
Monetary policy decision-making and accountability structures: some cross-country comparisons¹

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Monetary policy decisions are typically made by independent central banks. But the details of the monetary policy decision-making and accountability structures differ widely across countries. This article outlines the key features of monetary policy governance and accountability arrangements of a range of advanced and emerging countries with similar approaches to monetary policy to that used in New Zealand.

1 Introduction

Monetary policy decisions are now typically taken, and implemented, by independent central banks. Substantial operational independence, of the sort given to most central banks in recent decades, needs to be accompanied by good structures to provide effective governance and accountability. There is no agreement on a single best governance and accountability model, and the details of such systems differ quite widely across countries. There are common features across countries, but each country decides what is best for its own needs.

New Zealand's central banking legislation was rewritten when the Reserve Bank was given operational independence. The Reserve Bank of New Zealand Act 1989 was explicitly designed to balance considerable operational autonomy for the Reserve Bank with a high degree of formal accountability. In some other countries, changes were undertaken with little or no material change to existing legislation.

This article compares the key features of the monetary policy accountability and governance arrangements of New Zealand and a range of countries with similar approaches to monetary policy.² The focus of this article is on description, and it does not evaluate the relative merits of the different models.

2 Summary of monetary policy decision-making and governance features

Central bank functions

Central banks are responsible for the conduct of monetary policy (and for the closely associated liquidity management). However, countries differ widely as to what other responsibilities have been assigned to their central banks. These responsibilities have changed over time, in some cases quite recently (for example, the Bank of England only recently reassumed responsibility for prudential supervision).

Table 1, overleaf, outlines the functions that central banks are responsible for in a representative range of advanced and emerging economies for which information was readily accessible.³ In selecting countries, the focus was on operationally independent⁴ central banks that use something similar to the inflation targeting monetary policy undertaken in New Zealand.

The Reserve Bank of New Zealand, a "full service central bank", is among those with the widest range of responsibilities and powers. The overall governance arrangements for a central bank will, in part, reflect the range of responsibilities each institution has. In the interests of tractability this article focuses primarily on

¹ Information in this article is current to 19 March 2014.

² Readers interested in more detail on the New Zealand system itself are referred to the article on the new Policy Targets Agreement in the December 2013 issue of the *Bulletin*, and to "Monetary policy accountability and monitoring" available on the Bank's website at http://www.rbnz.govt.nz/monetary_policy/about_monetary_policy/2851362.pdf

³ Table 1 does not attempt to cover the reserve powers of ministers or Parliament (or equivalent) such as those in section 12 of the Reserve Bank of New Zealand Act.

⁴ Operational independence refers to the ability of the central bank itself to adjust key policy instruments, such as the OCR, without seeking the approval of a Minister of Finance. As discussed later in the article, in most advanced countries the government plays a significant role in determining the operational target that the central bank pursues.

Table 1
Functions of central banks⁴

	Monetary policy	Liquidity management	FX intervention	Lender of last resort	Inter-bank payment system [*]	Prudential policy ^{**}	Supervision of banks
New Zealand							
Australia							
Brazil							
Canada							
Chile							
Euro-area (ECB) ¹							
Israel							
Japan							
South Korea							
Mexico							
Norway							
Sweden							
Switzerland							
United Kingdom							
United States							

Key

	: No or minor involvement
	: Shared or partial responsibility
	: Full responsibility

Notes to Table 1:

^{*} This covers responsibility for regulatory policy around payments systems, not the operation of individual payments systems.

^{**} Central banks are generally involved in policy formulation for the financial system as a whole and often for banks and deposit-taking institutions, but generally not for other parts of the financial system (e.g. broker/dealers, securities markets, fund managers).

the monetary policy dimensions of governance and accountability.

