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CENTRAL BANK GOVERNANCE: COMMON ELEMENTS OR DIFFERENT MODELS?

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Abstract

This paper evaluates the governance performance of four small, open economy central banks. Two of these, the Reserve Bank of Australia and the Reserve Bank of New Zealand, are inflation targeting; the other two, the Hong Kong Monetary Authority and the Monetary Authority of Singapore, place major emphasis on exchange rate stability.

The four have in common a considerable number of the elements seen as necessary for excellent governance. These include relevant statutory underpinnings, clarity of primary monetary policy goals, commitment to improved transparency and accountability for monetary policy decision making, and ongoing financial statement accountability. They also display significant differences in principle and in operating procedures, and hence in their monetary policy and corporate governance frameworks. In a broad sense, the differences can be associated with different primary goals, different constitutional environments, single-person or "committee" decision-making models, and the central banks having proceeded at different speeds to recognise the need for, and to commit fully to, optimal transparency and accountability.

There is "no one size fits all" best practice governance framework. The individual central banks should therefore continue aiming for excellence in monetary policy and corporate governance in their own rights, rather than for some common operational governance model. In this respect, a number of key desirable principles should be adhered to.

Keywords: Central bank governance; corporate governance; monetary policy independence; credibility; transparency; accountability; Australia; New Zealand; Hong Kong; Singapore; inflation targeting; exchange rate targeting; currency board.

JEL Classification: E42, E52, E58, E61, F31, G30.

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1. Introduction

Hong Kong, Singapore, Australia and New Zealand are four small open economies.[1] Australia and New Zealand are primarily inflation targeting countries, operating under somewhat different institutional frameworks. Hong Kong and Singapore place major emphasis on exchange rate stability, the former in a fixed exchange rate (Currency Board) context, and the latter in a managed floating exchange rate context.

In a broad sense, the aim of this paper is to establish whether the successes of these economies in achieving primary monetary policy goals can be associated with common elements of governance,[2] or are substantially associated with different statutory and institutional frameworks, governance arrangements and decision-making procedures.

The key specific focus is on *central bank* governance, particularly as that relates to monetary policy objectives, decision-making and performance, though some closely related *corporate* governance issues in accountability also receive attention. Governance issues relating to financial system stability are not within the scope of the paper.

Section 2 summarises macroeconomic and monetary policy goals for the four economies, and briefly considers relative performance since the early 1990s. By and large, each economy has had considerable success. Section 3 considers the extent to which empirical economic evidence has been able to establish robust relationships between monetary policy objectives on the one hand, and broad governance related concepts such as independence, credibility, transparency and accountability on the other. Successful establishment of relationships at such broad levels has been limited. Hence, in section 4, attention is turned to detailed identification and assessment of recent and current operational procedures. These cover the roles of governing boards, of monetary policy and other decision-making procedures, and degrees of transparency and accountability. Some assessments are offered. Concluding comments are presented in section 5.

2. Macroeconomic and Monetary Policy Goals, and Economic Performance

For any economy, monetary policy objectives should be seen in the context of the government's overall economic goals, the legislative and other public mandates for monetary policy objectives, and the central bank and corporate governance environments within which monetary policy decision making and accountability take place. So, prior to considering governance frameworks and monetary policy

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1 For a study in a similar vein, focussing on the world's two most prominent central banks, the U.S. Federal Reserve System and the European Central Bank, see Pollard (2003). For a major recent study covering 20 major developed country central banks over the past 50 years, but not Hong Kong or Singapore, see Siklos (2002b, especially chapters 2, 6).

2 The *New Oxford Dictionary of English* (1998, OUP) states *governance* to be "the action or manner of governing". To *govern* is to "conduct the policy, actions, and affairs of (a state, organization or people)", "control, influence, or regulate (a person, action or course of events)", or "constitute a law, rule, standard, or principle for".

frameworks in detail, it is first useful to evaluate each country's legislated objectives, and its specific monetary objectives or goals.[3] Then, for the period since the early 1990s and in the context of each economy's broader economic objectives, the extent to which each central bank has achieved those objectives is briefly indicated.

2.1 Macroeconomic and Monetary Policy Goals

Australia and New Zealand are primarily inflation targeting countries, operating under somewhat different institutional frameworks. Hong Kong and Singapore place major emphasis on exchange rate stability, the former in a fixed exchange rate (Currency Board) context, and the latter in a managed floating nominal effective exchange rate (S$NEER) context. In a broad sense, the Australian and New Zealand objectives reflect historical periods of high and variable inflation, while the Hong Kong and Singapore goals can be seen against objectives to promote themselves as major international financial centres.

Legislated objectives

The legislated objectives for the Reserve Bank of Australia (RBA), the Reserve Bank of New Zealand (RBNZ), and the Monetary Authority of Singapore (MAS) are set out in Acts of Parliament (Table 1). The Hong Kong Monetary Authority's (HKMA) legal mandate comes from the Exchange Fund Ordinance of 1992. That in turn is underpinned by Article 110 of the Basic Law,[4] providing that the Hong Kong Special Administrative Region (SAR) Government "...shall, on its own, formulate monetary and fiscal policies".

Each legislated objective is prominently available, but they differ considerably as to the form of "currency stability" to be achieved, the number of objectives to be aimed at, and the extent to which the legislation subsequently has had to be clarified through further documentation.

The RBA and the RBNZ are required to aim at stability in the general level of prices or domestic currency stability, whereas the monetary objectives of the HKMA and MAS feature exchange rate stability.

In terms of number of objectives, the currency stability objective of the HKMA is unequivocally clear. The HKMA has to maintain currency stability, within the framework of the linked exchange rate system. Similarly, the RBNZ's legislated primary function is simple and transparent: to maintain stability in the general level of prices.

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3 Monetary policy "objectives" or "goals" are taken in this paper to be the ultimate (generally longer-term) goals for monetary policy. Under most monetary policy frameworks, ultimate policy objectives will be different from short-term operational objectives (or policy instruments) such as a key interest rate or exchange rate.

4 The Basic Law came into effect on 1 July 1997. Article 5 provides that "The socialist system and policies shall not be practised in the Hong Kong Special Administrative Region, and that the previous capitalist system and way of life shall remain unchanged for 50 years.", i.e. through to 30 June 2047.

In contrast, the RBA is required under its Act of 1959 to ensure that monetary policy contributes in the best way it can to three objectives: the stability of the currency in Australia; the maintenance of full employment; and the economic prosperity and welfare of Australia's people. However, the 1996 *Statement on the Conduct of Monetary Policy* has since made clear the Australian federal government's support for the goal of medium-term price stability.[5] The legislated objective for the MAS is to promote, within the context of the government's general economic policy, monetary stability and credit and exchange conditions conducive to growth of the economy. That objective is also very broadly stated, and does not provide immediate clarity on a specific objective for monetary policy. As a result, the ultimate goal for MAS monetary policy has, until recently, been subject to some confusion. In particular, it has not been well understood precisely what has been the MAS ultimate objective, and what has been its operational objective.[6] The degree of public misunderstanding has since been lessened through the issuing of documents entitled *Singapore's Exchange Rate Policy and Monetary Policy Operations in Singapore*. They state (MAS, 2001, p 2; 2003, pp 12, 13) that the primary objective of monetary policy is to promote price stability (or low inflation) as a sound basis for sustainable economic growth. The documents are readily available from the MAS website, but the message is yet to feature prominently in its Annual Report.

Hence, while the mix of existing statutory and subsequently clarifying documents differs, from a governance perspective the meaning of each central bank's legislated medium-term monetary policy objective is now very clear.

Monetary policy objectives

In the context of the legislated objective, there needs to be provision for specific monetary policy objectives and for the extent to which they might be varied over time. Legislation should ideally set out the *process* through which this should be done, and specify the *form* in which the new policy objective is made public; it should not enshrine the specific numbers or target bands.

Monetary policy objectives for the RBA, RBNZ, HKMA and MAS vary in their degree of transparency and clarity.

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5 This was done in the context of emphasising that price stability is a crucial precondition for sustained growth in economic activity and employment. See *Statement on the Conduct of Monetary Policy*, signed on 14 August 1996 by the Treasurer and the Governor (designate) of the RBA. See also Macfarlane (1998), and Stevens (1999, 2003), for historical background to this Statement and evaluation of subsequent experience.

6 See for example, McCauley (2001, pp 12-13). See also Table 2, summarising scores from Tables A.1 to A.7 in Mahadeva and Sterne (2000). As of 1998-99, the scores give an indication of the *degree* to which monetary policy focuses on its principal objective. They should be treated as indicative rather than definitive, and in this context show the HKMA with a 100% exchange rate focus, the RBA and RBNZ with a 94% inflation focus, and the MAS with focuses of 19% for inflation, 56% for exchange rate, and 53% discretion. These can be usefully benchmarked against the US Fed having 19% inflation focus and 84% discretion, and the Bank of England having 100% inflation focus.

The monetary objective for the HKMA is the clearest: to maintain a rule-based Currency Board system, fixed to the US$ at the rate of HK$7.80.[7] The RBNZ objective is also particularly prominently stated for accountability purposes, being expressed in an explicit *contract* between the Minister of Finance and the Governor,[8] with the RBNZ's monitoring Board having to take into account additionally the extent to which "unusual events" and "implementation and accountability" clauses have been satisfied. Currently the policy target is to keep future CPI outcomes between 1 and 3 per cent on average over the medium term. The target band is therefore clear, though in what is now explicitly acknowledged as a flexible inflation targeting regime (e.g. Svensson, 1997, 2001), there is very considerable scope for discretion over what the Board should reasonably interpret "on average over the medium term" to mean.

The monetary policy objective for the RBA is to keep underlying inflation between 2 and 3 per cent, on average, over the cycle. This intent is broadly similar to that now existing for the RBNZ, though the guidance provided for regular monitoring purposes is much less clear. This is essentially because, in a strict sense, the turning points of a business cycle cannot be dated until some time after the cycle has turned, and even then has to be subject to considerable further discretion. Interim calculations and judgements are, of course, publicly provided at regular intervals by the RBA, and also offered by others.

The MAS's monetary policy objective involves managing the Singapore dollar nominal effective exchange rate (S$NEER) within a periodically revised, undisclosed policy band,[9] so as to promote price stability. The latter has recently been clarified as the ultimate target, and the S$NEER as the operational or intermediate target within the prescribed policy band.[10] However, unlike the other three central banks considered here, but which is also the case for the US Fed, the MAS provides no numeric target or band for "price stability".[11]

The degree of numeric guidance provided for each central bank's monitoring body therefore varies considerably.

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7 This monetary policy objective received added transparency recently, with the publication of "Functions and Responsibilities in Monetary and Financial Affairs: Exchange of Letters between the Financial Secretary and the Monetary Authority", dated 25 June 2003. The letters reflect the existing arrangements under the relevant legislation, and were published in the context of recommendations made in the IMF's Financial Sector Assessment Programme (FSAP) report for Hong Kong (IMF, 2003, p 67). The letters also give added transparency to the operational independence of the Monetary Authority for the purpose of achieving the monetary policy objective, and to the division of functions and responsibilities in monetary and financial affairs between the Financial Secretary and the Monetary Authority.

8 The RBNZ Act sets out conditions under which the contract, termed the Policy Targets Agreement (PTA), can be revised from time to time.

