

# The Four Benchmarks of Sovereign Wealth Funds

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The benchmarks of a Sovereign Wealth Fund (SWF) should take into account the economic and political context behind the creation of the SWF and the role the SWF plays as one part of a government's overall policy. The first benchmark of legitimacy ensures that the capital of the SWF is not immediately spent and instead, is gradually disbursed across the present and future generations. The second integrated policy benchmark recognizes the implicit liabilities of the SWF by taking into account its role in government fiscal and other macro policies. Meeting these two standards should be a prerequisite before setting the performance benchmark, which goes hand in hand with the governance structure of the SWF. Finally, the long-term horizon requires a SWF to consider the long-run equilibrium benchmark of the markets in which the SWF invests and the long-term externalities affecting the SWF.

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Benchmark: (noun) something that serves as a standard by which others may be measured or judged

Merriam-Webster Dictionary

## 1. Introduction

At its most basic level, a Sovereign Wealth Fund (SWF) is a mechanism for moving a country's savings and investments from the present to the future. SWFs have been created by many different types of governments, democratic and autocratic, and are managed in many different structures, ranging from central banks to independent financial corporations. The wealth in a SWF is owned by a government, which makes the management of SWFs different from the management of private sector investment management companies. While private companies lend themselves to benchmarks emphasizing pecuniary and profit-maximizing motives, the ownership by a government requires that SWFs be evaluated using different benchmarks.

In this article, I describe four benchmarks of SWFs. While the word "benchmark" has a connotation of purely a performance-based measure in the financial industry, I use the word broadly. My intention is to give a comprehensive, top-down view of the main issues facing SWFs. The benchmarks allow a SWF to compare its activities, which includes financial performance only as one item, on an ex-ante and ex-post basis with itself and with its peers. Indeed, I show that a financial performance measure itself can only be optimally determined after considering the wider benchmarks which I present in this paper. The benchmarks include both qualitative and quantitative standards. The benchmarks are not intended to be a set of "best practice" standards, but could form the basis for the design, implementation, and measurement of SWFs. Some of the benchmarks, with suitable modifications, are applicable to all long-term investors.

My framework takes into account the political and economic pressures behind SWFs and the environment in which they operate. The benchmarks include the economic goals of the SWF, financial performance and optimal asset allocation policies, management structure, and the long-run equilibrium of markets. The four benchmarks are all related; the optimal choice made in one benchmark influences the choices made in the other benchmarks. Although it is non-optimal to focus only on one of these aspects without considering them as a whole, there are certain benchmarks which are more important than others.

The first and most important benchmark is that the SWF be managed so that its capital is not immediately spent. I call this the *Benchmark of Legitimacy*. In fact, the common reason why many countries with different political systems have set up SWFs is to transfer wealth from the present time to a future time. Norway's regulations governing its SWF state explicitly that the

fund “is an instrument for ensuring that a reasonable portion of the country’s petroleum wealth benefits future generations”.<sup>1</sup> Without legitimacy and credibility, the SWF’s capital will not be preserved to benefit current and future generations. The worst outcome is that the country’s wealth is spent frivolously by a select few members of the present generation.

The second benchmark, the *Benchmark of Integrated Policy and Liabilities*, takes into account the broader policy environment of which the SWF is just one tool. SWFs are created for different purposes and the way their capital is drawn down also differs from country to country. For a country funding its SWF from natural resource wealth, economic policies of resource taxation, tariffs, foreign investment, knowledge transfer, and development policy play a role in how the SWF money should be gradually distributed. Many SWFs provide money directly to the operating budget of their governments, such as Norway. Other countries set up SWFs to meet pension obligations of its citizens, such as the Australia Future Fund and the New Zealand Superannuation Fund. The Alaska Permanent Fund pays money directly to Alaskan residents. Thus, the liabilities and payout rules differ widely across various funds. Understanding the integrated policy environment identifies the liabilities of the SWF. A SWF can be well managed and earn high returns, but if it does not generate cashflows sufficient to meet its liabilities, which are determined by the SWF’s role as part of an integrated policy, the SWF is unsuccessful in meeting this benchmark.

Without meeting the Benchmark of Legitimacy and the Benchmark of Integrated Policy and Liabilities, the SWF cannot optimally set the *Governance Structure and Performance Benchmark*. Financial benchmarks and contracts, such as requiring managers to track, or beat, a well-defined financial index, do not live up to their full potential without the government allowing the SWF to exist over the long term. Choosing the appropriate asset allocation of the SWF should not be done without taking its purpose into account. Furthermore, different financial benchmarks should be chosen for different governance structures. Young SWFs without much experience or history, such as the nascent funds in Africa and South-East Asia, should have different performance benchmarks than their more established and experienced counterparts. Performance benchmarks also differ depending on the principal-agent relationship of the government and its fund manager. Funds such as GIC of Singapore and the Kuwait Investment Authority (KIA) have a much broader investment mandate than the mandate given to the Norges Bank Investment Management (NBIM), the investment management arm of the Norwegian Central Bank, by the Norwegian Ministry of Finance. Part of this is due to the specific governance structures in the different institutions.

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<sup>1</sup> Section 8 of the Government Pension Fund Regulation (No. 123, December 20, 2005).

Of course, a government is free to manage its SWF in any way it sees fit. But, if a government wants to maximize its return subject to financial risk and management constraints, then the Governance Structure and Performance Benchmark involves satisfying three conditions: (1) creating a culture of professional management, (2) choosing an appropriate mandate or benchmark together with its governance structure, and (3) adopting a framework to evaluate the underlying factor risk characteristics of its assets. The last is motivated by the fact that a SWF holds a portfolio of assets and is ultimately interested in the returns, generated through the risk exposures, of those assets.

Finally, it is in the best interests of SWFs to ensure the *Long-Run Equilibrium Benchmark* of well-functioning capital markets, the free flow of capital across countries, good corporate governance, and to ensure the preservation and enhancement of shareholder rights over time. In addition, the long-term horizon of SWFs requires them to take into account some externalities that other short-term investors do not. Some of these include the effects of climate change and other very long-term issues that, due to a variety of market-failure mechanisms, are not internalized by all investors. They do affect SWFs.

In summary, the benchmarks of SWFs can be condensed to four words:

- (1) Legitimacy
- (2) Intent
- (3) Performance
- (4) Endurance

However, I choose to use the longer versions of these benchmarks in this paper to emphasize the more general structure and considerations conveyed by their complete titles. In the remainder of this article I provide details on each of these benchmarks.

## **2. The Benchmark of Legitimacy**

This is by far the most important benchmark of a SWF.

The essence of a SWF is that it is a vehicle for transferring sovereign wealth from now to the future. The wealth arises from current account surpluses coming from natural resources, which is the case for the very first SWF created by Kuwait in 1953, funds resulting from the large net exports of manufactured or traded goods (China, Singapore, etc.), or funds from revenues or funds set aside by governments to hold budget transfers or surpluses (Australia, New Zealand,

etc.).<sup>2</sup> The source of the wealth is not irrelevant in meeting the benchmark of legitimacy. Natural resource wealth which is serendipitous tends to crowd out spending in the private sector, causes inflation, and reduces the incentives to create economic growth by other means. The attributes of this “Dutch disease” coming from natural resource wealth are well known and enumerated by Gylafson (2001), among others. In addition, large sudden payments into a domestic economy may lead to corruption and expropriation of wealth in countries with less-developed legal and economic systems.