Monetary policy decision-making frameworks

The overarching goal or goals for monetary policy are usually set out in legislation. The way these goals are articulated differs between countries. For example, in New

Zealand and Sweden, the statutory objective of monetary policy is maintaining price stability. However, some other central banks, such as the US, have multiple monetary policy objectives set out in statute. The responsibility for setting any operational targets, to achieve the statutory goals for monetary policy, also differs across countries. Sometimes this responsibility is set out as a statutory requirement, as in New Zealand where the monetary policy target and other explicit considerations are formally agreed to by the Minister of Finance and the Governor in the Policy Targets Agreement (PTA). In Canada and Australia, the Minister of Finance/Treasurer and the Governor have also agreed operational targets, but in neither case is

⁴ In most cases, the table has been compiled from direct correspondence with the relevant central bank. In other cases, information has been interpreted from the central bank's website.

⁵ Many of the ECB liquidity provision operations are conducted through national central banks. The other responsibilities of the national central banks are not considered here. The ECB is expected to assume greater prudential supervisory responsibilities later this year.

this a statutory arrangement. In the United Kingdom, the inflation target the Bank of England is required to pursue is set by the Chancellor of the Exchequer. In other central banks, such as the Federal Reserve and the ECB, the central bank itself determines any operational targets.

The body responsible for making monetary policy decisions differs across central banks (table 2, overleaf).⁶

Under the New Zealand and Canadian central bank legislation the Governor, as chief executive, is responsible for all the central bank's activities, including monetary policy decisions. In practice, Governors of each institution reach monetary policy decisions only after a full economic analysis and discussion of policy options with staff. In New Zealand, the Governor receives written advice on each forthcoming decision from members of the Monetary Policy Committee, which also includes two external members. This written advice is subsequently submitted to the Reserve Bank's Board and is reviewed by the Board as part of its formal monetary policy monitoring and review process. At the Bank of Canada, descriptions of the decision-making process emphasise 'consensus' within the Governing Council of senior bank management. In 2013, the Governor of the Reserve Bank of New Zealand further formalised the internal consultation process by introducing a Governing Committee, similar to the Bank of Canada's Governing Council.

In some other central banks, legislation sets out a formal mechanism for collective decision-making about monetary policy - often termed a committee. The committees differ widely in size and composition. In many of the countries (for example, Switzerland, the United Kingdom, Chile, Mexico, and Brazil) where decision-making is by committee, the members are mainly senior officials of the central bank. Conversely, in others (for example, Australia, Japan, South Korea, Norway and Sweden) the majority of committee members are from outside the central bank, often as a part-time responsibility. These external members are often drawn

from the business and academic communities.

In some central banks in the sample, a representative from the Treasury also participates in the deliberations of the decision-making committee. The role of this representative may differ. For example, in Australia the Secretary to the Treasury is a full voting member, while in the United Kingdom a Treasury representative attends Monetary Policy Committee (MPC) meetings but has no vote. There is also a range of appointment procedures, although the executive branch of government usually plays the predominant role.

Overall governance model

The overall governance models of central banks in our sample of countries also differ widely. Often there is a governance body, established by statute, which is responsible for things other than routine monetary policy decisions. This paper refers to such a body as a board. Table 3 summarises the role and functions of these boards.

In some countries (Australia, Mexico, Chile and Japan) the body that is responsible for monetary policy decisions is also responsible for all decision-making and the overall governance of the institution. Often these are wholly executive boards but the Reserve Bank of Australia's Board is more similar to the board of a public company: primarily comprised of non-executives, and with overall responsibility for all Bank policy (excluding payment system policy, which is handled by a separate board) and oversight.

In some central banks, like New Zealand, the boards have a governance/oversight function with respect to monetary policy. Other boards have overall responsibility for the operation and administration of central banks, but do not have any responsibility for overseeing the conduct of monetary policy. The Bank of Canada and the Norges Bank follow this approach. When boards have narrower responsibilities, the central bank's accountability for monetary policy conduct tends to be directly to the Parliament. Boards with oversight rather than executive responsibilities tend to be composed primarily of non-executive directors who are external to the central bank (for example in Canada, New Zealand, Norway, Sweden,

⁶ There is a growing literature on the design of monetary policy decision-making, for example, Vandenbussche (2006), Farvaque et al. (2009), Maurin and Vidal (2012), Morimoto (2010), Jung and Kiss (2001), Maier (2007), and Blinder (2004).