9 See also Rajan and Siregar (2002, p 538).

10 See MAS (2003, p 13).

11 In recent MPS, however, it has provided forward-looking indicative information for its intermediate target. See, for example, the July 2002 MPS, which states "the MAS will maintain its current policy stance of a zero per cent appreciation in the S$NEER for the second half of 2002". The January 2003 MPS states "MAS will therefore maintain the neutral policy stance of a zero percent appreciation for the S$NEER policy path in the period ahead, with no change in the level at which the policy band is centred and in the width of the band".

2.2 Performance since the early 1990s

All four central banks can claim considerable success in achieving their designated monetary policy objectives.

The two inflation-targeting countries, Australia and New Zealand, have maintained low and stable inflation (Table 3, Figure 1). New Zealand's CPI inflation has averaged 2.4 per cent since the beginning of the 1990s, with a standard deviation of 1.1 per cent. The RBNZ Governor's contracted target bands were also achieved for almost all those quarters.[12] Australia's CPI inflation has averaged 3.0 per cent for the same time period, and averaged 2.5 per cent since 1993. Hence, without resorting to formal computation of an average "over the business cycle", it is clear that the RBA has been achieving its monetary policy objective.[13]

The HKMA has been successful in maintaining its rule-based Currency Board system, fixed to the US$ (Figure 2), despite very considerable pressure during the Asian financial crisis period.[14]

As noted above, the absence of numeric target information for the MAS's ultimate and intermediate monetary policy objectives limits formal evaluation of the extent to which the MAS has achieved "price stability" and managed the S$NEER within its periodically revised, undisclosed policy band. It is clear, however, that since the beginning of the 1990s, Singapore has maintained low and stable CPI inflation (averaging 1.7 per cent annually, with standard deviation of 1.4 per cent), while for its intermediate target, it has had a noticeably lower standard deviation for its NEER than New Zealand and Hong Kong, but not than Australia (Table 3, Figure 3).

It is well known that, in the long term, monetary policy can control only nominal variables such as inflation and the nominal exchange rate. It cannot sustainably determine real aggregates such as real GDP growth, real interest rates and the level of the real exchange rate. However, Australia and Singapore have statutory requirements, and the RBNZ a contractual requirement, for monetary policy to "best contribute to" or to "have due regard to the volatility of" real economic growth. In this context, how should each monitoring body and the public evaluate monetary policy performance?

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12 The key exception is the upside breaching of the narrow 0-2 per cent band for a short period during 1995-96. The accountability procedures required under the RBNZ Act were duly followed and made public. For example, see Svensson (2001, pp 27-32).

13 See Stevens (2003), for a broader evaluation of RBA inflation targeting performance.

14 See Latter (2001, 2002a, 2002b), who also has referred to the debates from time to time on (i) the sustainability of the specific rate of HK$7.80 to the US$, and (ii) whether alternative exchange rate systems should be considered. Genberg (2002, p 5) also briefly refers to the latter. Note too, in the current context, that Article 107 of the Basic Law states that the Hong Kong SAR is required to follow the principle of keeping the expenditure within the limits of revenues in drawing up its budget, and strive to achieve a fiscal balance. The latter is a condition which is particularly crucial for maintenance of an effective currency board.

Measures of each economy's *overall macroeconomic performance* can be misleading as measures of central bank accountability. For example, Singapore has recorded the best real GDP growth and inflation performance and Hong Kong considerably less so (Table 3). This is in direct contrast to the clarity, numerical precision, and hence specific accountability for monitoring purposes, of their monetary policy objectives.[15] Moreover, even very clearly articulated monetary policy objectives and successfully implemented monetary policy can fail, if not supported by coherent overall economic policy, especially fiscal policy.[16]

So, for the purposes of this paper, monetary policy objectives, not overall macroeconomic performance, are taken as the proper benchmark for monetary policy performance. We now examine the extent to which the four economies' basically very good performance on monetary policy objectives can or cannot be associated with their central bank and corporate governance arrangements.

3. Monetary Policy Objectives and Central Bank Governance: Conceptual underpinnings and some aggregate level evidence

The theoretical, empirical and institutional literatures on macroeconomic and central bank performance all place considerable emphasis on concepts such as "independence", "credibility", "transparency" and "accountability".[17] For example, Cecchetti and Krause (2002, p 48) have suggested not only that these four are key ingredients for an effective central bank, but also that central banks having these qualities can deliver better overall policy outcomes. It is further the case that many countries have given greater independence to their central banks over the past two decades, with some requiring additional accountability and transparency as necessary counterbalances to the increased independence.[18]

Obtaining agreed definitions and meaningful quantitative measures for the concepts has not been straightforward.[19] Also, most attempts at establishing statistical relationships have used cross section or panel data, and have related the concepts to overall macroeconomic performance rather than to monetary policy performance.

So, can one identify any key empirical findings which relate directly to monetary policy performance, and which are sufficiently robust to assist us in saying something about excellence in monetary policy performance and governance for individual central banks? We consider each concept in turn.

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15 Genberg (2002, p 4) makes a similar point for Singapore, in a different context. He notes that the inflation performance of Singapore has been as enviable as in Australia and New Zealand, though it uses a quite different monetary policy framework.

16 Genberg (2002, pp 1, 13) has also emphasised this.

17 "Time consistency of policy", and the associated literature on "pre-commitment strategies" and "rules versus discretion", is similarly important for the operational effectiveness of monetary policy, but is not as easily linkable to governance issues. They are therefore not considered here.

18 Fry *et al*. (2000, p 99).

19 See, for example, Fry *et al*. (2000, ss. 4.3, 4.4)

Independence

It is not surprising that central banks rate "Independence of the central bank" as the most important feature of their monetary framework, and that they regard by far the most important characteristic of that independence, as the absence of factors that constrain their ability to set instruments in pursuit of objectives.[20]

Blinder (1999, ch 3) has also supported instrument independence for central banks, regarding it as independence from the rest of the government sector, from politics, and from financial markets. But his substantial survey of central bankers and (80% US) NBER academic economists showed central bank independence to be outranked, albeit quite marginally, by "a history of living up to its word" in building or creating central bank credibility. To him, that raised the possibility that "...independent central banks that lack a track record may be less credible than even non-independent central banks that have a good track record." (Blinder, 2000, pp 1428, 1431). Moreover, in an East Asian and other country context, Genberg (2002, pp 8, 13) has suggested that while central bank independence is likely to be a useful signalling device, it may not be necessary for a successful monetary policy. This is because monetary policy could still be successful, if the government's overall economic strategy were sound, and the public were to understand what the central bank is and is not capable of achieving. So, where does that leave us?

Independence does not have a unique meaning. The early studies generally distinguished goal from instrument independence and, for data covering the 1980s, were able to associate instrument independence with lower industrial country inflation. However, this association did not necessarily follow for either developing country or Asian economy sub-sets.[21]

More recently, answers from the Bank of England's 1999 Survey of 94 central banks seem consistent with independence having rather too diverse a range of meanings to produce robust quantitative relationships for central banks with different monetary policy objectives and governance frameworks.[22] For example, the "independence" responses for the RBA, RBNZ, HKMA and MAS reproduced in Table 2, seem to provide a variety of messages. In a positive sense, all four rate the maximum for "absence of central bank financing of government deficit", as do all except the RBA on "instrument independence". Of some a *priori* concern, however, from both a governance and a "behavioural independence"[23] perspective, are the very low values assigned to the "term of office of Governor" characteristic, for both the HKMA and the MAS.[24]

20 Fry *et al*. (2000, pp 99, 116, 137, Charts 6.1, 8.1). See Goodhart (2000, pp 226-228) for key arguments for and against central bank goal dependence, and for operational independence.

21 Grilli *et al*. (1991), Cukierman (1992, p 381), McCauley (2001, pp 36-38).

22 Fry *et al*. (2000, p 117). In this broad vein, see also Cecchetti and Krause (2002) who, in the course of investigating the extent to which aggregate measures from this Survey could contribute to explaining macroeconomic (inflation and output variability) performance and optimality of policy efficiency (relative to the inflation output variability frontier), found that it is central bank credibility which is the primary determinant. Greater transparency was also found as somewhat consistent with more credible performance, but no statistical associations emerged for their measures of accountability and independence.

23 On behavioural independence in an Asian context, see McCauley (2001, pp 39-41), Cukierman (1992, p 381), Cukierman and Webb (1995, pp 417-419).

24 Information on the governor's term of office has been taken from Pringle (1999, p 216). Fry *et al*. (2000, p 69) award a higher score to central banks whose governors are appointed for longer terms.

Hence, while central bank instrument independence is seen as especially important by central bankers and to a lesser extent by others, there is not yet compelling quantitative evidence of robust linkages between measures of central bank independence and better achievement of *monetary policy* objectives. At best, associations can be established for certain inflation targeting central banks. Analysis for individual central banks, including for exchange rate targeting central banks in particular, has been limited.

Credibility

Credibility is perhaps even more difficult to characterise and measure,[25] and so contributions relevant to monetary policy performance and governance are few.[26]

Blinder (2000) has argued that credibility has been both very important in theory and a major focus of practical attention for central bankers. He defined a central bank to be credible if "people believe it will do what it says", and then sought through his direct survey to ascertain why specifically credibility is seen as important, and what key factors might help to establish or maintain credibility. Responses showed credibility to be important, primarily to assist in achieving and maintaining low inflation, but also as a helpful influence if defending the currency were necessary, and to help underpin public support for central bank independence. The top four contributors to central bank credibility were seen as a history of honesty, independence, a history of fighting inflation, and transparency. With respect to the latter, Blinder's view was that greater rather than lesser transparency had been the trend in recent years.

Hence, either general, or some specific form of credibility, is seen as something for central banks to prize rather than be without. Again, linkages seem to have been established primarily for inflation targeting central banks. However, for the purposes of section 4, it is also worthwhile noting that exchange rate targeting central banks also regard transparency as an increasingly important underpinning for credibility.

Transparency and Accountability

The theoretical and empirical literature involving transparency and accountability has been expanding rapidly.[27] Much of this has been aimed at clarifying precisely what these concepts mean, but the empirical work has been assisted considerably through the recent availability of central bank survey data published in Fry *et al*. (2000).

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25 This may be one reason why credibility received little explicit mention in the Survey of central banks by Fry *et al*. (2000). Credibility was not included amongst their measures of monetary framework characteristics (p 89), nor in their important features of monetary frameworks (p 136); yet implicitly, it seemed to be regarded as something positive to have rather than to be without, e.g. "...a strong message from the survey is that defining objectives more narrowly, and making an effort to explain the outcome of targeted variables more clearly, can be an important contribution to central bank credibility and policy", p 53; and "Exchange-rate targeting can be characterised as a strategy that will gain credibility by making its outcomes transparent", p 138.

26 Quantitative contributions have been even fewer. In a macroeconomic performance context, though, Cecchetti and Krause (2002) have established that better macroeconomic performance and more efficient macroeconomic policy can be associated with more credible, and possibly also with more transparent, central banks. The credibility measure they constructed was the normalised deviation of inflation expectations from the central bank's inflation target, their independence, transparency and accountability measures were from Fry *et al*. (2000), and their macroeconomic performance and policy efficiency measures were in terms of inflation and output variability.

27 See, for example, Geraats (2002), Bini-Smaghi and Gros (2001), Chortareas *et al*. (2002) and Posen (2002).

Until very recently, transparency and accountability have been treated as close to equivalent concepts. Yet for central bank governance purposes, it makes considerable sense to differentiate carefully their respective roles and key features. How might this be done?

