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Governance of Crown Financial Assets

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ABSTRACT

This paper investigates the agency problems associated with the public management of a large financial asset portfolio. After considering the relevant theoretical and empirical literature, a set of institutional arrangements are presented that should reduce the extent of the potential agency problems faced. Key design features include: mechanisms for enhancing policy credibility; the use of existing market mechanisms and regulation where possible; and the creation of a public-sector institution to perform administrative functions. The paper does not consider the issues of optimal fiscal policy, or the appropriate risk tolerance for the Crown, although the conclusions drawn from this study may contribute to these debates.

1.0 INTRODUCTION

In this paper we investigate the nature of the agency problems associated with the Crown managing a large financial asset portfolio. A better understanding of the agency relationships involved should help to shed light on the design of appropriate governance arrangements for a public-sector fund.

The Crown currently holds approximately $11 billion of financial assets, representing 18% of its total assets. The Government also exercises direct control over the management of a further $7 billion which are not recorded on the Crown's statement of financial position.

The level of financial assets under management could increase substantially over the next decade. The Government's long-term fiscal strategy, as outlined in the 1998 Fiscal Strategy Report, is to reduce net debt to 15% of GDP, and then to continue to reduce it by running surpluses, on average, over the economic cycle.

The magnitude of current and expected future financial asset holdings implies that relatively small efficiency gains in the management of these assets could have a materially positive impact on social welfare. It is therefore important to investigate ways of improving the efficiency of Crown financial asset management.

The paper is structured as follows:

- part two describes the agency issues associated with a Crown managed financial asset portfolio;

- part three discusses the relationship between fund governance characteristics and investment performance; and

- part four presents the findings of the analysis on the institutional arrangements most likely to contribute to reduced residual agency costs.

2.0 AGENCY ISSUES IN THE MANAGEMENT OF CROWN PORTFOLIOS

[People] in general, and within limits, wish to behave economically, to make their organisation "efficient" rather than wasteful.

Frank Knight[1]

This postulate is known as the 'efficiency principle' and is based on the premise that there are costs to carrying out transactions; that these costs differ depending on the nature of the transaction and on the way it is organised; and that people will generally attempt to economise on these costs [Coase (1937)]. A significant component of these transaction costs relate to efforts made to co-ordinate and motivate individuals engaged in agency relationships.

An agency relationship is defined as:

> *… a contract under which one or more persons* [*the principal(s)*] *engage another person* [*the agent*] *to perform some service on their behalf which involves delegating some decision making authority to that agent.*

Jensen and Meckling (1976)

The underlying premise of agency theory is that conflicts of interest can emerge between principal and agent if they pursue different goals. This is known as the principal-agent problem and results in efficiency losses called agency costs.

A 'complete contract' could solve the agency problem. It would specify precisely what each party is to do in every possible circumstance and would arrange the distribution of realised costs and benefits in each state so that each party found it optimal to abide by the terms of the contract.

In reality, however, the bounded rationality of individuals and the existence of imperfect information means that parties to a contractual relationship cannot plan for all contingencies. Moreover, if individuals are self-interested, the existence of incomplete contracts leads to problems of opportunism (eg, moral hazard and adverse selection) and imperfect commitment.

Various mechanisms can be used to facilitate incentive alignment. For example, ex ante efforts to assess agents' reliability, and ex post safeguards to deter opportunism, can reduce the agency problem. Inevitably, however, such arrangements will be imperfect leading to a residual agency problem.

The literature defines three sources of agency costs[2]: the expense incurred by the principal in establishing appropriate incentives for the agent and in

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1 "Review of Melville J. Herskovits' 'Economic Anthropology', *Journal of Political Economy*, 49, April 1941, pp. 246-258.

2 Appendix One describes the relationship between agency costs and the dimensions of transactions.

monitoring[3] the behaviour of the agent; the bonding costs incurred by the agent to deter behaviour that is contrary to the principal's objectives; and the residual inefficiency that occurs because the monitoring and bonding efforts will be imperfect. The challenge of institutional design is to minimise the sum of these agency costs.

In terms of the management of Crown financial assets, two agency relationships are important: that between the electorate and the Executive; and that between the Executive and the investment manager(s).

2.1 The Electorate and the Executive

The electorate delegates sovereign power to the government through the electoral process with the expectation that this power will be used to achieve better welfare outcomes for society. In practice, the Executive arm of the government is responsible for making day-to-day fiscal management decisions.