Table 2

Monetary policy formal decision-making frameworks

	Decision-making responsibility	Composition of formal decision-making body		Length of term	Reappointment allowed	Appointment	Decision-making process in practice
		No.	Positions				
New Zealand	Governor	1	Governor	5 years	Yes	Minister of Finance on recommendation of Reserve Bank Board	Governor's decision (in consultation with Governing Committee)
Australia	Board	9	Governor (as Chair) Deputy Governor Secretary to Treasury 6 external members	Governor/Deputy Governor: up to 7 years External members: up to 5 years	Yes	Governor appointed by Governor-General in Council Externals appointed by Treasurer	Vote (Governor has casting vote)
Brazil	Monetary Policy Committee	8	Board of Directors (Governor and Deputy Governors)	No fixed term	N/A	Governors appointed by President of the Republic (with approval by Senate)	Vote (Governor has casting vote)
Canada	Governor	1	Governor	7 years	Yes	Board of Directors (with approval of Cabinet)	Governor's decision (de facto, consensus among Governing Council)
Chile	Board	5	Governor Deputy Governor 3 other internal members	Deputy Governor/ internal members = 10 years (appointments made every 2 years) Governor appointed for lesser of 5 years or remainder of term	Once	Governor appointed by President from among Board members Board itself elects Deputy Governor Internal members appointed by President (with approval by Senate)	Vote (Governor has casting vote)
Euro area	Governing Council	23	President Vice-President 4 other Executive Board Members 17 National Central Bank (NCB) Governors	Executive Board = 8 years NCB Governors = minimum 5 years	Executive Board = No NCB Governors = in most cases renewable	Executive Board appointed by agreement of governments of Member States NCB Governors appointed by national authorities	Vote (in practice, largely by consensus)

	Decision-making responsibility	Composition of formal decision-making body		Length of term	Reappointment allowed	Appointment	Decision-making process in practice
		No.	Positions				
Israel	Monetary Committee	6	Governor (as Chair) Deputy Governor 1 other Bank of Israel employee 3 external members	Governor/Deputy = 5 years	Once	Governor and Deputy Governor appointed by the Government (in consultation with the Bank of Israel) Bank employee appointed by Governor External members appointed by the Government	Vote (Chair has casting vote)
Japan	Policy Board	9	Governor 2 Deputy Governors 6 full-time members drawn from outside the Bank of Japan	5 years (staggered terms)	Yes	All appointed by Cabinet	Vote
South Korea	Monetary Policy Committee	7	Governor (as Chair) Senior Deputy Governor 5 external members	Governor = 4 years Senior Deputy Governor = 3 years External members = 4 years	Governor and Senior Deputy Governor = once External members = unlimited number of terms	Governor and Senior Deputy Governor appointed by President An external member is recommended by each of: Governor Minister of Strategy and Finance Chairman of the Financial Services Commission - President of the Korea Chamber of Commerce and Industry Chairman of the Korea Federation of Banks	Vote