One useful approach is to take transparency as "mere information disclosure", and to take accountability as a central bank's obligation to account, and bear responsibility for, actions delegated to it under law[28] and assumed voluntarily. Transparency can therefore be regarded as necessary for accountability.[29]

Geraats (2002, pp 540-541) has developed a conceptual framework[30] which reflects five stages of the monetary policy making process. The stages involve: *political* transparency (about policy objectives and institutional arrangements); *economic* transparency (for economic information); *procedural* transparency (on the way monetary policy decisions are taken); *policy* transparency (involving announcement and explanation of decisions); and *operational* transparency (reflecting appraisal of monetary policy actions).

Elements of political, procedural and operational transparency are conceivably relevant under both an accountability and a transparency heading, but in the context of the above, we consider first transparency and then accountability issues.

Transparency

Central bankers consider achieving "transparency of policy" particularly important. As a whole, central bankers have rated it as the third most important feature of their monetary policy framework, after "independence" and "maintenance of inflationary expectations". Exchange rate targeting central bankers have ranked it third, following the attributes of "exchange rate targets" and "independence".[31] (Fry *et al*., 2000, p 137, Table 8.1).

Justifications for greater transparency differ considerably between economic theorists and central bankers. In economic theory, transparency is generally regarded as important for minimising asymmetric information between monetary policy makers and others, and for helping to reduce adverse uncertainty and incentive effects. Geraats (2002, pp 533, 563) has further argued that the significant increase in central bank transparency recently, has been prompted not just by the need to satisfy accountability requirements, but for the positive macroeconomic benefits that result.[32] Essentially, this is because economic, policy and political transparency seem to have advanced at a faster rate than has procedural transparency.

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[28] For example, see Briault *et al*. (1996), Geraats (2002, p 560) and Bini-Smaghi and Gros (2001, pp 3-4) (BSG).

[29] See Pollard (2003, p 25).

[30] See also Posen (2002, Table 1, p 125) for a "practical view" framework, with six conceivable channels for central bank transparency.

[31] "Accountability of policy" was ranked eighth and fifth, respectively.

[32] For example, Chortareas *et al*. (2002), Cecchetti and Krause (2002).

Empirically, research approaches have varied from reluctance to endorse or utilise an aggregate index, through to carefully qualified use of sub-category measures.

Fry *et al*. (2000, pp 73-75) questioned whether monetary policy transparency can be reflected in any meaningful way by an overall index, and chose not to produce one. A key reason for this is because economic transparency requirements need to be different between forward-looking inflation targeting central banks, and those that are exchange rate targeting. Also, exchange rate targeters can be regarded as *inherently* transparent, with their transparency emanating from the ability of financial markets and the public to monitor the credibility of their target performance in close to real time. Hence, Fry *et al*. provide "measures of policy explanations" rather than transparency measures, and categorised them as those (i) explaining policy decisions, (ii) publicly explaining forecasts, and (iii) explaining assessment and analysis (See Table 2).

Consistent with this, most recent research has worked either with sub-sets of the Bank of England survey data, or supplemented the primarily economic policy measures with accountability measures. For example, Chortareas *et al*. (2002) focussed solely on "transparency in forecasting", a transparency measure particularly relevant for inflation targeting central banks. They concluded, for inflation and money targeting but not exchange rate targeting economies, that a higher degree of transparency in monetary policy is associated with lower inflation but not increased output volatility.[33]

Eijffinger and Geraats (2002) construct their own index of "central bank transparency" for nine inflation-targeting central banks, including the RBA and the RBNZ. They construct three sub-indexes for each of the five Geraats (2002) categories. The RBNZ, the Bank of England and the Swedish Riksbank are rated the most transparent; the RBA, the Bank of Japan and the Swiss National Bank are seen as least so. The RBA and the RBNZ achieved the maximum rating for *political* transparency, but both were considered able to improve further on *operational* transparency, essentially evaluation of "errors". Key differences between the two are in both the transparency and accountability areas, with the RBA rating measurably lower on each of *economic* transparency (policy models and forecasts), *policy* transparency (policy explanation and policy inclination), and *procedural* transparency (minutes and voting records).[34]

The Fry *et al*. "policy explanations" measures for the RBA and RBNZ, reproduced in Table 2, are basically consistent with Eijffinger and Geraats' findings. The RBNZ would continue to rate highest on policy explanations, especially given that it now provides brief explanations when the policy-maker announces no change. The HKMA measures reported in Table 2, as at 1999, seem be lower than would now be the case, partly through the recent provision of certain forward-looking liquidity information, but also because the measures seem not to make explicit allowance for the *inherent* transparency of its rule-based currency board system. No scores are published for the MAS in the relevant table. An examination of information

[33] While supporting transparency conceptually, Posen (2002) is critical of aspects of the Chortoreas *et al*. (2002) methodology.

[34] Procedural transparency is the category closest to accountability. While neither central bank publishes minutes or voting records, Eijffinger and Geraats (2002, p 12) argue "The RBNZ is special in the sense that its policy decisions are solely made by its Governor. This means that voting records are immaterial. In addition, minutes are substituted by comprehensive explanations of its decisions, including forward-looking analysis".

now published by the MAS suggests modestly favourable values could be established for their categories of "explaining policy decision" and "published assessments", though these values on their own are unlikely to lead to rating them as high as the RBA.

Accountability

Accountability is the concept which has received the least attention in the economics literature. Also, at the time of the Fry *et al*. (2000, p 135) survey, central bankers ranked accountability lower in importance than both independence and transparency. For example, "accountability of policy" was rated eighth most important by all central banks, sixth by inflation targeters and fifth by exchange rate targeters. Moreover, very few studies mention either "central bank governance" and/or "corporate governance for central banks".

Increased accountability can lead to both improved economic benefits and better democratic accountability, and as mentioned above, its key attributes can be captured conceptually within the Briault *et al*., Geraats, and Eijffinger and Geraats frameworks.[35] In practice, formal accountability has generally been sought either through a formal *contract* mechanism (e.g. RBNZ-style), or more often through various parliamentary and governing board *monitoring devices*.

Empirical measures specific to accountability are relatively few, and some of these have limited relevance for particular central banks.

Briault *et al*. (1996) construct a "central bank accountability index" for 14 industrialised countries, by assigning binary values for parliamentary monitoring, publication of minutes, publication of a monetary policy report, and the existence or otherwise an explicit or implicit override mechanism. More relevantly here, though, the Fry *et al*. accountability measures, reproduced for the RBA, RBNZ, HKMA and MAS in Table 2, feature three measures of accountability with respect to a specific target, and a measure for public accountability through parliamentary monitoring. The RBA, RBNZ and HKMA all rate particularly highly, and the MAS particularly lowly.

Bini-Smaghi and Gross (2001) constructed an index for the six major central banks from 15 largely policy and communication strategy sub-categories, to provide background information for judging whether the European Central Bank (ECB) has been sufficiently accountable and transparent in practice. Despite this increased number of measures, very few of which reflected central bank governance, they concluded (pp 7, 17) that "...indicators based on formal criteria are not useful in this field [of central bank accountability and transparency]", and that the existence of a seemingly transparent and accountable formal framework does not necessarily ensure performance will be rated by financial markets and the public as effective and credible.

35 Note in this context, though, that Fry *et al*. (2000, Table 5.1) report statistically insignificant correlations between their measures of independence and "accountability to government" (.06), and between that measure of accountability and "policy explanations" transparency (.14).

In short, it seems that while the sophistication and relevance of transparency and accountability measures has been evolving rapidly, and central banks have been responding accordingly, current measures are still unable to reflect a sufficiently wide range of central bank and related corporate government measures. In particular, they cannot yet capture crucial differences between formal frameworks and their degree of operational effectiveness.

So where does this leave us? Considerable effort has gone into clarifying meanings of the four broad concepts and the relationships amongst them. Most empirical work has utilised cross-section data, including recent survey data. Limitations are that most findings have involved potential linkages to macroeconomic rather than monetary policy objectives, and have been for inflation targeting or multiple objective central banks. There has been little focus, perhaps because of small sample sizes, on exchange rate targeting central banks. More positively, but in a very broad sense, *operational independence* is regarded by central bankers as the most valuable of their monetary framework characteristics, with central bank *credibility* being the outcome to be strived for and maintained. Increased emphasis has been placed recently on *transparency* and accountability, by both inflation and exchange rate targeting central banks, though for somewhat different reasons. *Accountability* has been the least appreciated and researched, and yet in principle, its potential links to *governance* are the strongest.

Hence, because there has been limited success in establishing robust empirical relationships between monetary policy objectives on the one hand, and broad governance related concepts such as independence, credibility, transparency and accountability on the other, and because the messages for our four individual economies from Table 2 are relatively limited, we turn now to detailed identification and some assessment of their current governance procedures.

4. Identification, benchmarking, and assessment of Governance Procedures: Common elements or different models?

4.1 Central Bank Governance: what should it comprise?

Conceptually, governance is underpinned by the need for accountability, and in practice, successful governance can only be achieved with the assistance of various forms of transparency. However, just as there has been limited consideration of accountability issues in the research literature until recently, so too there has been little in depth analysis of central bank governance questions.[36]

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[36] See, for example, Siklos' (2002a, p 14) view that "Governance questions, until recently, largely ignored in discussions about the relationship between the government and the central bank, should be treated on an equal footing with the accountability and transparency considerations." Siklos (2000a, section 6) also presents a set of "Core elements of an 'ideal' central bank law", primarily specifying elements considered essential for ideal monetary policy governance, but also including some corporate governance elements.

There seems to be no comprehensive, legally binding set of governance principles for central banks akin to those existing for the corporate sector. However, there are a steadily evolving set of desirable principles and practices which have similar aims.[37]

For example, in the very broadest sense, one would expect central bank governance principles to be underpinned by:[38]

- *an effective constitutional and legal framework*, stating explicitly the objectives for monetary policy. This would also specify the rights and obligations of the various parties in relation to the monetary policy objectives, the degree of operational independence of the central bank, the role and duties of the governing board, and the role and responsibilities of the chief executive. The framework may or may not additionally involve specific contractual requirements;[39]

- *ongoing political and public support* for the monetary policy framework, maintained through a high level of *transparency* and *strong accountabilities* to government, to Parliament, to financial markets, and to the public at large;

- *an effective governance culture for the central bank*, engendering public disclosure of the extent to which statutory and other obligations have been met, and in a corporate governance sense, ensuring best quality financial disclosure and risk management practices.

Is there a clear dividing line between monetary policy and corporate governance areas, or any general agreement on what issues should be covered within each? Not to my knowledge. Accordingly, I cover board issues, monetary policy decision-making issues, and transparency and accountability issues under the central bank monetary policy governance heading in section 4.2. Governance reporting issues, financial issues, and risk management issues are then treated under corporate governance in section 4.3.

4.2 Central Bank Governance: Monetary Policy Objectives and Performance

The issues which follow should be seen in the light of the material on monetary policy objectives covered in section 2.1.

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[37] See the IMF's *Code of Good Practices on Transparency in Monetary and Financial Policies* and its associated *Financial Sector Assessment Program* (FSAP), and the OECD's *Core Principles on Corporate Governance*. In the fiscal area, see the "Principles of responsible fiscal management" set down in section 4 of New Zealand's *Fiscal Responsibility Act 1994*, together with the strengthened reporting requirements of the Crown.

[38] See, for example, Mortlock (2002), Perry (2001) on key corporate governance principles for central banks.

[39] On central bank contracts, see Walsh (1995), Persson and Tabellini (1993), Mahadeva and Sterne (2000, pp xxxv-xxxvi), Fry *et al*. (2000, pp 31-32), and New Zealand's contractual framework involving a Policy Targets Agreement between the Governor and the Minister of Finance.

