linked either directly or indirectly to public pension liabilities. General Pension Fund of Norway (earlier Petroleum Fund), Future funds of Australia and New Zealand provide good examples.

Further, capital depletion could be avoided through provision of viable investment avenue for such capital to create sustainable source of income. This could be provided either through investing in domestic productive capacity or in a portfolio of global financial assets. Investing domestically, though it could foster broader economic growth, macroeconomic and practical constrains would certainly cap desirable levels through the medium term fiscal planning horizon. The alternative response would be to structuring a fund for future based on foreign investments for longer-term benefit or intergenerational equity leading the way for stabilization funds and/or sovereign wealth funds. In the present context the term SWF is used to include stabilization funds, savings or future funds as well as the funds created with borrowed funds.

### **Impact on Economic and Financial Market Environment**

In the recent financial market turmoil (at the time of sub prime and related liquidity crunch) certain East Asian and Middle Eastern SWF's were seen contributing as much as over USD 35 billion towards the capital of several large banks<sup>12</sup>. This in a way shows the SWF's preparedness to diversify into different asset classes such as equity as well as availability of supporting capital for replenishment of capital losses resulting from broader market calamities. There are several factors that contribute to shock absorbing role at least in terms of short-term market volatility. SWF's with purposes other than those created with stabilization purposes are established to meet long-term macro economic objectives and has long-term investment horizon. Compared to other institutional investors SWFs are with substantial fund base but not bound by prudential regulatory requirements or capital adequacy requirements. Many of them seek long-term real returns and prepared to accept short-term volatility for longer-term higher returns. On top of these facilitating factors, crisis impacted depleted asset prices provide a good opportunity to generate exposure to an asset class with good long-term return opportunities. Recent experience in market volatility in terms of asset prices and CDS spreads<sup>13</sup> (both declined at least temporarily soon after the announcement of capital injections) testifies for the volatility reducing impact of SWF's<sup>14</sup>. However the ability of SWF's to continue to play its market-stabilizing role in the presence of broader market turmoil is yet to be tested.

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11/ Morgan Stanley projects SWF assets to exceed official reserves by 2011

12/ Financial Stability Report (April 2008), IMF, p21, According to JP Morgan this amount is over US dollars 43 billion

13/ Credit default swap (CDS) – designed to transfer credit exposure of fixed income products between the parties. CDS spread is an indicator of perceived risk of assets.

14/ Financial Stability Report (April 2008), IMF pp20-21; Highlights of International Banking and Financial Market Activity, Naoshiko Baba, et.al, BIS Quarterly Review, June 2008.

Although these funds are commonly referred to as SWFs, all funds do not represent sovereign net wealth, nor were they created to achieve the same purpose. In some countries it was not the budgetary surpluses or the net exports that contributed to growth in international reserves. When such funds are created on the funds mobilized through borrowed means they cannot be considered excess net wealth<sup>15</sup>.

In certain other cases these funds were stabilization funds providing stabilizing flows to commodity-based economies. Commodity exporting countries face considerable uncertainty over the extent and timing of the revenues accruing from the sale of resources. Volatility in such revenues could aggravate natural business cycle fluctuations through multiple channels including real exchange rate movements, revenue (tax, royalty and other), investments, and expenditure (both private and public). Stability funds address this volatility created through unstable commodity prices by maintaining highly liquid pools of financial assets that can be drawn upon when commodity prices are low and topped up when such prices are high resulting in higher revenue streams. These funds may invest in slightly wider range of asset classes but considerations of liquidity and low risk still predominant, since by design such funds may draw upon when commodity prices decline. Ability of these funds to function like real SWFs is limited since they are designed primarily to achieve medium term macro economic stabilization objectives, including the sterilization of domestic economic and financial consequences of surge in export earnings.

Official holdings of foreign assets could grow as a result of governmental policies or on magic of compound interest, even at low yields. Consequently management of these assets becomes major focus in fiscal policy, monetary policy, balance sheet implications, external stability and, regulation, because of their size, lack of transparency, their ability to disrupt financial markets, and possible risk of political influence/motives in investment decisions. These influences demand appropriate coordination between SWFs and different other types of policymakers.