	Decision-making responsibility	Composition of formal decision-making body		Length of term	Reappointment allowed	Appointment	Decision-making process in practice
		No.	Positions				
Mexico	Board of Governors	5	Governor 4 Deputies	Governor = 6 years Other members = 8 years	Yes	All appointed by President of the Republic (confirmed by Senate or permanent commission)	Vote (Governor has casting vote)
Norway	Executive Board	7	Governor (as Chair) Deputy Governor 5 external members	Governor/Deputy = 6 years External members = 4 years	Governor/Deputy = once External members = total period of 12 years	All appointed by the King	By consensus
Sweden	Executive Board	6	Governor (as Chair) 5 Deputy Governors (fulltime, but non-executive)	5 years (rolling schedule)	Yes	All appointed by General Council (which is appointed by Parliament from among its own members)	Vote (Governor has casting vote)
Switzerland	Governing Board	3	Chair Vice-Chair 1 other member	6 years	Yes	All appointed by the Federal Council (on the recommendation of the Bank Council)	Vote
UK	Monetary Policy Committee	9	Governor (as Chair) 2 Deputy Governors Executive Director for monetary analysis (Chief Economist) Executive Director for markets 4 non-executive external members	Governor/Deputy = 5 years Chief Economist, Executive Director and external members = 3 years	Yes Chief Economist = can be renewed indefinitely External members = once	Governor, Deputy Governors and external members are appointed by Chancellor. The two Executive Directors are appointed by the Governor (under consultation with the Chancellor) ¹ External members appointed on basis of experience and expertise in monetary policy.	Vote (Governor has casting vote) Any member in minority is asked to say what level of policy settings he/she would have preferred

⁷ All new members are summoned to the Treasury Select Committee for an appointment hearing to satisfy the Committee that they meet the criteria of professional competence and independence. The Committee has no statutory power of veto on appointments, but it reports to Parliament on its assessment of appointees.

Decision-making responsibility	Composition of formal decision-making body		Length of term	Reappointment allowed	Appointment	Decision-making process in practice
	No.	Positions				
USA Federal Open Market Committee	12	7 members of the Board of Governors President of the Federal Reserve Bank of New York 4 of 11 remaining Federal Reserve Bank Presidents in rotations	Board members = 14 years, or (if replacing previous Board member) unexpired term plus 14 years President of the Federal Reserve Bank of New York = continuous basis Federal Reserve Board Presidents = one year rotations as a voting member	Board = No (unless originally appointed to complete an unexpired term) Presidents = Yes	Federal Reserve Board members appointed by President (and the Chair is appointed by the President from among the Governors) (all subject to Senate confirmation) Regional Federal Reserve Bank Presidents appointed by each Federal Reserve Bank's Board of Directors, with the approval of the Board of Governors of the Federal Reserve System	Vote

Source: CCBS (2012), central bank websites.

Switzerland, and the United Kingdom). In Sweden's case, the General Council plays this oversight role, while the Executive Board is responsible for decision-making within the central bank.

The Reserve Bank of New Zealand Board of Directors has few formal decision-making powers. However, it has a strong statutory focus on monitoring and providing advice on the Governor's performance in all areas of the Bank's responsibility, but with some explicit requirements in respect of monetary policy oversight. If the Governor's performance is considered unsatisfactory the Board can recommend removal. By international standards, this is an unusually high degree of personal accountability (often monetary policy decision-makers can be removed only by the legislature, for demonstrated incapacity). The Reserve Bank Board plays a key role in the appointment of the Governor. The Board make a recommendation to the Minister of Finance and although any individual nominee can be rejected, a candidate not recommended by the Board can not be appointed as Governor.

Few other Boards play quite the sort of role New Zealand's does. The Oversight Committee of the Court of the Bank of England now plays a similar role monitoring the Bank's pursuit of its statutory objectives. The Oversight Committee has access to internal papers, can observe meetings of policy committees, and will have staff to support them in this role. Sweden's General Council is also similar in some respects, with powers to appoint members of the Executive Board, audit the policy-setting body's discharge of its duties and to report to Parliament on monetary policy performance, but the General Council is itself comprised of members of Parliament. The Chairman and Vice Chairman of the Swedish General Council have the right to attend and speak at Executive Board meetings, but may not vote.

3 Public accountability and transparency

Central banks have been given considerable authority and, accordingly, place a lot of emphasis on communication and transparency. All central banks in the

sample face scrutiny from their respective legislatures. The forms of communication used vary across central banks (Jeanneau (2009) and, for a recent New Zealand perspective, Bascand (2013)). Communication also serves some direct economic purposes, seeking to influence market and public expectations (see Blinder et al. (2008)). Possible links between monetary policy communication practices, decision-making structures and the effectiveness of communications are discussed in Ehrmann and Fratzscher (2007). The Reserve Bank of New Zealand's accountability and transparency practices and their purposes are documented in Jackman (2002) and Reddell (2006).