Board issues

Is there an ideal governance structure for evaluating monetary performance against designated objectives? Issues central to any ideal structure would be the following: should the central bank board be solely a monitoring and evaluating one, or can it additionally have monetary policy decision making power? If the latter, is there another specialist body or individual responsible for evaluating the board's monetary policy decisions? Are the duties of the board set out clearly in legislation, or do its powers and responsibilities need to be clarified by other public documents? Who is responsible for appointing board members and its chair? Hence, what is the overall transparency of the evaluation processes, what is the balance between independence and accountability in the evaluation procedures, and are these easily understood?

Ideally, the basic answers to these questions should initially be obtainable quickly and clearly from legislation. Also, whether the monetary policy decision is taken by a monetary policy committee, by an individual decision-maker, or by a board, it is reasonable to expect performance evaluation by the board (or by an equivalently credible process) to take place at arms length from the decision.

In practice, the roles of the RBA, RBNZ, HKMA and MAS "governing boards" vary considerably in scope and complexity, and lead to different degrees of independence and transparency. Key information is summarised in Table 4.

The RBA, RBNZ, and MAS Acts set down the duties of their boards, including whether they are responsible for formulating or monitoring monetary policy. It is also clear from the Acts who is responsible for appointing board members and how long appointments are for.

The RBNZ board operates under the simplest and most transparent system. The board is required to monitor the decision making and communication performance of the Governor, and is in a very clear position to do this independently.[40] The outcome of the process is visible in the non-executive directors' annual report, available in the Bank's Annual Report.

The RBA has two boards. The Reserve Bank board is responsible for all Bank policies, except payments system stability and efficiency. The latter is overseen by the Bank's Payments System board (PSB).[41] The Reserve Bank board also *decides* monetary policy, and is chaired by the Governor. There is no separate, specialist body or process designated for evaluating the board's monetary policy decision making, though as discussed below, the Governor appears on behalf of the board, twice yearly, before the Federal Parliament's House of Representatives Standing Committee on Economics, Finance and Public Administration.

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40 At present, this is still done through the Board's Non-executive Directors' Committee (NEDC). The Government has, however, introduced legislation, accepting the recommendation of the Svensson Review (2001), to remove the Governor as chair of the Board and to provide for the chair to be appointed from among the non-executive directors. See Reserve Bank of New Zealand (2002a, p 5). The RBNZ's non-executive directors' (2000 p 159) arguments for the Governor not being the chair were based on the principle of separating the executive management and governance roles. Their arguments (pp 149, 160) against the Minister appointing the chair were based on this potentially being seen as undermining the monitoring independence of the board and, indirectly, the operational autonomy of the central bank.

41 The PSB is chaired by the Governor, but its composition is otherwise non-overlapping and it operates independently.

The MAS board is responsible for all MAS policies. The board chair, who is the Deputy Prime Minister and Finance Minister, is appointed by the President, on the recommendation of Cabinet. It is not immediately clear from an examination of legislation and other official documents whether this board is essentially monitoring and evaluative, or has some operational role in monetary policy decision-making. It seems reasonable to assume, however, that it is in effect an evaluative board for monetary policy purposes, and that there is considerable operational independence between the MAS's monitoring and decision-making bodies. As discussed further in the sub-section on monetary policy decision-making issues, the reasons for assuming this are: (i) the Bank of England's 1999 survey reports that the MAS has 100% monetary policy target independence and 100% instrument independence; and (ii) the MAS's most recent Annual Report (2002, p 8) states that its Economics Division formulates monetary policy and its Monetary Management Division implements monetary policy.[42]

For the HKMA, the equivalent of the governing board is the government's Financial Secretary (FS), in consultation with the Exchange Fund Advisory Committee (EFAC). The FS's responsibility for setting monetary policy objectives, the duties of EFAC and its Sub-committee on Currency Board Operations,[43] and the appointment procedures for the FS and EFAC can be found from studying the Basic Law of the HKSAR, the Exchange Fund Ordinance, the *Accountability System for Principal Officials* (Constitutional Affairs Bureau, 17 April 2002), and the HKMA's information note for the Legislative Council's (LegCo) Panel on Financial Affairs, entitled *Governance of the Hong Kong Monetary Authority* (27 September 2002). This model is clearly a unique one, and is heavily conditioned by the HKSAR's current constitutional status and historical development. In essence, the model can be seen as "a single person governing board" one, in the form of the Financial Secretary. The FS is responsible for choice of the rule-based currency board system, a system which has considerable *inherent* accountability. There are also extensive other accountabilities: through the FS being appointed by the Central People's Government (CPG) on the recommendation of the HKSAR Chief Executive; through FS accountability to the HKSAR CE and to LegCo;[44] through FS exercising powers in consultation with EFAC (whose members are appointed by the FS under delegated authority from the HKSAR CE); and through the "Monetary Authority"[45] having sole responsibility for achieving the monetary policy objective.[46] It is therefore a system of considerable complexity, but which also incorporates an exceptional number of monitoring checks and balances, as offsets to the FS's very considerable powers and independence of authority.

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42 See also Monetary Authority of Singapore (2003, p 12, and pp 13-14) which states that "The Monetary Policy Division (MPD) of the Economic Policy Department ... provides recommendations on the slope and width of the exchange rate policy band ..." and "The Monetary Management Division (MMD) reports ... at the weekly Monetary and Investment Policy Meeting (MIPM), which is equivalent to the MPC of other central banks." Its website Organisation Chart as of 21 April 2003, also states that the EPD formulates monetary policy.

43 EFAC's Remuneration and Finance Sub-committee has governance responsibility for staff, administrative and other matters; its recommendations go to EFAC.

44 See the *Accountability System for Principal Officials*, and Article 64 of the Basic Law.

45 The Monetary Authority is "a person", the CE of the HKMA, appointed under the Exchange Fund Ordinance.

46 See most recently, and as referred to above in footnote 7, the letter of 25 June 2003 from the HKSAR Financial Secretary stating that "As Monetary Authority you shall on your own be responsible for achieving the monetary policy objective within the structure of the monetary system I have both determined herein."

Monetary policy decision-making issues

Is there an ideal monetary policy framework, from a governance perspective? Perhaps not surprisingly, Fry *et al*. (2000, p 133) concluded "there is no 'best-practice' [monetary policy] framework for all. Relevant considerations include the size and openness of the economy, the degree of centralisation in the political structure, norms for transparency in the public sector, and the history of past monetary successes and failures". Similarly, but more narrowly in a governance arrangements context, Archibald (2001, pp 10-11) suggested "each of the decision-making structures ... is likely to have different strengths and weaknesses. ... there is no single 'right' or 'wrong' monetary policy decision-making model."

Nevertheless, issues key to a best practice accountability framework for any particular economy and central bank would include the following: Should the monetary policy decision-maker be an individual or a "committee"? If an individual, what are the accompanying advisory structures? If a "committee", what is its composition, and in particular does it have external and/or government members, with or without voting status? In both cases, who is responsible for appointing the decision-maker, and is the length of their terms explicit?

Archibald (2001, pp 10-11) has suggested monetary policy decision-making models can be divided into three broad categories,[47] each in turn with differing operational detail. In these models, monetary policy decisions are made by: (i) a single decision-maker, such as the Governor or central bank chief executive; or (ii) a committee responsible only for monetary policy, such as a "monetary policy committee" (MPC), and usually accountable to a board; or (iii) a governing board that is also responsible for decisions on all the central bank's functions.

So what are the relative risks and benefits for the single decision-maker and collective decision-maker models?[48] Risks associated with a single decision-maker model are that the decision is too reliant on the judgement and personal qualities of one individual, that the decision-maker becomes hostage to one particular line of thought, and that the non-elected person is *perceived* by the public at large as having too much power and responsibility. Potential benefits associated with a single decision-making model are its clear and strong accountability, and the efficiency and clarity of the policy and communication processes, both within and beyond the central bank. Under such a model, accountabilities need to be particularly strong, to ensure the potential benefits clearly outweigh the commensurate risks. The potential benefits and risks are largely reversed for collective decision-making models: loss of coherence in monetary policy decision-making, lesser clarity of communication of policy and accountability, and benefits which emerge from wider input to the decision or from a "committee average" view. Net benefits will also depend on the extent to which external input[49] and a full range of options are

47 Other categorisations are, of course, worth considering. For example, a further category of model, with either limited or no scope for decision-making, would a *rule-based* one. That could include some form of currency board.

48 See, for example, Fry *et al*. (2000, pp 128-133), Goodhart (2000, pp 228-232), Svensson (2001, pp 49-50), Non-executive directors of the RBNZ (2000, pp 157-159), Archibald (2001, pp 5,8 10-11).

49 See Svensson (2001, pp 49-56), Fry *et al*. (2000, pp 130-131) for discussion on the relative contributions able to be made by internal and external committee members.

taken into account in advisory processes under the single decision-maker model, and the extent to which operational independence is compromised by government input[50] under a collective model.

Fry *et al*. (2000, pp 128, 130) report that a policy-making committee is the more common model for central banks, with the decision being taken by committee in 79 countries and by an individual in only nine central banks. However, they also suggest that a committee will take better decisions only if the committee brings "...diverse but relevant experience, and they engage in a process of 'creative challenge'". This is consistent with Svensson (2001, p 51) reporting that a senior central banker told him: "Of all arrangements, the best is the right committee. The worst is the wrong committee."

So what are the relative balances of individual versus collective responsibility for monetary policy decisions, and the relative weightings amongst efficiency (or simplicity), single decision-maker riskiness, transparency, and accountability, for our four central banks?

In practice, the RBA, RBNZ, HKMA and MAS monetary policy decision-making processes and entities are structured very differently, take differing lengths of time to understand, and exhibit differing degrees of operational independence and accountability. Key information is summarised in Table 5.

New Zealand and the HKSAR formulate monetary policy through single person decision-maker frameworks, counterbalanced by strong accountability requirements,[51] and significant advisory processes. In the case of the RBNZ, this leads to particularly sharp operational independence for the Governor, and hence similarly clear personal responsibility for monetary policy outcomes. Unlike for the other central banks, there is no government representative on either the monitoring board or as a participant to the monetary policy decision-making or advisory process. The HKSAR in effect seems to operate a "double, single decision-maker" model, with the FS responsible for determining the monetary policy objective and the Monetary Authority responsible for achieving it. This monetary policy decision making framework and range of counterbalances to single decision maker powers takes very considerable time to understand, monetary policy has operational but not goal independence from government, and there is powerful rule-based accountability, together with the extensive other checks and balances set out above under "Board issues".

The RBA and the MAS have "committee models" for taking monetary policy decisions, the former through vote at its board meeting, the latter through the combination of its Economic Policy Department recommending the slope and width of the exchange rate policy band, and its weekly Monetary and Investment Policy Meeting. The RBA procedures are relatively widely known and understood, and five out of the six non-executive board members are appointed to bring wider or non-government input to the monetary policy decision. Direct accountability for the monetary policy decisions, twice yearly to

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50 Siklos (2002a, p 21) includes in his core "ideal" elements the requirement that "The central bank will be entirely responsible and accountable for the day-to-day implementation of monetary policy. Monetary policy decisions shall not be subject to any direction from the government unless it makes public the reasons it wishes to direct the central bank to alter existing policies. From time to time, the government may, via periodic reviews of the conduct of monetary policy, wish to set a new course for the central bank. This may require amending the central bank law."