The Executive is bound only by the New Zealand constitution which is broadly interpreted to mean that, whilst the Queen reigns, the government rules as long as it has the support of the House of Representatives. Within this loose accountability construct, there is considerable potential for opportunism due to:

- problems with voter preference revelation;
- the relative inability of the electorate to apply sanctions in the short-term;
- the informational advantages of the Executive over the electorate; and
- differences in the time-horizons faced by the Executive and the electorate.

The existence of divergent behaviour is also supported by public-choice theory, which asserts that the government will behave so as to maximise its chances of re-election. The implication of this principal-agent problem is that the Executive can be expected to behave inefficiently when there are surplus, liquid, resources available to it. In relation to the management of a large financial asset portfolio, inefficiencies may manifest in the form of: direct raiding; indirect-raiding; or an adverse impact on private-sector behaviour.

2.1.1 Direct Raiding

Direct raiding is defined as:

> *… the situation that occurs when the value of assets under public management is significantly below that implied by the performance of an*

3 This involves more than just measuring or observing the behaviour of the agent. It includes all efforts on the part of the principal to achieve goal congruence or, alternatively, to directly control the behaviour of the agent.

efficient benchmark portfolio, and the ex ante projections of cash-flows into and out of the Fund.

For example, direct-raiding can take the form of:

- the misappropriation of dividends or asset sale proceeds (eg, when disbursements are used for purposes other than originally intended);

- the imposition of constraints on asset management (eg, the imposition of quasi-social or excessively prudent investment prescriptions); and

- an under-funded portfolio (also called pre-raiding), which occurs when the ex ante required contributions are not paid to the Fund.

2.1.2 Indirect Raiding

Indirect-raiding, on the other hand, describes:

> *… the situation that occurs when the existence of liquid financial assets, which are surplus to current financing requirements, leads to inefficient spending or investment decisions by the Executive.*

For example, a strong Crown financial position is likely to weaken the incentives on the Executive to exhibit fiscal prudence. In fact, historical evidence suggests that the level of inefficient spending and investment by governments rises when the government's finances are healthy [Alesina and Perotti (1995) and Bohn (1991)]. On the other hand, there should always be some pressure to use resources efficiently since tax-cuts are likely to be preferred by the electorate over wasteful expenditure.

2.1.3 Adverse impact on private sector behaviour

Crown management of financial assets could affect private-sector behaviour in a number of ways. For example, there is potential for interference in the commercial decisions of businesses if the Crown exercises its ownership rights. Moreover, a strong Crown financial position may encourage the electorate to place pressure on the Executive to engage in direct-raiding[4]. Political involvement in the private-sector entities is likely to be inefficient if political objectives clash with individuals' personal and commercial goals.

2.1.4.1 The Commitment Problem

Many of the problems above are known as commitment problems[5] (refer to Kydland and Prescott (1977) for a good discussion). The commitment problem

4 There could also be substitution between public and private savings although this is outside the scope of this paper.

5 Appendix Two summarises the literature on credible commitment.

is particularly acute in the public sector since it is impossible for sovereign policy makers to bind the hands of future governments who will also have the power to make, amend, and repeal laws and regulations.

Despite this, there are a number of ways of improving the credibility of Crown commitments. For example, legislation can be used to constrain the behaviour of the government. This can be effective when there are high political costs associated with amending that legislation. De-politicising a policy, by delegating responsibility for it to an independent autonomous institution can also enhance the credibility of the Executive's commitment towards a policy.

In addition, informal incentives can be relied upon to provide some credibility if the threat of punishment is real [Barro and Gordon (1983)]. Policy measures that enhance transparency, facilitate active monitoring, and strengthen political accountability can be used to reduce the extent of these problems.

2.2 The Executive and the Investment Manager(s)

This agency relationship involves the Executive contracting investment managers to manage the financial asset portfolio. Since the contract will be specified in terms of the objectives of the Executive, this relationship will also be influenced by the relationship between the electorate and the Executive.

Even abstracting from the potential for political opportunism, however, a Crown managed investment portfolio is expected to under-perform a comparable privately managed portfolio [World Bank (1994)]. This is a result of imperfect incentive alignment which is exacerbated by the existence of multiple and conflicting objectives, and the absence of market disciplines.

For example, if the Executive specifies non-commercial objectives, or intervene directly in the portfolio selection process, then it will be very difficult to measure the performance of those Investment Managers and, hence, to establish effective accountability arrangements. The absence of a market for corporate control, and weaker labour market pressures, are also likely to contribute to under-performance relative to a private-sector benchmark.

Once again, there are a number of institutional design tools that can be used to mitigate the extent of incentive misalignment between the Executive and the Investment Manager(s). These include measures to facilitate contestability, to strengthen accountabilities, and to enhance transparency.

