

The Performance Evaluation of Sovereign Wealth Funds in Different Countries From  
2006 to 2011

by

Eilaf K. Merdhah

A research project submitted in partial fulfillment of the  
requirements for the degree of Master of Finance

Saint Mary's University

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Written for MFIN 6692.0 under the direction of  
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## **Abstract**

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The purpose of this study is to provide a comprehensive empirical analysis of the performance of SWFs in several countries, explain why they are different, and compare three measures of performance evaluation. The three basic models are Treynor Index, Sharp Index, and Jensen Index. 19 funds are selected compared to the market performance. The period under this study was from 2006 to 2011. The evidence obtained from the analysis of this study suggests that part of the funds outperformed the market significantly.

## Table of Contents

<b>Acknowledgments</b> .....	<b>i</b>
<b>Abstract</b> .....	<b>ii</b>
<b>Table of Contents</b> .....	<b>iii</b>
<b>List of Tables, Indexes and Appendixes</b> .....	<b>iv</b>
<b>Chapter 1: Introduction</b> .....	<b>1</b>
<b>Chapter 2: Literature Review</b> .....	<b>4</b>
<b>Chapter 3: Methodology</b> .....	<b>11</b>
3.1 Measure Methods .....	11
3.2 Limitations of Study .....	15
3.3 Data Collection .....	15
<b>Chapter 4: Results</b> .....	<b>17</b>
4.1 Sharp Index .....	17
4.2 Treynor Index .....	19
4.3 Jensen Index .....	21
<b>Chapter 5: Summary and Conclusion</b> .....	<b>25</b>
<b>References</b> .....	<b>26</b>

## List of Tables, Indexes and Appendixes

Table 1: Result of Sharp Index Performance on Average .....	18
Table 2: Result of Treynor Index Performance on Average .....	19
Table 3: Results of Jensen Index performance on Average.....	21
Index 1: Result of Sharp Index Calculations .....	29
Index 2: Result of Treynor Index Calculations .....	34
Index 3: Results of Jensen Index Calculation .....	39
Appendix A	
Fund ticker list of the countries.....	39
Appendix B	
Moody's credit ratings of the countries.....	40

## **Chapter 1**

### **Introduction**

In recent years, many of countries have established their own sovereign wealth fund, which attracts the attention and questions of other countries and many financial experts. So, what is a sovereign wealth fund? What are its properties and benefits, and why is it important to some countries? This study will focus on the performance and evaluation of sovereign wealth funds in different countries from 2006 to 2011 to answer these questions.

Sovereign wealth fund (SWF), as defined by SWF Institute is

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. The definition of sovereign wealth fund exclude, among other things, foreign currency reserve assets held by monetary authorities for the traditional balance of payments or monetary policy purposes, state-owned enterprises (SOEs) in the traditional sense, government-employee pension funds (funded by employee/employer contributions), or assets managed for the benefit of individuals. (SWF Institute, 2012).

The objective of generating this fund differs from one country to another but the main purpose is to diversify the wealth of the country, increase growth and prevent the

economy from great fluctuation or negative effects during any financial crisis. Also it been recognize that most of Gulf countries such as UAE (AbuDhabi / Dubai) , KSA , Kuwait and Qatar have established large SWF and it became one of the main investors around the world, Analysts explain Gulf countries act as scarcity or fear of their source of income or main exports which Oil. Holding such commodity and export it is the main income for those countries and with the scarcity issue within coming 40-50 years and the large price fluctuation it become difficult for such countries to manage their income cash flow that manage their growing plans and reduce the exposed risk of oil price movement. For instance, The United Arab Emirates put a particular percentage of its excess revenues generated from exporting oil into SWF to take advantage of the extra profit. As with other countries, this helps to guarantee one kind of wealth source for future generations, because eventually, natural resources such as; oil, gas, coal, gold and silver will be drained and no longer sustainable.

There are two types of SWF, commodity and non-commodity SWF. The difference between them is how these funds are financed. The commodity SWF is financed through commodity exports. When the price of the commodity increases, there will be surplus in the economy. The opposite will occur if there is a decrease in the commodity price: there will be deficit in the economy and the SWF will seek to stabilize, diversify and invest the money in different areas. Some funds invest in domestic industries indirectly. Others invest in various asset classes such as Equities, Government Bonds and Foreign Direct Investment (FDI). The second type is non-commodity SWF; it is financed by the excess of foreign exchange reserves.



The first SWF was established in 1953 in Kuwait; it was called The Kuwait Investment Authority (KIA). Kuwait transfers almost 10% of oil revenues to this fund every year to support the upcoming decades and reduce the volatility of government revenues. Nowadays, the amount of SWF has been increased all over the world, and many countries are involved. Some of them have become large SWFs; these include United Arab Emirates (Abu Dhabi SWF/ Dubai SWF), Norway, China, Saudi Arabia, Singapore, Russia, Australia, Qatar and others.

The purpose of this study is to provide a comprehensive empirical analysis of the performance of SWFs in several countries, explain why they are different, and compare three measures of performance evaluation.

This study contains the following sections: Chapter 2 will review the literature. Chapter 3 will be about the types of models that are conducted on this area. Chapter 4 will focus on the analysis of the results that are obtained by the research. Chapter 5 will give a brief summary and conclusion.

## **Chapter 2**

### **Literature Review**

Sovereign wealth fund (SWF) has been researched widely in the finance literature. According to Alberto Quadrio Curzio and Valeria Miceli (2010), the history of SWF could be categorized into four different phases. The first phase was from 1935 to the mid-1990s. In this period, there were many SWFs established. The initial one was the Kuwait Investment Authority (KIA) in 1953. The purpose of this fund was to reduce the reliance on fossil reserves by investing the excess oil revenue into fixed interest, low-risk securities.

The British colonial administration of the Gilbert Island created the second SWF in 1956. They invested the phosphate revenues in several shareholdings to generate profit. This fund is compared to the size of host economy, the Republic of Kiribati not to the size of oil revenue SWFs. The increase in oil price approximately from under US\$5 in the 1970s to greater than US\$35 in the 1980s, made the profits of oil exporting countries rise sharply. They invested these profits into foreign direct investment (FDI) to obtain a new source of wealth other than oil. (Quadrio Curzio A. and Miceli V., 2010, p. 5).

Later, several countries generated SWFs. For example, the member of the Gulf Cooperation Council (GCC), United Arab Emirates (UAE) launched the Abu Dhabi Investment Authority (ADIA) in 1976. The same year, the developed countries

established two SWFs especially after the increase in the price of oil and raw materials: the Alaska Permanent Fund Corporation (APF) in the United States, and Alberta's Heritage Saving Trust Fund (AHSTF) in Canada. Also, there were non-commodity SWFs: Temasek Holding (TH) in Singapore established in 1974, and Khazanah Nasional (KN) in Malaysia in 1993.