51 For the RBNZ, these are summarised as: the rigorous "double veto" process for appointing a Governor; constraints on, and the requirements for monetary policy transparency from, the Governor from legislation and the Policy Targets Agreement (PTA) contract; and constant monitoring of the Governor by the Board. See NEDC (2000, pp 149, 158).

Parliament and through the Bank's regular publications and communications programme, is somewhat less comprehensive than for the above single decision-maker models.[52] By way of contrast, MAS decision-making procedures are not as extensively documented as those for the RBA, and are also probably not as widely understood. Nor are the specific accountabilities yet apparent. For example, is membership of the MIPM fully internal to the MAS, thereby enhancing operational independence, or does it have government and other external members, thereby potentially adding wider input to decisions? And who takes ultimate responsibility for monetary policy decisions? Is it the MIPM chair, the managing director of the MAS, or the board?[53]

Transparency and accountability issues

In section 3, the five-stage transparency framework of Geraats (2002) was explained, as was the Fry *et al*. (2000) three-category set of "measures of policy explanations". Empirical conclusions from these quite disparate sets of transparency measures showed the RBNZ amongst the most transparent of nine inflation targeting central banks, and the RBA rating measurably lower in the areas of "policy models and forecasts", "policy explanation and inclination", and "minutes and voting records". Conclusions from the 1999 Fry *et al*. survey data (reproduced in Table 2) are commensurate with those measures for "policy explanations" now being somewhat dated, and therefore misleading for current HKMA and MAS procedures. They also show that, in the category designated as (monetary policy) "accountability", the RBA, RBNZ, and HKMA all rate very highly, and the MAS particularly low.

Hence, what additional and updated insights can be obtained from the recently assembled information on "transparency" and "accountability", presented in Table 6? We focus first on how transparent each central bank's monetary policy decision-making process is, and then on how strong and comprehensive the accountability is to legislatures and the public for those decisions.

Transparency of the monetary policy decision-making process

Procedural transparency on the way decisions are taken is a controversial area,[54] with judgements often being dominated by whether votes of committees are taken and made public, and minutes or transcripts of meetings published. In my view, debate over the latter can often be more distracting than informative, through failing to keep debate primarily about actual and potential achievement of the monetary policy objective. These aspects also need not be the most suitable to focus on, for single decision-maker and

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52 "Committee" decision-making models vary in the intensity of their transparency and accountability. See, for example, the Bank of England's procedures (Fry *et al*., 2000, pp 128-129; and Tables 2, 5, 6).

53 The board is ultimately accountable to the Parliament of Singapore through the Minister in charge of the MAS.

54 Fry *et al*. (2000, pp 138-139) report that for the 79 central banks using a committee structure, slightly fewer than half have a procedure for voting, while the remainder take a decision by consensus; six of the 36 voting committees publish the votes of individuals. They also set down strengths and limitations of individual accountability, in light of the Bank of England experience. Svensson (2001, pp 5-6, 61-62), in his review of RBNZ monetary policy governance procedures, also canvassed *pro* and *contra* arguments, in recommending "Named votes and non-attributed minutes of the [internal] MPC should be published with a short lag." This recommendation was not accepted by the government.

exchange rate targeting frameworks.[55] In short, the key issue here would seem to be whether the public and financial markets understand both the process through which each monetary policy decision is reached and the economic and any other reasoning behind each decision.

From the information in Table 6 on “monetary policy decision body” meetings, on whether numerical forecasts are published, and on regular publications and communications programmes, it is clear how often each central bank “body” normally meets, and the extent to which reasoning for decisions is made transparent.

Neither the RBA nor the MAS publish minutes or transcripts (or votes) of their “committee” meetings. The RBA announces “no change” or a specific change to its Target Cash Rate, and in the case of decisions to change provides reasons. It provides detailed information, a limited amount of it broadly forward looking, in its quarterly published statements. Since January 2002, at semi-annual intervals, the MAS has published simultaneously its short MPS, and its more detailed Macroeconomic Review, providing reasoning for its current broad S$NEER objective, and very brief forward-looking information.

The two single decision-maker economies are therefore considerably more transparent and timely on reasoning and explanations. The RBNZ does not support its Official Cash Rate (OCR) decisions through publishing votes and minutes. Rather, this purpose is served through providing its decisions and explanations simultaneously. Brief media-release reasons are provided for “between-MPS” decisions. Comprehensive Monetary Policy Statements, which include considerable forward-looking information, are provided quarterly. The RBNZ is the only one of the four to publish quarterly medium-term numerical projections, conditional (perhaps still uniquely for central banks) on endogenous interest rate (and exchange rate) paths. The HKMA has also had for some time an explicit public commitment to increasing the transparency of what it does.[56] In the context of its inherently transparent, rule-based currency board system, it publishes on its website within a few weeks, both the “Report on Currency Board Operations” and a “Record of Discussion of Meeting” of its EFAC Sub-committee on Currency Board Operations. Importantly, the short preface to the Currency Board Operations Report contains the accountability statement: “In accordance with currency board principles, changes in the Monetary Base were fully matched by corresponding changes in foreign reserves.”[57]

Hence, the nature of the monetary policy decision-making processes, and the communication of decisions reached, is well understood for each of our four central banks. They have, however, displayed very different degrees of commitment to providing reasons why particular decisions have been reached, and to providing self-assessment of material differences from targets. The RBNZ has the longest standing commitment to transparency, as required by its Statute, and releases the most comprehensive set of

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[55] Eijffinger and Geraats (2002, p 12) have suggested that “Although decision-making by committee makes it harder to achieve procedural transparency, the Bank of England shows that this need not be an insurmountable problem, ...”. They also are of the view that, for the RBNZ single decision-maker model, voting records (of the MPC) are immaterial, and that “... minutes are substituted by comprehensive explanations of [the Governor’s] decisions, including forward-looking analysis.”

[56] See recent years’ HKMA Annual Reports.

[57] See, for example, the Report of 16 April - 28 May 2003, published on 30 June 2003.

information. The RBA and HKMA have progressively and materially upgraded the sets of information provided for their monetary frameworks. The MAS's increased transparency in this area is relatively recent.

Accountability to "Parliament" and to the public, for the monetary policy decisions reached

It should be clear from the board and decision-making sections above *who* is responsible for the outcomes of monetary policy decisions. Brief consideration is now given to the two most direct processes through which accountability to the legislature and to the public takes place.

The RBA, RBNZ, and HKMA clearly see it as an important responsibility and a valuable opportunity to appear at agreed intervals before their respective "Parliamentary Committees". The MAS does not appear to provide accountability in this form.[58]

All four central banks provide formal published material, self-reviewing their conduct of monetary policy decisions and performance. They provide this with differing speeds, at different intervals, and in differing degrees of depth. For example, the HKMA's EFAC Sub-Committee Report on Currency Board Operations is available within a few weeks, 11 times yearly, to complement other daily and monthly information; the RBNZ releases quarterly its in depth MPS, simultaneously with its OCR announcement; the RBA provides quarterly review material, and the MAS provides its formal review material semi-annually.

Hence, the messages which emerge from material summarised in Table 6, are broadly consistent with those obtained from the Table 2 data, and Eijffinger and Geraats' work. Each central bank has further enhanced the degree of transparency of its monetary policy decision-making process in recent years. The RBA, RBNZ, and HKMA, but apparently not the MAS, have regularly scheduled processes for their legislative bodies to hold them accountable for monetary policy performance relative to their objective. The RBNZ and the RBA, as is appropriate for inflation targeting central banks, provide the greater forward-looking information, though limited self-appraisal of projection errors. The HKMA and MAS, as exchange rate-targeting central banks, also face greater real time accountability from financial markets.

4.3 Selected Corporate Governance Issues for Central Banks

The information presented in Table 7 covers the following: how governance is currently treated in Annual Reports; several important aspects of financial accountability; how central banks report key risk procedures; and what procedures currently exist in the area of "chief executive risk".

[58] Members of Parliament can, however, raise questions on MAS performance with the Minister of Finance. In 2001, seven parliamentary questions on MAS were asked, relating to the use of banks' names, the roles of finance companies and electronic payments etc. (Legislative Council Secretariat, 2003, p 107).

Governance reporting

Is it ideal for central banks to continue reporting on governance in a largely piecemeal manner? I suggest "no". Overall central bank credibility is affected by the quality of governance across the monetary policy, financial system stability, and corporate governance areas. That suggests it could be advantageous to have a "one stop shop" for governance, with coverage quite early on in each central bank's Annual Report.

The RBA, HKMA and MAS each provide key corporate governance and monetary policy governance material in a piecemeal fashion.[59] The RBNZ has chosen a considerably higher profile, integrated descriptive summary of monetary policy and corporate governance procedures early in its 2002 and 2001 Annual Reports, and an integrated non-executive directors' "governance" annual report later on. It is arguable whether separating the "descriptive" and "independent evaluative" aspects is or is not ideal.

This RBNZ governance reporting framework came as a natural extension of Lars Svensson recommending in his *Independent Review* (2001, pp 6, 57, 65), that the RBNZ accountability structure should be strengthened, through the Board of Directors publishing an annual report with its evaluation of the Bank's monetary policy. This could be done, either in the form of a separate annual report by the Board or as part of the Bank's *Annual Report*.

Financial procedures and reporting

Extensive Annual Financial Statements are provided by all four central banks in their Annual Reports. For the HKMA, these statements are termed accounts of the *Exchange Fund*. However, as these accounts cover financial activity associated with the HKMA as a whole, there would seem to be considerable value, especially for those not familiar with the HKSAR frameworks, in giving this fact greater prominence.

All four central banks also have audit committees, and provide signed independent audit reports in their Annual Reports.

In all cases, and as it should be, the underlying authority for distribution of central bank surplus (or profit) can be found in legislation. The person or body having the ultimate decision-making authority, and the specific destinations for the funds are also made either precisely clear or, in the case of the HKMA, "primarily" clear.

The twofold justification for both the distribution of surplus and the funding method being made clear in statute, is so that central banks cannot retain for operational purposes net surplus monies from seigniorage, and so that strong financial accountabilities can be transparently maintained over the long term.

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59 The HKMA's Annual Report of 2002, released on 29 April 2003, has recently provided an upfront summary of its legal mandate, its high degree of accountability and transparency, and its advisory and other committees, including EFAC and its Sub-Committee on Currency Board Operations (HKMA, 2002, pp 10-13).

Funding methods are not, however, immediately clear for all four central banks, thereby providing scope for further strengthened accountability. For example, a simple, clear and potentially very strongly accountable method is the "Funding Agreement" model, under which the RBNZ has operated successfully for well over a decade. The authority for this comes from the RBNZ Act, the agreement is between the Governor and the Treasurer/ Minister of Finance, and through its multi-year form, it is designed to strike an appropriate balance between the need for the central bank to maintain the degree of operational independence authorised under the Act, while simultaneously ensuring strong financial accountability.[60]

Risk management procedures and reporting

Like many commercial entities, central banks have given considerably greater attention over the past decade to risk management procedures. In each of the RBA, RBNZ, HKMA and MAS, risk assessment and management procedures have become increasingly rigorous and have been made increasingly transparent. Specific units have been noted in Table 7, and specific procedures vary considerably by institution, but all provide risk management notes in their annual financial accounts.

Chief executive risk

Whether a central bank has operational independence or not, and whether it operates a single decision maker model or not, the qualities and performance of the chief executive are clearly crucial to each central bank's monetary policy performance and overall credibility.[61] So, are the procedures for appointment, performance assessment, and completion of term of office specified in legislation?

