

# **Sovereign Wealth Fund Decision Scorecard (DSC) - Macroeconomic Evidences from Emerging Economics**

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*Abstract – Sovereign Wealth Funds (SWFs) with combined asset under management of around \$4.8 Trillion have emerged as major power in the financial world. However, literature which has empirically analyzed the decision variables impacting the establishment of these funds is limited. Authors has identified and collaborated list of 63 variables which were then rationalized to list of 30 variables that may have affected establishment of Sovereign Wealth Fund for Emerging economies of China, Russia, Mexico and Brazil and analyzed the static state of these variables at the time of establishment of these funds. For India another set of 30 variables were identified and the static state of these variables was then analyzed with respect to macroeconomic and socio-political environment in the country as on 2011. Authors observed the paradox of political stability coupled with low scoring on corruption barometer for all these emerging economies. Author also argue, that all the countries including India do confirm to reserve adequate matrice but risk of capital flight, current account and fiscal account deficit with social and infrastructure trade-off will be major debate issues and weigh heavily against the creation of such fund.*

**Keywords – International Finance, Sovereign Wealth Funds, Macroeconomics, Forex reserves**

## **I. INTRODUCTION**

Sovereign Wealth Fund Institute defines Sovereign Wealth Fund (SWF) as “a state-owned investment fund or entity that is commonly established from balance of payments surpluses, official foreign currency operations, the proceeds of privatizations, governmental transfer payments, fiscal surpluses, and/or receipts resulting from resource exports”

US Department of the Treasury defined SWFs as “government investment vehicles which is funded by the foreign exchange assets, and which manages those assets separately from the official reserves of monetary authorities.”

The emergence of Sovereign Wealth Funds (SWF) has been one of the most prominent features of international finance in the recent past. It is argued in literature that SWFs are typically created when governments have budgetary surpluses and have little or no international debt. Over the years, the state owned Sovereign Wealth Fund has emerged as important investment vehicle for states to earn ‘above-average return’ from their ‘surplus’ foreign exchange reserves accumulated from either commodity exports of natural resources, portfolio investment in capital markets, manufacturing exports or long term Foreign Direct Investment (FDI).

Each country with its unique set natural and economic competencies has its own set of reason(s) to create a Sovereign Wealth Fund. These rationale varies from high inflationary pressure due to natural recourse exports, precautionary motive against ‘Dutch Disease’ for example as observed in Australia and some of the Pacific Countries resulting from export revenue of coal and oil respectively Earning above average return on ‘excess’ forex is another motivating factors for central banks to part away with some of their reserves which can be invested in diverse asset classes in global market resulting in probable above average returns. While some countries funds are created for the purpose of providing necessary liquidity for future pension liabilities like for example - Norway 1990 and New Zealand 2003. As source of these funds is from Sovereign Reserves and is starkly different from typical pension funds, these funds are not categorized as pension funds.

Truman (2008) listed 54 Sovereign Wealth Funds operating in 37 countries estimated the total asset holding of these funds at \$ 3.6 Trillion in 2008. These funds were categorized according to sources of funds into Commodity, Non Commodity exports and through employee contribution.

(Bryan, 2008) noted that countries like UAE, Saudi Arabia and Alberta receiving excess revenue during the oil boom of created SWF as a Stabilizing Fund and as a way to absorb excess liquidity to prevent economic overheating, stabilize inflationary pressures and avoid 'Dutch Disease'. However, lately Emerging economies like China have created their own Fund (CIC) from their 'excess' forex reserves. CIC which while developing diversified portfolio investments in equity and debt is also undertaking asset acquisition in energy sector.

According to International Monetary Fund (IMF) estimates, SWFs worldwide hold anywhere between \$3.5 and \$4.2 trillion in funds and are growing at a rate of \$800–900 billion per year and are estimated to reach about US \$10 Trillion over the end of this decade. Sovereign Wealth Fund Institute, 2012 has estimated the cumulative asset under management of around \$4.8 Trillion as on May 2012.