As noted above SWFs can facilitate fiscal stabilization as well as saving scarce fiscal resources for long term use provided they are well designed, implemented and integrated in to the fiscal management framework. While these can be used to stabilize government revenue streams, they will be helpful in preserving fiscal resources for long term and creating intergenerational benefit transfer. Since SWF's can be manage in such a way to generate higher returns with minimal liquidity and other policy concerns, they could generate positive real returns minimizing the opportunity cost of holding reserves.

So long as SWFs have no ability to invest locally they may have less impact on domestic exchange rates. However conversion of profits/losses at the time of distribution may create impact on exchange rate of the domestic currency. Any shifting between domestic assets and foreign assets could impact the exchange rate and may create difficulties for monetary authorities in sterilization operations. Further the SWFs related flows could affect external stability through their influence on capital and financial account positions and relative prices. Although the issue of net return on cross-broader investments or the opportunity cost may be minimized or at times eliminated through well managed SWFs, overall effects of the accumulation of foreign assets may not be negligible. For instance, even if the sterilization could technically reach full hundred percent level, short-term assets can be liquidated to finance current consumption and longer-term assets can be used as collaterals to finance consumption and investment.

As identified in the recent work by IMF<sup>16</sup>, there are few more issues involving SWFs that could create significant influence on global financial markets. In spite of the fact the SWF's appear to have been a stabilizing force thus far, given their size there could be circumstances in which they could cause volatility in markets. This would be particularly significant in shallower markets where SWF investments compose a significant proportion. Possible shift from reserve assets to SWFs could have implications for absolute and relative price of assets, the flow of funds between countries, and the evolution of global imbalances. Significant effects may be felt mature sovereign debt markets, e.g. diversification of SWF assets could result in reduced demand for US fixed income securities.

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15/ Net wealth is created when there is real government surpluses deposited with central banks or funds. Reserves resulting from exchange rate policies create other liabilities in the central bank or government books by way of creditors or currency in circulation, making them borrowings in different form. Of course there could be a component of real wealth in borrowed reserves, in the form of accumulated profits and interest

16/ Sovereign Wealth Funds: A work agenda, February 2008, of the IMF

Out of the above three issues the destabilizing forces could be a result of very high risk taking and mismanagement. Second and third implications could mostly be due to the specific nature of SWF's. For instance, for reserve assets to shift a mere creation of SWF would be sufficient as SWFs with low liquidity needs would certainly look beyond traditional fixed income investments to earn a higher return. Diversification in to other asset classes that could result form investing SWF assets would be sufficient to reduce demand for sovereign debt market. Increased corporate governance and standards or ground rules on transparency in the operations of SWF are expected to minimize or allay most of these fears. Such ground rules are expected to include; objectives and investment strategy, governance, transparency and behaviour or the speed at which portfolio adjustments are made<sup>17</sup>.

### **The New Challenges**

The rapid growth of foreign exchange reserves sends a new wave of challenge for the sovereign reserve managers. Seeking higher returns had been difficult in the central banking environment. Establishment of sovereign wealth funds had seen as a remedy to this situation. This in turn established the norm that such funds should be managed to earn higher return than that earned by the traditional reserve managers in the central banking environment. This brought up a new challenge for sovereign wealth managers. Establishment of appropriate asset allocation benchmark to reflect properly the objectives of the fund, appropriate risk appetite was among the chief of such challenges. The process of expanding the asset allocation to encompass a wider range of asset classes had also challenged the sovereign asset managers. Simultaneously there was an increasing demand for transparency in the areas of decision-making, objectives, asset allocation, and investment style and risk management.

Availability of required skills internally to make appropriate choices independently, to review the activities of external managers, to monitor and keep track on possible risks as well as in making tactical asset allocation decisions could also pose problems at least at the initial stages of SWFs or for relatively smaller ones. This has been a challenge even for traditional reserve managers at central banks, at least for smaller ones.

Standards of reporting expected of sovereign wealth managers became increasingly high. Industrial countries, into which most of the investments flow, are increasingly concerned about the possible adverse impact of SWF investments and governance issues. At times opacity of the activities of SWFs is suspected of weakening the governance structure of corporates.