In a recent cross-country empirical study, Dincer and Eichengreen (2014) reported measures of transparency for 120 central banks. These measures are calculated over 15 different elements of transparency, around objectives, processes, and policy operations. The authors found that the Reserve Bank of New Zealand was second only to the Swedish Riksbank in its monetary policy transparency. Eight of the central banks in the sample considered in this article are in the top 10 most transparent central banks.

Scrutiny by legislators

Central banks are usually created by statute, and those statutes can be amended by Parliament.⁸ Either directly or indirectly, parliaments also fund the operation of central banks. Parliaments do not typically have the power to intervene in, or override, individual decisions of the central bank, but the power to call a central bank to account for its conduct and analysis is an important balancing element in the overall mix of operational independence and accountability.

Details of the scrutiny differ, but in complying with legal requirements or customary practice, all of the central banks examined here present monetary policy reports (table 4). In some cases, including New Zealand, these reports are a statutory requirement and are formally

⁸ The ECB differs from other central banks in the sample; it was established under an international treaty, rather than by national legislation (and that framework emphasised the independence of the ECB more than its accountability).

Table 3

Form and function of boards in central banks

	Board / Committee name	Composition	Role	Appointment
New Zealand	Board of Directors	Governor 5-7 non-executives	Constant review of Bank's performance in monetary policy (and other) functions. Appoints the Deputy Governors (on advice from the Governor). Can recommend removal of the Governor for non-performance relative to the PTA	Minister of Finance (members elect their own chair)
Australia	Board	Governor (as Chair) Deputy Governor Secretary to Treasury 6 external members	Responsible for all policy, other than payments system policy	All appointed by Treasurer
Brazil	Monetary Policy Committee	Board of Directors (Governor and Deputy Governors)	Responsible for all aspects of the central bank's responsibilities	Governors appointed by President of the Republic (with approval by Senate)
Canada	Board of Directors	13 Members Governor (Chairman) Senior Deputy Governor 11 external members; Deputy Minister of Finance (most senior civil servant in Ministry of Finance) (non-voting)	Ensures competent management of the Bank of Canada Does not review monetary policy Responsible for appointing Governing Council (Governor also subject to approval by Cabinet, and 5 Deputy Governors)	Appointed by Canada's Governor in Council
Chile	Board	Governor Deputy Governor 3 other internal members	Directing and managing the Bank	Governor appointed by President from among Board members Board itself elects Deputy Governor Internal members appointed by President (with approval by Senate)
Euro area	Governing Council	President Vice-President 4 other Executive Board Members 17 National Central Bank (NCB) Governors	All aspects of the Eurosystem	Executive Board appointed by agreement of governments of Member States NCB Governors appointed by national authorities

	Board / Committee name	Composition	Role	Appointment
Israel	Supervisory Council	2 Bank members, including the Governor Five representatives of the public (one of whom serves as chair)	Supervises the "orderly and efficient management of the Bank", but with no oversight of monetary policy	Representatives of the public appointed by government. Chair appointed by government, in consultation with Governor
Japan	Policy Board	Governor (as chair) 2 Deputy Governors 6 full-time members drawn from outside the Bank of Japan	Oversight of all areas of the Bank's responsibility	All appointed by Cabinet
South Korea	Monetary Policy Committee	Governor (as Chair) Senior Deputy Governor 5 external members	Oversight of all areas of the Bank	Governor and Senior Deputy Governor appointed by President An external member is recommended by each of: Governor Minister of Strategy and Finance Chairman of the Financial Services Commission President of the Korea Chamber of Commerce and Industry Chairman of the Korea Federation of Banks
Mexico	Board of Governors	Governor 4 Deputy Governors	Fundamental actions and administrative decisions including authorisation of bank note issuance and coin minting, adopting resolutions with respect to the provision of credit to the federal government, and determining the policies and criteria in order for the Bank to carry out its operations	President, confirmed by Senate or Permanent Commission
Norway	Supervisory Council	15 external members Governor and Deputy Governors not members, but must be present at meetings	Ensure that rules governing Bank's operations observed. Does not include supervising Executive Board's (monetary policy setting body) exercise of discretionary authority under Act	Parliament chooses all members and appoints Chair from among members