Even for countries where SWF wealth is generated by diligent state-owned or private enterprises through current account surpluses or where SWF wealth is funded by thrifty governments, immediate spending of these resources can lead to loss of reputation in international credit markets, diversion of productive capacity from other non-export oriented sectors, lack of fiscal discipline, and, in some cases, consequent inflationary pressures. Whatever the source of wealth, the SWF exists to transfer the benefits of that wealth from the present time to a future time.

Without the benchmark of legitimacy, the money in the SWF is at risk of being immediately depleted. Legitimacy ensures that the general public in democracies, or the governing party or authority in non-democratic countries, understand and support the purpose of the SWF. Without such legitimacy, there is no confidence in the aims or management of the SWF and this jeopardizes its existence. Legitimacy allows the SWF to transfer capital and wealth between the present and future generations of a country.

However, legitimacy does not mean the preservation of capital. Of course, preserving capital may play a part in conferring legitimacy in the management of the SWF. For example, the government is not permitted to spend any of the principal of the Alaskan Permanent Fund, which is the amount earned directly from mining royalties, under the constitution of the State of Alaska. Legitimacy, however, allows a SWF to experience losses without risking its existence. In 2008, Norway’s fund experienced large losses with the fund shrinking by approximately one quarter. These losses did not affect the legitimacy of the SWF. It did, though, lead to a public debate on how the fund should be managed.<sup>3</sup> I consider these subjects in Section 4.

A necessary condition to maintain legitimacy is to have well-developed legal institutions in place. A SWF can never meet the benchmark of legitimacy over long periods in countries where

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<sup>2</sup> Although SWFs are very heterogeneous, this economic definition encompasses all of them, from resource-based funds where wealth exists already as assets in the ground to national pension funds. Other legal definitions, as opposed to an economic definition, are given by Gelpern (2010). See Appendix A for more details.

<sup>3</sup> In Report No. 10 (2009-2010) to the Storting on The Management of the Government Pension Fund in 2009, the Norwegian Ministry of Finance writes, “Experience from the financial crisis showed that a negative excess return from active management of 3.4% was a greater challenge to confidence in the management than the losses of 29.9% in the benchmark.”

the rule of law is weak, or the influence of government institutions is hampered by corruption or reprobate politicians. But, having the rule of law does not guarantee confidence or credibility in the SWF.

Establishing legitimacy is important in all countries irrespective of their types of government. Legitimacy may be even more important in non-democratic countries. If there is already large trust and respect in certain government institutions, it is harder to change these institutions in democracies. The free press also acts as a buffer to politicians spending SWF money. There is far less of this protection in non-democratic countries. Since there are few impediments to arbitrary legislative regime changes in countries with dictatorships and absolute monarchies, the basis for legitimacy must transcend a particular leader or political faction. Political freedom partly determines how legitimacy can be achieved, but legitimacy must be obtained in countries of all political spectrums for a SWF to be well managed.

## **2.1 Methods of Acquiring Legitimacy**

Legitimacy can be obtained in different ways. What is common to all successful SWFs which meet the legitimacy benchmark is that they are held accountable to some authority, the managers of the SWF submit regular reports, and the managers are held responsible for the fund's performance. These reports can either be to a Board, as in the case of the Australia Future Fund and GIC, or the reports are made to a cabinet, Parliament, or to a legislature, as in the case of Kuwait and Norway.

In Norway, legitimacy is acquired and enhanced by transparency, reflecting the country's democratic society and the socially conscious outlook of its people. As the Norwegian Minister of Finance Sigbjørn Johnsen states,<sup>4</sup>

“Openness about all aspects of the management of the Fund is a precondition... Transparency is also important because it builds trust. It is an important ingredient in securing the broad public support that is necessary to carry out a wise and long-term strategy for managing the petroleum wealth.”

Transparency means that the goals of the fund are stated clearly and simply to all, the sources and uses of the petroleum revenue are always reported, there is public education about the management of the fund, and the preferences of the public concerning various investment styles are reflected in the management of the fund. The latter has led to the development of

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<sup>4</sup> Speech by Minister of Finance, Mr. Sigbjørn Johnsen at the Government Pension Fund's Seminar on Active Management at Oslo Plaza, Wednesday January 20, 2010.

robust decision-making rules to handle non-ethical investments and the divestment of companies not meeting certain ethical and other criteria.<sup>5</sup>

Although transparency is one of the goals of the voluntary 24 Santiago Principles which many SWFs signed in October 2008, it is neither a necessary nor sufficient condition to meet the legitimacy benchmark. Many SWFs in the Middle East and Asia are not transparent, but these countries have succeeded in establishing a stable, robust environment to ensure the longevity of their SWFs. These countries have set up legal, political, and economic structures that make it hard for the governing authorities to spend down the funds for purposes other than the original intentions of the SWFs. It is easy for governments to be tempted by large piles of cash; importantly, these structures serve as self-restraint mechanisms to allow the capital to be transferred to a future time instead of being consumed immediately.

Perhaps two of the best examples of achieving the benchmark of legitimacy without transparency are the case studies of Kuwait and Singapore. In Kuwait's case, under clauses 8 and 9 of Law No. 47 of 1982 of the State of Kuwait, which establishes KIA, disclosure of certain information concerning the fund and the fund's assets is punishable by jail time. GIC of Singapore was established by the Singapore government in 1981 and was a signatory to the Santiago Principles in 2008. GIC released its first annual report only in 2009 and to make its performance deliberately opaque, reports only 20-year moving averages of its returns and does not report details on individual holdings.<sup>6</sup> However, both of these funds have long histories, broad and deep support by their politicians and public, and the SWFs play integral roles in the overall financial policy of the government (which I discuss in the next section). These funds meet the benchmark of legitimacy without transparency, even though GIC is moving slowly to a more transparent regime.

Part of Kuwait and Singapore's success is that although information is not released to the general public, detailed information is released regularly to certain authorities. Fund managers are held responsible for their actions. In Kuwait's case, an independent Board appointed by government must report regularly to the council of Ministers. Singapore's GIC also has an independent board, which draws from many of the most senior politicians and statesmen of the country. For example, GIC's chairman, Lee Kuan Yew, is the founding Prime Minister of Singapore and oversaw the creation of the fund during his tenure. Both Kuwait and Singapore

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<sup>5</sup> For further details and a case study concerning a divestment of the Norwegian SWF, see Ang, A., 2008, "The Norwegian Government Pension Fund: The Divestiture of Wal-Mart Stores Inc.", Columbia Caseworks ID#080831.

<sup>6</sup> GIC's counterpart in Singapore, Temasek Holdings, is more transparent, and has issued annual reports since 2004 and breaks down its investments by geography and sector. Temasek has issued debt (rated AAA by Standard & Poor's) which requires it to provide more information. GIC's reporting of 20-year average returns is consistent with GAPP 17 of the Santiago Principles, which states that rates of return should be reported "over appropriate historical periods consistent with investment horizons." ADIA also reports 20-year and 30-year moving averages of returns. I consider appropriate performance benchmarks in Section 4.

meet the benchmark of legitimacy by forcing the fund management to regularly report to government. Thus, accountability, but not necessarily public accountability, is an important part of the benchmark of legitimacy.

## **2.2 Legitimacy and Legal Structures**

Legitimacy can be obtained using different legal structures. In Norway's legal framework set by the Government Pension Fund Act 2005, the Ministry of Finance, reporting to Parliament, is directly responsible for the fund and deposits the fund with the central bank. The fund is managed by a subdivision of the central bank, Norges Bank Investment Management (NBIM). The degree of delegation is formalized in the regulations set for the fund by the Ministry of Finance. Norway takes the view that it is only by making the fund as transparent as possible that most of the public can build trust in the maintenance and management of its SWF. Thus, when governments change, the role of the fund in society and the understanding of its purpose do not. As political dynasties change over time, there may be temptation for society and politicians to give into the siren's cry to raid the large sums of capital. The broad public understanding behind the legitimacy of the SWF acts as a self-restraint mechanism for governments not to spend the money immediately and save it for future generations.