After the fall of oil prices in the 1980s, a lot of countries discovered their need to find another source of income, rather than to rely only on the oil and natural gas industries. As a consequence, they created SWFs. Globalization played a role in growing SWFs, because of direct investment abroad and the movement of capital. Nevertheless, SWFs were almost unknown to the financial community in this phase because their investment strategies were conservative, and their portfolios greatly composed of low-yield U.S. government securities. At this time, they had an extremely low profile.

The second phase was from the late 1990s to 2004. Emerging economies faced a currency crisis at the end of the 1990s, which allowed many countries to continue to accumulate reserves that exceed the short-run of external liabilities, especially those economies hit quite hard. Foreign exchange reserves accumulation was a discriminative phenomenon in emerging countries at the beginning of the 2000s. There were many reasons why these countries were holding exaggerated foreign reserves. The most common two were self-insurance, and the desire to reinforce the competitiveness of exports.

After the previous financial crisis, emerging countries had experienced increased imbalance in their economies. So, they decided to reduce the risks, related costs, and future crises also, to avoid resorting to the International Monetary Fund (IMF) with its low of conditionality by self-insurance. The volatility of capital flows and the financial economies' openness could be affected by the excess reserve. There was a study in this area by Obstfeld et al. which found that countries which had a liberalized capital market were less exposed to any financial crises. If the rational answer for a specific country was to hoard reserves, the collective perspective saw this as a dangerous strategy (Obstfeld M., 2008). As a consequence, some countries faced large debts and deficit, while others had an excessive currency-exchange surplus. According to Rodrik , it was difficult to close a financial liberalization due to the difficulty to prevent and control enormous capital outflows. As a result, a lot of countries choose to self-insure themselves. (Rodrik D., 2006).

Facing the serious cost of maintaining massive reserves, some countries allocated a portion of their reserves to new investment vehicles to surpass yield over liquidity. Therefore, many funds were established using the same logic. Examples include, the Hong Kong Monetary Authority Investment Portfolio (HKMA) in 1998 and the Korea Investment Corporation (KIC) in 2005. The oil and gas exporting countries and the Middle Eastern countries are choosing a different strategy. They prefer to invest most of their wealth in other investment vehicles, to the detriment of their currency reserves.

At the end of the 1990s, the oil price increased from less than US\$20 a barrel to nearly US\$40 in 2004. Thus oil-exporting countries benefited from this great increase,

and put their proceeds into their SWFs. According to Rozanov there were 15 SWFs created between 1998 and 2004, and US\$895 billion was the estimated total assets held by SWFs at the end of this period. (Rozanov A., 2005)

The third phase covered from 2005 to mid-2008. In this period SWFs were the interest of institutional players including national and supranational, and public opinion in Western democracies. SWFs also, grabbed the attention of world news. SWFs became important and there were several reasons behind that, as explained by Razanov. For instance, the growth of SWF assets, and the increase in commodities price - oil, natural gas, and raw materials - were one reason. This was especially noticeable when the oil price rose from US\$60 a barrel in the third quarter of 2005 to US\$147 three years later at the same quarter. (Rozanov A., 2005)

Also, there was increase in the number of SWFs in emerging markets. There were 19 SWFs created in this time out of 53; these include the Qatar Investment Authority (QIA), and Korea Investment Corporation (KIC) in 2005; Mumtalakat Holding Company (MHC) in Bahrain, and the Libyan Investment Authority (LIA) in 2006; and the Social and Economic Stabilization Fund (SESF) in Chile, and China Investment Corporation (CIC) in 2007. Finally, the Russian National Welfare Fund (RNWF) was created in 2008. Those were the most important SWFs from asset size perspective. (Quadrio Curzio A. and Miceli V. ,2010, p. 10).

According to Kern, the increase in international investment transaction of SWFs and the average size of the deals particularly in this period, increased the interest in SWFs. This resulted from the change from developing countries to emerging countries

in the geo-economic and political balance of power, the secrets of SWFs trend, and the participation of non-allied and non-democratic world power SWFs such as China and Russia. Moreover, SWFs represented a form of state capitalism in the time horizon of investment, and decision-making technique. (Kern S., 2008).

We need also to take into account the behavior of institutional players, national and supranational beneficiaries of SWFs at that time. When the initial emergence happened in 2007, many countries, especially developed countries introduced prudential regulations. There were various reasons for this reaction; the developed countries want to have transparency, because several SWFs were generated in non-democratic countries, and political reasons. Therefore, when the financial crises progressed in 2008, the desire to have SWFs as investors increased. So the head government and ministries decided to support this investment from the countries that had SWFs. The “barbarians” became lenders to the unstable financial sector. Actually, this helped to reduce the financial market crisis, and to recapitalize Western banks specifically. (Quadrio Curzio A. and Miceli V., 2010, p. 13).

In 2008 the European Commission wrote down guidelines for SWFs. Later, the IMF released voluntary regulations called Generally Accepted Principle and Practices (GAPP) to guarantee that SWFs performed as fair market players (the IMF, 2008). The number of SWFs had been increasing year after year; there were 34 SWFs in 2004, and 53 by 2008. In fact the total assets rose from about US\$900 billion in 2004 to nearly US\$4,000 billion at end of 2008 as Quadrio Curzio and Miceli document (2008).

The last phase was from the end of 2008 and onwards. The activism of SWFs decelerated with the third quarter of 2008. It could be because of what happened in the previous year from accumulated losses in the United States, European banking, and financial areas. Also, the fall in oil price that went from US\$147 a barrel at the beginning of the third quarter in 2008 to US\$40 a barrel at the end of the fourth quarter for the same year. Moreover, we need to consider the risks that face SWF economies due to the financial crisis in the world, the global recession that led to shrinking the exports surplus of Asia, and the imbalances all over the world(Quadrio Curzio A. and Miceli V., 2010, p. 14)..

According to Kern, the investment of SWFs experienced huge losses ranging between 60-90% in Citigroup, UBS, Morgan Stanley, Barclays, and Merrill Lynch. Most of those losses were absorbed in 2009 because they were unrealized. SWFs were greatly affected by the financial crises and couldn't escape from it the same as the rest of the world. The losses as they estimated by Bortolotti, Fotak, etal. exceeded US\$57 billion in March 2009(2009).

Many SWFs were required to give domestic markets and institutions their supports. These include Qatar, Russia, United Arab Emirates, Ireland, and Kuwait. Countries which were in difficulties used their excess resources to reduce their deficit. Thus the value of SWF assets was unstable and fluctuated between US\$3,200 and US\$3,800 billion in 2009. After the slow down period of SWFs, SWFs as well as many other investors needed to give a thought about their portfolios' allocations, investments, and structures to adjust them to any change in financial sectors. They had to take into account the long run need of development to their countries. The image of

SWFs had been changed after the adaption of GAPP and creation of the International Forum of Sovereign Wealth Funds (IFSWF). They assumed the role of responsible investors and were more involved in sorting and shaping the monetary and financial structure (Quadrio Curzio A. and Miceli V., 2010, p.14).