	Board / Committee name	Composition	Role	Appointment
Sweden	General Council	All external	Appoints Executive Board (which sets monetary policy and is responsible for running the Riksbank), adopts Rules of Procedure and decides on the design of bank notes and coins, contains an audit unit to examine how the Executive Board (policy setting body) discharges its duties, and may present proposals to Parliament.	Elected by Parliament from among its own members (for length of parliamentary terms); Chair and Vice Chair appointed by members of General Council
Switzerland	Bank Council	President and Vice-President of SNB 9 others	Supervises and monitors conduct of business by the SNB, and sets up Appointment Committee, Audit Committee, Risk Committee and Remuneration Committee.	6, including President and Vice President, elected by Swiss Federal Council and 5 by shareholders' meeting
UK	Court of Directors	Governor 3 Deputy Governors 9 non-executive directors	Manage the Bank's affairs other than monetary policy formulation. The Court delegates day-to-day management of BoE to Governor, and delegates certain of the Court's functions to the Committee of the Court.	All appointed by Crown; Chair selected from within group by Chancellor of the Exchequer
	Oversight Committee of Court	9 non-executive directors.	Responsible, under statute, for reviewing BoE performance including reviewing procedures of the MPC, setting strategy, and determining (on advice of the Remuneration Committee) the pay and terms of employment of the Governors, Executive Directors and external MPC members. Reviews Governor's performance.	As above.
US	Board of Governors (BoG) of the Federal Reserve System	7 permanent members of BoG, including Chair and Vice Chair. (All 7 members are also members of the Federal Open Market Committee.)	Supervises and regulates operations of the Federal Reserve Banks, exercises broad responsibility in nation's payments system, administers most of the nation's laws regarding consumer credit protection, sets reserve requirements and shares the responsibility with the Federal Reserve Banks for discount rate policy	President appoints members, including Chair and Vice Chair, subject to confirmation by the Senate.
	Board of Directors for each regional Federal Reserve Bank	3 directors representing members of commercial banks of the local Federal Reserve System; 6 represent the public. Chair is one of the 3 directors appointed by the Board of Governors	Closely akin to the responsibilities of a corporate Board of Directors (overall responsibility for the affairs of the bank).	3 representing member banks are elected by member (shareholder) banks; 3 of those representing the public are elected by member banks; and 3 of those representing borrowers are appointed by the Board of Governors of the Federal Reserve System.

Source: CCBBS (2012), Federal Reserve System (2005), central bank websites.

Table 4
Accountability to legislators (for monetary policy conduct)

	Scrutiny by Parliament	Frequency	Form
New Zealand	Yes	4x year	After release of <i>Monetary Policy Statement</i>
Australia	Yes	2x year	Governor gives briefing then answers questions, normally at a parliamentary committee.
Brazil	Yes	6x year	Inflation Report
Canada	Yes	4x year	After quarterly Monetary Policy Reports
Chile	Yes	4x year	One report to full senate, and other three usually with Finance Committee
Euro area	limited	4x year	ECB presents report to Euro bodies, must be annual but quarterly in practice. Other briefings when required.
Israel	Yes	2x year	Following publication of each bi-annual Monetary Policy Report
Japan	Yes	2x year (and on an ad-hoc basis on various issues)	Report to Diet regarding its decisions and conditions of its operations.
South Korea	Yes	At least 2x year	Provide a report. Governor attends National Assembly hearings
Mexico	Yes	1x year	Annual report including summary of past year activities and plans for conducting monetary policy, quarterly report on inflation and economic activity, and Congress can cite the Governor of the Board at any time, for an update on the Bank's activity.
Norway	Yes	1x year	Report submitted to Parliament
Sweden	Yes	2x year	Monetary Policy Report
Switzerland	Yes	regularly	Reports to the competent committees of the Federal Assembly
UK	Yes	At least 6x year	Inflation Report hearings by the House of Commons Treasury Committee, and through appointment hearings for new MPC members.
USA	Yes	2x year	Monetary Policy Report to the Congress Confirmation process for members of the Board of Governors