Experience so far suggests that SWFs are generally passive investors with no desire to impact company decisions by actively using their voting rights. They were found using proxies or external managers very often to vote on their behalf<sup>18</sup>. Any change in this position would trigger more close scrutiny by the regulatory authorities of investee countries<sup>19</sup>. Imposition of stringent investment thresholds or ownership limits, greater demand for better corporate governance and high levels of transparency stricter guidelines on non commercial influences, possible market manipulations and insider dealings are already in the discussion and would be forthcoming to make the investments by SWF's more challenging.

Certain researchers have gone to the extent of suggesting curtailment or suspension of voting rights for SWF investments in common stocks of commercial entities<sup>20</sup>. However this argument is biased towards SWFs' investments in industrial countries. Such an action could be detrimental to smooth market operations and commercial principles of global capital mobilization. Singling out SWFs could create anti liberal, anti democratic consequences giving rise to political reciprocity<sup>21</sup> and thereby aggravate the issue. Further such an action could limit the available SWF funding and make SWFs unable to provide market smoothing fund

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17/Truman, Edwin M. Sovereign Wealth Funds: The need for grater transparency and accountability, Peterson Institute for International Economics, August 2007.

18/ Sovereign wealth funds: A work agenda, IMF, February 2008

19/ The Financial Times, July 13,2007, reported that German government is considering new legislation to block state controlled foreign investments.

20/ Gilson, Ronald J. and Miihaupt Curtis J. Sovereign Wealth Funds & Corporate Governance: A Minimalist Response to new Mercantilism,

21/ The same principle could be applied in the case of well-known funds like California state pension fund (CalPERS), though they do not fall directly into the category of SWFs, and hamper their freedom for pure commercial decisions on investment.

flows. Rather it would be more appropriate to introduce maximum holding limits by way of amended by laws under a framework of multilateral corporation.

Continuously increasing size of SWFs will challenge their managers to seek compensating returns continuously. This wouldn't be a problem so long as the fund size is comparatively small, but for a larger fund continuously seeking higher returns would pose a significant challenge. This would draw parallel with the situation of a large private investor as explained by the famous statement of well-known investor Warren Buffet. In the Chairman's review in the Annual Report of Berkshire Hathaway (2007) Buffet reminds his share holders not to expect continuous high returns as it would be difficult to duplicate or even approach the historical returns as its base of assets and earnings has grown far too large for them to make outsized gains in the future<sup>22</sup>. This could be a common phenomenon or a challenge for SWFs as their fund base become significantly large though they would not be as competitive as private fund manager. In such a situation public perception of treating SWFs similar to a private sector asset manager and expectation of comparable returns could pose a significant challenge.

### **In SAARC's Perspective**

Sovereign reserves in SAARC region are relatively small and significantly differ among the countries. India stands exceptionally tall among the rest of the countries among the region in terms of the value of reserves. Sovereign reserves in the region are in table 4.

**Table 4: Sovereign Reserves in the SAARC Region**

(In US dollar Millions)

<b>Country</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Bangladesh	3,024	3,484	5,077
Bhutan	284	411	582
India	141,514	151,622	199,179
Maldives	187	232	309
Nepal	1,465	1,918	2,014
Pakistan	13,338	15,371	17,924
Sri Lanka	2,735	2,837	3,508
SAARC Total FX Reserves	162,547	175,876	228,593

Source: (Annual Reports and official websites of the central banks/monetary authorities of respective countries)

None of the countries in the region have so far gone to the extent of establishing SWFs. Accumulation of reserves in these countries were not resulted from high commodity revenue or continuing government surpluses. Foreign exchange reserves of most of these countries accumulated as a result of direct borrowings or exchange rate policies adopted by the respective governments. However the growing foreign currency reserves seem problematic at least for India, the largest member of the group, for the time being.

In this environment it is now possible to look at the ability of the region to create SWFs to address the issue of growing foreign exchange reserves. However the regional level of disclosure standards not being very high or comparable, this type of study finds inherent difficulty of non-availability of relevant data or information. In order to circumvent the data issue this study had to narrow down its coverage to few selected countries in the region. As such this study will focus mainly on the countries with reserves over US dollars two billion for further analysis. As a result India, Pakistan, Bangladesh and Sri Lanka were taken for further analysis. Table 5 shows the data on sufficiency of foreign exchange reserves of the selected countries.