The IMF categorized the type of SWFs into five categories depending on their goals (Quadrio Curzio A. and Miceli V., 2010, p. 25).

- 1) Saving funds, to convert the non-renewable resources into wealth for future generations and get the benefit of natural resources revenue distributed fairly among different generations.
- 2) Stabilization funds, to stabilize the fiscal policies from instability in raw-materials prices.
- 3) Development funds, to finance and promote socio-economic projects and industrial policies.
- 4) Reserve investment corporations, to manage the official reserves assets in profitable investments.
- 5) Pension reserve funds, to utilize sources different from normal pension schemes and address to the indebtedness of pensions. There are known as Sovereign Pension Reserve Funds (SPEF).

Given the previous studies in the area of SWFs, It will be valuable to study the performance of SWFs in some countries, and figure out the reasons for differentiation from one country to another.



## Chapter 3

### Methodology

#### 3.1 Measure Methods

Different levels of performance measure all based on the Capital Pricing Model (CAPM).

**a) Sharpe Index:**

Sharpe measure is based on the equilibrium relationship between the expected return and portfolio risk. Under the assumptions from the CAPM, individual who invests in mutual fund is concerned with the total risk of the fund, which is represented by standard deviation of its returns. The Sharp Index model is as demonstrated below:

Portfolio risk premium:

$$S_{fd} = (R_{fd} - R_f) / \sigma_{fd}$$

Where:

$S_{fd}$  : the risk premium for the fund during the overall time period.

$R_{fd}$  : the return of the fund during the overall time period.

$R_f$  : the risk free during the overall time period.

$\sigma_{fd}$  : the standard deviation of return for the fund during the overall time period.

Market risk premium:

$$S_m = (R_m - R_f) / \sigma_m$$

Where:

$S_m$  : the risk premium for the market during the overall time period.

$R_m$  : the return of the market during the overall time period.

$R_f$  : the risk free during the overall time period.

$\sigma_{fd}$  : the standard deviation of return for the market during the overall time period.

If  $S_{fd} > S_m$ , then the fund outperforms the market.

If  $S_{fd} = S_m$ , then the fund performs the same as the market.

If  $S_{fd} < S_m$ , then the fund underperforms the market.

b) Treynor Index:

Treynor developed the first systematic method of measuring fund performance on a risk-adjusted basis. He hypothesizes that risk could be summed up in one measurement and it expressed relative to the market portfolio. It is also known as the Reward to Volatility Ratio. It is the ratio of a fund's average excess return to the fund's beta. The ratio measures the returns earned in excess of those that could have been earned on a riskless investment per unit of market risk assumed.

He measures the performance by comparing returns with the associated systematic risk (beta) of a portfolio as follows:

$$\mathbf{Bfd} = (\rho_{fd,m} \sigma_{fd}) / \sigma_m$$

Where:

$Bfd$  : the beta of the fund/portfolio during the overall time period.

This is calculated by using the regression estimates for the CAPM.

$\rho_{fd,m}$  : the correlation between the portfolio return and market return.

$\sigma_{fd}$  : the standard deviation of the portfolio returns.

$\sigma_m$  : the standard deviation of the market returns.

Treynor's performance measure required particular assumptions that must be accepted about a behavior of the CAPM, that can be shown as follows:

$$\mathbf{Tfd} = (R_{fd} - R_f) / Bfd$$

Where:

$Tfd$  : the risk premium for the fund during the overall time period.

$R_{fd}$  : the return of the fund during the overall time period.

$R_f$  : the risk free during the overall time period.

$Bfd$  : the slope of the fund's characteristic line for the overall time period.

With the corresponding equation for the market is:

$$\mathbf{Tm} = (R_m - R_f) / Bm$$

Where:

$Tm$  : the risk premium for the market during the overall time period.

$R_m$  : the return of the market during the overall time period.

$R_f$  : the risk free during the overall time period.

$B_m$  : the slope of the market's characteristic line during the overall time period.

The beta for the market proxy equals to one ( $B_m = 1$ ).

If  $T_{fd} > T_m$ , then the fund outperforms the market.

If  $T_{fd} = T_m$ , then the fund performs the same as the market.

If  $T_{fd} < T_m$ , then the fund underperforms the market.

c) Jensen Index:

The Jensen index measures the ability of active management to increase returns above those that are purely a reward for bearing market risk. It is expressed as follow:

$$R_{fd} - R_f = J\alpha + \beta_{fd} (R_m - R_f)$$

Where:

$R_{fd}$  : the return of the fund during the overall time period.

$R_f$  : the risk free during the overall time period.

$\beta_{fd}$  : the systematic risk of the fund for the overall time period.

$R_m$  : the return of the market during the overall time period.

$J\alpha$  : Jensen's alpha which is the manager's ability to forecast fund process.

If  $J\alpha > 0$ , then the fund outperforms the market.

If  $J\alpha = 0$ , then the fund performs the same as the market.

If  $J\alpha < 0$ , then the fund underperforms the market.

With this model, two different funds in different countries can be compared with respect to each fund's risk.

The risk-adjusted formula is :  $(J\alpha f / Bfd)$ .

If  $(J\alpha f / Bfd)_A > (J\alpha f / Bfd)_B$  , then fund 'A' outperforms fund 'B'.

If  $(J\alpha f / Bfd)_A = (J\alpha f / Bfd)_B$  , then fund 'A' performs the same as fund 'B'.

If  $(J\alpha f / Bfd)_A < (J\alpha f / Bfd)_B$  , then fund 'A' underperforms fund 'B'.

### **3.2 Limitations of Study**

All measures in this study are based on the CAPM. Thus, one problem is the assumption of the same risk-free rate for countries that have the same Moody's rating. Especially, when those countries don't have Treasury bill or they are difficult to collect.

Another problem is the sovereign wealth as a whole fund figures is hard to collect. So, we took funds that have invested in SWFs in different countries to determine the performance of them. Largest SWFs in the world are based from Gulf countries which hard to get any figure from published data, I lay on financial analysts point of view and most of the large investments those funds did recently.

One more issue with using Beta or correlation of the fund performance compare to market, our SWFs historical period are different which look like unbalanced panel.

Some fund exist since 1970s and other are 5 years old , such variance between the funds can affect the fund growth and accumulated returns.

Another issue based of fund asset mix, where some fund are commodity based, looking for the last 40 years we can see variance within the commodity market performance based of the market type. If you retrieve historical chart for oil since 2000 , it show that oil prices move from \$25 to \$147 before a sharp fall of the price to level \$80s. On the other hand if you review gold market price since 2000 , it shows that price appreciate from \$250 to reach \$1900 before the price dropped to \$1600 level. If we compared two different SWF that each have different holding weights, lets assume the first hold 50% as Gold asset and the second holds 50% as Oil asset, then on ratio analysis second fund did away better that the first one. Also while comparing different type of SWFs where one holds commodities and other deal with yield.