Source: CCBS Handbook No.29 (2012), Central bank websites and contacts.

referred to the relevant committee of Parliament (in New Zealand's case, the Finance and Expenditure Committee). Most central bank Governors appear before some parliamentary committee at least once a year.

Publication of minutes

All the central banks in the sample publish detailed reports on monetary policy that provide information on the considerations that shaped monetary policy decisions. In addition, around two-thirds of central banks in the sample

publish 'minutes' of monetary policy decision-making meetings. These can serve various roles, including assisting public understanding of the rationale for the decision, strengthening accountability, and providing a vehicle for recording dissenting views among the decision-makers. Publishing minutes has become more common over the last decade, and the time lag between the relevant meeting and the release of the minutes has tended to be shortened. However, the content that is published varies widely, ranging from a brief outline of

Table 5
Publication of monetary policy meeting “minutes” (narrowly defined)

	Publish	Delay	Identify votes	Comprehensiveness
New Zealand	No			
Australia	Yes	2 weeks	No	Short summary of briefings, discussion and considerations for monetary policy
Brazil	Yes	Up to 6 working days	Yes	Comprehensive economic overview and summary of briefings.
Canada	No			
Chile	Yes	2 weeks	Yes	Brief outline of proceedings with greater coverage of options and considerations
Euro area	No			
Israel	Yes	2 weeks	No	Detailed overview of briefings and proceedings.
Japan	Yes	4 weeks	Yes	Comprehensive summary of briefings on economic developments and the outlook and discussion among members. The attendees of the meeting are identified.
South Korea	Yes	2 weeks	No	Summary of briefings and discussion. Outline of decision and reasoning. The attendees of the meeting are identified.
Mexico	Yes	2 weeks	No	Comprehensive summary of briefings. Detailed outline of considerations and summary of decision and unanimity.
Norway	No			Minutes are only released after 12 years.
Sweden	Yes	2 weeks	Yes (dissenters' views are explained in the decision section of the minutes)	Short overview of briefings followed by very detailed coverage of proceedings including attributing comments, views, questions and answers to Board members.
Switzerland	No			Minutes available from archive after 30 years on request.
UK	Yes	2 weeks	Yes	Summary of briefings with coverage of discussion points. Outline of decision and reasoning, including areas where there were differences of opinion (without identification).
USA	Yes	3 weeks	Yes	Detailed summary of proceedings and briefings. Full transcripts available after 5 years.

Source: CCBS Handbook No.29 (2012), Central bank websites and contacts.

matters considered, to very detailed records of information presented and matters discussed, including the votes of members. Minutes of other governance bodies (the ‘boards’) that are not also responsible for monetary policy are not usually published.

Table 5 summarises practices in this area. Around half of those who publish minutes also identify the votes of individual committee members Sweden’s Riksbank is the only central bank in the sample where the minutes attribute comments and questions to individual committee members.