The sheer size of Sovereign wealth Fund is also obvious from the comparison with top stock exchanges of the world. According to International Sovereign Wealth Fund Institute 2012 report, the asset under management of all the Sovereign wealth funds put together is close to \$5 trillion. Comparing the asset under management of these funds with the market capitalization of 16 top stock exchanges of the world suggests the assets under management of SWFs are more than all the exchanges except NYSE Euronext (US) with market capitalization of \$12.6 Trillion. The \$5 Trillion of asset under management of SWFs is more than the twice the market capitalization of Indian National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) put together. (World Federation of Exchanges, 2012)

## II. EMERGING ECONOMIES

Emerging Economies report (2008) defined these economies as the "regions of the world that are experiencing rapid growth under conditions of limited or partial industrialization." Developing countries in Asia, Latin America and transition economies in former Soviet Union are broadly categorized into emerging economies. In the popular literature economies of India and China from Asia, Brazil from Latin America and Russia are being clubbed and recognized as BRIC countries, an acronym coined by Jim O'Neill (2001) in his breakthrough paper entitled Building Better Global Economic BRICs. Goldman Sach (2003) projected BRIC countries to be major economic force with these countries overtaking G6 economies in term of GDP by 2040.

## *Emerging Economies and Sovereign Wealth Funds*

Gradual skewness in global economy centers from developed economies of Europe, Japan and North America to emerging economies in Asia, Latin America and Russia were evident from last decade of 20<sup>th</sup> century and this change has gained further momentum during 1<sup>st</sup> decade of this century. The global recession of 2008 has acted as another catalyst with investors discarding the sluggish growth economies and increasingly shifting their focus towards emerging economies which are increasingly being viewed as power house for next economic boom and increased return on investments both in short and long term.

The interest of investor community in emerging economies in Asia resulted in increased FDI, Portfolio Investments in these emerging economies therefore resulting in rapid growth of forex reserves this coupled with manufacturing industry growth in these economies turning them into export hubs led to further swelling of foreign exchange reserves in the kitty of Central Banks. As the level of these reserves have exceed all the estimates of what are required for traditional liquidity purposes, the augmentation in the forex reserves stated debate on active management of the 'excess' reserves away from the AAA rated and highly liquid US Treasury Bonds which has constantly resulted in negative yield on these investments owing to consistent high inflation levels in these economies. Precautionary motives post Asian currency crisis of 1997-98 also propelled nations to accumulate excess reserve more than what required for traditional liquidity purpose.

On the other hand in the emerging economies like Mexico, Brazil and Russia the export revenue from natural resources like Oil for Mexico & Brazil and Gas for Russia were the major source of foreign exchange for these countries resulting in accumulation of excess reserves. Maximizing risk-adjusted returns from the excess reserves and protecting economy from the inflationary effect were the major rationale for these economies to create a dedicated Sovereign Wealth Fund.

## *Sovereign Wealth Funds – Case of India*

India during the last decade has emerged as one the fastest growing economies in the world and has contributed 2.8% of the World GDP in 2011 up from 1.5% in 2001, even during the recent financial meltdown and economic recession in Advanced Economies; India's economy has shown resilience and has growth by 6.8% in 2008-09 and even in the last financial year 2011-12 owing to Euro zone debt crisis the country has achieved growth of 6.5% and is projected to grow by 8% growth for the 12th Five year (2012-17) plan.

Owing to emergence of Indian as one of the key economy there has been a steady increase in the forex inflow in the country resulting in the augmentation in forex reserve from \$20 Billion in 2004 to all time high of \$ 310 Billion in 2010. As of July 2012 country's foex reserve stands at \$290 Billion which is fourth highest in the world.