Finally, it difficult to deal with all different markets as one globe market.

### **3.3 Data Collection**

A random sample of 19 funds of several countries, 1-year treasury bills, SPX Index as a benchmark, and all the other data were collected from Bloomberg data source.

## Chapter 4

### Results

This section will show the calculation result. All the result in \$U.S.

#### 4.1 Sharp Index

From Index 1, Result of Sharp Index Calculation, we got the results of Sharp Index. There is a complete list of the results obtained from Sharp Index calculation. It shows the yearly returns for the funds, the Sharp Index, and performance result.

I use Sharpe index to measure the performance of my 19 countries sample, by looking back for the last 5 years from 2006 to 2011. It good to note that a global financial crises affect most of the world end of 2007 that affect most of the world SWFs performance to be negative in last 3 years (2008, 2009 , 2010). The major market affect was in 2008 since then some markets and countries recover faster than others. The performance column shows the sign of the fund. For example, Australia WSF return was -48.8 while the market return was 71.17; since the market did better off Australia WSF then the fund performance was negative.

Most of WSFs recover in 2009 and 2010, but their performance sing are different. When I go through some example I figure that WSFs which have positive sign because of the fund rebalancing or country who own the fund choose to deposit more money into the fund and take advantage of low price and bad economy opportunity. Qatar WSF can be good example where the fund has positive sing over the last years, that because of two main reasons , first, Qatar WSF start investing in

2006-2007 which mean they new to market and don't exist for long period. Second, the fund was growing based of value over the last years , and this new deposited fund rebalance any losses and took a great opportunity when economy recover in 2009-2010.

Table 1: Result of Sharp Index Performance on Average:

<b>Countries</b>	<b>Performance</b>
Australia	-3.834657028
Canada	-1.754094191
Chile	-3.603901794
China	7.097616088
France	0.307047814
Ireland	2.470403403
Italy	-0.592024647
Kuwait	1.828388433
Malaysia	0.758520563
Mexico	-7.994664627
Norway	0.060698567
Oman	-1.507239545
Peru	5.466512964
Qatar	5.044419584
Russia	1.661696906
Saudi Arabia	-0.966469185
Singapore	2.234218189
United Arab Emirates	-7.739968763
United States	-7.283811683



As showed in Table 1, 10 funds outperformed the market based on the Sharp Index. Chinese fund had the highest performance, and Mexican fund had the lowest performance comparing with the other countries during 2006-2011. As going through the average performance in table 2, I can figure some WSF are highly correlated such as USA and UAE WSFs, that because most of UAE holding mixed asset invested within USA and UAE currency is linked to US Dollar. Also looking for China and Qatar average performance that looks above the bench mark because their new deposited funds that took great opportunity of crises lower price.

#### 4.2 Treynor Index :

From Index 2, Result of Treynor Index Calculations, we can get the result of Treynor Index. There is a complete list of the results obtained from the Treynor Index calculation. It demonstrates the yearly return for the funds, beta value, and Treynor Index.

Table 2: Result of Treynor Index Performance on Average:

Countries	Performance
Australia	0.000000031
Canada	0.000000104
Chile	-0.000000001
China	0.000000000
France	0.000000000
Ireland	0.000000000
Italy	-0.000000003
Kuwait	-0.000000001

Malaysia	0.000000000
Mexico	-0.000000267
Norway	-0.000000006
Oman	0.000000000
Peru	0.000000001
Qatar	-0.000000002
Russia	0.000000005
Saudi Arabia	-0.000000005
Singapore	0.000000000
United Arab Emirates	0.000000001
United States	-0.000000064

From the table above, Canadian fund had the highest performance based on Treynor Index, and the Mexican fund had the lowest one. The number of funds that outperformed the market was 5, while 8 of the funds underperformed the market. Comparing Treynor Index performance with Sharpe Index performance or sings, we can see a conflict between signs for the same WSF and that because the way of calculating each index. In addition, the average performance that look very limited some time shows as zero.

### 4.3 Jensen Index

Index 3 shows the ranking of 19 funds based on their Jensen's Alpha, and the Jensen's Alpha for the market is zero.

Table 3: Results of Jensen Index performance on Average:

Countries	Performance
Australia	0.000000011
Canada	0.000000000
Chile	-0.000000005
China	-0.000000001
France	0.000000000
Ireland	-0.000000002
Italy	-0.000000001
Kuwait	-0.000000001
Malaysia	-0.000000002
Mexico	0.000000025
Norway	-0.000000025
Oman	0.000000001
Peru	-0.000000001
Qatar	0.000000004
Russia	0.000000004
Saudi Arabia	-0.000000004
Singapore	0.000000004
United Arab Emirates	-0.000000019
United States	-0.000000006

Table 3 showed that 6 of 19 funds had alpha greater than zero, so approximately 31.58% of the funds outperformed the market.

After studying WSFs from the main three views it good to understand those results and how it represent the fund and market? What types of risks that can affect WSFs return and performance? Also the reasons behind the conflict of performance comparing all three indexes?

The average table on each type of index performance can helps us to understand the WSFs path for last 5 years , It very challenging to find patterns between WSFs in last 5 years because many reasons which I list them below and like to briefly discuss some of them , as following:

- (1) In last 5 years the global economy been affected by major crises and it affect each WSF based of the fund holdings mix asset and the weight of those holding. A fund that hold Real estate with large portion defiantly been affected more than one that holds limited percentage in their portfolio. It need to be mention that 2008 crises start as financial crises , then transfer to be liquidity issue , that turn to be creditors and other issues. While the crises het the global economy the action of each WSF was different.
- (2) Region of WSFs assets and investments , Assume two funds holds same ratio of their portfolios as real estate but one holds their portion in United state real estate market and other invested their funds in Canadian real estate market. Without knowing the funds performance table , It will be clear that the second funds outperformed the market and better off the first one, because real estate

market dropped between 40-75% in USA while it rose between 5-15% in Canada. Also if we narrow our assumption of investing the same portion in same country real estate market such as USA , WSFs which holds most of their real estate in Florida been affect more than the one which holds the same portion in NY. Although we don't have any identical WSF to match other.

- (3) WSFs Life period, Its important to notice the life period is differentiate among the selected WSFs sample. Some funds established since 50 years and others established 5 years ago. WSFs that have long life periods went through many crises over their time line in 1980 interest rate crises, 1987 Black Monday , 1992 , 2000 IT bubble and recently 2008 Financial Crises . The accumulated loses and fund performance are affected more than WSF that started recently and took advantages of lower prices.
- (4) WSFs Asset mix, it is one of the major differentiate between WSFs, I am sure we cant get two identical fund holdings as waights on asset allocation. This will differ the reaction of market drops or crises. Some funds who can financed their portfolio can rebalance their portions buy buying more at lower prices , On the other hand, WSFs that don't have access for more finance would sell some of their holdings at lower prices to finance their portfolio rebalance.
- (5) Different of WSfs investment vehicles. Some WSFs are established to smooth the country exports or assets prices, such as WSFs of gulf countries which main source of income from exporting oil and using this access reserve to invested globaly to o their earning or income while oil prices fluctuates. Other funds established for liquidity, which most of industrial countries do.