22/ Berkshire Hathaway Inc. is said to have maintained return of over 21% to its investors over the past 42 years under Warren Buffet and has total assets of over US dollars 270 billion (2007).

**Table 5: Indicators of Foreign Exchange Reserve Sufficiency**

Indicator	Bangladesh			India			Pakistan			Sri Lanka		
	05	06	07	05	06	07	05	06	07	05	06	07
As a percentage of Broad Money <sup>1</sup> (%)	12	13	17	27	25	24	27	27	26	27	25	26
Short-term FX Claims Coverage <sup>2</sup>	4.6	5.2	3.9	18.8	17.4	16.6	4.5	5.2	6.4	4.1	4.5	3.2
Months of Imports Coverage	2.7	2.8	3.6	14.3	11.6	12.4	7.8	6.4	7.0	3.7	3.3	3.7
Three-months Imports plus Short term FX Claims Coverage <sup>3</sup>	0.8	0.8	0.9	4.0	3.3	3.3	1.6	1.5	1.7	0.9	0.9	0.9

Source: Based on Annual Reports and Official websites of the central banks of respective countries

1. Broad money definition: M2 for Bangladesh and Pakistan, M3 for India and M4 for Sri Lanka
2. As per Greenspan – Guidotti rule, number of times
3. A commonly used measure to identify excess reserves. A broader measure of external claims would include foreign currency deposits of commercial banks plus a one third of foreign holdings of equity investments (portfolio investments) in local equities, but for the purpose of this discussion a limited measure has been used.

In terms of reserve sufficiency for monetary policy purposes India is well above all the identified norms. Although Pakistan has comparatively low reserves in absolute terms, identified reserve sufficiency indicators show that Pakistan is also above the required norms. Sri Lanka and Bangladesh both could be categorized as countries on the threshold that could soon be elevated to the group of countries with reserves close to the required traditional norms. However, it is apparent that Sri Lanka's foreign reserves have grown mainly through increased external borrowings of which a reasonable portion accounts for short-term external claims (particularly in recent times). This could result from increased debt service costs due to increased debt stock and/or on concentration of borrowings towards short-term maturities. Declining short-term claims coverage and increasing import coverage of reserves would reinforce the rationale for this argument<sup>23</sup>. However the foreign exchange reserves of Sri Lanka are above the traditional norms both in terms of broad money and import coverage but falls behind when both measures (more realistic external coverage for absorbing future shocks) are taken together. Similarly, Bangladesh reflects a very high score on short-term claims coverage and on import coverage (particularly in recent times). However the country is yet to reflect excess reserves in terms of broad money. When both measures of external claims coverage and import coverage are taken together, Bangladesh fares almost in par with Sri Lanka but below both India and Pakistan.

In terms of funding costs, countries in the region experience negative carry as a result of comparatively high domestic interest rates/funding costs (Table 6).

**Table 6: Domestic Funding Costs**

(Six-month Treasury bill rate %, end period)

Country	2005	2006	2007
Bangladesh	6.80	7.80	7.90
India	4.89 <sup>1</sup>	5.65	6.87
Pakistan	7.96	8.49	8.9
Sri Lanka	10.34	12.78	19.99
USA (proxy for external investment returns, December average rate)	3.9	5.1	3.9

Source: Annual reports of respective central banks

Note 1. Three month Treasury bill rate.

Considering the conservativeness in the focus of reserve managers and its monetary authorities it is fair to assume that sovereign portfolios could earn highest returns through investment in securities (mostly fixed income). In these circumstances if these countries are to earn high returns on reserve portfolios, a majority of

23/ Discussion on coverage and composition of external debt of the regional countries is beyond the scope of this paper and hence will not be dealt in.

foreign exchange reserves of these countries should be held in the form of securities. However the available evidence does not suggest composition supportive of compensating returns on foreign currency reserve holdings (by holding a majority in securities) by these countries (Table 7). Since the reserve assets of the region are more concentrated on holdings/deposits in other central banks and supranational institutions like Bank for International Settlement and the IMF (generally earning low returns in comparative terms, in most cases LIBID minus) it could be reasonably assumed that the pattern of reserve asset holdings in the region even suggests low comparable returns on respective overall portfolios.