3.0 EVIDENCE ON FUND GOVERNANCE AND PERFORMANCE

There is an abundance of empirical evidence suggesting that publicly managed financial asset portfolios under-perform privately managed funds (of comparable size and risk). In addition, public funds frequently perform poorly relative to leading market indices. For example, Mitchell (1993) found that, for the period 1968-1983, US State and Local-Authority pension funds under-performed large US private pension funds by 57 basis points per annum. Lakonishok et al (1992) also found that, on average, the equity component of tax-exempt funds consistently under-performed the S&P 500 by approximately 130 basis points before fees.

This raises two questions: first, do differences in governance arrangements explain the differences in performance between private and public sector funds; and, second, what characteristics of private sector funds contribute to their success? The following two sections consider these issues.

3.1 Fund performance and Governance Arrangements

A number of studies have attempted to explain these differences in investment performance by exploring the differences in fund governance arrangements. In particular, the degree of contestability, the extent of non-commercial objectives, the political independence of investment boards, and differences in regulatory provisions have all been asserted to be significant determinants of investment performance.

Degree of contestability

The threat of takeover, or loss of market share, imposed by competition is the most effective mechanism for reducing agency costs in the private funds management industry. The effect of competition is to strengthen the incentives of investment managers to invest efficiently, to reduce overheads, and to increase the degree of voluntary disclosure. The benefits of contestability are enhanced when ownership of investments is vested in individuals, and when funds are portable.

Lakonishock et al (1992) argue that the lack of competitive pressures faced by public funds managers is a significant determinant of their under-performance relative to private funds managers. In particular, they assert that private-sector mutual funds are selected in a competitive market on the basis of expected future performance, and that this creates a survivorship bias in the sample of mutual funds that is not evident in measures of public fund performance. Free-rider problems may prevent adequate monitoring of public-fund performance.

Extent of Non-commercial objectives

A related issue is that the sponsors of tax-exempt pension funds appear willing to pay for non-commercial services, such as 'well-defined products' and investment approaches that are defendable ex post, when selecting investment managers. This provides investment managers with incentives to 'window dress' their investment strategies to meet the needs of their sponsors.

Lakonishok et al also assert that the desire for non-commercial services might bias the sponsors of public funds towards active management, since passive management is perceived as reducing the importance of the investment management function. Moreover, the use of external investment managers and advisers may be preferred because it facilitates the apportionment of blame in the event of poor performance, rather than for economic reasons.

Political neutrality of Investment Boards

Mitchell (1993) found that Board composition was a significant determinant of investment performance. In particular, the greater the proportion of board members appointed on non-performance related criteria, the lower the expected returns on the portfolio. Romano (1993) also found that fund earnings are positively related to board independence, defined as the proportion of elected, as opposed to appointed, board members. Public pension funds with politically appointed board members were found to under-perform public pension funds with independent boards.

One reason for this may be the extent of so-called 'social investment[6]' associated with politically influenced boards. Romano found that social investments had a strong negative impact (ie, between 700 and 800 basis points per annum) on public pension fund returns.

Another way in which political influence can affect investment performance, and economic efficiency in general, is through interference in the corporate governance role of public funds. Whereas private pension funds typically delegate responsibility for investment management to external funds managers, public pension funds are more likely to manage their portfolios internally and to actively vote their shares. Even when external managers are used, public funds tend to retain voting rights more frequently than private funds [Yerger and Lightfoot (1991)].

Romano (1993) found evidence to suggest that fund voting practices are roughly the same across all types of institutional investors and concluded that differences in the source of pressure on public and private funds managers do not necessarily translate to changes in voting practices. However, the balance

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6 Social investment are those investments with expected returns insufficient to compensate for the level of risk exposure implied by the investment.

of evidence still suggests that political interference in private sector investment decisions has an adverse impact on fund returns and efficiency in general.

Regulatory differences

Regulation attempts to reduce the extent of residual agency costs by protecting investors from fraudulent and imprudent behaviour by investment managers. While regulatory environments differ substantially between jurisdictions, and across entity types, most regimes impose a combination of information disclosure requirements, and the imposition of fiduciary duties and legal liability on trustees. Some regimes go further and require holdings in certain types of securities and apply explicit capital adequacy requirements.

From an examination of the experiences of compulsory retirement savings schemes, light-handed regulatory regimes do not appear to result in a greater level of insolvent funds. Moreover, light-handed regimes are much less costly and generate less inefficiency relative to stricter regimes. Where strict regimes have been imposed, they tend to be subsequently liberalised through time.