Appointment procedures for CEs of the RBA, RBNZ, HKMA and MAS are all specified in statute. The RBNZ and MAS Acts have the extra safeguard of a "double veto" procedure.[62]

The statutory underpinning for evaluating CE performance varies by central bank. The RBNZ and MAS Acts require, respectively, that the Board "keep under constant review" the performance of the Governor, and that the Managing Director "be accountable to the Board for acts and decisions". The performance of the Monetary Authority (CE HKMA) is formally reviewed by EFAC against objectives set annually. There is no explicit provision in the RBA Act or any other formal requirement for evaluation of the Governor's performance.

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60 See Non-executive directors (2000, p 154), RBNZ (2002a, p 6). In New Zealand's case, the funding period is for five consecutive financial years.

61 For example, Svensson's (2001) *Independent Review* pays particular attention to potential CE risk, in New Zealand's single decision-maker context.

62 Recall, also, that there is a "double veto" process allowed for during appointment of the HKSAR's Financial Secretary, who is responsible for "setting" the monetary policy objective.

4.4 Some Assessments

It is clear, from the conceptual and empirical material presented above, that there is no ideal model for best practice central bank governance, and no one-to-one correspondence between excellence in monetary policy performance and excellence in governance.[63]

It can be sustained, however, that there are key governance principles (or basic *common elements*), which should underpin excellence in central bank governance; also that the individual economy frameworks should then allow for their different political systems, constitutional and legal frameworks, commercial and financial institutional structures, and attitudes of the public at large (i.e. for *different models*).

The common elements and different models should also be seen in the context of each of our four central banks having maintained strongly credible monetary policy performance over the past decade.

Common elements

In section 4.1, it was suggested that effective central bank governance should be underpinned by:

- an effective constitutional and legal framework, stating explicitly the objectives for monetary policy;

- ongoing political and public support for the monetary policy framework, maintained through a high level of transparency and strong accountabilities to government, to Parliament, to financial markets, and to the public at large;

- an effective governance culture for the central bank, engendering public disclosure of the extent to which statutory and other obligations have been met, and in a corporate governance sense, ensuring best quality financial disclosure and risk management practices.

From section 2, we have seen that, while ideally each central bank's primary monetary policy objective should be transparent from statute, in practice this clarity has had to be achieved through a mix of statutory and publicly prominent clarifying documents. Ultimate monetary policy targets are clear in all cases, but the degree of numeric guidance provided for each central bank's monitoring body varies considerably. For example, the HKMA fixed-link target is precise, whereas the MAS intermediate target is a S$NEER band of undisclosed width and its ultimate objective of "price stability" is not quantified. Specific inflation target bands are provided for the RBA and the RBNZ, but the time horizon over which the targets have to be achieved on average, is the relatively generic "medium term".

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63 For example, Fry *et al*. (2000, p 133) and Crockett (2000, p 222) conclude with respect to *monetary policy frameworks*, "There is no 'best practice' framework for all." and "One size does not necessarily fit all.". Pollard (2003, p 28) concludes there is "... no blueprint for the structure and operations for a central bank." Genberg (2002, Abstract, p 13) judges that "The principal objective of a sound monetary policy ... can be achieved with a variety of institutional structures and operational frameworks" and "Inflation targeting does not imply any particular operating procedure." Archibald (2001, p 11) concludes " ... there is no single 'right' or 'wrong'..." *monetary policy decision-making model*.

Each central bank has considerable operational independence. This is clear from statute for the RBNZ, and it is clarified by other means for the RBA, the HKMA and MAS. The degree of government involvement in the monetary policy decision-making process varies from nil (RBNZ, HKMA, MAS) to limited (RBA).

Governing board arrangements are generally clear from statute, though in the case of the HKMA are clarified by additional public documents and involve a relatively complex combination of checks and balances.

The procedures for accountability to “Parliament” and to the public, on both monetary policy and corporate governance matters, are transparent and strong for the RBA, RBNZ and HKMA, but there is no evidence readily available for the MAS.

In the financial procedures and reporting areas of corporate governance, presentation of financial statements and reporting of audit procedures are transparent, and best practice or better procedures have been striven for. The underlying authority for distribution of central bank surplus can, in all cases, be found in statutes.

For each of the RBA, RBNZ, HKMA and MAS, risk assessment and management procedures have become increasingly rigorous and have been made increasingly transparent.

Different models

Differences in governance models have emerged, partly through our having examined two inflation-targeting central banks, and two central banks which place major emphasis on exchange rate stability. The RBA and RBNZ operate broadly similar inflation targeting regimes, under very different governance structures. The HKMA and MAS operate very different exchange rate regimes. The HKSAR’s rule-based currency board system brings strong inherent transparencies and accountabilities, and these are complemented by strong, publicly expressed commitments to transparency through traditional means. But both the MAS’s nominal effective exchange rate intermediate-target band regime, and the HKSAR’s US$ linked fixed exchange rate system carry exchange rate risk, as an exchange rate target or band can be the subject of financial attack in a way that an inflation target cannot. Governance arrangements necessarily differ, to reflect this.

Different governance models also emerge once an economy has chosen a single person decision-maker model rather than a “committee” decision-making model.

Governing board arrangements exhibit differing degrees of simplicity and transparency. They also show differing degrees of independence between the “board” and “management”, and between the “board” and government.

The nature of the monetary policy decision-making processes, and the communication of decisions reached, is well understood for each of our four central banks. They have, however, displayed very different degrees of commitment to providing reasons *why* particular decisions have been reached, and to providing *self-assessment* of material differences from targets. New Zealand and the HKSAR formulate monetary policy through single person decision-maker frameworks, counterbalanced by strong accountability requirements and significant advisory processes. The RBA and the MAS have "committee models". To date, the two single decision-maker economies have been considerably more transparent and timely on reasoning behind decisions. The RBNZ has the longest standing commitment to transparency, and releases the most comprehensive set of information. This includes a great deal which is forward-looking in nature and exhibits significant self-assessment. The HKMA states publicly it "... pursues a policy of transparency and accessibility ... [making it now] one of the most transparent of its kind in the world."[64] The RBA and HKMA have progressively and materially refined the sets of information provided for their particular monetary frameworks. The MAS's increased transparency in this area is relatively recent.

Governance reporting differs in prominence and degree of integration. The RBA, HKMA and MAS provide key corporate governance and monetary policy governance material in a piecemeal fashion in their Annual Reports; the RBNZ provide a considerably higher profile for governance, an integrated descriptive summary of monetary policy and corporate governance procedures, and an integrated non-executive directors' governance report.

Funding methods for operational expenditures are not immediately clear in all cases, thereby providing scope for further strengthened accountability.

In the area of "chief executive risk", while appointment procedures for CEs are specified clearly in all cases in statute, there are varying degrees of transparency on performance monitoring processes and terms of appointment for CEs.

Some specific recommendations

Governance reporting: The RBA, HKMA and MAS provide key corporate governance and monetary policy governance material in a piecemeal fashion in their Annual Reports. It could be further advantageous for them to have a considerably higher profile, integrated descriptive summary of monetary policy and corporate governance procedures early in their Annual Reports, and a short independently provided *evaluative* "governance report" later on.

Funding of operational expenditure: Funding methods for operational expenditure are not immediately clear in all cases. Consideration could be given to some form of statute-based, multi-year "Funding Agreement", designed to strike an appropriate balance between the need for the central bank to maintain the degree of operational independence authorised under its Statute, while simultaneously ensuring strong financial accountability.

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64 *The HKMA's Role and its Policy Objectives*, HKMA Fact Sheets 1999, Fact Sheet 1, www.info.gov.hk/hkma/eng/public/fs99/toc_index.htm

5. Concluding Comments

This paper has focussed on central bank governance as it relates to monetary policy objectives and performance, and some closely related corporate governance issues.

Each of our four small, open economy central banks, the RBA, RBNZ, HKMA and MAS, has had considerable success over the past decade in achieving its monetary policy objectives. It has also been emphasised that the most valid criterion for judging success in each central bank's monetary policy performance is its publicly declared monetary policy objective, rather than the economy's overall macroeconomic performance.

Economic research has had some success in establishing robust quantitative linkages amongst the broad concepts of central bank independence, credibility, transparency and accountability, especially from samples dominated by inflation targeting central banks. But partly due to smaller sample sizes for exchange rate targeting central banks, and partly due to each concept not having a unique meaning, further robust linkages have not been established.

It is clear, however, from sample survey information and conceptual reasoning, that operational monetary policy independence is a particularly crucial requirement for central bankers to achieve their mandated monetary policy objectives. Equally importantly, central bankers and monitoring bodies recognise that operational independence must be counterbalanced by strong transparency and accountability. Transparency is necessary for effective accountability. The combination of operational independence, transparency and accountability goes a considerable distance towards building and maintaining credibility in monetary policy operation and corporate governance.

The development of strong central bank governance has been a relatively recent, but steadily evolving process. Examples of key developments by each central bank have been noted in section 4. In some cases, their paths to desired excellence have been slowed by the nature of the economy's constitutional and parliamentary frameworks, and the speed of public understanding of key issues.

It has been shown that the RBA, RBNZ, HKMA and MAS have in common a considerable number of the elements seen as necessary for excellent governance. These include relevant statutory underpinnings, clarity of primary monetary policy objectives, commitment to improved transparency and accountability for monetary policy decision-making, and ongoing financial statement accountability. It is also clear that there are significant differences in principle and in their operating procedures, and hence in both their monetary policy and corporate governance frameworks, i.e. they operate different models. In a broad sense, the differences can be associated with (i) different primary objectives for monetary policy; (ii) different constitutional, institutional and cultural environments; (iii) the RBNZ and the HKMA operating strongly accountable single decision-maker models, and the RBA and MAS utilising "committee" decision-making models; and (iv) the central banks having proceeded at different speeds to recognise the need for and to commit fully to optimal accountability and transparency.

There is “no one size fits all” best practice framework for central bank monetary policy and corporate governance. Each central bank therefore has to continue aiming for enhanced excellence in monetary policy and corporate governance in their own rights, rather than for some common operational governance model. In this process, the key desirable principles set down in section 4.1 should be adhered to, and the two specific suggestions in section 4.4 on governance reporting and funding agreements should be considered.

