

Becoming Boring: Lessons from Modern Monetary Policy for Sovereign Wealth Funds

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ABSTRACT

This paper assesses to what extent the institutional foundations of modern central banking offer valuable lessons for the design of similar arrangements for sovereign wealth funds. The agency relationships established by the (desirable) operational independence of both modern monetary authorities and sovereign wealth funds result in an emphasis on institutionalised credibility, the adoption of explicit policy targets, contingent rules and arrangements that promote accountability and transparency. Although there is currently less agreement around the appropriate objectives and mandate of sovereign wealth funds than there is for central banks, important lessons around institutional solutions and rules-based policy frameworks can be learned from the post-war (mis)adventures in monetary policy. The arguments presented in this paper suggest a broad institutional framework on which future research can build by investigating in greater detail the technical aspects of sovereign wealth funds' operational independence, mandate clarification, policy rules and targets, and accountability and transparency mechanisms.

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INTRODUCTION

In April 2000, Mervyn King, then a deputy governor of the Bank of England, said the central bank's ambition was to be boring. "Our belief is that boring is best," King famously noted. The extraordinary steps taken by the Bank of England and other leading central banks in the aftermath of the global financial crisis, and the attention and scrutiny they engendered, have made a mockery of King's vision of abiding tedium. However, King's comment reflected the general tenor of the modern monetary consensus: the central bank's policy framework should be so predictable, rule-based and transparent that news of interest rate changes are greeted with a collective social yawn and relegated to the back pages of the daily papers.

This paper argues that the lessons of "boring central banking" are not unique to monetary policy, but can inform the design of other democratic policy institutions, notably in this case sovereign wealth funds. While the actions and institutional structures of some of the world's leading sovereign wealth funds – notably in Norway, Chile, Botswana and Canada – reflect this basic insight, a pervasive temptation remains for sovereign wealth funds to be viewed (including by their own managers and political masters) in exactly the opposite way: as glamorous and somewhat mystical "power brokers"¹ of the 21st century global capital markets. The overriding message of this paper is that sovereign wealth funds should abandon such aspirations and subscribe to the modern central bankers mantra that "boring is best".

There is increasing enthusiasm about the contribution sovereign wealth funds can make to the avoidance of the resource curse.² This enthusiasm has not gone unchallenged, and considerable

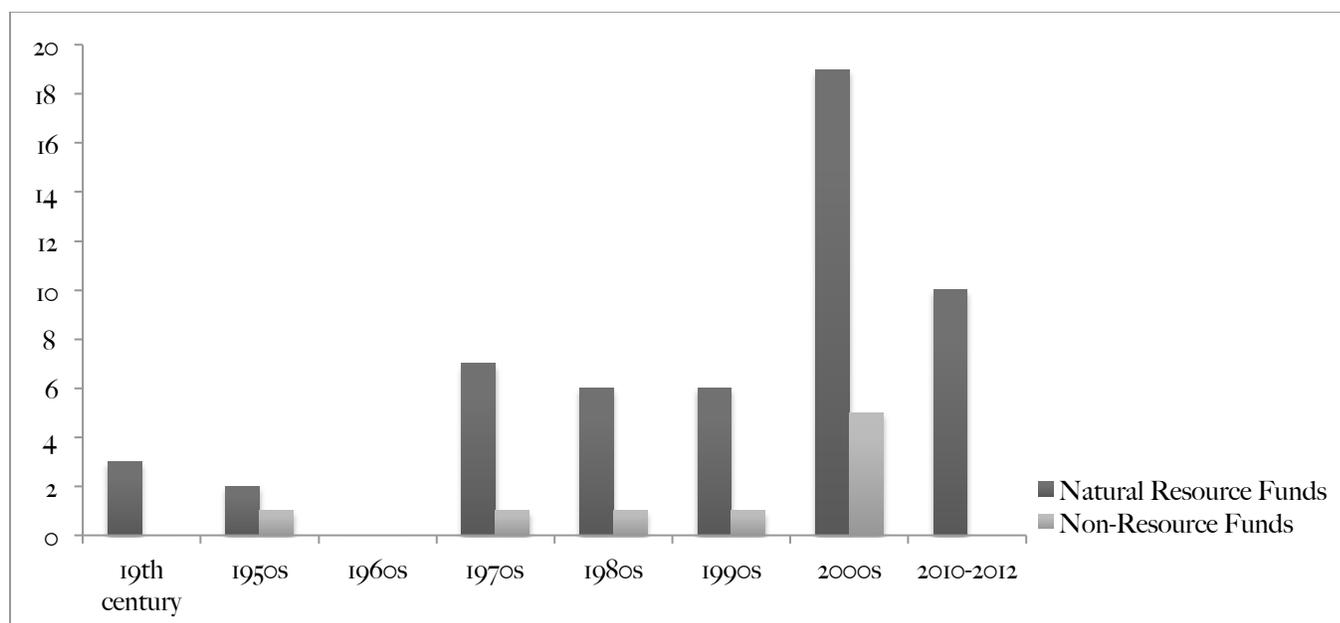
¹ Indeed, this is exactly the phrase used to describe sovereign wealth funds in a well-publicised report by McKinsey & Company (Farrell, 2007).

² There are a number of subtle differences in the way the resource curse is defined and understood. In its most basic formulation, the resource curse refers to the fact that the historical track record of countries with abundant natural resources does not generally compare favourably to that of similar countries with little or no resources. In a somewhat reduced formulation, it may refer to the failure of resource rich countries to achieve their true potential or "make the most" of their natural endowments. The most common explanations for these failures revolve around tendency for resource-rich economies to be subjected to various economic, political and institutional distortions.

disagreement around the appropriateness of sovereign wealth funds and their goals across a range of social and developmental contexts, has emerged from the recent literature. Venables (2010) questioned the merits of accumulating an endowment of foreign assets in the context of relatively high debt-to-GDP ratios. Collier *et al.* (2010) called the establishment of a sovereign wealth funds in countries with high demands (and expected returns) from investment in domestic infrastructure “seriously inappropriate” and advocated a rapid rise in domestic investment in capital goods. This argument closely mirrors the advocacy of a resource-funded “big push” towards infrastructure development and industrialisation by Sachs and Warner (1999). Davis *et al.* (2001) and Van der Ploeg (2008) have cautioned that savings through a sovereign wealth fund can easily be offset by spending and/or borrowing by other parts of the consolidation public sector or by private agents.

Meanwhile, the enthusiasm over sovereign wealth funds has not abated amongst governments and policymakers in countries with abundant natural resources and resource-related public revenues, as is evident from Table 1, which shows the rapid growth in new funds since the turn of the century. The same is true in Africa, both amongst countries with decades’ worth of experience in managing resource-related revenues and in those with recent resource discoveries (and, therefore, anticipated future resource revenues). As shown in the Appendix to this paper, in the past three years alone, Nigeria, Angola and Ghana have created sovereign wealth funds, joining the ranks of more established African sovereign wealth funds in Botswana, Gabon, São Tomé & Príncipe and Libya (funds with rather divergent track records and governance standards). In addition, a number of African governments – notably those in Uganda, Kenya, Tanzania, Namibia, Zambia and Mozambique – are actively investigating the merits of such funds to help manage anticipated future resource revenue flows.

TABLE 1: Number of new SWFs by decade



Sources: Revenue Watch Institute, SWF Institute and fund documentation

Regardless of one's view on the merits of establishing a sovereign wealth fund their rising number and size of assets under management make them an important field of study. Unsurprisingly, theoretical and empirical research on the investment models of sovereign wealth funds has proliferated in recent years (Chhaochharia and Laeven, 2009; Berstein, Lerner and Schoar, 2013; Bortolotti *et al.*, 2009 and Fernandes, 2009), as have investigations into the appropriate regulatory response to the rising clout of sovereign investors.³ What is more surprising is the relative lack of detailed research into the theory and practicalities of the governance or institutional arrangements of these funds.⁴ This shortcoming is all the more surprising given the widespread recognition in the literature of the importance of robust institutional arrangements and sound governance to the effectiveness of sovereign wealth funds (Ang, 2010; Bacon and Tordo, 2006; Birdsall and Subramanian, 2004; Monk, 2009; Humphreys

³ The first vintage of this literature is surveyed in Mezzacappo (2009).