Statutorily imposed reporting requirements can also affect fund performance in an adverse manner. For example, where short-term return measures are required, investment managers have been observed to 'window-dress' performance in ways that may be detrimental to returns over the long-term. Where reporting requirements are specified, care should be taken to ensure that these do not generate perverse incentives.

Mitchell found that differences in regulatory environments also have an impact on funding practices of public defined-benefit pension plans. In general, public sector funding practices were found to be more variable than in the private sector. This is due to the fact that solvency is normally a statutory requirement for private-funds, whereas only some jurisdictions require solvent public-funds. The degree of fiscal stress[7], for example, was found to be a significant determinant of public pension funding rates (eg, a 1% increase in the unemployment rate of a US State was found to be associated with a 6% reduction in the funding rate for public pension funds in that State).

3.2 Fund Governance Arrangements in the Private Sector

In light of the observed under-performance of public-funds, it is worth considering the governance characteristics of private funds that contribute to their relative success. Despite arrangements differing substantially between private-sector funds, there are a number of common institutional features: the arrangements between interested parties are typically contractually based; regulatory frameworks underpin these contractual arrangements; and the existence of competition acts to strengthen incentives to invest efficiently.

[7] The definition of fiscal stress, in this context, is "the deviation of the current unemployment rate from its long-run trend rate".

Competition is the most effective mechanism for reducing agency costs in the funds management industry. The effect of competition is to lower administration costs, improve the quality of investment processes, and to increase the degree of voluntary disclosure. However, difficulties in assessing the quality of investment managers prior to contracting means that the market cannot be relied upon completely to align incentives.

Regulation is generally relied upon to reduce the extent of residual agency costs by protecting investors from fraudulent, or imprudent, behaviour by investment managers. While regulatory environments differ substantially between jurisdictions, most involve a combination of information disclosure requirements and the assignment of fiduciary duties and legal liability to trustees. Some regimes also include explicit solvency and compulsory government security holdings.

Generally speaking, light-handed regimes are typically not associated with significantly higher levels of insolvency. Moreover, there are significant costs associated with stricter regimes (eg, compliance monitoring and the costs associated with distorted incentives).

Regulation too is imperfect. For example, the close ties between trustees and their advisers, and difficulties in performance measurement, mean that trustees do not often replace investment managers who perform poorly. For this reason, contractual incentives are also important in reducing the residual agency cost.

Remuneration is the most commonly used incentive alignment mechanism in investment management contracts in the private-sector. Many funds managers are paid fees based on a percentage of assets under management. These types of arrangements provide strong incentives for investment managers to monitor the performance of their investments and to maximise returns.

Trust deeds are another form of contractual arrangement that are frequently used to clarify the responsibility of trustees and to establish the rules of the trust. Indeed for many types of financial institutions, the existence of a trust deed is compulsory.

4.0 GOVERNANCE ARRANGEMENTS FOR PUBLICLY MANAGED FUNDS

Transaction cost economics is generally accepted as a useful framework for approaching institutional design problems. Consistent with this methodology, the objective of institutional design should be to determine the least-cost governance arrangements.

4.1 Over-arching Governance Arrangements

It is assumed, for the purposes of this paper, that the electorate has no means of procuring the services of the Executive, other than by way of the electoral process. In the absence of a credible commitment by the Executive, the potential agency costs associated with this relationship may be substantial. Therefore, flexible credibility mechanisms must be developed in conjunction with other institutional arrangements to ensure that both the policy and the institutions are sustainable.

On the other hand, there are a variety of mechanisms available to the Executive for procuring public services:

- provision by a public-sector organisation;
- regulation of service providers; or
- contracting private-sector providers.

The discussions in previous sections suggest that contracting with private sector providers is likely to be most efficient in terms of reducing residual agency costs. The funds management industry is competitive and market forces work effectively to strengthen the incentives of investment managers to invest efficiently and effectively.

Public-sector provision, on the other hand, is likely to require significant initial investment to ensure that the appropriate expertise and systems are in place. The agency costs associated with a public-sector investment manager are expected to be greater than those associated with a private manager due weaker accountabilities and greater potential for direct-raiding.

Market procurement, however, is not without risk. It is difficult to determine the ex ante quality of investment managers and the Executive must bear the risk of selecting a poor contractual partner. In addition, ex post performance measurement is difficult which leads to weaker monitoring of agents and moral hazard problems.

These risks are implicit in all contracts with investment managers. For this reason, disclosure requirements and fiduciary duties are usually imposed on investment managers to reduce the extent of informational asymmetries and to provide for recourse in the event of negligence or imprudent behaviour. There is no evidence to suggest that the regulatory environment in New Zealand is ineffective at mitigating these problems.