An alternative perspective is taken by Australia. Its SWF, like Norway's, issues regular financial reports, is transparent, and Australia has a long history of a democratic style of government. In contrast to Norway, the Australian Government Future Fund is set up independently of the government in a separately managed investment fund. The fund is overseen by an independent Board of Guardians selected for their competence in investment management. The legislation creating the fund, the Future Fund Act 2006, stipulates that money may not be withdrawn from the fund until 2020 except for meeting operating costs or when the fund exceeds a "target asset level" where the fund level adequately exceeds pension liabilities, as determined by the government actuary. The Board must keep the responsible Ministers informed of the operations of the Board, but the Board operates independently of the government. In this setup, the government is intentionally hobbled in accessing the monies in the fund. Australia's structure minimizes the discretion in the spending and management of the capital by politicians and moves the management of the money as close as possible to investment professionals.

## **2.3 Legitimacy and the Other Benchmarks**

Enterprising politicians determined on spending away the capital locked in a SWF will always succeed no matter what legislative constraints are imposed. In Norway's case, a government can easily reverse its policies because the SWF is under direct ministerial control; in Australia's case the government can change the Future Fund Board of Guardians or revoke legislation. In



countries where the rule of law itself is weak, no structure – legal or economic – will save a SWF from expropriation risk in the worst case and excessive current spending bringing on the effects of the Dutch disease in the best case. Thus, a legal framework is not a sufficient condition in maintaining the legitimacy benchmark. The benchmark of legitimacy must be rooted and sustained in society itself.

While the benchmark of legitimacy is the most important benchmark, meeting the other benchmarks play crucial roles in either acquiring or maintaining legitimacy. Legitimacy may be enhanced by successfully meeting the other benchmarks. Not placing the SWF in an integrated policy framework (the benchmark of integrated policy and liabilities) may undermine the long-term nature of a SWF's ability to transfer capital across time. Incompetent management and disappointing financial results (the benchmark of governance structure and performance) can imperil legitimacy. In many cases, considering the SWF as part of a combined policy response, the integrity of management, and good financial performance may be important ways of generating legitimacy. Finally, the benchmark of legitimacy induces a SWF to undertake certain long-term perspectives in the long-run equilibrium benchmark that other investors do not immediately share in the short term. While the benchmark of legitimacy is the most important benchmark, it should be viewed as complementary to the other benchmarks.

### **3. The Benchmark of Integrated Policy and Liabilities**

SWFs do not exist in a vacuum. The benchmark of integrated policy and liabilities recognizes the environment in which SWFs operate and the role they play as one of many tools of government policy. Taking into account this general framework is important because it informs how the SWF money should be managed, benchmarked, and distributed. In discussing this benchmark, I re-iterate my definition of a SWF as being a pool of financial resources enabling the transfer of wealth across time. The SWF is a passive investor which does not take direct roles in the management of companies and the purpose of the SWF is to explicitly hold the government's money in trust.<sup>7</sup> The horizon of the SWF is long term.

It is important to clarify what a SWF should not do. A SWF is not a state-owned enterprise directly involved in manufacturing, operating infrastructure, extracting mineral or natural resources, or providing services. Instead, the SWF is a financial investor holding shares in companies which perform these activities. The SWF is not a currency stabilization fund or a general reserve of a central bank, even though the SWF may be managed by the same authorities responsible for currency or general reserves. These funds have different purposes

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<sup>7</sup> Passive does not mean the SWF is not an engaged shareholder or avoids corporate activism; I interpret passive as not directly involved in running companies. See Section 5.

from a SWF and their focus is much more short term. The SWF is not a direct tool of foreign policy; a government's trade, military, foreign aid and development policies, and legal treaties serve these ends better than the passive investments in a SWF. Naturally, SWFs aid in such aims, but this is not their primary goal: Singapore's GIC and Temasek play valuable roles in the development of Singapore as a major financial center, but this is a side benefit of the professional investment of these funds rather than their purpose. Finally, the SWF is not a direct tool for fiscal spending and subsidies; the monies in the SWF are first transferred to a government's budget and spending policies, or in Alaska's case, directly to residents.

For all countries, the SWF is part of an overall policy framework of managing wealth and asset inflows with outflows and liabilities. In pension funds, this is "asset and liability management." Likewise, the SWF plays a crucial part in the asset-liability matching for a nation's accounts. For example, for a country with a SWF created from natural resource wealth, the SWF should be only one part of an integrated policy which should include consideration of the balance of state-owned and foreign enterprises extracting the natural resource, appropriate taxation of those companies, trade policy and tariffs, knowledge and skill transfer from foreign firms, and the development and fostering of domestic industry. Creating a SWF to hold wealth from natural resources is only one part, but an important one, of a combined policy of managing economic development.

As an example, Timor-Leste's SWF is small in absolute terms and is relatively new with the first transfers of cash to the fund occurring in 2005. As stated in its 2009 annual report, the Petroleum Fund of Timor-Leste has USD 4.1 billion under management at December 2008. This fund is dwarfed by its bigger cousins, like Norway's fund totaling USD 330 billion at that same time. It is also smaller than the largest endowments of private American universities (Harvard, Yale, Princeton), which have funds well upwards of USD 10 billion at December 2008.

Yet, in relative economic terms the Petroleum Fund of Timor-Leste is a giant. According to the IMF, Timor-Leste's 2008 GDP was USD 0.5 billion with a population just over 1 million. Thus, Timor-Leste's fund is approximately 10 times its GDP while Norway's fund has only reached just over one times GDP. Funneling this level of wealth to a country where GDP per capita is only approximately USD 500 (not adjusted for purchasing power parity) could have led to problems of severe economic distortions, endemic corruption, and rampant embezzlement, which have hampered the development of many African resource-rich nations. It has not and the fund plays an integral part in allowing the domestic economy to expand into other industries.

Timor-Leste's SWF is only one part of an overall economic policy for the country. Outflows from the fund, which must be "sustainable", together with overseas aid and government revenues, are facilitating critical infrastructure development such as a unified electricity grid and transportation networks. While facing many challenges, the far-sighted government of

Timor-Leste has used the fund as part of an integrated policy of development. Botswana, Chile, and South Korea have also consciously integrated their SWFs as part of an overall economic policy strategy.

Several SWFs have grown out of stabilization or currency reserve funds, which have different purposes than SWFs. The very large Chinese SWFs of CIC and SAFE fall into this category. Compared to SWFs, reserve funds have a much more short-term horizon and their stabilization objectives focus on maintaining liquidity, prudential saving, and hedging against sudden stops and volatility. SWFs which started as reserve funds have changed their role in an overall economic and policy framework; they are now being used by their governments to transfer wealth inter-generationally. Likewise, the funds' investment objectives and financial benchmarks have also changed to reflect their more diversified asset holdings and longer-term horizons. Thus, a SWF's optimal management and investment policy requires viewing the fund in an overall economic and policy context.

### **3.1 Spending Rules**

A critical part of the benchmark of integrated policy and liabilities is clearly delineating how and under what conditions the money can be distributed from the fund. Norway specifies a "spending rule" of approximately 4%, which is the estimated real return on the fund. There is some flexibility in the rule, but the target gives guidance about how the government should spend the SWF's proceeds. In Norway's case, the SWF transfers go into the general government budget even though the fund is officially called the "Government Pension Fund – Global". Other SWFs, like those in Australia and New Zealand, exist to meet actuarially specified pension liabilities and have (expected future) outflows designed to meet these liabilities.