⁴ The terms "governance", "governance structures" and "institutional arrangements" are largely interchangeable, and their use is largely determined by the conventions of the discipline in which they are used. In this paper, the latter term is preferred where possible, as it potentially has somewhat wider applications than the former.

and Sandbu, 2007; Frankel, 2010 and Das *et al.*, 2009). Indeed, one of the leading scholars of sovereign wealth funds underlined why the design of robust institutional structures should be elevated above the more glamorous issues around investment implementation and performance:

“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.” (Ang, 2010).

This paper addresses the above-mentioned shortcoming by drawing on the literature on modern monetary policy. The paper considers how the lessons of the “modern monetary consensus” can be applied to sovereign wealth funds. While there are a number of important differences between central banks and sovereign wealth funds, there are also significant areas of overlap. Consequently, those charged with establishing institutional arrangements for sovereign wealth funds can draw on the theoretical insights and practical experience of modern monetary policy. The discussion of the high-level institutional arrangements for economic policy institutions is complemented by a parallel investigation of rules or principles for policy implementation under which those agencies are expected to operate. Indeed, the distinction between institutional arrangements and policy implementation can become blurred, as the strength and quality of the institution arrangements are typically reinforced by rules for policy implementation.

There is a third level of analysis below the discussion of institutional arrangements and policy rules/principles, which is the mapping of these broad principles into detailed and technical implications for actual implementation – or the calibration of general principles to specific policy actions. This third level is not the primary focus of this paper, although it will be briefly mentioned in illustration of the fact that the literature on sovereign wealth funds features relatively little discussion of how proposed or observed policies (or, in the specific case of sovereign wealth funds, portfolio management techniques) should be imbedded in overarching rules and, above that, a fully fledged institutional framework. This is a significant omission, as placing specific policy proposals within a rule-based policy and institutional framework serves two critically

important tasks in a democratic society. First, it protects a decentralised institution with delegated authority from undue and harmful political and popular pressures. Second, it contributes to a satisfactory solution to the democratic deficit and agency problems that arises from the devolution of important economic authority to unelected technocrats. Appropriate institutional arrangements and policy framework are therefore critical to a sovereign wealth fund's legitimacy – the achievement of which is a major concern for both academics observers and sovereign wealth fund practitioners (Monk, 2009 and Ang, 2010).

AGENCY RELATIONSHIPS IN DEVOLVED AUTHORITY

The role of sovereign wealth funds, both in practice and in the normative sense proposed in this paper, reflect the kind of principal-agent relationship that is widely studied in economics. A principal-agent relationship arises when one party (the principal) delegates authority or responsibility for certain actions to a second party (the agent). Such relationships are pervasive in modern societies characterised by specialisation and cooperation. However, agency relationships can introduce significant costs, particularly when the principal lacks the means to easily ensure that the agent behaves in a manner consistent with the promotion of the principal's objectives. As one of the fathers of the literature on agency issues observed: "Examples of agency are universal. Essentially all contractual arrangements, as between employer and employee or the state and the governed, for example, contain important elements of agency" (Ross, 1973).

A number of factors can bring agency problems to bear and significantly raise the cost associated with the principal-agent relationship. The agent may have objectives that differ significantly from that of the principal. This is particularly problematic if the pursuit of the agent's objectives undermines that of the principal. The literature, particularly contributions in the New Institutional tradition, have emphasised the importance of clearly defined contracts and other mechanisms that change the incentives that confront agents, so that it becomes in the agent's best interest to act in a way that is consistent with the principal's objectives. In monetary policy, the adoption of an explicit inflation-targeting regime, possibly complemented by clearly defined contracts for central bankers, is an example of a set of institutional arrangements that incentivise

the agent (the central bank) to act in the interest of principal (society). Inflation targeting focuses the central bank's attention on the maintainance of low and stable inflation, rather than a undue emphasis on other objectives such as boosting output or lower unemployment.

Agency problems also arise when principals are unable to clearly specify what their goals are or how the progress towards the achievement of its goal(s) may be measured or observed. Clearly, this compromises the process through which the principal may wish to ensure or incentive that the agent acts in his best interest. It also complicates the monitoring of the agent's performance and track record. The literature has emphasised the importance making the principal's objectives as clear and precise as possible. In public policy context, this has resulted in the advocacy and widespread adoption of explicit policy target, which agents are tasked with achieving. Clearly defined numeric inflation targets are an example of this trend in the context of monetary policy. A final concern in the principal-agent tradition is that the behaviour of the agent can be difficult, expensive and sometimes impossible to monitor. Again, this complicates the monitoring process between the principal and agent. The literature has therefore emphasised the importance of transparency on the part of the agent in general, and in more applied settings on clear and practical mechanisms for promoting transparency. In monetary economics, this tendency is reflected in strong emphasis on transparency on the part of central banks.

In conclusion, the principal-agent framework is a powerful theoretical lense through which to analyse the incentive structures and institutional arrangements underlying devolved authority and decentralised decision making. The tools and solutions of principal-agent analysis have extensive applications in matters of public policy.⁵ Principal-agent concerns permeate the field of finance and investment, given the myriad of agency relationships that arise from the extraordinarily high degree of specialisation, cooperation and decentralisation in modern finance. The tools and solutions of principal-agent analysis are therefore particularly useful in the study of sovereign wealth funds. These funds are at the intersection of a number of fields in which

⁵ Principal-agent analysis is, unsurprisingly, a mainstay of the fields of Public Choice, New Institutional Economics and Monetary Economics.

principal-agent analysis is widely applied: general situations of devolved authority, decentralised public policy, and highly specialised modern finance and investment. Consequently, the paper will frequently return to the question of how particular institutional arrangements can contribute to the resolution of agency problems related to sovereign wealth funds. In doing, it will consider how the lessons from the institutional arrangements in modern monetary policy can guide the establishment of similar arrangements for sovereign wealth funds.

THE MODERN MONETARY CONSENSUS

Since the monetary misadventures of the 1970s, there has been a remarkable convergence in the institutional foundations and policy frameworks in central banking. This reflects the theoretical and empirical support for what may be called the “modern monetary consensus”. This consensus encapsulated the progress towards a synthesis in the historical disagreements between Monetarist and Keynesian schools of thought (Romer, 1993; Taylor, 1997 and de Long, 2000). Above all, modern monetary policy, and the institutional framework in which it is nested, recognises the need to address agency problems. Consequently, the most important innovations in monetary policy since the 1970s include the specification of clear goals and targets for monetary, the establishment of mechanisms to ensure operational independence, the embrace of rule-based policy frameworks to enhance consistency and transparency, and considerably greater emphasis on transparency and openness in the conduct of monetary policy. These innovations directly address the agency problems that arise from the devolution of power over monetary policy.

A detailed literature has emerged on each element of the consensus and surveys of this body of work feature subtle variations in emphasis. However, hardly any monetary economist or central banker today would quibble with any of the following six elements of the modern monetary consensus:

- (i) The primacy of *price stability as the long-run goal of monetary policy*, coupled with an understanding of the contribution monetary policy can make to reducing output fluctuations;

- (ii) The desirability of *central bank independence* in monetary policy, understood as “instrument” or “operational” independence, while retaining goals dependence;
- (iii) The expression of the central bank’s objectives to *explicit policy targets* (or nominal anchors);
- (iv) The use of *contingent rules*, which incorporate forward-looking information on the expected state of the economy, to achieve policy objectives and targets;
- (v) The importance of *institutionalising the credibility* of the central bank;
- (vi) That *accountability* should be built into the monetary policy framework of instrument independent central banks, with a resulting focus on *transparency* and communication.

This list is very close to that compiled by Mishkin (2000), but makes the two uncontroversial additions of contingent rules and credibility.⁶ The omission of these two elements by Mishkin is simply a matter of stylistic organisation. The author does stress the importance of credibility, but under the discussion of nominal anchors (as have other important contributions to the literature, such as Friedman, 2002 and Blinder, 2000). Similarly, the advocacy of rules – albeit with a clear understanding of the importance their “contingency” and “flexibility” – is no longer controversial, as evidenced by the detailed discussion of rule-based monetary policy in other synthesising articles on modern central banking (Bernanke, 1994; Cecchetti, 1998 and Woodford, 2002). While there is still some debate in monetary economics around the relative weight applied to “rules versus discretion”, this traditional distinction has been considerably softened by the relatively recent emphasis on contingent (or “state-dependent” or “feedback” rules).

I. POLICY OBJECTIVES AND INSTITUTIONAL MANDATES

⁶ Mishkin adds a “central bank should also have the goal of financial stability.” This is a valid additional in the context of a discussion around the role of central banks in modern society, but falls outside the core focus on monetary policy.