The existence of a contractual relationship between the Executive and a private-sector investment manager implies that some administrative functions must reside in the public-sector. Specifically, the administration of tender processes; the specification of investment objectives; performance monitoring; and contract management will all be required to ensure strong accountabilities are maintained.

This 'broad brush' analysis suggests that the least-cost governance framework is likely to involve:

- a credible commitment on the part of the Executive to manage the financial asset portfolio as efficiently as possible;

- contracting with least-cost fund managers, given an appropriate risk tolerance;

- an application of the existing regulatory regime; and

- a residual public-sector involvement to ensure adequate accountability.

The following sections expand on these features in more detail:

4.2 Achieving Credible Commitment

Some form of pre-commitment to ex ante policy settings is required, due to time-consistency problems, before a policy can be considered optimal. In the absence of a credible commitment, any proposed institutional arrangements will be 'second best'. Hence, policy credibility mechanisms must be developed in conjunction with other institutional arrangements to ensure that both the policy and institutions are sustainable.

The literature on credible commitment (see Appendix Two for a summary) establishes that informal incentives may be sufficient to achieve credibility if the stated policy intention can be made transparent, and if real sanctions can be applied in the event that the Executive reneges on its promises.

While the management of a financial asset portfolio lends itself to high degrees of transparency, in terms of the specification of objectives and the measurement of performance, the lack of any real sanctions associated with departures from stated policy objectives (in the short-term anyway) implies that reliance on informal incentives alone would be insufficient to achieve a credible commitment that the portfolio would be managed in an efficient manner.

Therefore, formal constraints (eg, explicit legislation) are likely to be required to enhance the credibility of any Crown investment management policy. This may appear excessive, but is consistent with a number of legislative arrangements already in place in New Zealand that are designed to achieve greater policy credibility.

The Reserve Bank Act 1989 (RBA), for example, establishes the Reserve Bank of New Zealand as an independent, apolitical, institution with the responsibility for "formulating and implementing monetary policy … to promote [price] stability" in line with the policy targets agreed between the Governor of the Reserve Bank and the Minister of Finance. In doing so, the RBA entrenches and makes transparent the Government's commitment to price stability.

The Fiscal Responsibility Act 1994 enhances the Government's commitment to prudent fiscal management by making transparent a set of principles for the conduct of fiscal policy, and by requiring any deviations from stated objectives to be justified in Parliament. Similarly, the Public Finance Act 1989 enhances the credibility of the Government's financial reporting by committing it to producing accrual accounts prepared according to GAAP standards.

The establishment of an independent and autonomous authority, similar to the Reserve Bank, could be used to strengthen the Government's commitment to integrity of a public sector fund. This entity could be made responsible for specifying investment objectives and policies, within broad parameters agreed by the Government, and could monitor and report on investment performance.

Making an independent authority responsible for the establishment of investment objectives and policies should mitigate the potential for direct interference in investment decisions by the Executive. It should also reduce the likelihood of misappropriation, although this issue is more complex than simply placing constraints around disbursements of cash from the fund.

Without vesting the funds in individual accounts, it will be difficult to differentiate between disbursements for eligible expenditure and that which is ineligible. To enable the ex post identification of direct raiding, the purpose for which the fund is being established will need to be stated very clearly and appropriate monitoring processes will need to be put in place.

Difficulties in forecasting expenditure over long time horizons are likely to make it difficult to place strict constraints around fund disbursements. In addition, placing excessive constraints around the fund will reduce policy flexibility and may undermine credibility. Unless there is a high degree of transparency surrounding a public fund, the Executive is likely to have an incentive to manipulate the electorate's perceptions about the use of fund proceeds.

The creation of an ear-marked fund may improve credibility as long as an appropriate balance can be struck between credibility and flexibility. In general, however, if vesting is involved then private-sector ownership and management of assets is likely to be more efficient than public-ownership and management.

The design of a transparent fund transfer mechanism may reduce these problems. For example, Norway has established a large public fund, using accumulated oil reserves, which is used to finance the non-oil fiscal deficit. Transparent mechanisms have been developed to surround the transfer of cash to and from the Fund to reduce the potential for raiding[8]. Blatant misappropriation of resources may be prevented by incorporating appropriate objectives in the FRA, by publishing forecasts of expected contributions and disbursements in key budget documentation, and by requiring justification of any significant deviations in Parliament.