- (6) Type of SWFs , as IMF categorize SWFs , Some are Saving funds which invest the excess surplus of countries to or benefits for future secure returns. Other categorized as Development Fund such as China, that invested their economy large income recently to develop other countries or industries.
- (7) Political issue, where those SWFs are part of a country governments then fund investments decision will not be selected based of financing or accounting bases. It must be invested in countries that have good relationship with the SWFs owner.

It is important to know that the above aspects are some of many conditions that limited the SWFs comparison and make it difficult to study them all in same way.

## **Chapter 5**

### **Summary and Conclusion**

The purpose of this study is to evaluate the performance of 19 funds that invested in different SWFs from several countries during 2006-2011. The performance was evaluated by three general risk-adjusted performance measures: Sharp Index, Treynor Index, and Jensen's Alpha compared to the market performance.

The performance measurement is influenced by the model chosen. Using the Sharp Index performs better than Treynor Index and Jensen's Alpha. The evidence obtained from the analysis of this study suggests that part of the funds outperformed the market significantly.

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### Index 1: Result of Sharp Index Calculation

Countries	R (Fd)	R(M)	S fd	Sm	S fd- S m	Performance
Australia						
2011	-48.8	71.17	-1.92	5.76	-7.68	-
2010	35.44	67.63	4.26	6.08	-1.82	-
2009	-13.12	45.69	-1.37	30.75	-32.12	-
2008	26.85	36.02	6.58	12.74	-6.16	-
2007	44.69	23.28	3.49	2.14	1.35	+
2006	62.53	10.54	3.09	0.33	2.76	+
Canada						
2011	72.22	19.97	2.49	5.61	-3.12	-
2010	66.78	17.49	2.47	6.74	-4.27	-
2009	-15.65	2.11	-2.27	0.36	-2.63	-
2008	-83.18	-19.26	-2.42	-1.60	-0.82	-
2007	-29.74	28.15	-2.59	3.61	-6.20	-
2006	1.49	21.48	-13.21	4.32	-17.52	-
Chile						
2011	1345.6					
	4	71.17	3.80	14.58	-10.78	-
2010	566.66	67.63	15.78	19.45	-3.67	-
2009	339.97	45.69	5.98	8.07	-2.09	-
2008	145.67	15.20	1.06	0.73	0.32	
2007	264.16	82.85	2.97	8.19	-5.23	-
2006	211.62	73.33	1.90	12.15	-10.24	-
China						
2011	50.21	-1.24	5.60	-1.38	6.98	+
2010	44.74	-3.29	6.63	-3.33	9.96	+
2009	34.19	-15.95	16.66	-5.47	22.12	+
2008	29.79	-33.54	178.36	-3.34	181.69	+

2007	17.45	5.49	2.80	0.31	2.49	+
2006	0	0.00	0.00	0.00	0.00	
France						
2011	-8.12	14.35	-0.94	4.39	-5.33	-
2010	18.02	11.99	9.20	4.99	4.21	+
2009	2.09	-2.67	0.28	-0.93	1.21	+
2008	-25.76	-23.04	-1.72	-2.06	0.34	
2007	52.39	22.16	3.04	2.82	0.22	
2006	41.76	15.79	3.28	3.14	0.14	
Ireland						
2011	45.29	19.97	3.72	4.06	-0.34	-
2010	119	17.49	5.82	5.26	0.56	
2009	74.25	2.11	54.30	-0.19	54.49	+
2008	-13.7	-19.26	-0.45	-1.67	1.22	+
2007	147.3	28.15	4.60	3.57	1.03	+
2006	54.03	21.48	7.23	4.39	2.84	+
Italy						
2011	-58.91	14.35	-2.43	3.16	-5.59	-
2010	-36.38	11.99	-2.28	4.43	-6.71	-
2009	-32.85	-2.67	-2.20	-0.96	-1.24	-
2008	31.85	-23.04	2.68	-2.09	4.77	+
2007	97.13	22.16	2.47	2.83	-0.36	-
2006	27.45	15.79	2.56	3.16	-0.60	-
Kuwait						
2011	38.03	19.97	7.73	5.71	2.02	+
2010	46.33	17.49	5.44	6.69	-1.25	-
2009	23.8	2.11	23.78	0.33	23.45	+
2008	-20.64	-19.26	-1.18	-1.68	0.50	
2007	43.78	28.15	5.51	3.57	1.95	+

2006	25.69	21.48	112.78	4.40	108.38	+
Malaysia						
2011	105.57	19.97	3.95	5.00	-1.05	-
2010	100.35	17.49	4.09	6.18	-2.09	-
2009	39.55	2.11	39.31	0.03	39.28	+
2008	-14.4	-19.26	-0.75	-1.76	1.00	+
2007	22.87	28.15	2.51	3.68	-1.17	-
2006	-2.6	21.48	-0.33	4.50	-4.83	-
Mexico						
2011	-11.91	71.17	-3.08	13.74	-16.82	-
2010	0.17	67.63	-10.25	18.52	-28.77	-
2009	-4.26	45.69	-4.14	7.30	-11.44	-
2008	-8.43	15.20	-4.13	0.40	-4.54	-
2007	16.13	82.85	1.37	7.81	-6.44	-
2006	15.86	73.33	1.46	11.56	-10.10	-
Norway						
2011	161.36	71.17	5.88	14.46	-8.57	-
2010	240.47	67.63	46.93	19.22	27.71	+
2009	191.9	45.69	12.85	7.81	5.05	+
2008	102.48	15.20	1.96	0.72	1.23	+
2007	333.72	82.85	7.62	8.10	-0.48	-
2006	338.32	73.33	7.42	12.08	-4.66	-
Oman						
2011	-23.29	14.35	-3.86	3.51	-7.37	-
2010	-18.14	11.99	-4.44	4.06	-8.50	-
2009	-29.44	-2.67	-3.37	-1.26	-2.12	-
2008	-39.02	-23.04	-3.17	-2.16	-1.01	-
2007	63.55	22.16	2.10	2.92	-0.82	-
2006	6.69	15.79	0.60	3.24	-2.63	-