If there is a binding theme running through the modern monetary consensus it is the emergence of a broad agreement around the appropriate goals of monetary policy, which was enabled by greater clarity around both the power and limits of monetary policy. The consensus reflects the understanding that monetary policy cannot affect (and therefore cannot target) real variables in the long run; and that the most significant contribution monetary policy make to societal goals is the achievement of price stability (understood as low and stable inflation). The modern consensus also recognises that monetary policy can contribute to reducing fluctuations in real variables (output and unemployment) in the short run and therefore can be used in part to stabilise short-run output fluctuations, albeit in a rule-based counter-cyclical manner.

This understanding was achieved long after Milton Friedman (1968) famously warned that “the danger of assigning to monetary policy a larger role than it can achieve [is] preventing it from making the contribution it is capable of making.” But Friedman’s insight would prove remarkably prescient in understanding, first, that monetary policy is a powerful tool; and second, that overstating or misdirecting that power compromises its effectiveness. It required decades of piecemeal learning to arrive at this understanding of the appropriate goals and contribution of monetary policy; and following this, yet more time to develop a clearer vision of the supporting institutions (an emphasis on independence and credibility, rules and targets) that promote the achievement of these goals. The modern monetary consensus has been accompanied by arguably the most successful period in the history of monetary policy in the form of the “Great Moderation” in inflation and volatility of output since the early 1980s. Yet, it is an open question as to whether this consensus will be shattered or reinforced by the events and aftermath of the global financial crisis that erupted in 2008.⁷

⁷ Some observers are concerned that the hard-won battles that led to instrument independence and rule-based policymaking will be (or have already been) forgotten (Taylor, 2010). Alternatively, one could argue that the fact that neither deflation nor rapidly rising inflation has occurred – and that inflation and inflation expectations have remained anchored around most central banks’ implicit or explicit targets, despite the biggest financial crisis since the Great Depression and unprecedented monetary and fiscal easing, is a further indication of remarkable advances in monetary policy.

Advocates of sovereign wealth funds, and a particular set of institutional arrangements for these funds, cannot hope to rely on a the kind of broad-based consensus. The very idea of having a sovereign wealth fund in first place is more conjectural in nature, given the remaining controversies over their merits of these fund (or the kind of sovereign wealth fund that are desirable in certain economic contexts).⁸ However, as is the case in monetary policy, debates around the objectives of institutions tasked with managing resource revenues, can rely on decades' worth of empirical evidence and experience. Sovereign wealth funds emerged in response to long-observed policy problems in resource-rich countries, as documented in the vast literature on the resource curse. The findings of this literature are varied and detailed (and in some cases still controversial), but a stylised list of conclusions has informed the case for sovereign wealth funds in the following ways:

- **Volatility and pro-cyclicality:** numerous studies have demonstrated the exceptionally volatility of commodity prices (Jacks *et al.*, 2011; and Hamilton, 2009). Consequently, countries dependent on resources for fiscal revenue and/or export earnings, typically experience greater volatility in their fiscal policy, balance of payments and business cycles. The above-average economic volatility recorded in resource-rich countries (particularly those in developing countries) is at least partly attributable to the failures of counter-cyclical policy. Frankel (2010) concludes from his review of the literature that the observed pro-cyclicality in resource-rich countries “is also in part due to the role of factors that ‘should’ moderate the cycle, but in practice seldom operate that way.” In practice, monetary and fiscal policy in particular are found to exacerbate rather than counteract macroeconomic volatility in resource-rich economies.
- **Dutch disease:** while there are a number of subtle variations in theoretical models in the Dutch disease tradition, this highly influential argument revolves around some

⁸ Regardless of the merits of these funds, the fact remains that they are increasingly widespread. This makes the question of how best to design the institution an important one, regardless of one's view of their merits.

combination of a set of mutually reinforcing developments. These include a real exchange-rate appreciation driven by a revenue windfall, a surge in investment and consumption, and imports; an increase in the price of non-traded goods and services relative to internationally traded goods; a shift in the allocation of resource out of the traded goods sector due to the more attractive returns in the commodity-producing and non-traded goods and services sectors; and a consequent destruction of the existing manufacturing/tradable goods sector (or failure to develop one in the first place).

- **Weak institutions:** that there is a negative correlation between resource abundance and institutional quality is not controversial (Mehlum *et al.* 2006 and Robinson *et al.* 2006)). What is more contentious is the causality of this relationship, and explanations for the observed relationship. Popular explanations, with some degree of empirical support, include the tendency for resource-rich economies to be subject to rent-seeking behaviour; public investment in “white elephants”; “veracity effects” in public spending in which volatility and bad institutions interact; and weak fiscal accountability and governance due to the fact that government is not finance through democratic taxation.
- **Intergenerational equity:** the final argument is a purely ethical one that is particularly significant given the miserable historical record in the management of natural resource and the revenues derived from them. Sovereign wealth funds are also a mechanism through which to achieve a degree of intergenerational equity in the allocation of revenues derived from exhaustible or finite natural resources. The insights of John Hartwick (1977), which resulted in the specification of the “Hartwick rule” for the intergenerational allocation of the rents from exhaustible resources, form the theoretical foundations of this argument in favour of sovereign wealth funds.

This literature and the accumulated experience of resource-rich countries informed the tentative specification of objectives for sovereign wealth funds. It is striking that the fiscal channel (the collection and particularly the spending of public revenues generated from the extraction of

natural resources) plays such a significant role in resource curse story. Consequently, the objective of a sovereign wealth fund is to invest the resources revenues in such a way that it creates a permanent and stable stream of government income government.

As noted above, this objective – and understanding of how it maps into a clear institutional mandate – of sovereign wealth funds is not (yet) as widely accepted today as the price-stability objective is for modern central banks with regard to monetary policy. However, the experience of monetary policy suggests a number of valuable insights. First, is the importance of the Friedmanesque understanding that the undeniable power and invaluable contribution of public policies are undermined by exaggerated expectations. It is in the best interest of both the principal and the agent that there is a realistic view of both the power and limitations of certain policies and policy instruments. Second, this understanding should take into account the technical constraints and epistemological limitations of policymakers. Friedman (1968) warned that the promise of “fine tuning” of the business cycle by monetary policymakers had an “evocative” ring to it, which unfortunately bore “little resemblance to what is possible in practice”. Similarly, there is no shortage of grandiose proposals for the tasks sovereign wealth funds should set themselves, many of which bear very little consideration of feasibility.⁹

The risk, as Friedman pointed out with respect to monetary policy, is that in assigning an unachievably ambitious task to sovereign wealth funds, their ability to make the kind of meaningful contribution outlined above is compromised. The objective of a sovereign wealth fund is transform volatile and finite revenues from natural resource into a permanent and stable stream of income. In doing so, a sovereign wealth fund contributes to social welfare in a number of important ways: it reduces the volatility of government revenues (and fiscal policy more generally), removes a number of the adverse incentives associated with revenue windfalls that

⁹ These problems here include, but are not limited to, greatly exaggerated expectations of the sophistication of sovereign wealth fund’s investment models and strategies. As noted below in the discussion of the importance of operational independence, the funds have been variously punted as catalytic developers of their domestic capital markets, financiers of the Green Revolution, instruments of foreign policy, and saviours of the European single currency.

result in poor governance and politics, and it lengthens the horizon over which the benefits of natural resources are enjoyed.

II. OPERATIONAL INDEPENDENCE

While the achievement of greater clarity over the appropriate objectives and social contribution of monetary policy was a significant triumph in itself, it also set in motion a number of additional institutional innovations that form the cornerstones of the modern monetary consensus. The most groundbreaking of these is the near universal acceptance of the benefits of operational independence in monetary policy. The idea of operational independence arose in response to pioneering research into the difficulties of avoiding various inflationary biases when the monetary authorities are simultaneously tasked with achieving other policy objectives, particularly when they face incentives to stimulate output and employment in the short run.

These biases can arise under assumptions of benign intentions on the part of policymakers. Kydland and Prescott (1977) identified a dynamic inconsistency that arises from the divergent long- and short-run effects of monetary policy on the real economy – that is, policymakers are confronted with an exploitable short-run Phillips curve and long-term monetary neutrality. Rational public expectations recognise that the monetary authorities face an incentive to exploit the short-run trade-off between inflation and output once low and stable inflation has been achieved. Over time, this raises long-run inflation expectations and, ultimately, observed inflation above the socially optimal level (and raises the cost of achieving price stability). More immediately intuitive examples of inflationary biases are based on assumptions of outright malevolence on the part of government, such as the tendency to over-inflate across the political business cycle (Nordhaus, 1975) and the generation of an inflation tax due to the pursuit of seigniorage revenue (Alesina and Summers, 1993). In the monetary policy literature, the argument in favour of operationally independent central banks is based on the belief that it will enable them to more credibly commit to behaviour that resists these biases. The operationally independent central bank is conceived of as a more purely technocratic institution, capable of resisting the public and political pressures that result in higher than optimal inflation.