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Table 1. Central Bank Objectives And Independence

	Legislated objectives	Legislation	Monetary policy objective	Date adopted	Operational/instrument Independence?
Reserve Bank of Australia (RBA)	To ensure that monetary and banking policy will best contribute to: (a) the stability of the currency of Australia; (b) the maintenance of full employment in Australia; (c) the economic prosperity and welfare of the people of Australia.	Reserve Bank Act 1959	Pursues underlying inflation of 2 to 3%, on average, over the cycle.	1993	Independent to determine monetary policy, to achieve the inflation target agreed with the Treasurer.
Reserve Bank of New Zealand (RBNZ)	Primary function to formulate and implement monetary policy aimed at achieving and maintaining stability in the general level of prices.	RBNZ Act 1989	Inflation target of 0 to 2% adopted in 1988; 0 to 3% from Dec. 1996; 1 to 3% from Sept. 2002, on av. over med. term	1988	Independent to pursue an inflation target, agreed by the Governor and the Treasurer.
Hong Kong Monetary Authority (HKMA)	To maintain currency stability, within the framework of the linked exchange rate system, through sound management of the Exchange Fund, monetary policy operations and other means deemed necessary.	Exchange Fund Ordinance 1992	To maintain a rule-based Currency Board system, fixed to the US$ at the rate of HK$7.80 (from 12 Aug. 2000)	17 Oct. 1983	The Monetary Authority on his own, has day-to-day responsibility for achieving the monetary policy objective, set by the Financial Secretary.
Monetary Authority of Singapore (MAS)	To promote, within the context of the general economic policy of Govt., monetary stability and credit and exchange conditions conducive to growth of the economy.	MAS Act 1970	To manage the S$NEER within a periodically revised, undisclosed policy band, so as to promote price stability.	1981	Considerable operational autonomy.
U.S. Federal Reserve (U.S. Fed)	Maximum employment, stable prices, and moderate long-term interest rates.	Act of November 16, 1977	The U.S. Fed. has no numeric inflation target, but views price stability necessary for achieving its legislated goals.		Independence to conduct monetary policy, in pursuit of legislated objectives for policy.
Bank of England	To maintain price stability, and subject to that, to support the economic policy of Her Majesty's Government, including its objectives for growth and employment.	Bank of England Act 1998	Initial inflation target, 1 to 4% adopted in 1993. Price stability is currently defined as inflation of 2.5% +/- 1% reporting range.	1993	Operational independence, to pursue price stability. The Chancellor of the Exchequer informs the Bank every year, what price stability is taken to mean, and what is the government's economic policy.

Sources: Information for the RBA, RBNZ, U.S. Fed and Bank of England is taken, with minor amendments, from Archibald (2001, Table 1). Information for the HKMA and MAS comes from their Annual Reports, official web-sites and other documents.

Table 2. Measures of Monetary Framework Characteristics

	Weight	RBA	RBNZ	HKMA	MAS	U.S.Fed	Bank of England
Summary scores for monetary framework characteristics							
1. Exchange rate focus: **Weighted total** (% of maximum)		**0**	**0**	**100**	**56**	**0**	**0**
2. Inflation focus: **Weighted total** (% of maximum)		**94**	**94**	**0**	**19**	**19**	**100**
3. Discretion		6	6	0	53	84	0
Focus of policy on inflation objectives							
1. Regime described as inflation targeting?	1.0	100	100	0	0	0	100
2. Published targeting/monitoring range?	1.0	100	100	0	0	0	100
3. Rank of objectives?	1.0	100	100	0	50	50	100
4. Objective prevails in policy conflicts?	1.0	75	75	0	25	25	100
Focus of policy on exchange rate objectives							
1. Described as exchange rate targeting?	1.0	0	0	100	100	0	0
2. Degree to which exchange rate is fixed?	1.0	0	0	100	30	0	0
3. Rank of objective?	1.0	0	0	100	30	0	0
4. Objective prevails in policy conflicts?	1.0	0	0	100	30	0	0
Independence							
Weighted total (% of maximum)		**73**	**89**	**74**	**90**	**92**	**77**
1. Statutory objectives focus on price stability?	1.0	50	100	75	75	75	75
2. Target independence?	1.0	50	50	0	100	100	0
3. Instrument independence?	2.0	67	100	100	100	100	100
4. Central bank financing of government deficit?	2.0	100	100	100	100	100	100
5. Term of office of Governor	0.5	86	57	14	14	43	57

Source: Bank of England questionnaire, 1998-99, as published in Mahadeva and Sterne (2000)

Table 2. (continued) Measures of Monetary Framework Characteristics

	Weight	RBA	RBNZ	HKMA	MAS	U.S.Fed	Bank of England
Accountability							
Weighted total (% of maximum)		**83**	**100**	**92**	**25**	**83**	**100**
Accountability in terms of numerical target							
Unweighted sub-total (% of maximum)	3.0	**67**	**100**	**83**	**0**	**67**	**100**
1. Numeric target published?	1.0	100	100	100	0	100	100
2. Government role in setting any target?	1.0	100	100	100	0	0	100
3. Procedures when target missed/changed?	1.0	0	100	50	0	100	100
Parliamentary monitoring of central bank	3.0	**100**	**100**	**100**	**50**	**100**	**100**
Memo: Procedures for government to override?	0.0	100	100	0	0	0	100
Policy Explanations							
Total score for explaining policy. Unweighted total (% of maximum)		**78**	**92**	**58**	*	**95**	**94**
Explaining policy decisions							
Weighted sub-total (% of maximum)		**66**	**85**	**57**	*	**94**	**83**
1. Explanations on day policy changed	1.5	100	100	0	*	100	50
2. Explanations when policy-makers meet and make no change	0.3	0	0	0	*	0	50
3. Policy decisions discussed in publications	2.0	100	100	100	*	100	100
4. Minutes of policy meetings published (or similar)	1.0	0	100	100	*	100	100
5. Voting patterns published	0.5	0	0	0	*	100	100
Explanations in forecasts and forward-looking analysis					*		
Weighted total (% of maximum)		**68**	**91**	**23**	*	**91**	**100**
Explanations in published assessments and research							
Weighted total (% of maximum)		**100**	**100**	**93**	*	**100**	**100**

Source: Bank of England questionnaire, 1998-99, as published in Mahadeva and Sterne (2000). * indicates score does appear in published tables.

Table 3. Macroeconomic And Monetary Performance March 1990 to June 2002

CPI Inflation Rate, %	Australia	New Zealand	Hong Kong	Singapore
Mean	3.0	2.4	4.6	1.7
Standard Deviation	1.3	1.1	5.7	1.4
Highest	6.9	5.6	12.0	3.9
Lowest	1.1	0.9	-5.9	-1.5

Real GDP Growth Rate, %	Australia	New Zealand	Hong Kong	Singapore
Mean	3.4	2.8	4.0	6.9
Standard Deviation	1.7	2.4	3.9	4.8
Highest	6.3	7.4	13.6	14.7
Lowest	-1.1	-2.2	-6.7	-6.6

Nominal Effective Exchange Rate (Base: Sample average = 100)	Australia	New Zealand	Hong Kong	Singapore
Mean	100.0	100.0	100.0	100.0
Standard Deviation	7.0	9.4	8.8	7.1
Highest	115.4	121.7	112.3	111.2
Lowest	88.2	84.1	85.4	84.6

Real Effective Exchange Rate (Base: Sample average = 100)	Australia	New Zealand	Hong Kong	Singapore
Mean	100.0	100.0	100.0	100.0
Standard Deviation	8.2	9.6	12.7	4.9
Highest	116.7	121.1	121.8	110.0
Lowest	88.0	83.4	75.1	90.6

Nominal Short-term Interest Rate, % p.a.	Australia	New Zealand	Hong Kong	Singapore
Mean	6.8	7.7	5.5	3.3
Standard Deviation	2.8	2.5	2.1	1.6
Highest	16.5	14.3	10.6	7.3
Lowest	4.3	4.5	1.6	0.9

Real Short-term Interest Rate, % p.a.	Australia	New Zealand	Hong Kong	Singapore
Mean	3.9	5.3	0.9	1.7
Standard Deviation	1.7	1.8	5.5	1.5
Highest	9.6	9.4	12.1	6.0
Lowest	1.2	2.4	-6.3	-0.5

Table 4. Board Of Central Banks

	RBA	RBNZ (after Review amendments)	HKMA	MAS	U.S. Fed	Bank of England
1. Composition of the governing board	**Reserve Bank Board:** consists of Governor, Deputy Governor, Secretary of Treasury, 6 other[1]	**Board of Directors:** consists of Governor, up to 7 non-executive directors	**Financial Secretary,** in consultation with the Exchange Fund Advisory Committee (**EFAC**)[2]	**Board of Directors:** consists of Chairman, from 4 to 9 others (one the Deputy Chair)	Board of Governors (**BoG**): consists of Chair, Vice Chair, 5 others (all full-time members)	Court of Directors (**CoD**): consists of Governor, 2 Deputy Governors, 16 non-executive directors
2. Appointed by	The Treasurer	The Treasurer	Fin. Sec., nominated by HKSAR Chief Exec.[3a]; EFAC members, appointed by Fin. Sec. (**FS**) [3b]	The President. The President appoints the Chair on the recommendation of Cabinet	The President, confirmed by the Senate	The Crown, on the recommendation of the government of the day
3. Length of term	Governors – 7 years; Others – 5 years	5 years	FS – 5 years EFAC – 2 years	Not exceeding 3 years	14 years; the chair serves for 4 years	Governors – 5 years; Others – 3 years
4. Duties of board	The Reserve Bank Board is responsible for all Bank policies, except payments system stability and efficiency (oversight by RBA's Payments System Board)	To monitor the Governor's and the Bank's performance. To advise the Treasurer on the Governor's and the Bank's performance	EFAC advises on HKMA governance; **EFAC sub-Committee** (Chair, CE of HKMA) monitors and reports **on Currency Board Operations**	The Board is responsible for all MAS policies, MAS having authority to regulate all elements of monetary, banking and financial aspects of Singapore	To oversee operations of entire Federal Reserve System	To manage the Bank's affairs, other than the formulation of monetary policy. NedCo reviews the *procedures* followed by the Monetary Policy Committee.
5. Governing board formulate monetary policy?	Yes	No	Yes[4]	No[5]	Yes[6]	No

Sources: Information for the RBA, RBNZ, U.S. Fed and Bank of England is taken, with minor amendments, from Archibald (2001, Table 2). Information for the HKMA and MAS comes from their Annual Reports, official web-sites and other documents.

1 Note that at least 5 of the 6 "other" board members must be from outside the RBA or the Australian public service.

2 EFAC has 13 members (including the Financial Secretary as Chairman), the majority (8 of 13) from the non-banking sector.

3a For appointment by the Central People's Government (CPG); 3b Under authority delegated by CE of the HKSAR.

4 The Financial Secretary is responsible for determining the monetary policy objective (including the currency board system, currency to be linked to, and rate for the linkage); the Monetary Authority on his own is responsible for achieving the monetary policy objective, including determining the strategy, instrument and operational means for doing so.

5 The MAS' Economic Policy Department (EPD) formulates monetary policy. The Board has ultimate responsibility.

6 The Board of Governors constitutes a majority on the Federal Open Market Committee (FOMC), which is the Federal Reserve's monetary policy-making body.

Table 5. Responsibility For Monetary Policy Formulation

	RBA	RBNZ	HKMA	MAS	U.S. Fed	Bank of England
1. Monetary policy decision making body	Reserve Bank Board. (Decision by vote)	Governor	**Rule-based currency board system** strictly links monetary base and foreign currency flows[1]	Monetary Policy Division (MPD) of EPD, and Monetary Investment Policy Meeting (MIPM)	Federal Open Market Committee: 7 members of BoG, 5 Presidents of Regional Reserve Banks. (Decision by vote)	Monetary Policy Committee: Governor, 2 Deputy Governors, 2 staff, 4 non-exec. (Decision by vote)
2. Length of term	Governors – 7 years; others – 5 years	5 years	FS – see Table 4 CE, HKMA – see Table 7	N/A	BoG – 14 years; Regional Fed Presidents – rotate every year (except New York Fed. Reserve President)	Governors – 5 years
3. Appointed by	Treasurer	Treasurer, on the recommendation of the Board of Directors	FS – see Table 4 CE, HKMA – see Table 7	N/A	US president appoints BoG (confirmed by Senate), regional Fed Boards appoint Regional Presidents (approved by BoG)	Governors app. by Crown on the rec. of Govt. of the day; 2 staff appointed by Governor; 4 non-exec appointed by Chancellor of the Exchequer
4. Do members of policy making body have paid fulltime positions outside the "Bank"?	Yes	No	FS is a paid official of the HKSAR Govt.	N/A	No	Yes. But current MPC members have given up outside appointment except academic appointments
5. Government representative on body?	Secretary of Treasury	No	FS	N/A for EPD, MIPM. Board: 4 Ministers, Sol. – Gen., 2 Perm. Secs.	No	Treasury Representative (non-voting)
6. Advisory structures	Bank staff	**Monetary Policy Committee** has governors and senior bank staff. **OCR advisory group** has the governor, deputy governor(s), 6 other members of Bank staff and 1 or 2 external advisors	EFAC; EFAC Sub-Committee on Currency Board Operations; CE/HKMA's Committee; HKMA staff	Authority staff	Research staffs of Board of Governors and Federal Reserve Banks	Bank staff; regional representatives (send regional info); Treasury representative

Sources: Information for the RBA, RBNZ, U.S. Fed and Bank of England is taken, with minor amendments, from Archibald (2001, Table 3). Information for the HKMA and MAS comes from their Annual Reports, official web-sites and other documents.