Viewed from the perspective of an economist, the spending rule and the role the SWF plays in an integrated policy can be considered to be the liabilities of the fund. Economists have long considered optimal joint savings and spending problems since the seminal work of Merton in the late 1960's. In these models, consumption (the outflows of the SWF) and savings (the optimal asset allocation of the fund) are solved by stochastic control methods. These models have led to different types of spending rules – proportional or absolute, fixed or discretionary, time-varying or static – but in all cases the spending rule is set to meet a set of well-defined liabilities. The integrated policy rule informs what this optimal spending rule should be.

Balancing the demand for more short-term drawdowns from the SWF, which benefit current citizens, to the interests of a nation, with (hopefully) a very long-term horizon, is part of this policy debate. These are necessary questions to examine for a nation so that the contract

between a SWF and the people it serves can be well defined. A poorly designed benchmark of integrated policy and liabilities can undermine legitimacy.

These spending rules should be flexible. One reason to have a SWF is to meet unexpected large, negative shocks to a country's economy. These shocks can arise from economic sources, natural disasters, and occasionally from war. When oil prices fell below \$10 per barrel in the 1990's, the Saudi Arabian government transferred money from its SWF, the Saudi Arabian Monetary Agency (SAMA), to finance domestic Keynesian-style spending. Transfers from KIA allowed Kuwait to rebuild its economy after the 1990 Gulf War, which is the only time the Kuwait's SWF has been drawn upon. Later, all funds that were transferred from the Kuwaiti Future Generations Fund (FGF) for the reconstruction of Kuwait were subsequently repaid in full by the General Reserves Fund so as to ensure the integrity of the FGF. Recently in 2010, Chile used proceeds from its SWF to help rebuild earthquake-damaged areas.

While it is probably impossible to write a complete contract specifying exactly how the SWF money will be distributed, it is desirable to make clear the situations in "normal times" where the SWF capital should not be withdrawn. At least, normal spending should be made an explicit aspiration. Russia fails to meet the benchmark of integrated policy and liabilities. Initially established in 2004 and funded by oil revenues, the Russian government raided a significant amount of the capital in its fund to plug budget deficits in 2009 and 2010, shored up unfunded state pensions, and funded domestic infrastructure investment which was not originally intended when the SWF was created.<sup>8</sup> The fund still has the support of the Russian government and so scrapes past the benchmark of legitimacy, but by failing to coherently specify an overall framework of policy for the SWF with clear spending prerogatives, it does not meet the benchmark of integrated policy and liabilities. Another example is Ireland, which also recently used its SWF to recapitalize its troubled banking system. Set up originally to meet national pension liabilities, using the capital of the National Pensions Reserve Fund to bail out troubled Irish banks was not in the fund's original economic framework.

#### **4. The Governance Structure and Performance Benchmark**

Specifying governance structure and performance benchmarks cannot be done without first having robust support for the SWF to exist over the long term (the benchmark of legitimacy) and knowing how the monies should be gradually spent (the benchmark of integrated policy and liabilities). There is no single optimal governance structure or performance benchmark. In fact, since SWF are government and not private sector entities, it is entirely appropriate that

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<sup>8</sup> Russia's Reserve Fund was used during the crisis, but no money was drawn from the National Wealth Fund.

non-profit maximizing benchmarks be chosen by SWFs: it is their money and they have the right to do with it whatever they will.

The governance structure and performance benchmark plays a secondary role to the benchmark of legitimacy and the benchmark of integrated policy and liabilities. The most important consideration is to ensure that the SWF survives as part of an overall economic policy. It matters less how the SWF is managed and performs. One can underperform a reasonable benchmark by 2-5% per annum and the SWF will still operate as a mechanism for transferring wealth into the future. Naturally, this underperformance hurts, but spending all the money now is the far greater loss with detrimental economic consequences. In the worst case, poorly functioning governance structures and poor financial performance affect the legitimacy of a SWF.

While secondary to the first two benchmarks, the governance structure and performance benchmark cannot be ignored. Nauru is a case study of failing this benchmark. Cox (2009) recounts this sad example. Several trust funds, most notably the Nauru Phosphate Royalties Trust, were formed to accumulate wealth from minable phosphates on Nauru. The country took over the trusts, together with the mining operations when Nauru obtained independence in 1970. The trusts play a critical role in the country's internal affairs, and so meet the legitimacy benchmark (even today), and originally the government had intentions of using the SWF as part of an overall development policy. Later, the policy may have been misguided in financing an unsustainable welfare state, but it was the gross mismanagement and depredation of capital that shrank the fund from a peak close to USD 1 billion in 1991 to less than a tenth of that size ten years later. Nauru now barely functions as a nation; over 80% of its GDP comes from financial aid and the country is insolvent. Clearly, the benchmark of governance structure and performance is important.

Meeting the governance structure and performance benchmark first requires a culture of market-oriented, professional money managers. Whatever governance structure is chosen, the SWF will be likely to be poorly managed without a professional culture. Naturally, the governance structure and performance mandate should evolve over time, particularly as newly created SWFs mature and become more sophisticated. Finally, I discuss factor-oriented investing, which holistically looks at a SWF portfolio in terms of underlying factor drivers.

#### **4.1 Professionalism**

The general problem faced by all investors is the principal-agent problem. For SWFs, the principal is the owner of the funds, which is the government. The agent is a funds manager employed by the principal. There may be many agents. In the context of the benchmark of legitimacy and the benchmark of integrated policy and liabilities, the government sets an

optimal legal and economic structure of the SWF and specifies the spending rule. Then, the government selects one or more agents to manage the money and specifies a performance benchmark. The delegated principal-agent problem in asset management was initially addressed by Ross (1973) and is the subject of long academic literatures on optimal incentive contracts, compensation schemes, managerial delegations, and moral hazard problems, and settings of asymmetric information. These studies deal with the problems that the agent is better informed, has different interests, incentives, and risk aversion than the principal and the principal cannot perfectly monitor the actions of the agent.

While falling into the general principal-agent setup, SWFs face unique challenges in mitigating the problems in the principal-agent relationship. SWFs are, by definition, public sector organizations. While it is not always the case that the public sector is inefficient and wasteful, many government departments tend to have these characteristics because they lack the discipline of the market. Unsuccessful private firms die. Investment management firms underperforming their benchmarks see an outflow of capital over time and a loss of fees. In contrast, unsuccessful government bureaucracies can continue for many years before closing.<sup>9</sup> On the other hand, a strong public service ethos does help to mitigate agency problems, but for most countries the disadvantages of a SWF management legacy of public service outweigh its advantages.

The talent and expertise are often on the wrong side. Managers of endowments, pension funds, and SWFs have lower compensation than their counterparts at sell-side institutions. In 2009, the CEO of NBIM, Yngve Slyngstad, received an annual salary of NOK 3.5 million or approximately USD 525,000. The senior management team at NBIM does not have performance-based components in their salaries. In contrast, the CEO of JP Morgan was awarded a USD 17 million bonus in 2009. At end 2009, the market capitalization of JP Morgan was about one third that of the assets under management at NBIM. With such lopsided incentives, SWFs can be sitting ducks for the canons wielded by sell-side investment managers, investment banks, and other financial intermediaries. As the financial crisis of 2008-9 made clear, these intermediaries act in their own self-interest first and their clients' interest second (or maybe third or fourth), just as predicted by economic theory.