**Table 7: Composition of Sovereign Reserves in the Region**

(In percent of total sovereign reserves)

Indicator	Bangladesh			India			Pakistan			Sri Lanka <sup>1</sup>		
	05	06	07	05	06	07	05	06	07	05	06	07
Securities	05	10	09	27	24	28	n.a.	n.a.	n.a.	36	49	44
Deposits with other Central Banks and Supranational <sup>2</sup>	28	34	26	48	45	48	n.a.	n.a.	n.a.	64	51	56
Deposits with Foreign Commercial Banks	67	56	65	25	31	24	n.a.	n.a.	n.a.			

Source: Reports on foreign reserves, RBI, Annual Accounts of Bangladesh, Pakistan and Sri Lanka

1. No published data available separately for Commercial bank deposits and central banks/supranational deposits.
2. Gold holdings and other foreign assets of annual report information has been categorized as those held in central banks and supranational institutions, in the case of India, Pakistan and Sri Lanka.

This disparity reflects the level of sacrifice (opportunity cost of holding excess reserves) these countries would be making, if they do not attempt to increase the efficiency of their reserve management operations. Absence of sufficient attempts to generate compensating returns on excess reserves would be very challenging for those countries that experience rapid accumulation of foreign currency reserves. Adverse publicity and negative public perceptions on pile of assets idling (those excess reserves earning significantly high negative real returns or exceptionally high opportunity costs) could result in reputational damage leading to questioning of central banks' independence. As such the time is opportune for sovereign reserve managers in the region to look at the alternative strategies to enhance the efficiency and effectiveness of their operations.

Financial markets of these countries are yet to achieve sufficiency in terms of their width and depth and hence lack the ability to absorb volatilities of very high significance arising from external shocks. Exchange rate policies of the region, being still short of complete freedom and convertibility, invite the conservativeness when looking at reserve sufficiency norms. On the other hand these countries have already realized the need for flexibility in their capital transactions and are in the brink of introducing significant measures to remove capital controls. Such an environment could increase the level (as well as the need) of foreign reserves required for insurance purposes (to meet liquidity or currency crisis at least in the immediate term) requiring these countries to look at these indicators little more conservatively<sup>24</sup>. Hence a premium may need to be added on top of the conventional thresholds of the indicators of reserve sufficiency identified for these countries. On the other hand all of these countries being in the developing stage all of them experiencing a very high demand on capital for infrastructure needs. High level of foreign debt stocks and associated high borrowing costs also demands utilization of excess foreign exchange reserves to pay back at least the expensive portion of the debt stocks. India has already pursued this path and paid back a portion of expensive external debt in the recent past<sup>25</sup>. Another option for utilizing such excess foreign exchange reserves may be to utilize them for payment on infrastructure related imports. However, the budgetary constrains of the government and

24/ In strong competitive economies where capital inflow are vibrant, liberation of capital account could lead to continued inflows of foreign exchange. However in less competitive economies particularly when there are expectations that exchange rate cannot be maintained, liberalization of capital account can lead to outflow of foreign exchange. Malaysia re-imposed exchange controls in order to control short-term outflows and to rebuild foreign exchange reserves during the Asian crisis. Jamaica experienced similar circumstances after the phase of capital account liberalization.

25/ Report on Foreign Exchange Reserves available on the official website of RBI states that “the significant increase in foreign exchange reserves enabled pre payment of certain high cost foreign currency loans of the Government of India” from different multilateral agencies and bilateral debt amounting to about US dollars 6.8 billion during the period 2003 – 07.

sterilization costs needed to avoid liquidity/inflationary consequences, etc. may hamper implementation of both these strategies, mainly because the rate of growth in reserves may exceed the rate of utilization due to practical/logical reasons, particularly in the countries with rapid reserve accumulation.

Irrespective of the costs or consequences of holding excess reserves, exchange rate policies contributed mainly for accumulation of foreign exchange reserves in the region. As a result these accumulations created the liabilities of similar significance in the books of these sovereigns or their respective central banks. Hence, if not all, a majority of such reserves fall into the category of borrowed reserves<sup>26</sup>. As such there will be an associated borrowing cost in forms of debt servicing costs, cost of sterilizing the currency inflows or the cost of forgone opportunities due to the use of resources in acquiring such foreign currency reserves. Although a complete compensation of such costs through reserve (or fund) management may not be possible due to the mismatches in maturities or rates of returns (interest rate differential), the effective management of funds would minimize the gap between the funding costs and returns on investment of such funds, at least to a certain extent.