Number of commentators, authors, institutes and policy makers has advocated the creation of a Sovereign Wealth Fund for Indian citing reasons from asset acquisition for energy security, earning above average rate of return from the 'excess' forex reserve, combating inflation, currency management etc. But, the empirical literature on the decision variables that will affect the creation of this fund is limited in Indian Context.

In this paper attempt is made to study the 'static state' of decision variables that has affected the creation of Sovereign Wealth Funds in emerging economies of China, Russia, Mexico and Brazil and the state of decision variables that may affect the creation of similar Sovereign Wealth Fund for India in future.

### III. METHODOLOGY: DECISION VARIABLES

Prior to economic recession of 2008-10, there was little academic and institutional interest in Sovereign Wealth Fund. Emergence of Sovereign Wealth Fund as one of the major financial forces and the active investments stance of these funds during the recession has initiated lot of academic research in these funds. However, the focus of recent research on Sovereign Wealth funds has largely concentrated on the investment strategies, portfolio analysis and governance & transparency related issues of Sovereign Wealth Funds. But, there is limited literature available that has gone back and analyzed the 'state' of variables at the time of establishment of these funds or the factors that has influenced the creation of these funds. One seminal piece of research was undertaken by Capape (2009) wherein author identified 23 variables and applied these variables to current static state of 182 countries to establish the probability of a nation to establish a Sovereign Wealth Fund.

In this research paper, authors through review of secondary literature and primary data collected through unstructured interviews, telephonic survey, e-mail communication with domain experts' identified 63 variables that may affect the decision to establish a Sovereign Wealth Fund by the country. The above variables were then rationalized through brain storming sessions with academicians and other domain experts resulting in the final list of 30 variables that have affected the creation of Sovereign Wealth Funds in emerging economies of China, Russia, Brazil and

Mexico. The 'static state' of these decision variables at the establishment year of particular Sovereign Wealth Fund of China (2007), Mexico (2000), Russia (2008) and Brazil (2011) is presented in Annexure – 1.

Annexure –II presents the probable list of decision variables that may affect the creation of Indian Sovereign Wealth Fund. For India, the analysis of these variables is done by assuming 2011 as the year when decisive debate on the creation of this fund may have taken place. The static state of variables as on 2011 is presented in Annexure II.

#### *Sovereign Wealth Fund Decision ScoreCard (DSC):*

To develop at the Decision Score Card (DSC) for Sovereign Wealth Fund for identified countries, authors asked simple questions based on these 30 variables and for which the answer is either 'Yes' or 'No'.

Simple scoring pattern was utilized with each 'Yes' response gaining a score of unity (1) and each 'No' reply was given a score of zero(0). There are some instances where author found that the available data is insufficient or ambiguous to develop a response to a particular question therefore same is left unanswered and is not included in the analysis. Annexure-I and Annexure-II presents the identified decision variables, the categorization of each variable, specific questionnaire developed against each variable and the scoring against each variable.

#### *Data Sources for Decision Scorecard:*

The country specific macroeconomic data was assessed at the World Bank data base available at <http://databank.worldbank.org/ddp/home.do>, and from the respective web link of Sovereign Wealth Fund in focus. The data is again cross checked from the data bank of respective Central Bank.

### IV. FINDINGS AND DISCUSSIONS:

- i. On reserve adequacy front it is observed that all 4 countries (China, Brazil, Russia and Mexico) do comply with at least one of the four traditional reserve adequacy matrices. Mexico is the only country which had import cover of less than 3 months in 2000 at the time of creation of its Sovereign Wealth Fund. India, with Import cover of 8 months, Reserve/GDP ratio of 16%, STED/Reserve ratio of 23% and Volatile Capital Flow/Reserve ratio of 68% as in 2011, does confirms to all the traditional matrices of reserve adequacy which strengthens the case for country to part away with its excess funds for creation of SWF. Reserve Adequacy is being regarded as high