The best way to combat the inefficient bureaucratic tendency of a standard government institution is to create a culture of professionalism. This is not always easy to do within a public sector framework. One shining example of success is Norway's SWF. The professionalism and expertise of both the Ministry of Finance Asset Management Department, which oversees the SWF, and the fund's manager, NBIM, are outstanding and this is reflected in the excellent

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<sup>9</sup> Of course, the moral hazard problem of (private sector) bank bailouts by governments during the financial crisis in 2008-9 should be mentioned in distorting the usual market disciplining mechanism of firm default.

financial performance, low costs, and attention to investment management issues of special concern to Norway, such as ethical investing, corporate governance, and social issues. The founding CEO of NBIM, Knut Kjær, received a knighthood in 2008 from His Majesty King Harald of Norway partly in recognition of the culture of professionalism he created in the fund within a public service organization (the central bank of Norway).

Sufficient compensation, perhaps not to the level of the largest investment banks or the most profitable hedge funds, is part of creating a market-oriented culture, but it is definitely not the primary ingredient. The most important part of creating a professional culture is creating management structures that emphasize responsibility and accountability. Good or bad performance comes with consequences. Investment managers, both internal and external, should be rewarded for good performance. They should be penalized or fired for bad performance. Such accountability requires tracking the consequences of decisions, both strategic and at the portfolio level, of investments in different assets or managers relative to performance benchmarks. It also requires delegating investment decisions to appropriate people in the management structure and rewarding, or penalizing, them for performance. Both Kuwait and Norway shift assets towards fund managers with successful track records and employ performance-based pay. They also shift assets away from fund managers not beating their benchmarks and fire consistently poorly performing managers. What sets back traditional public sector organizations in attaining a market-oriented professional culture is that the market consequences of success or failure are not usually present. Many government employees are also not benchmarked against sufficiently rigorous standards.

The culture of professionalism is one where each investment decision to invest or disinvest is “owned” by someone in the firm. All investment decisions are then traced to a responsible trader or manager. By being accountable for those trades, the performance of each employee can be benchmarked. Importantly, the entire performance of the whole fund can also be attributed among various employees, which allows a comprehensive analysis of what has been successful and what management practices need to be changed. The investment decisions away from a given benchmark or mandate constitute active management. Performance away from the benchmark or mandate is measured at horizons appropriate for the payoff structure of that investment strategy. This ranges from intraday short-term bets to potentially decades for long-term investments. The investment decisions involved in the benchmark or mandate ideally are themselves benchmarked. I discuss this below.

A problem that hampers government-owned SWFs, and to a lesser extent endowments and pension funds, is that the issue of compensation is further distorted when it is combined with sub-optimal accounting and reporting structures. For example, suppose a SWF hires an external manager who charges handsome fees which are paid out of one cost center. The same

investment strategy could potentially be done in house for an overall lower cost, but internal salaries are borne by another cost center. Usually the salaries paid to in-house employees are reported and remarked on, sometimes extensively, by the press and government officials. But, the fees paid to external managers are not separately broken out and rarely attract attention. It would be beneficial to run the strategy internally, which results in overall lower costs to the SWF, but there are incentives to outsource the activity at higher costs. This can be overcome by a professional culture which assesses how external managers can complement in-house managers and correctly assigns costs to various outcomes. SWFs can internally harvest these risk premiums much cheaper if they have a structure where, with the required responsibility and accountability, employees can pursue opportunities often left to external investment managers. A factor-oriented benchmark, discussed below, also allows a better breakdown of value added by various managers.

An alternative model to instill some market discipline could be specifying multiple, government-owned fund managers. This is the case in Sweden where multiple AP Fonden manage the country's pension fund assets. Theoretically, this can mimic market discipline by removing capital from poorly performing managers and shifting funds to the other better managed funds. As compensation and fees are based on assets under management, this would allow a natural evolution of the better managed funds to prosper. The Swedish Ministry of Finance (ESO) recommended merging the AP Fonden in 2009, but in 2010 the country's Pension Group task force recommended against consolidation. The worst outcome in this model is having a number of poorly run, inefficient, bureaucratic institutions without having the ability (or courage) to shut them down. In Kuwait and Norway, market discipline is imposed by encouraging internal and external competition and establishing a professional, market-oriented culture which assigns responsibility and rewards performance.

A final comment is that professionalism is not about size. Some very large SWFs are not professional, according to the benchmark outlined in this section. Some other small funds, like New Zealand's SWF which is only around USD 12 billion as of July 2010, maintain very professional cultures.<sup>10</sup> Professionalism is not a function of size; it is a mindset obtained through management structures emphasizing accountability and responsibility.

## **4.2 Models of Governance and Mandates**

The investment mandate and the governance model should not be separated. The mandate is informed by the benchmark of integrated policy and liabilities and should be related to the implicit or explicit liabilities of the fund. Note that setting an incorrect mandate does not augur

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<sup>10</sup> While professionalism is not a function of size, the optimal management structure may vary with the size of the fund. For very large funds, factors become very important determinants of total returns. See Section 4.3.



for a failed SWF: a good manager can succeed at meeting the government's overall objectives despite a poor benchmark and conversely an ideal benchmark can be poorly implemented by a bad manager.

For many SWFs, the ideal mandate is a real return target or a spread above cash. For Norway, the explicit spending rule of the approximate 4% real return is theoretically met by holding real assets yielding 4%. But, such assets do not exist so implementing this mandate requires an investment policy. For the SWFs of Australia and New Zealand, the ideal hedging asset position is one that immunizes future pension liabilities, which are usually denominated in real terms, so real return plus spread mandates still play a large role. For example, New Zealand's mandate is to exceed a (nominal, not real) risk-free rate by a spread of 2.5%. Australia's goal is to obtain at least inflation plus a spread of 4.5%, that is a real return of 4.5%. This sort of mandate has few, if any, restrictions on the investment universe and the investment style. It is theoretically the best fit to the principal's interests. This mandate is also used, at least implicitly, by GIC and KIA. The disadvantage of the real return plus spread mandate is that it maximizes the principal-agent misalignment, especially if there is poor communication between the funds manager (the agent) and the government (the asset owner and principal) and little transparency.

The real return plus spread mandate is successfully implemented in Australia, New Zealand, Singapore, and Kuwait because their governance structure allows for wide discretion through a corporation detached from government, which is headed by an independent Board. The mandate can be vague with the Board overseeing the details of the investment plan, which seeks to meet the mandate. On the other hand, a vague mandate combined with an independent corporation would be disastrous if the Board does not comprise experienced, competent investment professionals.

Another model of governance where a real return plus spread benchmark is possible is a "financial planner" model. For individual investors, financial planners offer a wide variety of services in addition to asset management, including budgeting, education, consulting, and often handholding a skittish investor through tough times and eliciting information from the investor about the principal's preferences and financial goals. SWFs are no different. Experience and expertise are necessary to clearly define the goals in the benchmark of integrated policy and liabilities, which can be implemented in the governance structure and performance benchmark. The disadvantage is that the financial planner model overwhelmingly favors the agent and asymmetric information is maximized.

Some new SWFs, like Timor-Leste and the new SWF of Papua New Guinea, have more of a financial planner relationship with their investment managers than a traditional delegated principal-agent model. The advantages are that with a good investment manager, there is an iterative and informed dialogue, which permits knowledge transfer from the skilled investment

manager to the less-skilled client. Good communication, trust, and unimpeachable integrity of the agent are required for this model to be successful. Timor-Leste and Papua New Guinea must be given a lot of credit in recognizing the need for external expertise. It would have been easy for these countries to be over-confident and presumptuous in their own abilities, which would likely lead to less successful outcomes. Timor-Leste and Papua New Guinea have seized the opportunity to develop skills and learn from past experience from the countries' various advisers, including other SWFs, development agencies, and international financial institutions like the BIS and IMF. Thus, this model of governance requires successfully meeting the benchmark of integrated policy and liabilities.