Securitising the asset portfolio may also contribute to the prevention of resource misuse. For example, a special purpose vehicle (SPV) could be established by the Crown to act as an intermediary between the Crown and the investment managers. The SPV would then invest these funds, either directly or via investment managers, in line with the mandate provided by the independent investment authority. In exchange for the payment to the SPV, the Crown would receive non-tradeable pass-through debt securities. The maturity of these securities could be structured so as to match (roughly) the projected expenditure stream, with penalties for early redemption. To ensure the incentives against early redemption are credible, the profits of the SPV would need to accrue to a privately-owned organisation. The benefits of this would need to be assessed against the costs.

The pre-raiding problem is likely to be more acute than the potential for direct-raiding. This is because resources tagged for use as contributions to an investment fund are likely to be more elastic than other items of government expenditure, particularly during times of fiscal stress. One mechanism that is used where a measure of constitutional independence from Government control is desirable is funding by way of permanent legislative authority. Once again, this is only likely to raise the political costs of reneging from stated policy intentions.

The problems of indirect-raiding are more difficult to address since instances of inefficient behaviour are not directly observable. The potential for inefficient fiscal management, however, is not specific to the situation of financial asset ownership by the Crown. Bradbury et al have argued that Crown expenditure decisions are endogenous to the structure of the Crown's balance sheet, particularly the level of gross financial assets. In particular, spending and investment decisions are likely to be considerably less efficient when there is considerable 'slack' on the balance sheet. The design of general budgetary institutions to mitigate these problems is outside the scope of this paper.

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[8] Specifically, (1) the Norwegian Government is required to establish broad funding targets in successive long-term programs; (2) within this framework the targeted annual transfer is assessed and revised in the national budget; (3) Parliament approves the targeted transfer as part of the Budget; and (4) the actual transfer is determined on an out-turn basis and published.

The policy measures described above may improve the degree of efficiency with which a Crown financial asset portfolio might be managed. This is mainly achieved by raising the political costs of back-tracking on the Government's stated policy intentions. Ultimately, however, the magnitude of the costs associated with pulling down the institutions will depend on the electorate's commitment to the policy. Pressure for increased expenditure, or reduced taxes, is likely to be applied by the electorate, as well as by the Executive. Therefore, the costs of dissolving these institutions may not be very high, and policy credibility low, particularly during cyclical downturns in the economy.

4.3 Efficient Institutions given a Credible Policy

In an earlier section we concluded that using the market to contract least-cost investment managers is likely to be the most efficient in terms of economising on agency costs. In saying this, there are a number of institutional design features that should be built into any contractual arrangements to ensure that strong accountability arrangements exist between the investment managers, the administrators, and the Executive.

Achieving strong accountability arrangements involves:

- Clear specification of objectives, roles, and responsibilities;
- Establishing incentive structures that are aligned with objectives; and
- Developing effective monitoring systems.

4.3.1 Specification of Objectives, Roles and Responsibilities

Since the Crown bears the risk of adverse investment performance, the Executive will need to retain control over the investment guidelines for any Crown financial asset portfolio. However, given the desire for political independence, these guidelines should be based on the advice of an independent investment expert. To ensure that the Executive can be held accountable for the performance of the financial asset portfolio, the agreed investment guidelines should be tabled in Parliament. This will enable the Executive’s objectives to be challenged and will promote accountability.

The Executive should also outline the expected payments to and from the Fund during the next three fiscal years, as part of the Budget process. Again, to promote political independence, these projections should be based on independent actuarial assessments of the contributions required to finance the proposeded expenditure track.

Maintaining ‘arms-length’ arrangements between investment managers, administrators, and the Executive will be necessary to ensure clear separation of roles and responsibilities. An independent investment authority should be established to:

(i) provide advice to the Executive on appropriate investment guidelines;

(ii) appoint investment managers by way of competitive tender;

(iii) manage the contracts and relationships with investment managers;

(iv) monitor and report on fund performance; and

(v) apply sanctions/rewards consistent with the contractual arrangements.

To ensure incentive alignment, the independent investment authority should also be delegated responsibility for investment performance, relative to the benchmark investment strategy specified by the Executive.

Maintaining an 'arms-length' relationship between these functions and the Executive should reduce the potential for direct-raiding, which has been shown empirically to contribute to lower expected returns, allocative inefficiency, and under-funding.

4.3.2 Establishing Incentive Structures that are aligned with Objectives

Competition, reputation, and rewards can all influence the degree to which agents' incentives are aligned with their principal's objectives. Contestable tender processes place pressure on investment managers to reduce costs, offer a better service, and to develop innovative approaches to achieving objectives.

An important part of the design of governance arrangements will be to ensure that these competitive market pressures are maintained after contracts are awarded. This can be achieved by way of competitive re-tenders and contract termination provisions in case of under-performance.