- impact variable on the decision to establish a Sovereign Wealth Fund (SWF). This is also in line with authors anticipation of strong impact of this particular category on the decision.
- ii Mexico, Russia and Brazil having proven natural resources have emerged as net commodity exporters resulting in accumulation of excessive foreign reserves. China which has emerged as manufacturing export hub draws its major share of forex reserves from manufacturing export along with FDI investments. Portfolio investments are the major source of forex reserve for India. As these short term investments which are popularly called '*Hot Money*' are highly susceptible to *capital flight* which will result in policy debate on reserve adequacy in case of capital flight.
  - iii While India has positioned itself comfortably against the reserve adequacy matrices, the *twin deficit of current account and fiscal* will put pressure on the policy markets to take pragmatic decision w.r.t. creation of Indian SWF against the backdrop of twin deficit.
  - iv All the four countries had debt/GDP ratio of less than 1 at the time of creation of particular fund i.e. there was no imminent looming debt crisis. Same is true for the currency management position of these countries as none of the country faced the currency crisis in last 3 years of creation of the fund. Thus, defying the popular literature that currency crisis is one of the major reason for creation of SWFs.
  - v No evidence of trade-off deliberation during the time of creation of funds was observed for China, Russia, Brazil and Mexico. However, in case of India *trade-off matrix* of creation of fund against investment for the infrastructure and social development will result in debate among policy makers and social scientists when the case of Indian SWF will taken up for deliberations.
  - vi Liquidity management and earning above average return have emerged as the major rationale for establishment of Sovereign Wealth Funds in four countries under research review. However, no country has contemplated the objective of Foreign Direct Investment, Infrastructure or Social Development through their Funds at their time of establishment. However, for India it is also analyzed that if the fund is created with objective of energy security and asset acquisition the fund may face protectionist backlash and unacceptability in the international community for pursuing state objective. To mitigate the same it is imperative that fund objectives should be accordance Santiago Principals.

- vii It is observed that all the four countries under study were politically stable but scored low on the corruption barometer thus presenting a strange paradox which is also being observed for India.

## V. CONCLUSION

By developing the Decision Scorecard (DSC) and analyzing the identified 30 variables for BRIC countries and Mexico, this paper has attempted to bridge the gap in literature which has predominantly focused on investment strategies of Sovereign Wealth Fund. It is observed that in line with the popular literature, conformance to reserve adequacy matrices and consistence of foreign exchange inflow has been reconfirmed as decisive variables for emerging economies which have established their Sovereign Wealth Fund. For India, it is observed that in addition to political consensus on the issue, the risk of capital flight of Hot money, swelling current and fiscal deficit and trade off with social and infrastructural development goals will matter of long debate among the policy makers to arrive at a consensus to create a dedicated Indian Sovereign Wealth Fund.

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#### Annexure-1: Sovereign Wealth Fund Decision ScoreCard (DSC) – Emerging Economies excluding India