Norway's asset owner, the Ministry of Finance, currently specifies asset class benchmarks which the dedicated funds manager, NBIM, implements. NBIM is tasked with outperforming the benchmark set by the Ministry of Finance. This is a very straightforward and clear reporting structure. The model, however, was recently challenged in 2009 by poor active performance relative to benchmark by NBIM. In response, the Ministry of Finance commissioned a number of reports, including one by Ang, Goetzmann and Schaefer (2009), to assess the advantages of passive vs. active management. While overwhelmingly endorsing active management relative to passive, market-weighted benchmarks, the authors recommended an extension of the current asset owner-fund manager contract to include the specification of factor benchmarks, rather than asset class benchmarks. The authors recommend thinking about the benchmark in terms of underlying factor returns, which I now describe.

### **4.3 Factor Benchmarks**

Factors are to assets what nutrients are to food. To push this analogy further, Table 1 lists the five essential nutrients necessary for life: water, carbohydrates, protein, fiber, and fat. Factors are the nutrients of the financial world. Factor theory is based on the principle that factor risk must be compensated and factors are the driving force behind risk premiums.

Factor risk is reflected in different assets just as nutrients are obtained by eating different foods. In Table 1, peas, wheat, and rice, all have fiber. Similarly, certain sovereign bonds, corporate bonds, equities, and credit default swap derivatives, all have exposure to credit risk. Assets are bundles of different types of factors just as foods contain different combinations of nutrients. Just as, for example, rice contains both carbohydrates and fiber, an investor holding a corporate bond is subject to interest rate risk and default risk. This is the modern theory of asset pricing: assets have returns, but these returns reflect the underlying factors behind those assets.<sup>11</sup>

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<sup>11</sup> The first one-factor model of the CAPM was developed in the 1960's by Treynor, Sharpe, Lintner, and Mossin building on earlier work by Markowitz. The first multifactor model was developed by Ross and Merton in the

<b>Macronutrients</b>							
	Male	Female	Child		Examples of Food		
Water	3.7 L/day	2.7 L/day	1.7 L/day				
Carbohydrates	130 g/day	130 g/day	130 g/day		Bread, Beans, Potato Rice		
Protein	56 g/day	46 g/day	19 g/day		Cheese, milk, Fish, Soya bean		
Fiber	38 g/day	25 g/day	25 g/day		Peas, Wheat, Rice		
Fat	20-35% of calories		25-35% of calories		Oily fish, Peanuts, Animal fat		
Source: Food and Nutrition Board, National Academies, 2004							

Table 1: Nutrients and Food

Different types of people – male or female, adult or child, healthy or sick – have different nutrient requirements. The different types of people correspond to different types of investors. Different investors have different optimal risk exposures to different sets of risk factors. The benchmark of integrated policy and liabilities defines what type of person each SWF is. Newly formed SWFs may have different optimal sets of factor exposures from more established SWFs. SWFs with different governance structures and payout rules have different optimal bundles of factors.

Since a SWF is a conduit for holding assets, which provide returns because they are combinations of different factors, SWFs should focus on the underlying factor risk of their holdings. The assets are means to accessing factor risk premiums. The SWFs of Alaska, Australia, Singapore, New Zealand, and Norway, either take into account factors in setting their asset allocation, or are moving in that direction.

An important use of a factor benchmark is that it serves as a better benchmark for active management than traditional passive, market-weighted indexes. A traditional market-weighted index, like a corporate bond index, focuses on an asset class. But, corporate bonds have exposure to many different factors – inflation and real rate risk, term risk, and credit risk. Focusing purely on asset class benchmarks ignores the true factor determinants of returns. The factor-oriented benchmark seeks to understand the underlying drivers of asset returns, rather than simply seeking naïve diversification in a broad range of assets or asset classes.

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1970s, and then extended to hundreds of empirical applications by many authors, including Fama and French, over the subsequent decades. See Ang, Goetzmann and Schaefer (2009) for a summary. A parallel literature in microeconomics begun by Lancaster in 1966 also considers looking through to the underlying characteristics of what goods or assets contain rather than focusing on just the goods or assets themselves.

For large SWFs, factors tend to dominate. This is because manager decisions, both internal and external, tend to be correlated. Thousands of correlated individual bets tend to aggregate at the portfolio level to become large bets on factors. For example, overweighting 2000 value-oriented stocks and underweighting 2000 growth stocks is not 2000 separate long-short investments: it is one bet on a value-growth factor. Reaching for yield by buying 1000 relative illiquid bonds, possibly all funded by short-term funding (repo), does not constitute 1000 separate investments: it is one bet on an illiquidity factor. It is better to recognize, and optimally structure, this factor exposure up front.

Ang, Goetzmann and Schaefer (2009) identify several advantages for focusing on factors. A factor focus allows a better understanding of risk-return trade-offs. They show that the performance of the Norwegian SWF during the financial crisis over 2008-9 was largely due to the fund's large factor exposure to liquidity, credit, and volatility risk. These factors are appropriate for a long-horizon investor to hold, but understanding how these factors have different payoff structures over different horizons allows each factor to be harvested in an investment style appropriate to its risk-return trade-off. This allows the creation of more robust portfolios which, when the large gains and losses are understood in terms of factor risk, do not lead governments to change strategy mid-stride in time-inconsistent policies. Ang, Goetzmann and Schaefer argue that had NBIM's active losses in 2008 been assessed from a factor exposure standpoint, the possibility of such losses could have been better communicated and understood by the fund's owners.

If a factor can be obtained in an alternative low cost way, then bringing that factor into the benchmark raises the bar for portfolio evaluation. This is particularly true for external management. Why should a SWF pay expensive fees to a fixed income hedge fund delivering credit and illiquidity risk, when the SWF could access that much more cheaply in an internal strategy? As I comment above, this goes hand-in-hand with a professional culture in a SWF where there is a relentless focus on minimizing total expenses.

Factors allow a more holistic view of the investment and business activities of a fund. For example, security lending, which is done by almost all large funds, is in effect a bundle of three separate factor risks. First, there is a profitable business which lends securities in return for fees. Since there is collateral, it would be easy to believe that credit risk is minimal. However, during 2008 that collateral was often invested in high credit risk instruments (auction-rate securities, CDOs, etc.) and this resulted in losses. Finally, the inability to access illiquid collateral brings about liquidity risk. Thus, security lending bundles security lending, credit, and illiquidity. Another example is foreign currency hedging. This is often done through swaps and other derivatives in OTC markets where investment banks are typical counterparties. In addition to the foreign currency hedge having access, by definition, to foreign exchange risk, the swap

brings credit risk, through the investment bank counterparty, and liquidity risk, through any payments required through collateralization. Thus, foreign currency hedging also is a combination of several different factors.

The factor approach is a better way to harvest and measure the benefits of diversification, which is the bedrock of the modern “endowment” model. This was originally advocated by Markowitz in 1952 and recognized by the 1990 Nobel prize. Its modern incarnation for institutional investing is a heavy allocation in alternative assets, as recommended by Swensen’s investment bible, “Pioneering Investment Management.” The conventional endowment approach holds large weights in hedge funds, private equity, venture capital, and real estate just because these are alternative assets. But, these asset classes are often just labels and the underlying funds are essentially conduits of many of the same types of factor risk. The factor benchmark would evaluate a Treasury fixed income hedge manager using a fixed income market, term factor, and volatility factor. A private equity manager would be assessed on an equity market, credit, value/growth, and liquidity factor benchmark. Private equity, venture capital, and real estate all embed liquidity and credit risk. Factor-based investing explicitly takes the underlying factor exposure into account and avoids the veil of seductively labeled asset vehicles.