In this environment, the time is opportune for the countries in the region, to explore the possibilities for enhancing returns on foreign exchange holdings through creation of SWFs. SWFs' being not constrained by liquidity needs would be capable of introducing more professional asset management independent of monetary policy and financial stability operations to manage the excess foreign exchange reserves in the region. As a result the asset allocation decisions would be free of constraints experienced in conventional reserve management under central banking environment, making them capable of seeking higher returns. Physical location of such funds would not pose a significant problem provided sufficient skills are available with the reserve management team and it can be transformed into more professional outfit like in the case of Norges Bank. Even in such an environment, external managers could be used to manage the unfamiliar asset classes provided the allocation decisions are made internally. This would make it possible to use existing resources more productively with high sense of responsibility and control. Otherwise, an organization external to the central bank, like the Government Investment Corporation (GIC) of Singapore, could be set up specifically for the purpose. However it is necessary to establish these institutions with sufficient independence to make decisions purely on commercial basis and in close corporation with monetary, fiscal and other relevant authorities.

## **Conclusions**

Reserve management practices have evolved substantially in the past decade. Growing reserves, increasing demand for return oriented strategies, desires for diversification as well as the continuous search for improved risk management and choosing appropriate risk return balance, pave the way for creation of SWFs. SWFs are expected to alleviate the conflict for the central banks and high exchange risk faced by them on larger and growing reserves. However, concentration on returns by SWFs should be viewed in the broader context of the responsibility on financial stability and smooth functioning of markets to avoid public sector initiated global or regional downturns.

It is crucial to make the distinction between monetary policy related reserves and the other forms of national wealth. As such the selecting appropriate level of reserves or reserve adequacy for monetary policy purposes was one of the major initial challenges for sovereign reserve managers. Central Banks need to consider monetary policy objectives first before deciding the question of optimizing risk/return profile of the foreign exchange reserves. Parameters for sovereign wealth managers are quite different and have little relevance to monetary policy requirements.

Since the establishment of SWF most important challenge would be establishment of appropriate asset allocation benchmarks to reflect the objectives and risk appetite giving due consideration to long term nature of such fund as well as to short term concerns of managing public funds. Broadening the investment horizon to include variety of asset classes, while ensuring effective risk management, would also be a significant task.

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<sup>26/</sup> Government borrowings or purchase of foreign currency from the domestic market (export earnings, remittances or other investment flows) were the main reason behind the reserve accumulation in the region. Irrespective of the source, reserves accumulated due to exchange rate policies generate borrowed reserves unlike the reserves created through continued government surpluses deposited with the central banks.

Necessary skills, tools and approaches should be developed in order to face this challenge. Coverage of this paper would not be enough to determine risk return optimization or asset allocation approaches and will be a subject for further research.

Best practices in the areas of transparency, accountability, and governance should be harnessed and encouraged to make the SWFs more responsible players in the global financial markets. The new comers could use experiences of more transparent and effective SWFs in this regard. Strategic investment decisions based more on commercial reasons and having their own investment limits would be helpful in establishing credibility of SWF operations.

In SAARC’s perspective, foreign exchange reserves in India are certainly above the required level for monetary policy purposes. Though the absolute reserves are not as high as that of India, foreign exchange reserves of Pakistan are showing the signs of excess reserves in more than one sufficiency indicators or norms while Sri Lanka follows closely but still trailing below the norms. However none of these reserve accumulations can be categorized as accumulations of real wealth as none of them were result of continued government surpluses. It does not mean that they should not look at SWF’s. These countries would necessarily be required to look at the strategies to enhance returns particularly when they experience reserve accumulations in excess of the required levels. At present there is opportunity for India and Pakistan to look closely at the SWF’s as means to deal with excess reserves. It could create precedence for other countries in the region to follow. Sri Lanka and Bangladesh may need to take into account their prospective liberalization measures before deciding on permanent allocation of reserves to structures like SWF. However, such a precautionary move should not preclude them from making initial preparations to take up such a challenge in the future.

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