	Variable	Questionnaire		CIC China	ORSF Mexico	NWF Russia	SFB Brazil
				2007	2000	2008	2011
1	<i>Commodity Exports</i>	Is the country net exporter of natural resource?	Yes = 1, No = 0	0	1	1	1
2	<i>Non Commodity Exports</i>	Is the country net exporter of non commodity?	Yes = 1, No = 0	1	0	0	0
3	<i>Portfolio Investment</i>	Is Portfolio investment one of the major source of forex reserves?	Yes = 1, No = 0	1	1	1	1
4	<i>Proven Natural Resource Reserves</i>	Is country posses proven Oil/Gas/Mineral reserves?	Yes = 1, No = 0	0	1	1	1
5	<i>Current Account Balance</i>	Was country running current account surplus ?	Yes = 1, No = 0	1	0	1	0
6	<i>Short term External Debt / Reserves</i>	Was the ratio of Short Term External Debt/Reserves < 1	Yes = 1, No = 0	1	1	1	-
7	<i>Reserve / GDP</i>	Was the ratio of Reserves / GDP > 10%	Yes = 1, No = 0		-	1	1
8	<i>Broad Money / Reserves</i>	Was the ratio of Broad Money/ Reserve > 20%	Yes = 1, No = 0	1	1	1	1
9	<i>Import Cover</i>	Was Ratio of monthly import bill / Reserves > 3 months	Yes = 1, No = 0	1	0	1	1
10	<i>Funding option for SWF</i>	Was excess forex reserves of central bank the source of SWF ?	Yes = 1, No = 0	1	0	0	0
11	<i>Funding option for SWF</i>	Was government surplus the source of SWF funding?	Yes = 1, No = 0	0	1	1	0
12	<i>Sovereign debt</i>	Was Debt / GDP > 1.	Yes = 1, No = 0	0	0	0	0
13	<i>Infrastructure development</i>	Does infra development mandate of SWF ?	Yes = 1, No = 0	0	0	0	0
14	<i>Social development</i>	Does social development mandate of SWF ?	Yes = 1, No = 0	0	0	0	0
15	<i>Domestic central bank willingness</i>	Is fund an offshoot/part of central bank?	Yes = 1, No = 0	1	0	0	1
16	<i>Currency Management Policy</i>	Is currency management mandate of SWF	Yes = 1, No = 0	1	0	0	1
17	<i>Liquidity</i>	Is liquidity management mandate of SWF	Yes = 1, No = 0	0	1	1	0

	Variable	Questionnaire		CIC China	ORSF Mexico	NWF Russia	SFB Brazil
				2007	2000	2008	2011
18	<i>Opportunity Cost</i>	Is above average risk adjusted return mandate of SWF?	Yes = 1, No = 0	1	1	1	1
19	<i>Political Stability</i>	Is the Government Stable ?	Yes = 1, No = 0	1	1	1	1
20	<i>Control of Corruption</i>	How does country rate on corruption barometer?	$CPI \geq 7 = 1$ $CPI < 7 = 0$	0	0	0	0
21	<i>Currency crisis</i>	Does the fund created subsequent to currency crisis?	Yes = 1, No = 0	0	0	0	0
22	<i>Inflation</i>	Was the level of inflation higher than Central Bank Target?	Yes = 1, No = 0	0	1	-	1
23	<i>Level of Development GDP Per Capita</i>	Is GDP Per capita > \$ 4000 ?	Yes = 1, No = 0	0	1	1	1
24	<i>Peer-based Contingent Emulation</i>	Is peer country established SWF within last 3 years?	Yes = 1, No = 0	1	0	1	1
25	<i>Impact of Economic Slowdown</i>	Is the fund created after economic slowdown?	Yes = 1, No = 0	0	0	1	1
26	<i>Fiscal Position of Country</i>	Was country running fiscal surplus / deficit?	Yes = 1, No = 0	0	0	-	1
27	<i>Fiscal Policy Objectives</i>	Was fund integrated part of annual budget?	Yes = 1, No = 0	0	1	1	0
28	<i>Projected future pension liabilities</i>	Was fund created for future pension or other liabilities?	Yes = 1, No = 0	0	0	1	0
29	<i>Out Bound FDI Objectives</i>	Was out bound FDI through SWF an objective of creating the fund?	Yes = 1, No = 0	0	0	0	0
30	<i>Dutch Disease</i>	Was Dutch Disease is apparent in the economy	Yes = 1, No = 0	0	0	0	-

**CIC** - China Investment Corporation, **ORSF**: Oil Revenue Stabilization Fund, **NWF**: National Wealth Fund, **SFB**: Sovereign Fund of Brazil