In saying this, care needs to be taken to ensure that the design of tender processes do not lead to perverse incentives for investment managers to 'window-dress' their portfolios at the expense of long-term investment performance.

The design of appropriate compensation contracts for investment managers raises the issue of how to correctly measure performance. This issue remains largely unresolved despite more than 30 years work by academics and practitioners. Care will need to be taken in prescribing appropriate incentives for investment managers to avoid establishing perverse incentives.

4.3.3 Effective monitoring systems

Once again, mechanisms for enhancing transparency play a large role in facilitating the development of effective monitoring systems. Reporting requirements will need to be developed that provide information for all interested parties including the Executive, Parliament, and the general public.

The regulatory regime that applies to New Zealand fund managers also encourages active monitoring, by promoting information disclosure.

The effectiveness of monitoring systems will be dependent on the appropriateness of the benchmark portfolios against which performance is measured. Risk as well as returns will need to be monitored to ensure that investments are compliant with guidelines and that adequate systems are in place to prevent losses arising due to operational failures.

4.3.4 Summary and Conclusion

Appendix Three summarises diagrammatically the governance arrangements that should surround a public-sector financial asset portfolio. It is thought that the potential problems of direct raiding and inefficient funds management could be controlled, to a large extent, through the application of robust institutional arrangements.

It is less clear, however, how we might control the costs associated with reduced incentives to exhibit fiscal discipline in general. Moreover, the large potential size of a Crown net asset position, means the efficiency costs associated with indirect-raiding may be large. Due to the nature of the problem, however, these costs are unlikely to be quantifiable.

This suggests that efficiency could be enhanced by placing some constraints around the level of gross financial assets on the Crown's balance sheet. This is a matter for optimal fiscal policy design. At some point, policy makers will need to arrive at a subjective judgement on the likely size of efficiency costs associated building up a large gross financial asset position, compared with the expected efficiency gains of pre-funding future fiscal expenditure.

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APPENDIX ONE

Agency Costs and the Dimensions of Transactions

The transaction cost literature discusses a number of characteristics of transactions that can influence the magnitude of agency costs:

- *the frequency with which they occur and their duration;*

When a transactions is unique, we expect the parties to that transaction to use whatever general mechanisms are available in society to govern that transaction (eg, standard from contracts and court dispute resolution). As the frequency of transactions increases, contractual partners are likely to find it more valuable to design their own low-cost routines.

Where parties are involved in long-term contractual relationships, they often have opportunities to grant favours to, or withhold favours from, one another. The threat of reciprocity greatly reduces the need for formal enforcement mechanisms.

- *the degree of complexity or uncertainty;*

Koopmans (1957) distinguished between primary and secondary uncertainty: the distinction being that primary uncertainty arises from random acts of nature and unpredictable societal change, whereas secondary uncertainty arises from a lack of communication between decision makers who are attempting to co-ordinate. The latter is often termed imperfect information.

The level of primary uncertainty influences the degree to which contractual arrangements can be specified in detail. Where uncertainty is high, contracts are often relational and make use of adaptation and binding arbitration as enforcement mechanisms. On the other hand, low levels of primary uncertainty (eg, spot contracts) enables tightly specified and formal mechanisms can be relied upon to enforce contracts.

The existence of imperfect information, on the other hand, increases the potential for opportunism. To reduce the extent of imperfect information problems, mechanisms such as disclosure requirements and contestability are often used.

- *the difficulty of measuring performance;*

Williamson (1995) argues that all measurement problems are traceable to a condition of "information impactedness", which occurs when:

(i) information is distributed asymmetrically between contractual parties, and can only be equalised at great cost to one of the parties; or

(ii) it is costly, or impossible, to inform an arbiter of the true information should a dispute arise between opportunistic parties, each with an identical knowledge of the situation.

Moral hazard is likely to factor in contractual relationships where performance measurement is difficult. The governance and contractual responses to measurement problems that are observed in practice differ depending on the origins of the problem. For example, team organisation problems usually elicit an incentive alignment response; quality uncertainty is often countered through reputation effect mechanisms; and concerns over asset dissipation are often mitigated by common ownership.

- *the degree of contestability and asset specificity;*

Economists generally recognise that the terms upon which a contractual arrangement will be struck depends on whether non-collusive bids can be elicited from more than one qualified supplier. Monopolistic terms will obtain if there is only one supplier, while competitive terms will result if there are many.

While this description of *ex ante* bidding is generally accepted, an understanding of *ex post* competition is also required in order to understand the contractual outcome in repeated transactions. Whether *ex post* competition is effective at controlling the agency problem will depend on whether the good or service being provided is supported by investments in specific assets[9].