Peru						
2011	52.6	-1.24	4.10	-1.82	5.92	+
2010	38.02	-3.29	5.93	-3.09	9.02	+
2009	30.86	-15.95	9.59	-5.55	15.14	+
2008	7.71	-33.54	0.47	-3.68	4.15	+
2007	11.53	5.49	1.22	-0.02	1.24	+
2006	0	0.00	-0.58	-1.67	1.10	+
Qatar						
2011	44.42	-1.24	5.01	-0.65	5.67	+
2010	44.07	-3.29	4.94	-2.48	7.42	+
2009	12.84	-15.95	2.89	-5.23	8.12	+
2008	2.2	-33.54	0.02	-3.42	3.44	+
2007	34.5	5.49	6.47	0.25	6.23	+
2006	0	0.00	0.00	0.00	0.00	
Russia						
2011	-2.51	-1.24	-0.28	-0.89	0.62	+
2010	-6.98	-3.29	-0.70	-2.37	1.66	+
2009	-23.87	-15.95	-5.36	-5.80	0.44	
2008	-9.16	-33.54	-1.09	-3.50	2.41	+
2007	6.52	5.49	0.17	0.34	-0.17	-
2006	0	0.00	-0.29	-1.28	0.99	+
Saudi Arabia						
2011	42.87	71.17	21.15	14.58	6.57	+
2010	49.85	67.63	56.77	19.45	37.31	+
2009	32.21	45.69	4.94	8.07	-3.13	-
2008	15.09	15.20	0.98	0.73	0.25	
2007	78.1	82.85	5.97	8.19	-2.22	-
2006	68.48	73.33	7.65	12.15	-4.50	-
Singapore						

2011	165.39	19.97	5.10	5.78	-0.68	-
2010	157.67	17.49	5.38	7.17	-1.79	-
2009	64.06	2.11	7.06	0.40	6.66	+
2008	2.3	-19.26	0.05	-1.58	1.63	+
2007	79.5	28.15	28.79	3.89	24.91	+
2006	47.65	21.48	2.84	4.59	-1.75	-
United Arab Emirates						
2011	-78.91	14.35	-10.05	4.26	-14.31	-
2010	-73.56	11.99	-13.13	4.59	-17.72	-
2009	-72.89	-2.67	-13.53	-0.94	-12.59	-
2008	-78.28	-23.04	-10.49	-2.08	-8.41	-
2007	-10.35	22.16	-0.72	2.81	-3.53	-
2006	-43.27	15.79	-7.09	3.13	-10.22	-
United States						
2011	-67.65	71.17	-2.24	14.66	-16.90	-
2010	-59.4	67.63	-2.21	19.84	-22.05	-
2009	-69.24	45.69	-2.25	8.14	-10.39	-
2008	-76.89	15.20	-2.26	0.82	-3.09	-
2007	112.05	82.85	2.55	8.36	-5.81	-
2006	201.21	73.33	2.51	12.44	-9.93	-

## Index 2: Result of Treynor Index Calculations

Countries	R (Fd)	$\beta$ (fd)	T (fd)	T m	Tf d- Tm	Performance
Australia						
2011	-48.8	-0.77	67.69	-52.28	119.97	+
2010	35.44	0.49	62.67	30.48	32.19	+
2009	-13.12	-0.42	41.47	-17.34	58.81	+
2008	26.85	0.72	33.14	23.97	9.16	+
2007	44.69	2.28	16.67	38.08	-21.42	-
2006	62.53	13.05	4.32	56.31	-52.00	-
Canada						
2011	72.22	3.74	19.036	71.286	-52.25	-
2010	66.78	4.07	16.056	65.346	-49.29	-
2009	-15.65	-11.83	1.384	-16.376	17.76	+
2008	-83.18	4.17	-20.155	-84.075	63.92	+
2007	-29.74	-1.38	24.29	-33.6	57.89	+
2006	1.49	-0.15	17.312	-2.678	19.99	+
Chile						
2011	1345.64	19.05	70.59	1345.06	-1274.47	-
2010	566.66	8.55	66.06	565.09	-499.03	-
2009	339.97	7.56	44.85	339.13	-294.28	-
2008	145.67	10.88	13.21	143.68	-130.47	-
2007	264.16	3.30	78.72	260.03	-181.31	-
2006	211.62	2.99	69.51	207.8	-138.29	-
China						
2011	50.21	-12.33	-3.86	47.59	-51.45	-
2010	44.74	-6.36	-6.53	41.5	-48.03	-
2009	34.19	-1.86	-17.54	32.6	-50.14	-
2008	29.79	-0.83	-34.69	28.64	-63.33	-
2007	17.45	7.99	1.71	13.67	-11.96	-



2006	0	1	0	0	0	
France						
2011	-8.12	-0.58	14.197	-8.273	22.47	+
2010	18.02	1.53	11.333	17.363	-6.03	-
2009	2.09	-0.37	-3.4667	1.2933	-4.76	-
2008	-25.76	1.11	-24.7472	-27.4672	2.72	+
2007	52.39	2.67	18.124	48.354	-30.23	-
2006	41.76	3.17	11.983	37.953	-25.97	-
Ireland						
2011	45.29	2.84	13.766	39.086	-25.32	-
2010	119	9.10	12.53	114.04	-101.51	-
2009	74.25	-98.78	-0.723	71.417	-72.14	-
2008	-13.7	0.74	-21.126	-15.566	-5.56	-
2007	147.3	5.95	24.05	143.2	-119.15	-
2006	54.03	2.85	17.604	50.154	-32.55	-
Italy						
2011	-58.91	-6.17	10.212	-63.048	73.26	+
2010	-36.38	-3.81	10.054	-38.316	48.37	+
2009	-32.85	9.42	-3.583	-33.763	30.18	+
2008	31.85	-1.18	-25.182	29.708	-54.89	-
2007	97.13	5.12	18.175	93.145	-74.97	-
2006	27.45	1.97	12.075	23.735	-11.66	-
Kuwait						
2011	38.03	1.93	19.39	37.45	-18.06	-
2010	46.33	2.81	15.92	44.76	-28.84	-
2009	23.8	18.08	1.27	22.96	-21.69	-
2008	-20.64	1.06	-21.25	-22.63	1.38	+
2007	43.78	1.65	24.02	39.65	-15.63	-
2006	25.69	1.24	17.66	21.87	-4.21	-

Malaysia						
2011	105.57	6.04	16.971	102.571	-85.6	-
2010	100.35	6.63	14.706	97.566	-82.86	-
2009	39.55	344.49	0.109	37.549	-37.44	-
2008	-14.4	0.78	-22.207	-17.347	-4.86	-
2007	22.87	0.79	24.753	19.473	5.28	+
2006	-2.6	-0.33	18.06	-6.02	24.08	+
Mexico						
2011	-11.91	-0.25	66.54	-16.54	83.08	+
2010	0.17	-0.07	62.9	-4.56	67.46	+
2009	-4.26	-0.23	40.62	-9.33	49.95	+
2008	-8.43	-2.25	7.28	-16.35	23.63	+
2007	16.13	0.11	75.02	8.3	66.72	+
2006	15.86	0.13	66.18	8.71	57.47	+
Norway						
2011	161.36	2.29	69.98	160.17	-90.19	-
2010	240.47	3.65	65.28	238.12	-172.84	-
2009	191.9	4.37	43.41	189.62	-146.21	-
2008	102.48	7.72	12.99	100.27	-87.28	-
2007	333.72	4.22	77.87	328.74	-250.87	-
2006	338.32	4.83	69.14	334.13	-264.99	-
Oman						
2011	-23.29	-2.32	11.351	-26.289	37.64	+
2010	-18.14	-2.27	9.206	-20.924	30.13	+
2009	-29.44	6.73	-4.671	-31.441	26.77	+
2008	-39.02	1.61	-25.987	-41.967	15.98	+
2007	63.55	3.21	18.763	60.153	-41.39	-
2006	6.69	0.26	12.37	3.27	9.1	+
Peru						