Annexure -2 : Sovereign Wealth Fund Decision Scorecard (DSC) - India

	Variable	Questionnaire		India
				2011
1	<i>Export of Natural resources reserves</i>	Is country net exporter of natural resource?	Yes = 1 No = 0	0
2	<i>Consistent foreign exchange revenue stream</i>	Does country has consistent foreign exchange revenue stream?	Yes = 1 No = 0	1
3	<i>Capital Flight of 'Hot Money'</i>	Does the forex reserve of country susceptible to capital flight?	Yes = 1 No = 0	1
4	<i>Portfolio Investment</i>	Is Portfolio investment one of the major sources of forex reserves?	Yes = 1 No = 0	1
5	<i>Current Account Balance</i>	Is country running current account surplus/deficit?	Yes = 1 No = 0	0

	Variable	Questionnaire		India 2011
6	<i>Short term External Debt / Reserves</i>	Is ratio of Shot Term External Debt/Reserves < 1	Yes = 1 No = 0	1
7	<i>Debt/ GDP</i>	Is Debt / GDP > 1.	Yes = 1 No = 0	0
8	<i>Reserves / GDP</i>	Is ratio of Reserves / GDP > 10%	Yes = 1 No = 0	1
9	<i>Import Cover</i>	Is monthly import bill / Reserves > 3 months	Yes = 1 No = 0	1
10	<i>Volatile capital Flow / Reserve</i>	Is the ratio of Volatile Capital flow/Reserve > 30%	Yes = 1 No = 0	1
11	<i>Precautionary motive of holding large reserves</i>	Is safety one of the motive of reserve accumulation?	Yes = 1 No = 0	1
12	<i>Liquidity for Balance of Payment</i>	Is liquidity one of the objective of excess reserve accumulation by Central Bank?	Yes = 1 No = 0	1
13	<i>Negative Real Yield on reserves</i>	Is the real yield on reserve more than the risk free return?	Yes = 1 No = 0	0
14	<i>Opportunity Cost of Holding Excess Reserves</i>	Does the opportunity of earning higher returns on reserves exists?	Yes = 1 No = 0	1
15	<i>Protectionist Backlash</i>	Can any objective of SWF may result in possible protectionist backlash?	Yes = 1 No = 0	1
16	<i>International unacceptability</i>	Can any objective of SWF may result in International unacceptability of the fund?	Yes = 1 No = 0	1
17	<i>Democratic Veto Power</i>	Is country democratic and with veto power of upper / lower house?	Yes = 1 No = 0	1
18	<i>Level of Development - GDP Per capita</i>	Is GDP Per capita > \$ 4000 ?	Yes = 1 No = 0	0
19	<i>Central Bank Independence and Willingness</i>	Is central bank willing to create such fund?	Yes = 1 No = 0	0
20	<i>Funding options</i>	Does alternate funding options for creation of SWF available?	Yes = 1 No = 0	1
21	<i>Payback Costly Sovereign debt</i>	Are alternate to SWF in terms of payback of debt viable ?	Yes = 1 No = 0	1
22	<i>Trade-off vis-à-vis infrastructure development</i>	Are alternate to SWF in terms of infra development viable ?	Yes = 1 No = 0	1
23	<i>Trade off vis-à-vis social development</i>	Are alternate to SWF in terms of social development viable ?	Yes = 1 No = 0	1
24	<i>Fiscal Position of Country</i>	Is country running fiscal surplus/deficit?	Yes = 1 No = 0	0
25	<i>Economic Slowdown</i>	Is country passing through economic slowdown?	Yes = 1 No = 0	1
26	<i>Peer Based Contingent Emulation</i>	Does peer country/trade partner established SWF within last 3 years?	Yes = 1 No = 0	1
27	<i>Regulatory Quality</i>	Is regulatory framework in the country robust?	Yes = 1 No = 0	-
28	<i>Stable and Long Term Foreign Direct Investment (FDI)</i>	Does country has stable flow of long term FDI?	Yes = 1 No = 0	0
29	<i>Outbound FDI Objectives</i>	Can out bound FDI one of objective of the fund?	Yes = 1 No = 0	1
30	<i>Inflation</i>	Is the inflation above the central bank target rate?	Yes = 1 No = 0	1