A case can be made for the operational independence of sovereign wealth funds along similar grounds. The academic literature – and the sheer weight of historical experience – has brought to light several biases in the process of spending and investing of natural resource revenues. The argument for operational independence on the part of sovereign wealth funds proceeds at two levels. First, a sovereign wealth fund can be seen as an institutional mechanism through which to reduce the general biases and adverse incentives in the spending of natural resources. Second, these fund needs to be granted operational independence in order to avoid these biases from merely being transferred from the general case of revenue expenditure to the specific case of the investment policies of sovereign wealth funds. An operationally independent sovereign wealth fund can play a critical role in institutionalising the commitment to avoiding biases that would otherwise emerge at both levels. The previous section explained how the establishment of a sovereign wealth fund contributes to reducing the biases at the general expenditure level, but a more detailed discussion is required to explain why such funds need to have a sufficient degree of operational independence in order to avoid various biases in the investment process.

Theory and empirical evidence suggest that political intervention in the investment processes of public funds compromises investment performance (Carmichael and Palacios, 2003; Mitchell and Hsin, 1997; Useem and Mitchel, 2000). Similarly, a number of empirical investigations of sovereign wealth fund investment behaviour have identified that both political motivated domestic investments and direct political representation in their management lower returns (Chhaochharia and Laeven, 2009; Bortolotti *et al.*, 2009; Dyck and Morse, 2011; Bernstein, Lerner and Schoar, 2013;). Concerns over the affects of political influence on sovereign wealth funds' investment decisions have been raised in a theoretical sense by other scholars (Ang, 2010 and Das *et al.* 2009).

Political biases manifest in a number of ways in the investment process of sovereign wealth funds (and other public investment institutions). First, from a theoretical perspective it is easy to understand how lower returns are generated by the misalignment between the short horizons of

politicians and the longer horizons that sovereign wealth funds should assume in order to generate higher average returns. Models of distortions and misaligned incentives caused by the sub-optimally short horizons of politicians have innumerable applications, many of which build on the canonical work of Nordhaus (1975). The adverse effect of short political horizons on long-term investment in resource-rich economies has been studied extensively (see, for example, Gelb, Eifert and Tallroth, 2002). Institutional arrangements and incentives that promote the embrace of the long-term horizons at sovereign wealth funds' disposal are important. A large body of research has demonstrated that various investment strategies, such as "value investing", will outperform the market (generate "alpha") in the long run in theory, but that from a practical perspective most investors have shorter time horizon than required for these strategies to consistently pay off (De Long *et al.*, 1990; Shleifer and Vishny, 1990).

Second, political interference can result in "trend chasing". Trend-chasing investors have been variously described as "naïve" (Lakonishok, Shleifer and Vishny, 1994), "popular" (Shiller, 1984) and "noise" (Black, 1986) investors, the common characteristic being that they "tend to get overly excited about stocks that have done very well in the past and buy them up, so that these "glamour" stocks become overpriced" (Lakonishok, Shleifer and Vishny, 1994). In this vein, Bernstein, Lerner and Schoar (2013) suggested that "investments in industries with high price-to-earnings ratios might suggest that sovereign wealth funds engage in trend chasing and buy into inflated valuations." Political interference in the investment process makes trend chasing more likely for two reasons. On the one hand, politicians may apply undue pressure to pursue investments in prestige assets for political expedience and stature. On the other hand, sensitivity around political risk and exposure may result in an overly cautious or bureaucratic investment process, whereby even when trends are detected in a timely manner, organisational inertia results in "buying near the high, selling near the low".

A third risk is particularly pertinent given the previously discussed lack of clarity around the goals of sovereign wealth funds. There is a very significant risk that a sovereign wealth fund under undue political influence may be pressured into pursuing non-commercial objectives. In addition

to generating political and regulatory concerns on the part of recipient countries of sovereign wealth fund, such pursuits are also likely to undermine long-term investment performance. There are a number of different categories of non-commercial objectives. One may be tendency of politicians to favour “pet projects” that deliver high political returns, rather than financial returns (or social utility, more generally). This risk is particularly pronounced if the sovereign wealth fund is to invest in the domestic economy, where the potential for investments with high political returns is more significant than when the fund invests, for example, in a passively managed international portfolio of assets.

There have been frequent suggestions that sovereign wealth funds should act of explicit developmental institutions. Collier (2012) and Santiso (2008), for example, have proposed that sovereign wealth funds in developing countries should rather be conceived as “sovereign development funds” that provide public goods, such as domestic infrastructure that increases productivity and crowds-in private investment. While the merits of this proposal can be debated from a number of angles, it is uncontroversial to state that political pressure and direction could have a negative impact on the incentives under which a sovereign wealth fund operates – just as it does for other institutions and instruments of public investment, such as development banks, state-owned enterprises and conventional fiscal spending and investment channels.

Several additional proposals for the investments of sovereign wealth funds should pursue dot the literature, and raise concerns about whether political interference would seriously undermine the effectiveness of these institutions. It has been suggested, for example, that sovereign wealth funds act as catalytic “anchor investors” in the development of nascent domestic debt or other capital markets, as environmental saviour by providing funding for long-term investment in clean technologies and infrastructure (Stiglitz, 2012 and Guérin, 2013), and even as a potential “buyers of last resort” during the Eurozone debt crisis (Verma, 2012). There have also been concerns that sovereign wealth funds could be used as instruments of foreign policy or international relations (Summers, 2007 and Kimmit, 2008).

Of course, there is no expectation of certainty that the operational independence of sovereign wealth fund will guard against the above-mentioned biases – just as there are no guarantees that an independent central bank will always succeed in avoiding dynamic inconsistencies. Moreover, the government is by no means the only threat to prudent policy behaviour. Faust (1996) has argued that the appointment of technocratic boards to conduct monetary is, at least in part, a solution to concerns that “rule by majority” would result in distributional struggles between debtors and creditors (and different income classes), which that could undermine monetary prudence. A sovereign wealth fund is similarly subjected to the popular pressures from social agents with heterogeneous preferences around the trade-offs between saving and spending, and long-term returns and short-term stability: after all, a sovereign wealth fund introduces a generational trade-off around who receives the benefits from the extraction of natural resources, and when. However, as observed by Alesina and Summers (1993), granting independence to the central bank at the very least contributes to reducing the political pressure (both from the government and the public) that biases policy towards inflation.

Similarly, operational independence for sovereign wealth funds makes succumbing to these behavioural biases less likely. There are at least three reasons to believe that a lack of operational independence could result in significant political pressure being applied to the investment processes of sovereign wealth funds to the detriment of long-term investment performance. First, politicians’ time horizons and risk appetites do not align with those that a sovereign wealth fund should embrace. Second, political interference makes adverse behavioural biases, such as trend chasing and prestige investing, more likely. Finally, political pressure can result in the pursuit on non-commercial objectives. The granting operational independence to a sovereign wealth fund, if complemented by additional “commitment technologies” and appropriate transparency and accountability arrangements, can significantly contribute to the mitigation of these biases. Empirical and theoretical insights establish a strong case for the kind of operational independence for sovereign wealth funds that have become uncontroversial in monetary policy.¹⁰

¹⁰ “Legal” or “judicial” independence, alongside operational independence, would be desirable for sovereign wealth funds. Similar to manner in which Central Bank Acts typically enshrine the monetary

The remainder of this paper investigates additional institutional arrangements and elements that ensure that the behaviour and actions of an operationally independent sovereign wealth fund (the agent) is consistent with the long-term objectives of government and society at large (the principal); and that sufficient oversight and constraints on discretion are imposed on these funds.