The questions of which and how much factor exposures are optimal for a SWF are informed by the benchmark of integrated policy and liabilities. An extensive discussion of an investable list of factors is outside this article and is discussed by Ang, Goetzmann and Schaefer (2009). They show that SWFs which can afford to bear short-term losses can reap factor risk premiums like volatility, credit, and illiquidity in the long term. These risk factors have infrequent, but large left-hand tail drawdowns. These factors have high returns, on average, in the long run to compensate investors for the risk of bearing short-term losses over certain periods, such as over the financial crisis in 2008-9.<sup>12</sup>

The factor approach applies whether internal or external managers are chosen. Assets can be managed mostly internally, as is the case with Norway, or mostly externally, as is the case with Australia. Or, “hybrid” models with both internal and external managers can be used. Of course, certain elements of professionalism and the required expertise in portfolio and risk management are different for employing mostly internal vs. external managers. But in all

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<sup>12</sup> Another perspective is that the factor risk premium is an insurance premium, which is paid by investors who do not wish to bear that factor risk to long-term investors willing to shoulder it. When there are poor factor returns, the investor with positive exposure to that factor takes losses. Over the long run, investors selling insurance have high returns, on average, to compensate them for bearing the factor risk. Recently, CIC is contemplating investments in hedge funds that buy factor insurance premiums (see “Taleb’s Pessimism Lures CIC” by Strasburg, August 22, 2010 in the Wall Street Journal). Such an investment policy results in negative expected returns over the long run. This makes sense only if CIC’s benchmark of integrated policy and liabilities is one where CIC is required to place a large weight on capital preservation.

cases, factor benchmarks are relevant. Factor benchmarks are probably even more relevant for extensive external outsourcing as it ensures that costs for external managers, which tend to be more expensive, are kept low and the external funds are bringing to the table a different set of factor risk premiums than those that can be obtained more cheaply in a SWF's internal portfolio.

## **5. The Long-Run Equilibrium Benchmark**

This is the least important of the four benchmarks.

Whether a SWF should consider a long-run equilibrium is secondary to the fund having a solid foundation (the benchmark of legitimacy), operating in an integrated framework of policy (the benchmark of integrated policy and liabilities), and being optimally managed (the governance structure and performance benchmark). Long-term issues are most important for a SWF with a long-term investment horizon. They do affect, but more indirectly, SWFs with short-term investment horizons. The investment horizon is different from the long-run existence of a SWF enabling it to transfer wealth into the future, as I now explain.

### **5.1 The Long-Run Horizon**

Long-term investors are first short-term investors. As the seminal early papers by Merton in the large literature on dynamic portfolio choice show, when investment opportunity sets do not vary over time, there is no difference between a long-term investor and a short-term investor: in this case, everyone is short term. Investing for the long run does expand the set of investment opportunities and allows access to new factors not available to a short-term investor. Some of the factors discussed in the previous section are best harvested by investors with long-term horizons. Certain SWFs emphasize that they take a long-horizon perspective: New Zealand and Norway, for example, write these goals into their charters. Other SWFs, like CIC, have implicit mandates without clear investment horizons. Long-term investors should do everything that short-term investors do, plus they can do more.

Taking a long-term vs. short-term horizon in investing and assessing profitable opportunities is different from the SWF existing over the long term. That is, the horizon of existence is different from the horizon of investments. Transferring money from the present to the future in a SWF requires the SWF to exist over the long term. But, it could be optimal for the SWF to invest like a short-term investor. The investment horizon is determined by the benchmark of integrated policy and liabilities and the benchmark of governance structure and performance. Legitimacy may be threatened if the SWF invested in strategies with verification horizons measured in many years subject to potentially disastrous, short-term losses. There are certain liabilities that

demand short-term investing styles with high degrees of risk aversion, particularly to downside risk. Some of these liabilities may include meeting non-deferrable government expenditures. In the language of the factor-nutrient example of Section 4.3, there are different types of people, so too there are different types of SWFs and each type of SWF has a different optimal factor exposure.

All SWFs, since they have long-term existence horizons, are affected by the long-run equilibrium benchmark. But, it is SWFs with long-term investment horizons that are affected the most.

## **5.2 Long-Run Capital Market Equilibrium**

It is in the interests of SWF to have well functioning, efficient capital markets. SWFs benefit from the free flow of capital across countries, good corporate governance, and the preservation and enhancement of shareholder rights over time. It is perhaps ironic that some of the countries owning SWFs do not have open or transparent markets, and sometimes impose many restrictions on foreign ownership, compared to the relatively open markets in the recipient countries of SWF capital. This is irrelevant for the deep markets where many global investors, SWFs included, operate. These markets follow the long history of capitalism where ideally there is no discrimination between the different types of owners of capital and there is free flow of capital.

As asset owners, SWFs have strong incentives to exercise shareholder rights. Firm value is maximized by good corporate governance and the close alignment of shareholder and management interests. Consistent with this, SWFs benefit from one vote per share, investor activism, and the removal of as many impediments to takeovers and restrictions to shareholder rights as possible. Part of the long-run equilibrium benchmark for a SWF is being self-interested in exercising shareholder rights and the maintenance of efficient capital markets.

However, while SWFs benefit from efficient markets and good corporate governance, it is not essential that SWFs actively advocate on these issues. In particular, gaining the benefits of a shareholder activism without directly participating in it is a classic free-rider problem. In fact, common to all free-rider problems, there may not even be a loss to society (a “Pareto inefficiency” in the lingo of economists) if the party advocating a shareholder action is able to reap a sufficiently high reward for doing so. On the other hand, it may be economically worthwhile to co-ordinate with other investors and advocate for shareholder rights. In this case, SWFs should actively engage companies and push for free markets because it is profitable for them to do so, and seeking the best risk-return trade-off is consistent with the benchmark of governance structure and performance.

The fact that many SWFs, however, practice responsible investment (e.g. environmental, social, and governance [ESG] styles of investing) does not mean that it is profitable to do so. While

New Zealand's fund believes and states clearly on the fund's website that, "improving ESG factors can improve the long-term financial performance of a company," championing responsible investment could also be consistent with meeting the benchmark of legitimacy. The Norwegian example of responsible investing, including the development of its unique ethical rules and procedures concerning disinvestments, may be a reflection of societal preferences. This is behind the Graver Committee's report in 2003 recommending the formation of many of Norway's ethical guidelines, including the creation of Norway's Ethics Council. The report states, "The Petroleum Fund should be managed in accordance with ethical guidelines that enjoy the firm support of the Norwegian people." Thus, practicing ethical and responsible investing confers legitimacy on the fund and it is right that it is reflected in the investment style of the fund.

The existence of integrated, efficient capital markets should not be taken for granted. SWFs could be significantly harmed by the recent and continuing political debate on SWFs, especially concerning trade and investment protectionism. Geopolitical considerations significantly affect long-run market equilibrium. While some aspects of this debate are beyond direct control of SWFs, stating clearly why the SWF exists (the benchmark of legitimacy), anchoring its existence as part of a well-defined mandate (the benchmark of integrated policy and liabilities), and making sure the fund is managed well (the benchmark of governance structure and performance) all help in assuring recipient countries that there is no nefarious purpose behind a SWF's investments and that it is beneficial for all countries to have capital flow freely to where it can best be used. Nevertheless, ensuring efficient markets in the long run may not be sufficient because there are some risks which markets do not anticipate or price well. We now turn to these distortions induced by externalities.