Table 6
Release of forecast material

	Publish	How often (usually quarterly)	Interest rate treatment (whether published or not) in forecast process	Press conferences around forecasts and monetary policy decisions
New Zealand	Yes	4x year	Endogenous forecast	Yes
Australia	Yes	4x year	Market or constant	No
Brazil	Yes	4x year	Market or constant (2 forecast scenarios based on differing interest rates are provided)	Yes
Canada	Yes	4x year	Endogenous forecast	Yes
Chile	Yes	4x year	A path consistent with meeting the inflation target	No
Euro Area	Yes	4x year	Market	Yes
Israel	Yes	4x year	Endogenous forecast	No
South Korea	Yes	4x year	Market or constant	Yes
Japan	Yes	2x year	Do not forecast interest rates (economic forecasts are the pooled individual forecasts of Policy Board members)	Yes
Mexico	Yes	4x year	Endogenous forecast (not published)	No
Norway	Yes	4x year	Endogenous forecast	Yes
Sweden	Yes	4x year	Endogenous forecast	Yes
Switzerland	Yes	4x year	Conditional forecast and shows how the SNB expects consumer prices to move in the event that the interest rate does not change	Yes
UK	Yes	4x year	Market	Yes
USA	Yes	4x year (and longer-term projections)	Distribution of FOMC members' federal funds target rate expectations	Yes

Source: CCBS Handbook No.29 (2012), Central bank websites.

Publication of economic forecasts

The publication of economic forecasts by a central bank is not typically a statutory requirement, but has become increasingly common as a way of providing better insight into the interest rate decisions made by the central bank. Nearly all central banks in the sample now publish economic forecasts once a quarter (table 6), a practice virtually unknown 30 years ago. These forecasts vary in their level of detail, frequency, and forecast horizon (see Nelson (2008) for a discussion of forecasting practices in central banks).

At some central banks, the economic forecasts are the responsibility of staff, as distinct from the monetary policy decision-makers themselves. In that sense, the forecasts serve as inputs to decision-making. In New Zealand, the forecasts are an integral part of the

communication of the monetary policy stance, and are as much the responsibility of the Governor as the rest of the *Monetary Policy Statement*. In the United States, the published forecasts are the pooled views of the individual members of the Federal Open Market Committee (FOMC), and the forecasts published by the Bank of Japan use a similar method.

In publishing forecasts a key choice facing central banks is around how to treat interest rate projections, given that short-term interest rates are directly set by the central bank. Around half of the sample employs market prices (usually based on overnight indexed swap (OIS) contracts) or constant interest rate assumptions, while the other half employs an endogenous interest rate assumption. The latter approach, pioneered in New Zealand, sets out the future path of interest rates that

the central bank considers is likely to be required, on the information at hand, to keep inflation near the target over the medium-term. The alternative approaches emphasise the inflation consequences of following the assumed interest rate path. Either approach can provide a basis for scrutiny and debate.

Informal communication and outreach

Communication with the wider public takes various forms. These include speeches, publications, press conferences, and less formal interaction with a wide range of organisations.

Most of the central banks in the sample hold press conferences, with the opportunity for questions, following the release of at least some of their monetary policy decisions or forecasts (table 6, opposite). The Reserve Bank of Australia is one of the exceptions.

Not all interest rate decisions are accompanied by the release of extensive forecast material. Press conferences are more commonly associated with the release of the fuller information in forecasts. Thus, in New Zealand, press conferences are held for the release of the *Monetary Policy Statements*, but not typically for the intra-quarter OCR reviews. Press conferences provide a means for monetary policy decision-makers to be questioned and challenged. On-the-record speeches are also used as a major part of the communications strategy by most central banks in the sample. Other speeches and briefings, and associated question and answer sessions can also allow audiences to engage with the central bank. In a small number of countries, speeches can be part of the open debate around contestable advice provided by individual MPC members. For instance, this has become a feature of monetary policy arrangements in Sweden, the United Kingdom and the United States where members of the monetary policy decision-making committee use speeches on occasion to articulate their personal views on monetary policy. Communication practices are also evolving with technological change. Sweden is notable for its open communication philosophy, and the Governor regularly answers questions in online chats with the public.

4 Conclusion

Monetary policy decision-making, governance and accountability arrangements differ widely across countries. Many of these differences appear to reflect historical features and different norms around how best to structure public sector governance more generally. However, in balancing central bank operational independence and effective accountability for the exercise of that authority, there has been considerable convergence in substance in this area over the past two decades. The economic substance of the policy targets of these central banks is now also very similar.

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