III. INSTITUTIONALISED CREDIBILITY

The importance of credibility on the part of monetary policymakers is unquestioned in the central banking literature and the matter is a cornerstone of modern monetary policy paradigm. The theoretical work of the 1970s and the subsequent practical experience have greatly contributed to the realisation that an *ex ante* commitment to price stability alone lacks credibility, because the monetary authorities have an incentive to renege on their commitment and exploit the short run trade-off between inflation and output, *ex post*. The emphasis on the credibility of central banks arises in large part due to the endogeneity of inflation expectations and price- and wage-setting behaviour to the monetary policy process. This introduces a game-theoretic relationship between the central bank and wage- and price-setters in the economy. It is essential to the avoidance of self-fulfilling inflationary spirals and the reduction of the costs involved in maintaining price stability that price- and wage-setters believe the monetary authorities will do what they say they will do, rather than renege on previous promises. Absent credibility, the public constantly second-guesses the true motives and future behaviour of central bank, which raises the cost of generating price stability by requiring tighter monetary policy.

The potential role of sovereign wealth funds in positively affecting the expectations and, consequently, the behaviour of economic agents has not been discussed much in the literature. However, it is possible to identify ways in which agents respond positively and endogenously to the actions of a sovereign wealth fund – and that the extent of that positive response is directly related to the degree of credibility the fund enjoys. There are a number of channels through

authorities' legal ownership of its assets (such as its foreign exchange reserves), a sovereign wealth fund's assets should be safeguarded by clear and robust laws that protect them from appropriation.

which a credible sovereign wealth fund can affect economic decisions and behaviour in an endogenous manner. The resource curse literature has identified a casual relationship running from the prevalence of corruption, rent seeking and volatility in resource-rich countries to the observed low levels of investment, particularly of a long-term nature in these economies (Mehlum *et al*, 2006). As discussed above, a successful sovereign wealth fund should contribute to removing the incentives and scope for corruption and rent seeking, as well as reduce volatility. However, to truly (and efficiently) change expectations and behaviour in such a way that long-term investment is incentivised, the sovereign wealth fund will need to achieve and maintain high levels of credibility.

There are additional reasons for emphasising the importance of institutionalised credibility, which relate more to the “political economy” context in which these funds operate. As with all public institutions, there are self-evident advantages to being a trusted and even revered entity. In the case of sovereign wealth funds, this might be especially so given the controversy and political contestation that their creation is likely to engender. At its inception, a sovereign wealth fund is likely to come up against vested political interests whose corruption and rent-seeking behaviour is in part the very justification for the fund’s creation. Once established the fund will face persistent public and popular pressures to use resource revenues to finance immediate spending and investment, or pursue all manner of currently popular investment strategies. Finally, an appropriately mandated and incentivised sovereign wealth fund – which is to say a fund that adopts a long-term and often countercyclical investment model – *should* go through periods (sometimes lasting a number of years) of lower and even negative returns. In all cases, political and popular support will be essential to the sovereign wealth fund’s effectiveness or even its survival. A credible track record and evidence that lower investment returns are the result of exogenous market swings and not some discretionary policy mistakes – i.e. that the sovereign wealth fund adhered to its rules and guidelines and “did what it said it would” – will be invaluable tools in the fund’s defense.

An important lesson from modern central banking for sovereign wealth funds is the emphasis on institutionalising – that is, de-personalising – credibility. In the central banking literature there is a long-standing debate around the degree which credibility is, can and should be centred around individuals or in a more elaborate institutional and policy framework. Alan Blinder (1997) famously argued that central bankers did not require rules and other “precommitment strategies” to achieve low inflation. Rather, all that was needed was the will to do the right thing, following which central bankers could “just do it”. According to Du Plessis (2003) this view “disregards a fundamental insight of the institutional literature, i.e. that the benign decisions of any particular policy maker, or succession of policy makers offer no confidence that the next policy maker would continue in similar vein”.

The goal of vesting credibility in an institution – or, more specifically, the rules and principles that it is understood to follow – is that it avoids a “cult of personality”. It is a matter of debate whether the Federal Reserve’s comparatively less stringent adherence to rules and explicit targets for monetary policy is the reason why the three most recent chairmen – Paul Volcker, Alan Greenspan and Ben Bernanke – all attracted, and arguably relied on, an unmistakable aura as monetary “wise men”. The extraordinary scrutiny every uttering by these central bankers attracted and the intense speculation over how their arrival might alter the course of monetary policy at the world’s most important central bank underlines the extent to which a cult of personality has prevailed over the Federal Reserve.

It is not hard to see how a similar situation may prevail at a sovereign wealth fund, particularly if the fund investment policies are subject to a large degree of managerial discretion, rather than being guided and governed by rules and explicit targets. The investment world is infamous for developing cults of personalities around would-be “gurus”: so much so that a thriving cottage industry has emerged around attempts to replicate the investment philosophies and portfolios of celebrated investors. Sovereign wealth fund managers have largely avoided this fate; however, this is most likely due to a lack of transparency and a notorious reluctance to appear and comment in public on their investments.

An interesting example of how institutionalised credibility can assist in avoiding the cult of personality is evident in the recent succession at the helm of the Norwegian sovereign wealth fund, which manages more than \$700bn in assets. Knut Kjaer, who became something of a spokesperson for the sovereign wealth fund community during their emergence into the limelight in 2007, managed the fund since its inception. When Kjaer resigned in 2008 (at a time of great turmoil in the global financial markets), outside observers wondered how the transition to a new chief executive might impact on the fund's approach to investment and communication. Ultimately, however, the transition was a complete non-event: the new chief executive, Yngve Slyngstad, simply stuck to the same rules and principles that guided the fund's investment approach under Kjaer's tenure. The fund has increased its exposure to equities and made its first ever allocations to real estate, but this diversification process – and importantly, the rules and principles that underpinned that process – was already underway before Slyngstad took over. It seems unavoidable that somebody who heads a fund well on its way to managing a trillion dollars' worth of assets will attract attention – but, ultimately, the credibility of the Norwegian sovereign wealth fund was primarily vested in the institution, rather than in the individuals that manage it.

In summation, it is clear credibility means something very specific in modern monetary policy. This understanding is informed by the endogeneity of price- and wage-setting behaviour and expectations. Credibility is critically important to sovereign wealth funds as well. In the first instance, a credible sovereign wealth fund removes a number of well-documented obstacles in resource-rich economies to long-term investment by agents in the domestic public and private sector, as well as external investors. The credibility of the sovereign wealth fund endogenously influences expectations around corruption, rent seeking and volatility in resource rich economies. Credibility is also important from a purely political economy perspective. An established track record of “doing what one said one would” is essentially insurance against political pressure during inevitable tough times. In this context, credibility might be better described as a tool towards “legitimacy” – a concept much discussed and emphasised by sovereign wealth fund

scholars (Monk, 2009 and Ang, 2010). The central banking literature has long since turned the attention from a general emphasis on credibility to specific commitment mechanisms, notably explicit policy targets and operational rules, which give substance and practical relevance to credibility. The article now turns to these issues.

IV. THE USE OF EXPLICIT TARGETS

As is the case with credibility, the strong theoretical and practical support for the use of explicit targets in monetary policy is in large part based on the desirability and efficiency of anchoring endogenous inflation expectations. Indeed, the use of explicit targets in monetary policy is widely understood both as a means to achieving credibility and as a benchmark for assessing whether that credibility has been achieved. As Du Plessis (2003) noted, following Stern (1999), the adoption of explicit inflation targets, for example, “serves both to give content to the concept of credibility and to provide a yardstick for measuring that credibility.”

As noted above, the interpretation of credibility is somewhat different in the context of sovereign wealth funds, where the role and importance of managing endogenous expectations is less important. Consequently, the role of explicit policy targets as a means to establish and assess credibility for sovereign wealth funds also needs to be somewhat reinterpreted. Policy targets and their relationship to the credibility sovereign wealth funds pertain more to the political economy elements to the institutional arrangements between the fund, government and the public. This element is not irrelevant to the adoption of explicit policy targets in central banking: indeed, the clear expression of what the central bank is tasked with doing is critical to the contractual relationship between government (on behalf of the public) and an independent central bank. Stern (1999), therefore, emphasised the role targets play in “defining a relationship between the central bank, the government, external institutions and the private sector.” Perhaps the most important manifestation of this role is that it clarifies the fact that the government typically sets the target, while the central bank is granted freedom to achieve it.