### **5.3 Long-Run Externalities**

A long-term investment horizon is a comparative advantage that few other investors can exploit. (I reiterate that it may be optimal for a SWF not to have a long-term investment horizon following the discussion in Section 5.1.) Of course, the long-horizon advantage can only be optimally exploited by a SWF knowing that it will exist over the long term (the benchmark of legitimacy), clearly specifying the role of the SWF's payout rules and liabilities (the benchmark of integrated policy and liabilities), and having a good governance structure and mandate with a professional culture (the benchmark of governance structure and performance). Pension funds and endowments also have long investment horizons in theory, but in practice, many of these investors have horizons that are short term because of a focus on quarterly or annual performance and an inability to create management structures to exploit the long-term horizon. SWFs can easily fall into this short-term trap if inadequate consideration has been given to the previous benchmarks.



The long horizon may require that SWFs pay attention to negative externalities not part of the information set of many managers and other investors. Climate change, child labor, good stewardship of the environment, and water management are just a few of these issues. For example, a company does not include the cost of greenhouse gases in manufacturing products because the tax on pollution is too low (or non-existent). This leads to environmental degradation that society eventually has to pay to clean up. There is, of course, an extensive literature on externalities or spillovers. Many of these externalities become costly only in the long run. The long-term perspective of SWFs is affected by these long-term externalities; it does not enter the considerations of other short-term investors.

Since Coase's Nobel-prize winning work published in 1960, economists have devised a number of ways to solve the negative externality problem. One method involves making markets as efficient as possible with the lowest possible transactions costs. If property rights are traded, or companies holding claims to such rights are traded, then efficient markets can accurately price the cashflow streams involved in all traded production activities and internalize the externalities. Hence, advocating for efficient markets partly alleviates the effect of mis-priced spillovers.

Again in dealing with externalities, the free-rider issue becomes relevant. There may be no economic reason, but perhaps a moral and ethical one, for a SWF investor to consider these issues, especially if other investors are already successfully taking steps to remove negative externalities. Indeed, the long horizon may argue that the SWF is in a unique position to profit from the market's mispricing of externalities: eventually they will be priced in the market and the SWF has a long enough horizon to place such trades. In addition, is the SWF arena the optimal vehicle to address these long-horizon externalities? Of course not! The ideal mechanism is inter-governmental coordination among countries. SWFs are relatively passive financial vehicles and cannot have the same direct effect. In an extreme (optimal) case, coordination among governments could remove all long-term negative externalities. SWFs may play a role in how governments tackle externalities, but they cannot be the only vehicle.

Nevertheless, the fact that long-run externalities do affect SWFs investors, unlike the majority of investors who are short-term, means that SWFs should make a decision on how to deal with them. The long-run equilibrium benchmark at least requires recognizing these issues. Then, an appropriate decision – which could well include not exercising shareholder rights or not practicing ESG investing – can be taken.

## 6. Conclusion

There are four benchmarks of SWFs. These benchmarks are different from the performance metrics of private companies because SWFs are owned by governments. Meeting the *Benchmark of Legitimacy* ensures that the SWF can survive for the long term. The *Benchmark of Integrated Policy and Liabilities* considers the SWF in the context of other government policy and allows the payout rule and liabilities to be optimally determined. Only if these two benchmarks are in place can the *Governance Structure and Performance Benchmark* be addressed. This benchmark is maximized by the creation of a professional culture, the simultaneous consideration of the SWFs governance structure and mandate, and looking at the underlying factor risk of the fund's assets. Finally, the long horizon of SWFs requires them to address negative externalities that are not currently priced in the market. In addition, SWFs benefit from well-functioning, efficient markets and the exercise of shareholder rights. These and related issues enter the *Long-Run Equilibrium Benchmark* of SWF investing.

## Appendix

In this Appendix, I give two examples of how a SWF acts as a vehicle to facilitate the intertemporal transfer of sovereign wealth. At first glance, it may not seem that Norway's SWF, which is a resource-based fund, is economically equivalent to Ireland's. The National Pensions Reserve Fund of Ireland is similar to Australia's SWF and is intended to help meet future payments of the national pension system, except that Ireland effectively funds its SWF by issuing debt. In contrast, Australia's SWF is generated in part by budget surpluses. I argue that the funds of Norway and Ireland are economically the same – the SWFs are mechanisms to transfer wealth through time and defer consumption. The differences between Norway and Ireland are the net assets of the country and leverage.

### A.1 Norway

Start with a simplified balance sheet of the country before the discovery of oil, normalized to be zero:

Assets	0	Debt	0
		Net Assets	0

Now Norway is lucky and discovers oil. This increases the Net Assets of the country to 10, say:

Oil	10	Debt	0
		Net Assets	10

Norway could let the oil sit in the ground or pump it out. Oil in the ground is also a way of transferring money into the future. However, extracting the oil and converting it to a more diversified portfolio results in a better risk-return trade-off. This increases the expected return of the wealth; it does not affect the current level of wealth of the country. Note that there is an issue of whether the oil should be extracted and at what time: these are important questions and the subject of a "real options" literature in finance which deals with investments in irreversible projects (a seminal early paper is Brennan and Schwartz, 1985). The optimal timing of extracting this wealth is outside our analysis. These and other issues constitute important elements of the benchmark of integrated policy and liabilities, which I consider in Section 3.

Suppose Norway extracts 5 out of 10 of the oil and puts it into a SWF:

Oil	5	Debt	0
SWF	5	Net Assets	10

The SWF allows Norway to transfer the oil wealth, now converted to financial wealth, across time. The SWF exists so that Norway does not immediately consume. If it did, then Norway's Net Assets would decrease to 5 and there would be no SWF.

## A.2 Ireland

We start again with a simplified balance sheet:

Assets	0	Debt	0
		Net Assets	0

Ireland creates a SWF by issuing debt:

SWF	10	Debt	10
		Net Assets	0

This raises a good question of why Ireland, which now borrows money at a large spread over other countries with better credit ratings, would seek to issue debt to finance a SWF in the first place. On the other hand, doing this makes explicit the pension liability in the government's balance sheet; usually national pension liabilities are not recognized as national liabilities, as in the case of the U.S. Ireland's decision to issue debt to fund the SWF is outside the analysis.

Ireland could have eaten (consumed) the money raised by issuing debt. Then, its Net Assets would be -10. But it hasn't. The SWF works by transferring the proceeds of debt into the future. This is wealth, but the net wealth of the country is zero. Again, the alternative to the SWF is immediate consumption.

## A.3 Discussion

The differences between Norway and Ireland are that Norway has no leverage and has a fortuitous increase in Net Assets. Ireland is levered. But in both cases, the SWF function is the same: the SWF is a tool to transfer money from the present into the future. If there is no transfer of wealth to the future, then consumption takes place now.

Some definitions of SWFs rely on the fund making non-domestic investments.<sup>13</sup> In the examples given here, the asset allocation choice of the SWF does not come into play. It may be better not to invest in domestic assets to avoid the Dutch Disease. But, as this economic framework illustrates, this is a different issue to the purpose of the SWF. I address asset allocation issues in Section 4 (the benchmark of governance structure and performance). Another debate involves the role of CIC and similar SWFs, where large currency reserves have

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<sup>13</sup> For example, the IMF's 2007 Global Financial Stability Report defines SWFs as "general investment funds created or owned by governments to hold foreign assets for long-term purposes."

been partly transformed to “excess” reserve holdings. As Section 3 discusses, these funds have changed their purpose in an overall economic framework, but they are still being used to transfer wealth intertemporally.

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