Where no specific investments are involved, the initial winning bidder realises no advantages over non-winners in subsequent bidding contests. In circumstances where specific assets exist, the initial winning bidder often enjoys advantages over non-winners when contracts are renewed.

There are a number of safeguards for protecting the principal against asset specificity problems:

(i) realignment of incentives (eg, severance payments or penalties for premature termination);

(ii) replacing court ordering with private ordering (eg, the use of arbitration for dispute resolution);

(iii) allowing for adaptation by embedding transactions in a more complex trading network (eg, expanding a trading relation from a unilateral to a bilateral exchange through the use of reciprocity to equalise trading hazards, or through recourse to collective decision-making under some form of combined ownership of the specific assets).

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9 Asset specificity is the degree to which an asset can be deployed to alternative uses and by alternative users without sacrificing its productive value.

APPENDIX TWO

Credible Commitment and Time Consistency

The governance arrangements surrounding a transaction are intended to reflect how the parties to that transaction will act both now and in the future. If the contractual and other arrangements are to be effective at constraining residual agency costs, the commitment made by the agent to principal must be credible.

Consider a simple two player game between principal and agent. At the outset, the two parties negotiate a set of governance arrangements that each believes will be sufficient to achieve their objectives. However, due to bounded rationality and imperfect information, unforeseen future circumstances may provide the agent with an incentive to renege on his/her agreed obligations. This is known as the time-inconsistency problem.

Kydland and Prescott (1977) showed that an equilibrium of this game must involve pre-commitment[10]. That is, the agent can only make its intentions credible by binding itself *ex ante* to a proposed course of action. Without this pre-commitment, the principal knows that the agent may renege in future and will ignore all promises made by the agent. The only time-consistent equilibrium of such a game is a Nash equilibrium[11].

The commitment problem is particularly acute in the context of public sector since it is impossible for the Executive to bind the hands of future governments. The existence of information asymmetries may also exacerbate the problem by enabling the government to manipulate the beliefs of its electorate to its own advantage.

For example, Nordhaus (1975) argued that democratically elected governments are prone to use economic policy as a means of securing electoral gains. Blackburn (1992) also asserted that economic policy is best understood as a product of political bargaining and that any policy outcome should be seen as a consequence of pressures exerted by groups of individuals with conflicting interests. If the power base upon which these compromises are made is shifting continuously, it will be difficult to achieve credibility.

Despite these problems, the literature proposes a number of remedies to reduce the extent of the commitment problem:

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[10] The importance of pre-commitment increases as the gap between the *ex ante* desired outcomes and the possible *ex post* outcome becomes larger. This, in turn, is a function of the 'costs' associated with reneging.

[11] A Nash equilibrium arises when there exists a strategy profile in which each player's part is as good a response to what others are supposed to do, as any other strategy open to that player.

(i) formal constraints on policy making;

Explicit legislation that restricts the power of the Executive is the most drastic means of improving the credibility of the Executive's commitments. Statutory codes of conduct, such as the Fiscal Responsibility Act in New Zealand, is an example of this. De-politicising a policy, by delegating responsibility for it to an independent apolitical institution is another example of how formal constraints can be applied.

It should be noted, however, that formal constraints can only every increase the political costs of reneging on policy commitments; it can not remove the possibility altogether. In addition, apart from the risk of being arbitrary, formal constraints may be inflexible and restrict the scope for adaptation in the future. Such inflexibility will inevitably undermine the credibility of the public policy in question.

(ii) informal incentive alignment mechanisms;

An important observation in the literature on credible commitment is that the interaction between the Executive and the electorate is a repeated game. The electorate are unlikely to forget the actions of past government's and will no doubt revise their expectations of future behaviour based on past experience. Therefore, the Executive has reputation at stake when making decisions on behalf of the electorate.

The implications of this can be summarised by the Folk theorem: the pre-commitment equilibrium of a one-off game can be sustained as a Nash equilibrium of a repeated game provided that the government is not too myopic. In other words, the incentives for the Executive to renege on its promises may be reduced by the threat of punishment [Barro and Gordon (1983)].

The use of inflation-indexed debt and foreign currency denominated bonds is an example of the use of informal incentives to achieve credibility. The use of such instruments provides far-sighted governments with an incentive to invest wisely and manage fiscal policy prudently, since attempting to erode the value of its obligations will increase the Crown's future borrowing costs.

The extent to which informal incentives are an effective substitute for formal constraints depends on: the transparency of the policy; its ability to be monitored; and the severity of the threat of punishment.

APPENDIX THREE

Governance Arrangements for a Public Fund Given a Credible Policy