A second dimension to explicit policy targets in their relation to the political economy considerations around both central banks and sovereign wealth funds is that they assist in the communication and accountability process (and thereby reinforce the credibility – or legitimacy – of the institution). Based on an extensive survey of the reasons for central banks' adoption of explicit targets, Stern (1999) concludes that "policymakers use explicit targets because they find that it is better to have narrow objectives and explain misses, rather than having imprecise objectives that make success or failure difficult to measure." This reasoning has significant implications for a public investment institution such as a sovereign wealth fund. Fortunately, the use of various forms of targets is commonplace in the investment industry and there is no shortage of ways in which the investment objectives of a sovereign wealth can be clarified through the adoption of explicit investment targets. A conventional way to clarify the sovereign wealth fund's policies, investment decisions and performance is to establish an investment benchmark (in the form of a well-known index, combination of indexes or reference portfolio), which the fund is expected to track with some acceptable degree of flexibility (in the form of a maximum *ex ante* tracking error). The fund may also explicitly state its target return, which would be tightly aligned with the historic returns of the selected benchmark(s). A narrow objective for a sovereign wealth fund could be given content through the specification of explicit investment targets, as follows:

"The fund seeks to achieve an annualised real rate of return of at least 5% net of fees. This target is to be achieved over the long term, due to the volatility implicit in short-term periods. In pursuing this target, the fund is expected to track to index benchmarks: the MSCI All Country World Index (70%) and the Barclays Global Aggregate Bond Index (30%)."¹¹

This section has demonstrated the merits and feasibility of adopting explicit targets for sovereign wealth funds. A natural progression from targets is to the discussion of a rule-based framework for policy implementation. Whereas this discussion has led monetary economists

¹¹ Note that this formulation includes some assumptions around the fund's desired asset allocation and the selection of particular indexes through which to best express the fund's expected returns. The appropriate specification of these technical details is of great importance in practice, but is trivial to the theoretical arguments around governance and institutional arrangements presented in this paper.

beyond the stark debates around “rules vs discretion” to a modern understanding of contingent or state-dependent rules (and notions of “flexible” inflation targeting), a parallel progression has occurred in the investment literature and practice from “active vs passive” investment towards a discussion of how and when investors might adopt disciplined and rule-based deviations from purely passive investment implementation that take information on the state of the economy and financial markets into account.

V. THE USE OF CONTINGENT RULES

Economists’ understanding of the respective merits of rules and discretion in the conduct of monetary policy has evolved considerably in the post-war era. Three distinct intellectual developments underline the piecemeal advances in understanding how rules – and in particular what *kind* of rules – contribute to the credibility of the central bank’s commitment to the avoidance of various inflationary biases, the public understanding of the monetary policy process, the stability of inflation expectations, and the accountability and transparency of independent central banks. The first development was the work of Milton Friedman in the 1960s around limits and dangers of activist counter-cyclical policy (and his advocacy of the k-percent constant money-growth rule). The second major development was the seminal contributions of the late 1970s and early 1980s by Sargent and Wallace (1975), Kydland and Prescott (1977), Lucas and Sargent (1978) and Barro and Gordon (1983) that emerged following the identification and increasing prominence of incentive-based dynamic inconsistency problems in policymaking. Finally, the work of John Taylor, Michael Woodford and Lars Svensson has led to an important softening of the distinction between “stark” or “mechanistic” rules and discretion. These contributions have underlined the fact that rules - including ones that are fairly simply specified – can take information on the current and expected future state of the economy into account. In this jargon of monetary economics such rules are variously known as “activist”, “feedback”, “contingent” or “state-dependend” rules.

Particularly when combined with a clearly communicated explicit policy target, the modern understanding of rules as outlined above constitute what Woodford (2002) described as

“principles of systematic conduct for institutions that are aware of the consequences of their actions and take responsibility for them”. Emphasising the fact that contingent rules and explicit targets by no means place policymakers in a straight jacket, Du Plessis (2003) notes that “the adoption of explicit targets has not implied a move to stark “rules” for monetary policy, but rather a move to a systematic framework for monetary policy that allows flexible implementation and transparent communication of policy decisions.” While the expectations-management aspect of contingent rules are of great significance to the very particular challenges of monetary policy given the endogeneity of price- and wage-setting behaviour, there are more generic virtues to rules that are relevant to the design of institutional arrangements of sovereign wealth funds. There are a number of striking parallels in the theoretical and practical understanding of active (or discretionary) versus passive (or constrained) decision making in monetary policy and investment.

It is clear that the investment practices of a number of investors, particularly market-leading, large institutional investors (including some sovereign wealth funds, notably the Government Pension Fund of Norway) is a highly disciplined, rule-based process. The investment equivalent of a Friedman-like k -percent rule is a very strict adherence to the benchmark (with low or zero tracking error). With innovations in the investment industry in recent years, a mechanistic-in-the-extreme rule can be pursued by simply buying a bundle “index products” (such as tracker funds). This approach would amount to simply “following the market”, which zero active management, and have the very significant advantage of low costs: both in terms of foregoing fees for active management (which are typically accrued whether “alpha” or market-outperformance is achieved or not), in costly investments in human capital. Tracker funds can carry fees as low as 5 to 10 basis points of assets (whereas fees on outsourced fund management typically start at 50 basis points and can rise significantly with performance, reputation and complexity).

It should be noted that many controversies remain between adherents of the efficient markets hypothesis, who believe alpha-generating possibilities are limited (and, typically, the result of luck or risk taking); and those who believe markets exhibit not only periodic episodes of

irrationality, but that those episodes are systematically exploitable in order to generate alpha. These debates remain far from settled, but there are three well-supported and critically important findings in literature that have significant implications for sovereign wealth funds. First, the most liquid and well-researched markets approach efficiency and in these markets alpha is rarely sustained over successive of periods. Second, where alpha is generated, it is often eroded by management and performance fees, and explained by significant increases in risk exposure.¹² Third, research suggests that in excess of 90% of institutional investor and mutual fund investment performance over time is explained by “top-down” strategic asset allocation, rather than active factors such a market timing, asset selection and investment style, such as “growth” versus “value” strategies (Ibbotson and Kaplan, 2000). A second argument in favour of a passive, market-tracking investment approach for sovereign wealth funds revolves around agency issues. An entirely passive investment approach considerably reduces the need for elaborate accountability arrangements for the sovereign wealth fund, which becomes a purely administration agency. A more active approach requires (costly) monitoring of the agent (and the “agents’ agents” in the case of the use of third party fund managers) by the principal.

An important implication from this discussion is that the argument in favour of mechanistic strategies is much more compelling when it comes to the conduct of sovereign wealth fund investment policies than it is for monetary policy. In the case of sovereign wealth funds, the burden of proof effectively lies with those in favour of a more activist investment approach in pursuit of market-beating returns: a move towards more active strategies raises costs (monitoring costs, trading costs, management fees, technological infrastructure acquisition and maintainance, and investments in human capital) and introduces additional uncertainty into the investment process. These are important considerations for a fledgling sovereign wealth fund in countries with relatively small talent pools, experience, infrastructure and expertise in investing. A new

¹² There is some evidence that alpha is more commonly generated in less efficient markets that features greater information asymmetries and lower liquidity, but the counter arguments to investments in these markets can be significant for large public investors. They include: higher management fees for investing in complex markets, higher volatility, higher counterparty risk, and reduced transparency and timely information.

sovereign wealth fund needs to clear a relatively high hurdle in the form of additional returns in order to justify active strategies.

One low-cost, highly transparent and rule-based step such funds can take in pursuit of additional returns from the most naïve buy-and-hold passive strategy is to conduct portfolio rebalancing. Simply put, rebalancing is the process of periodically returning to an original target asset allocation after differing returns on various asset classes has resulted in a drift away from an original allocation. Rebalancing therefore institutionalises or mechanises a measure of countercyclical investing that will result in additional investment returns as long as the major asset classes returns demonstrate a degree of mean reversion, which is an uncontroversial assessment over the long run (Cochrane, 1999 and Barberis, 2000).

Rebalancing has been associated with sound risk management and the generation of higher long-run returns. A number of authors (Ang, 2010; Ang, Goetzmann and Schaefer, 2009; and Chambers, Dimson and Ilmanen, 2011) have argued that rebalancing is particularly important rule for sovereign wealth funds to pursue. In their extensive review of the practices of the Norwegian sovereign wealth fund, commonly regarded as the most successful and exemplary fund of its kind, Ang, Goetzmann and Schaefer (2009) praised the fund's use of rebalancing rules, which they argued "permit an automatic optimal allocation of risk in response to time-varying risk premiums." They further argue that the fund's rebalancing rule is "counter-cyclical and loads on equities when equities have considerably declined in price relative to bonds, when equity risk premiums are likely to be high, and reduces the weight on equities after large gains, when equity risk premiums are likely to be low...[and prevents] arbitrary actions of changing asset allocations in response to short-term noise."