2011	52.6	-9.56	-5.1	48.74	-53.84	-
2010	38.02	-5.82	-6.06	35.25	-41.31	-
2009	30.86	-1.63	-17.81	29	-46.81	-
2008	7.71	-0.08	-38.2	3.05	-41.25	-
2007	11.53	-49.33	-0.12	5.92	-6.04	-
2006	0	1.00	-5.52	-5.52	0	
Qatar						
2011	44.42	-24.09	-1.82	43.84	-45.66	-
2010	44.07	-8.74	-4.86	42.5	-47.36	-
2009	12.84	-0.71	-16.79	12	-28.79	-
2008	2.2	-0.01	-35.53	0.21	-35.74	-
2007	34.5	22.33	1.36	30.37	-29.01	-
2006	0	1.00	0	0	0	
Russia						
2011	-2.51	1.51	-2.492	-3.762	1.27	+
2010	-6.98	1.80	-4.637	-8.327	3.69	+
2009	-23.87	1.43	-18.601	-26.521	7.92	+
2008	-9.16	0.33	-36.333	-11.953	-24.38	-
2007	6.52	1.55	1.887	2.917	-1.03	-
2006	0	1.00	-4.221	-4.221	0	
Saudi Arabia						
2011	42.87	0.60	70.59	42.29	28.3	+
2010	49.85	0.73	66.06	48.28	17.78	+
2009	32.21	0.70	44.85	31.37	13.48	+
2008	15.09	0.99	13.21	13.1	0.11	+
2007	78.1	0.94	78.72	73.97	4.75	+
2006	68.48	0.93	69.51	64.66	4.85	+
Singapore						
2011	165.39	8.42	19.6	165.02	-145.42	-

2010	157.67	9.21	17.07	157.25	-140.18	-
2009	64.06	40.71	1.56	63.51	-61.95	-
2008	2.3	-0.08	-20	1.56	-21.56	-
2007	79.5	2.96	26.17	77.52	-51.35	-
2006	47.65	2.42	18.42	44.59	-26.17	-
United Arab Emirates						
2011	-78.91	-5.77	13.77	-79.49	93.26	+
2010	-73.56	-7.21	10.42	-75.13	85.55	+
2009	-72.89	21.01	-3.51	-73.73	70.22	+
2008	-78.28	3.21	-25.03	-80.27	55.24	+
2007	-10.35	-0.80	18.03	-14.48	32.51	+
2006	-43.27	-3.93	11.97	-47.09	59.06	+
United States						
2011	-67.65	-0.96	70.969	-67.851	138.82	+
2010	-59.4	-0.89	67.363	-59.667	127.03	+
2009	-69.24	-1.54	45.25	-69.68	114.93	+
2008	-76.89	-5.20	14.854	-77.236	92.09	+
2007	112.05	1.36	80.295	109.495	-29.2	-
2006	201.21	2.80	71.192	199.072	-127.88	-

### Index 3: Results of Jensen Index Calculation

Countries	R (Fund)	Rm-Rf*B	R(M)	$\beta$ fund	Ja	Performance
Australia						
2011	-48.8	-55.56	71.17	-0.77	3.28	+
2010	35.44	32.66	67.63	0.49	-2.18	-
2009	-13.12	-19.28	45.69	-0.42	1.94	+
2008	26.85	25.53	36.02	0.72	-1.56	-
2007	44.69	47.97	23.28	2.28	-9.88	-
2006	62.53	-32.77	10.54	13.05	89.09	+
Canada						
2011	72.22	60.76	19.97	3.74	10.53	+
2010	66.78	54.62	17.49	4.07	10.73	+
2009	-15.65	-164.97	2.11	-11.83	148.60	+
2008	-83.18	-97.74	-19.26	4.17	13.67	+
2007	-29.74	-40.85	28.15	-1.38	7.25	+
2006	1.49	-3.35	21.48	-0.15	0.67	+
Chile						
2011	1345.64	993.04	71.17	19.05	352.02	+
2010	566.66	505.35	67.63	8.55	59.74	+
2009	339.97	288.31	45.69	7.56	50.82	+
2008	145.67	47.02	15.2	10.88	96.66	+
2007	264.16	262.76	82.85	3.30	-2.73	-
2006	211.62	210.28	73.33	2.99	-2.48	-
China						
2011	50.21	-136.72	-1.24	-12.33	184.31	+
2010	44.74	-19.48	-3.29	-6.36	60.98	+
2009	34.19	26.19	-15.95	-1.86	6.41	+
2008	29.79	27.01	-33.54	-0.83	1.63	+
2007	17.45	-20.02	5.49	7.99	33.69	+

2006	0	-1.00	0	1	-1.16	-
France						
2011	-8.12	-8.70	14.35	-0.58	0.43	+
2010	18.02	16.02	11.99	1.53	1.34	+
2009	2.09	0.86	-2.67	-0.37	0.44	+
2008	-25.76	-26.80	-23.04	1.11	-0.66	-
2007	52.39	52.00	22.16	2.67	-3.65	-
2006	41.76	39.98	15.79	3.17	-2.03	-
Ireland						
2011	45.29	48.64	19.97	2.84	-9.55	-
2010	119	76.35	17.49	9.10	37.69	+
2009	74.25	-9965.65	2.11	-98.78	10037.07	+
2008	-13.7	-14.73	-19.26	0.74	-0.83	-
2007	147.3	132.16	28.15	5.95	11.04	+
2006	54.03	53.08	21.48	2.85	-2.93	-
Italy						
2011	-58.91	-126.71	14.35	-6.17	63.66	+
2010	-36.38	-60.22	11.99	-3.81	21.90	+
2009	-32.85	-113.95	-2.67	9.42	80.19	+
2008	31.85	25.79	-23.04	-1.18	3.92	+
2007	97.13	87.30	22.16	5.12	5.84	+
2006	27.45	27.17	15.79	1.97	-3.44	-
Kuwait						
2011	38.03	34.84	19.97	1.93	2.61	+
2010	46.33	41.27	17.49	2.81	3.49	+
2009	23.8	-288.69	2.11	18.08	311.65	+
2008	-20.64	-21.64	-19.26	1.06	-0.99	-
2007	43.78	43.74	28.15	1.65	-4.09	-
2006	25.69	25.07	21.48	1.24	-3.20	-