[1] The FS determines the currency board system, currency and rate for the linkage; the CE, HKMA determines the strategy, instrument and operational means to achieve this.

Table 6. Transparency

	RBA	RBNZ	HKMA	MAS	U.S. Fed	Bank of England
1. "Monetary policy decision body" meetings ***How often?***	Monthly	8 times a year[1]	EFAC meets 11 times a year	MIPM meets weekly; Board at least once in 3 months	8 times a year (with occasional tele-conferences in between)	Monthly
Minutes published?	No	N/A[2]	EFAC Sub-Cttee. on Curr. Board Ops. Record of Discussion within weeks	No	After 6 weeks	On Weds. of 2nd week after MPC meeting
Transcripts published?	No	N/A[2]		No	After 5 yrs	No
2. How often does a senior "Bank" exec.appear before parliament on issues of monetary policy?	Twice yearly	Normally up to 4 times a year	CE HKMA 3 times a year	Accountability via Minister in charge of MAS	Twice yearly	Annually
3. Numerical forecasts published?	No: Quarterly descriptive outlook	Yes: Quarterly	N/A Rule-based currency board	No: Semi-annual, mainly descriptive (except CPI)	No: Semi-annual descriptive outlook [3]	Yes: Quarterly
4. Review of the conduct of monetary policy published?	Quarterly	Quarterly	11 times yearly[4]	Semi-annual	Semi-annual	Quarterly
5. Regular publications and communications programme	Semi-annual Gov.'s Opening Statement to House of Reps. Cttee.; Qtrly Statement on Mon. Policy; Annual Report; Email notific.	Qtrly. Monetary Policy Statement; Qtrly. Bulletin; Survey of Expectations; Annual Report; Email notification service.	Weekly Viewpoint; Monthly Stat. Bulletin; Qtrly. Bulletin; Annual Report; Email notification service.	Semi-annual Monetary Policy Statement; semi-annual Macroeconomic Review; Annual Report; Email notification service.	Humphrey Hawkins reports on conduct of mon. pol.; Beige book (summary of regional economic conds.); Fed. Res. Bulletin; Annual Report.	Qtrly Inflation Report; Qtrly Bulletin; Annual Report.

Sources: Information for the RBA, RBNZ, U.S. Fed and the Bank of England is taken from an unpublished RBNZ Table prepared for Archibald (2001). Information for the HKMA and MAS comes from their Annual Reports, official web-sites and other documents.

1 More accurately, MPC meets weekly. While the RBNZ reserves the right to change monetary policy settings at anytime there are 8 pre-announced decision dates per year for a re-set of monetary policy. Four of these are accompanied by a MPS.

2 At the RBNZ the Governor holds formal responsibility for monetary policy; the MPC has no legislative basis - an entirely different situation to a legislated body that is formally responsible for monetary policy.

3 Some (range and central tendency) output, inflation and unemployment numbers are provided in the Humphrey-Hawkins report.

4 EFAC Sub-Committee Report on Currency Board Operations; also, daily publication of size of Monetary Base and its components, monthly publication of Currency Board Account, and disclosure on a virtually real-time basis of Aggregate Balance (component of the monetary base) of clearing accounts maintained by banks with the HKMA.

Table 7. Corporate Governance

	RBA	RBNZ	HKMA	MAS
1. Statements on Governance in Annual Report?	Section on RBA Board and Governance. Key Corporate Governance material provided	Summary descriptive and evaluative statements, by Bank and by non-exec. directors	Summary descriptive Governance material. Key Corporate Governance material	Key Corporate Governance material provided
2. Full Financial Statements published in Annual Report?	Yes	Yes	Yes Published as accounts of the Exchange Fund	Yes
3. Funding method for Central Bank?	Underlying (mainly interest) earnings, valuation gains or losses (fin. assets and foreign exchange)	Five-year **Funding Agreement** between Governor and Minister of Finance	HKMA's budget is prepared annually by the HKMA, for approval by the FS on the advice of EFAC	Net operating and non-operating income
4. Distribution of Surplus				
Formal authority?	RBA Act. Determined by Treasurer, after consultation with Board	RBNZ Act. Determined by Min. of Finance, after consultation with Bank (Board)	Exchange Fund Ordinance, ss 3(1), 3(1A), 8. Determined by FS, in consult. with EFAC	MAS Act. Determined by Board, in context of s 6(4) of the Act
Destination?	Reserves, dividend to Commonwealth[1]	Surplus of income over Fund Agreement operating exp. to Crown (or Bank equity); exp. savings to Bank's equity	Exchange Fund to be used primarily for purposes affecting either directly or indirectly the exchange value of the currency of Hong Kong[3]	Board determined proportion of net profit to General Reserve Fund, remainder to Government
5. Audit				
Audit Committee of Board?	Yes	Yes	Yes	Yes
Signed Independent Audit Report in Annual Report?	Yes Auditor-General	Yes Private sector firm, on behalf of Auditor-General of NZ	Yes Director of Audit, Audit Commission	Yes Auditor-General
6. Risk Management procedures and reporting?	Risk Management Notes to Annual Accounts	Risk Assessment and Assurance Department Risk Management Notes to Annual Accounts, and Box Summary in Annual Report	Risk Management and Compliance Division of the Exchange Fund Box Summary of Procedures & other notes in Annual Report	Risk Committee chaired by independent Board Member Risk Management Notes to Annual Accounts

Table 7. (continued) Corporate Governance

	RBA	RBNZ	HKMA	MAS
7. Explicit procedures for appointing Chief Executive?	RBA Act. Appointed by Treasurer	RBNZ Act. Appointed by Minister of Finance, on recommendation of the Board	Exchange Fund Ordinance. Appointed by Financial Secretary. No explicit term.	MAS Act. Appointed by President, if he concurs with advice or recommendation of Public Service Commission
8. Explicit procedures for monitoring Chief Executive performance?	No legal or other formal requirement. Ongoing Board evaluation	RBNZ Act. Board required to keep under constant review the performance of the Governor[2]. Formal annual review by Board	Formal annual performance review by EFAC, against objectives set annually	MAS Act. Managing Director shall be answerable to the Board for acts and decisions

Sources: Annual Reports, official web-site and other documents

1 Table for 12 year period in Annual Report

2 The Policy Targets Agreement (PTA) is a *written contract* between the Governor and the Minister of Finance, detailing the monetary policy outcomes required to be achieved.

3 Additional to the use of it for its primary purpose, the Fund may be used "...with a view to maintaining Hong Kong as an international financial centre,...to maintain the stability and integrity of the monetary and financial systems of Hong Kong."; under specifically restricted conditions, transfers from the Fund may also be made to the general revenue or other funds of the Government.

Figure 1. CPI Inflation Rates (annual % change)

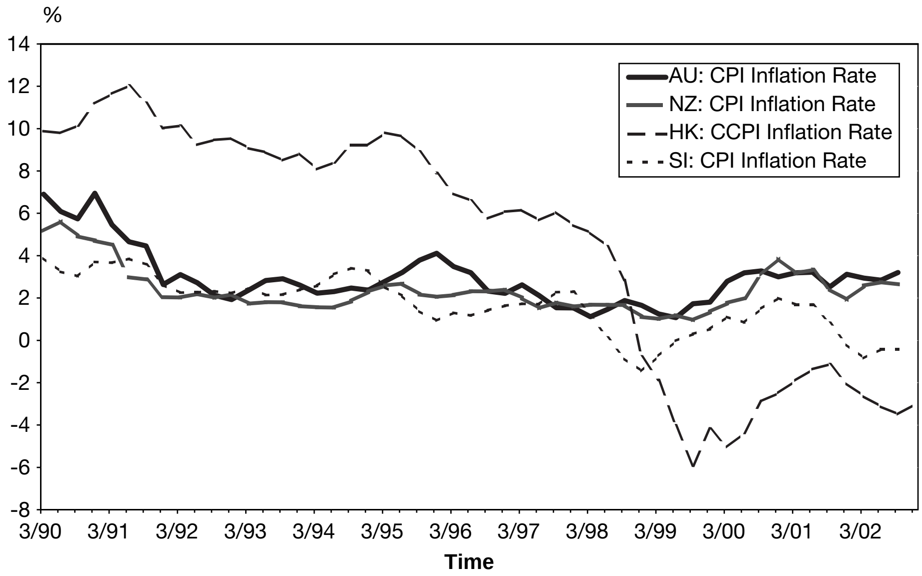

Figure 2. HK Dollar Exchange Rate (Daily close)

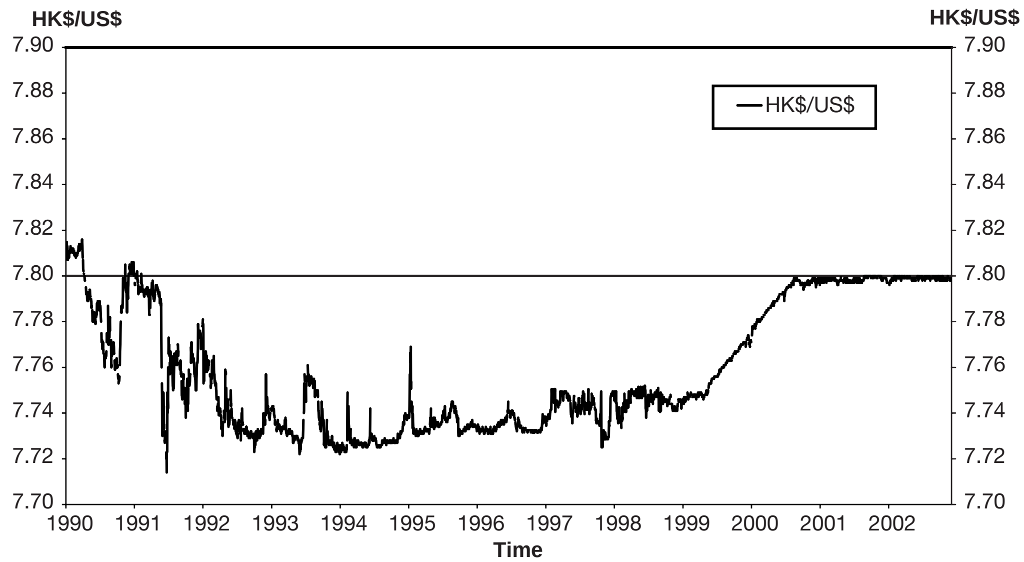

Figure 3. Singapore Nominal Effective Exchange Rate