There are various technical issues to consider around rebalancing, including weighing the benefits of rebalancing against its costs (taxes and two-way trading costs), the regularity or timing of rebalancing, and whether rebalancing is triggered by fixed time intervals or thresholds in the extent of the departure from target allocations. A simple illustration of various rebalancing

rules, and shown that a rebalancing rule based on threshold (rather than fixed calendar dates) adding around 10% to total capital growth between January 1988 and February 2013; and as much as 40 basis points in annual returns (before trading costs). The result is robust to various plausible bond/stock portfolio specifications, based on data from the MSCI World Index and Citigroup World Bond Index (Rietveld and Seaward, 2013).

Over time, a sovereign wealth fund may accumulate sufficient human capital, technological infrastructure and institutional (and political) credibility to pursue more skill-intensive active strategies or manage the complex oversight and manager-selection processes that accompany allocating investment mandates to external managers. Ang (2010) and Ang and Kjaer (2012) have argued the expected risk and return of large investors with long horizons are fundamentally driven by various “factor risk exposures”, including fundamental factors (inflation risk, economic growth, credit risk and country/political risks) and style factors (value, growth, momentum and volatility). This approach, which has its origins in the Arbitrage Pricing Theory of financial economist Stephen Ross (1976), is a deeper and economically grounded analysis of the drivers of investment returns over the long run than the traditional approach based on exposure to asset classes. This factor-allocation approach is a highly promising field of enquiry for long-term investors, such as sovereign wealth funds. For example, sovereign wealth funds may wish to pursue a value-investing approach given their longer-than-average investment horizon, which requires engaging in asset selection and/or market timing. In the likely absence of sufficient “in-house” skills and capacity, sovereign wealth funds should be able to select external managers that can give them the desired factor exposures (which introduced agency and monitoring costs related to external managers).

From a governance and institutional design perspective, a higher degree of active management introduces significant challenges. First, the communication challenges rises significantly as the fund moves away from a passive allocation to one where discretionary bets are placed in an attempt to outperform the markets. Even if, as is desirable for all large institutional investors (let alone ones that manage public assets), the allocation to active strategies is governed by a robust

rule-based framework¹³ that incorporates information on changes to underlying risk factors (i.e., a “contingent rule”), the operation and interpretation of this rule(s) needs to be explained and communicated. Second, the accountability mechanisms become considerably more involved, as the fund has to account (to the Board, political overseers and the general public) for its pursuit of particular strategies and why deviations from the benchmark – which will inevitably be negative on occasion, sometimes for lengthy periods of time – occurred (the process of “performance attribution” in the investment jargon). Third, active allocations almost certainly introduce complex agency relationships between government, the fund’s management and external fund managers. In practice, all major sovereign wealth funds that pursue active management strategies make extensive use of external managers – the manager selection, performance and risk reporting and monitoring, and coordination processes are all (costly) additional elements of the principal-agent relationship that results from the use of external managers.

In conclusion, two major lessons emerge from the comparison of the role of rules in monetary policy and sovereign wealth fund investment. First, whereas the monetary policy literature has long recognised that stark, mechanistic rules are problematic and had to be replaced by contingent rules that incorporated information about the state of the economy, the investment world has a considerably more sympathetic view of mechanistic rules in the form of purely passive allocations to indexes. The second major lesson relates to more heuristic function “rules” perform in both the *ex ante* internal decision making process and the *ex post* evaluation of the performance of an important (and operationally independent) public institution with the authority to exercise discretion. Du Plessis (2003) noted in relation to the role of rules in the evaluation of the monetary policy that “The ‘normal’ behaviour of the central bank as well as its

¹³ In designing contingent rules that govern the allocation process to active investment strategies, sovereign wealth funds should bear an important lesson from monetary policy in mind: monetary economists have recognised that specific targeting rules is typically “sub-optimal” in each specific context, but in practice the futile search for “optimal rules” has been replaced by a search for ones that are most robust to various specifications of the economic structure (see especially Svensson, 2002 and 2003). The global financial markets are prone to periodic “regime shifts” and temporary deviations from long-standing structural features and asset correlations – the importance is to identify rules that govern the active allocation process that are robust to various plausible financial conditions and relationships, rather than one that is “optimal” in the strict sense *for a particular structure*.

‘discretionary’ decisions are, accordingly, rendered intelligible, and hence potentially transparent, and if potentially transparent, then potentially accountable.” The very essence of discretion lies in the fact that we cannot design rules that are robust to all states of the world and can therefore be followed in all contingencies. This is true for monetary policy as it is for active investing – hence, there will always be flexibility – or discretion – in the interpretation and implementation of contingent rules. But the very existence of the rule establishes a benchmark through which both the policymaker and the public can understand the meaning and implications of the exercise of discretion.

VI. TRANSPARENCY AND ACCOUNTABILITY

The final set of lessons from the modern monetary consensus for sovereign wealth funds is mostly likely the least controversial one, at least in a democratic society: that the agency relationship established by the devolution of authority in the management of national resources requires extensive institutional arrangements that promote and enforce accountability and transparency on the part of the agent. The preceding discussion underlined the importance of three factors to the accountability and transparency arrangements of sovereign wealth funds (and indeed operationally independent central banks): (i) the importance of formulating commonly agreed policy objectives (what policy can and cannot achieve); (ii) the expression or mapping of these objectives into explicit policy targets; (iii) the adoption of (contingent) rules to guide the implementation and *ex post* and *ex ante* evaluation of policy. In this section, it is useful to examine how the lessons that emerge from the additional, and more direct, accountability and transparency arrangements in modern monetary policy may be applied to sovereign wealth funds.

The need for (and apparent lack of) transparency and accountability funds has been a major area of focus in both the literature and policy discussions on sovereign wealth funds. This focus emerged from the regulatory concerns expressed by recipient countries of sovereign wealth fund investments, notably the United States, France, Germany and Australia. These concerns related to the very high degree of obscurity that surrounded leading sovereign wealth funds from the Middle East and Asia. At the time, little was known about a number of fundamental features of

these sovereign wealth funds, including their size of assets under management, investment objectives; benchmarks and target returns; source of funds and use of assets and income; asset and currency allocations; internal management structures; relationships to their respective government and governance structures more generally; legal status; approach to the exercise of shareholder rights, etc.

Ultimately, this lack of transparency became a major political issue in recipient countries, raising the risk of a knee-jerk regulatory response. This discussion led to a number of useful initiatives that potentially contribute significantly to enhancing direct measures for transparency and accountability of sovereign wealth funds. These include the construction of a highly influential “scoreboard” for sovereign wealth fund that listed and ranked the public information around four aspects of sovereign wealth funds: (i) structure, (ii) governance, (iii) transparency and accountability, and (iv) behaviour (Truman, 2008). The scoreboard lists 25 questions across the four categories, for which the results of simple “yes/no” answers are collated to create a score out of 100. The results of the original study are reproduced in Table 2. Suffice to say, the message was that a number of the largest sovereign wealth funds were woefully opaque.

Sovereign wealth funds responded to the rising political and regulatory pressure and the Truman scorecard by convening an international “working group” (later renamed as a “forum”) of sovereign wealth funds. This group convenes at least twice a year for high-level meetings, with participation from all major sovereign wealth funds, recipient countries and the International Monetary Fund. The establishment of the forum is a hugely constructive step towards information sharing, knowledge transfer and benchmarking amongst peers in general, but has also had the direct consequence of the establishment of a set of 24 voluntary “best practices” formally known as the Generally Accepted Principles and Practices (GAPP), but more commonly referred to as the “Santiago Principles”. However, as has been widely documented in the literature, the Santiago Principles are an important step towards greater transparency and accountability, but the devil remains in the detail and, more specifically, in the extent to which the principles are implemented in a meaningful way.