Malaysia						
2011	105.57	84.17	19.97	6.04	18.40	+
2010	100.35	72.02	17.49	6.63	25.55	+
2009	39.55	-117943.90	2.11	344.49	117981.45	+
2008	-14.4	-15.66	-19.26	0.78	-1.69	-
2007	22.87	21.53	28.15	0.79	-2.05	-
2006	-2.6	-7.27	21.48	-0.33	1.25	+
Mexico						
2011	-11.91	-17.75	71.17	-0.25	1.21	+
2010	0.17	-4.91	67.63	-0.07	0.35	+
2009	-4.26	-10.55	45.69	-0.23	1.22	+
2008	-8.43	-39.18	15.2	-2.25	22.83	+
2007	16.13	9.15	82.85	0.11	-0.85	-
2006	15.86	9.63	73.33	0.13	-0.92	-
Norway						
2011	161.36	157.66	71.17	2.29	2.51	+
2010	240.47	233.39	67.63	3.65	4.73	+
2009	191.9	180.50	45.69	4.37	9.12	+
2008	102.48	57.75	15.2	7.72	42.52	+
2007	333.72	331.94	82.85	4.22	-3.20	-
2006	338.32	331.02	73.33	4.83	3.11	+
Oman						
2011	-23.29	-38.60	14.35	-2.32	12.31	+
2010	-18.14	-32.42	11.99	-2.27	11.49	+
2009	-29.44	-63.28	-2.67	6.73	31.84	+
2008	-39.02	-39.82	-23.04	1.61	-2.15	-
2007	63.55	60.77	22.16	3.21	-0.61	-
2006	6.69	4.10	15.79	0.26	-0.83	-
Peru						

2011	52.6	-79.48	-1.24	-9.56	128.22	+
2010	38.02	-14.70	-3.29	-5.82	49.95	+
2009	30.86	23.32	-15.95	-1.63	5.68	+
2008	7.71	2.67	-33.54	-0.08	0.38	+
2007	11.53	-2704.62	5.49	-49.33	2710.54	+
2006	0	-1.00	0	1.00	-4.52	-
Qatar						
2011	44.42	-550.36	-1.24	-24.09	594.20	+
2010	44.07	-47.70	-3.29	-8.74	90.20	+
2009	12.84	10.89	-15.95	-0.71	1.11	+
2008	2.2	0.20	-33.54	-0.01	0.01	+
2007	34.5	-376.07	5.49	22.33	406.44	+
2006	0	-1.00	0	1.00	-2.82	-
Russia						
2011	-2.51	-4.15	-1.24	1.51	0.39	+
2010	-6.98	-9.13	-3.29	1.80	0.81	+
2009	-23.87	-24.77	-15.95	1.43	-1.75	-
2008	-9.16	-11.14	-33.54	0.33	-0.81	-
2007	6.52	6.10	5.49	1.55	-3.18	-
2006	0	-1.00	0	1.00	-3.22	-
Saudi Arabia						
2011	42.87	42.28	71.17	0.60	0.01	+
2010	49.85	48.89	67.63	0.73	-0.61	-
2009	32.21	31.47	45.69	0.70	-0.10	-
2008	15.09	14.09	15.2	0.99	-0.99	-
2007	78.1	76.97	82.85	0.94	-3.00	-
2006	68.48	67.35	73.33	0.93	-2.69	-
Singapore						
2011	165.39	97.25	19.97	8.42	67.77	+



2010	157.67	76.26	17.49	9.21	80.99	+
2009	64.06	-1571.53	2.11	40.71	1635.04	+
2008	2.3	1.50	-19.26	-0.08	0.06	+
2007	79.5	74.61	28.15	2.96	2.91	+
2006	47.65	46.14	21.48	2.42	-1.55	-
United Arab Emirates						
2011	-78.91	-116.16	14.35	-5.77	36.67	+
2010	-73.56	-138.44	11.99	-7.21	63.31	+
2009	-72.89	-497.32	-2.67	21.01	423.59	+
2008	-78.28	-84.17	-23.04	3.21	3.90	+
2007	-10.35	-18.44	22.16	-0.80	3.96	+
2006	-43.27	-77.59	15.79	-3.93	30.50	+
United States						
2011	-67.65	-68.96	71.17	-0.96	1.11	+
2010	-59.4	-60.69	67.63	-0.89	1.02	+
2009	-69.24	-72.73	45.69	-1.54	3.05	+
2008	-76.89	-106.07	15.2	-5.20	28.84	+
2007	112.05	111.12	82.85	1.36	-1.62	-
2006	201.21	197.23	73.33	2.80	1.84	+

## Appendix A:

### Funds Ticker List of The Countries

<b>Countries</b>	<b>Portfolios</b>
Australia	SVS AU
Canada	DG-U CN
Chile	SECACCI CI
China	SODUOLI CH
France	CAAMMCI FP
Ireland	MGTURKC ID
Italy	QFSEF IM
Kuwait	ALMUSID KK
Malaysia	HWASCAP MK
Mexico	SUR1 MM
Norway	ODEUSMB NO
Oman	VSEMGCC OM
Peru	INGRTAS PE
Qatar	WATANI1 QD
Russia	CITREST RU
Saudi Arabia	RIYAMER AB
Singapore	ABTHAIU SP
United Arab Emirates	ADCBANF UH
United States	WCPIX US

## Appendix B:

### Moody's Credit Rating of The Countries

Countries	Rating
Australia	Aaa
Canada	Aaa
Norway	Aaa
Singapore	Aaa
United States	Aaa
Chile	Aa3
China	Aa3
France	Aa1
Ireland	Ba1
Italy	Baa2
Kuwait	Aa2
Malaysia	A3
Mexico	Baa1
Oman	A1
Peru	Baa3
Qatar	Aa2
Russia	Baa1
Saudi Arabia	Aa3
United Arab Emirates	Aa2

Investment Grade		
Rating	Long-Term Ratings	Short-Term Ratings
Aaa	Rated as the highest quality and lowest credit risk	Prime-1 Best ability to repay short-term debt
Aa1		
Aa2		
Aa3		
A1	Rated as upper-medium grade and low credit risk	Prime-1/Prime-2 Best or high ability to repay short-term debt
A2		
A3		
Baa1	Rated as medium grade, with some speculative elements and moderate credit risk	Prime-2 High ability to repay short-term debt
Baa2		

		High or acceptable ability to repay short-term debt
Baa3		Prime-3 Acceptable ability to repay short-term debt
<b>Speculative Grade</b>		
Ba1	Judged to have speculative elements and significant credit risk	Not prime Do not fall within any of the prime categories
Ba2		
Ba3		
B1	Judged as being speculative and a high credit risk	
B2		
B3		
Caa1	Rated as poor quality and very high credit risk	
Caa2		
Caa3		
Ca	Judged to be highly speculative and with likelihood of being near or in default, but some possibility of recovering principal and interest.	
C	Rated as the lowest quality, usually in default and low likelihood of recovering principal or interest.	