TABLE 2: Truman's Sovereign Wealth Fund Scoreboard – Selected Resource Funds

Fund name	<i>Structure</i>	<i>Governance</i>	<i>Transparency & Accountability</i>	<i>Behaviour</i>	<i>Total</i>
Norway Government Pension Fund – Global	7.5 ^o	4.00	10.5 ^o	1.00	23.00
Timor-Leste Petroleum Fund	8.00	2.00	11.75	0.00	21.75
Alberta Heritage Savings Trust Fund	7.5 ^o	3.00	9.00	0.00	19.5 ^o
Azerbaijan State Oil Fund	5.00	2.00	9.5 ^o	0.00	16.5 ^o
Chile Economic and Social Stabilization Fund	7.00	2.00	6.5 ^o	0.00	15.5 ^o
Botswana Pula Fund	5.5 ^o	2.00	7.00	0.00	14.5 ^o
Kazakhstan National Oil Fund	6.00	2.00	6.5 ^o	0.00	14.5 ^o
São Tomé & Príncipe National Oil Account	8.00	2.00	2.25	0.00	12.25
Trinidad & Tobago Heritage & Stabilization Fund	6.5 ^o	2.00	3.75	0.00	12.25
Kuwait Investment Authority	6.00	3.00	3.00	0.00	12.00
Russia Stabilization Fund	4.00	2.00	3.5 ^o	0.00	9.5 ^o
Kiribati Revenue Equalization Reserve Fund	5.00	2.00	0.5 ^o	0.00	7.5 ^o
Mexico Oil Income Stabilization Fund	5.00	0.00	2.00	0.00	7.00
Venezuela National Development Fund	1.5 ^o	0.5 ^o	4.00	0.00	6.00
Iran Oil Stabilization Fund	4.00	1.00	0.5 ^o	0.00	5.5 ^o
Venezuela Macroeconomic Stabilization Fund	3.00	0.5 ^o	2.00	0.00	5.5 ^o
Oman State General Reserve Fund	3.00	0.00	2.00	0.00	5.00
Algeria Revenue Regulation Fund	3.00	1.00	0.5 ^o	0.00	4.5 ^o
Brunei Brunei Investment Agency	1.00	0.5 ^o	1.00	0.00	2.5 ^o
Qatar Investment Authority	2.00	0.00	0.00	0.00	2.00
Abu Dhabi Investment Authority	0.5 ^o	0.00	0.00	0.00	0.5 ^o
Total Possible Points	8.00	4.00	12.00	1.00	25.00
Average Number of Points	4.80	1.42	4.02	0.03	10.27

There are striking similarities between the Truman scoreboard and the Santiago Principles for sovereign wealth funds and popular accountability test and scores for central banks, such that proposed by de Haan *et al.* (1998). This suggests a fruitful area of future research around evaluations of the direct measures and steps taken by various sovereign wealth funds towards ensuring transparency and accountability. It should be recalled that one of the arguments in the normative support for sovereign wealth funds in that they can enhance transparency and accountability in the management of public revenues that arise from the extraction of natural resources. This can only be achieved if the sovereign wealth fund willingly and regulatory

provides information on its operations, objectives and policy process; as well as its performance and evaluation of market and economic conditions that affects its decision making process.

CONCLUSION

This paper has considered various ways in which the modern central banking mantra that “boring is best” may be applied to the important task of designing appropriate institutional arrangements for sovereign wealth funds. The agency relationships established by the (desirable) operational independence of both modern monetary authorities and sovereign wealth funds result in an emphasis on institutionalised credibility (and the adoption of explicit targets and contingent rules) and extensive arrangements that promote accountability and transparency. Although there is currently less agreement around the appropriate objectives and mandate of sovereign wealth funds than there is for central banks, the former can distill important institutional lessons and adopt various constructive practices from the latter. The arguments presented in this paper are suggestive of broad institutional logic on which future research can build by investigating in greater detail how the technical aspects of sovereign wealth funds’ rules and policy targets may operate, and how accountability and transparency can be enhanced (and indeed if and where this is, in fact, happening). In additional area of study that follows from this paper is to evaluate whether the proposed institutional arrangements for sovereign wealth funds are, or can be made, “efficient” in the manner advocated by New Institutional Economics – that is, whether and how the proposed institutional arrangements promote predictability, incentive compatibility, overall coherence, openness and cost efficiency.

APPENDIX: Key Sovereign Wealth Fund Data

Government Authority	Fund Authority	Inception Year	Source of Funding	AUM (\$bn est.)
Texas	Texas Permanent School Fund	1854	Oil & Public Land	29.4
Texas	Permanent University Fund	1876	Public Lands	12.8
New Mexico	Land Grant Permanent Fund	1898	Public Land	0.85
Kuwait	Kuwait Investment Authority	1953	Oil	386
Kiribati	Revenue Equalization Reserve Fund	1956	Phosphates	0.6
Saudi Arabia	Public Investment Fund	1971	Oil	5.3
New Mexico	Severance Tax Permanent Fund	1973	Oil & Minerals	0.33
Wyoming	Permanent Wyoming Mineral Trust Fund	1974	Minerals	5.6
Abu Dhabi	Abu Dhabi Investment Authority	1976	Oil	627
Alaska	Alaska Permanent Fund	1976	Oil	47.1
Alberta	Alberta Heritage Savings Trust Fund	1976	Oil	16.6
Montana	Montana Permanent Coal Trust Fund	1978	Minerals	0.6
Oman	State General Reserve Fund	1980	Oil	8.2
Brunei	Brunei Investment Agency	1983	Oil	30
Abu Dhabi	International Petroleum Investment Company	1984	Oil	65.3
Alabama	Alabama Trust Fund	1985	Oil & Gas	2.96
Louisiana	Louisiana Education Quality Trust Fund	1986	Oil	1.16
Malaysia	National Trust Fund	1988	Oil	1.71
Norway	Government Pension Fund - Global	1990	Oil	737.2
Botswana	Pula Fund	1996	Diamonds	6.9
Gabon	Sovereign Fund of the Gabonese Republic	1998	Oil	0.4
Venezuela	Macroeconomic Stabilization Fund	1998	Oil	0.8
Azerbaijan	State Oil Fund	1999	Oil	34.68
Iran	National Development Fund	1999	Oil	52
Algeria	Revenue Regulation Fund	2000	Oil	77.2
Kazakhstan	Kazakhstan National Fund	2000	Oil	63.45
Mexico	Oil Revenues Stabilization Fund	2000	Oil	6
Trinidad & Tobago	Heritage and Stabilization Fund	2000	Oil	4.7

Continued on the following page

Abu Dhabi	Mubadala Development Company	2002	Oil	53.1
Equatorial Guinea	Fund for Future Generations	2002	Oil	0.2
Qatar	Qatar Investment Authority	2003	Oil	115
Russia	National Welfare Fund	2004	Oil	172.2
Sao Tome & Principe	National Oil Account	2004	Oil	Unknown
Ras Al Khaimah	RAK Investment Authority	2005	Oil	1.2
Venezuela	National Development Fund	2005	Oil	18
Timor Leste	Timor-Leste Petroleum Fund	2005	Oil & Gas	13.6
Chile	Pension Reserve Fund	2006	Minerals	7.15
Bahrain	Mumtalakat Holding Company	2006	Oil	7.1
Dubai	Investment Corporation of Dubai	2006	Oil	70
Libya	Libyan Investment Authority	2006	Oil	65
Mauritania	National Fund for Hydrocarbon Reserves	2006	Oil	0.3
Malaysia	Terengganu State Sovereign Fund	2006	Oil & Gas	3.6
Chile	Social and Economic Stabilization Fund	2007	Minerals	15.24
Papua New Guinea	Papua New Guinea Sovereign Wealth Fund	2011	Oil & Gas	Pending
Mongolia	Fiscal Stability Fund	2011	Oil & Minerals	0.3
Colombia	Savings and Stabilization Fund	2011	Oil	Pending
Ghana	Ghana Heritage Fund	2011	Oil	0.02
Ghana	Ghana Stabilization Fund	2011	Oil	0.07
Nigeria	Nigerian Sovereign Investment Authority	2011	Oil	1
North Dakota	North Dakota Legacy Fund	2011	Oil	0.94
Australia	Western Australian Future Fund	2012	Minerals	0.3
Angola	Angola Sovereign Fund	2012	Oil	5
Kazakhstan	National Investment Corporation	2012	Oil	20
New Mexico	New Mexico State Investment Office Trust	1958	Fiscal Surplus	17.3
Singapore	Temasek Holdings	1975	Fiscal Surplus	215
Singapore	GIC	1981	FX Reserves	330
Malaysia	Khazanah Nasional	1993	Public Revenues	39.1
Australia	Future Fund	2004	Fiscal Surplus	88.7
South Korea	Korea Investment Corporation	2005	FX reserves	56.6
Vietnam	State Capital Investment Corporation	2006	Public Revenues	0.5
China	China Investment Corporation	2007	FX Reserves	482
Brazil	Sovereign Fund of Brazil	2008	Public Revenues	5.3

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