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by Yoshiharu Oritani

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Public governance of central banks: an approach from new institutional economics[1]

Yoshiharu Oritani[2]

Abstract

The governance of central banks has two dimensions: corporate governance and public governance. Public governance is an institutional framework whereby the general public governs a central bank by and through the legislative and executive bodies in a country. This paper argues that the literature of new institutional economics sheds new light on the public governance of central banks. First, Williamson's theory of "governance as integrity" (probity)[3] is applied to the internal management of central banks. Moe's theory of "public bureaucracy" is applied to the concept of central bank independence. Second, we apply agency theory to the issues associated with central bank independence and accountability. Third, public choice theory is applied to central bank independence.

Keywords: central bank, public governance, transaction cost economics, public choice.

JEL classification: D23, D71, D72, D73, E58.

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[2] Professor, Department of Commerce, Meiji University, Tokyo; e-mail oritani@kisc.meiji.ac.jp.

[3] Williamson (1999) used "governance as integrity" but, considering the content of this paper, "governance as probity" (used frequently hereafter) seems more appropriate.

Introduction

The governance structure of central banks has two aspects: corporate governance and public governance. This paper analyzes the latter in depth using the theoretical framework provided by new institutional economics. In this paper, "public governance" (a term now widely used in the literature on public organization)[4] is understood to be an institutional framework, where the general public governs the central bank by and through the legislative and executive bodies in a country.

The central bank, being an organization with a public mandate, belongs to the government in a broad sense, as do the legislative, executive and judicial branches. It acts in interplay with such other governmental bodies within a country's governance structure. The relationship between a central bank and the legislative and executive branches has long been an issue for lively debate. A central bank needs operational independence to discharge its mandate efficiently; it should be subject to public governance in a representative democracy since it is an organization with a public mandate. Debate has centered on how to structure the relationships between the central bank, the legislature/politicians, and the executive branch (the cabinet/president) and ministries, and how to strike the right mix of independence and accountability in order to ensure that a central bank performs its functions to best effect.

These are public governance issues. This paper attempts to analyze them from a new perspective, using several relevant theories on governance, each of which has seen significant development and application in the past few decades: transaction cost economics, agency theory and public choice theory. These theories have several common features: they broadly come under the new institutional economics umbrella, which extends economic analysis to the understanding of the various institutions in the economy and society; these are based on rational choice by economic agents which maximize self-interest; they have voters, elected representatives, and bureaucrats at the centre of their analytical models, along with other typical economic agents; their interest is in positive, empirical questions that seek to understand how things work rather, than normative questions as to how they should be.

Section 1 considers and applies two theories based on transaction cost economics: Williamson's theory of "governance as probity" and Moe's theory that scrutinizes the nature of autonomy in public bureaucracy. Governance as probity provides an answer to the question as to why a central bank needs to be a public organization similar to other government organizations where profit and efficiency maximization are not their objectives.[5] Here, the paper goes beyond public governance in the narrow sense of the relationship between a central bank and the legislative and executive branches to examine the internal organizational structure of a central bank from the public governance perspective.

While Williamson describes foreign affairs as "sovereign transactions", this paper considers central banking as a sovereign transaction. Central banking needs "governance as probity" in order to avoid "probity hazard". It can achieve this through very low-powered incentives, career staff with employment security, extensive administrative controls and appointment of the leadership of the agency by the president. Such a public organization solution, however, may come at the cost of some inefficiency.

Moe's theory of public bureaucracy extends transaction cost economics to analysis of the political process. Moe's theory argues that political parties and politicians in an "uncertain" political situation, where changes in majority control can and do occur, may want to install

[4] For example, Bevir (2007).

[5] Oritani (1996) explained the rationale of a central bank applying transaction cost economics.

autonomy (ie independence) at the central bank in order to reduce to a minimum the cost of policy swings at the central bank as the majority party changes. Using Moe's theory, this paper tries to ascertain whether central bank independence from politics is justified not only on the grounds of better central banking but on that of a better political process. Insights are obtained into the situation in Japan, where changes in the majority are very rare. Given this state of affairs, the theory predicts that the political tendency to reinforce central bank independence may not be as strong in Japan as in countries where changes in majority are less infrequent.

Section 2 applies agency theory to the issues associated with public governance of a central bank, mainly those related to central bank independence and accountability. With regard to central bank independence, the paper examines why some theories, based on the congressional dominance hypothesis, argue that central banks are strongly influenced by the legislature/politicians or the executive branch in spite of their formal independence – an important characteristic of a central bank, similar to that of an independent agency in the government.

The paper emphasizes a central bank's multiple principal-agent relationships (vis-à-vis both the heads of the executive and legislative branches). While this can cause inefficiency within a central bank, the paper shows that it may be instrumental in preventing central bank policies from becoming biased. The paper also addresses an interesting legal discussion in Japan that occurred when the Bank of Japan Act was amended. The major issue was whether it was constitutional for the Bank of Japan to conduct some functions that could be conceived as an exercise of executive power.

Section 2 also examines whether a compound board system – following Fama and Jensen – is a more effective way of governance to ensure central bank independence than a single board system. Fama and Jensen's theory considers a compound board system at private corporations as a mechanism for shareholders to cope with agency problems arising from the separation between ownership and management. The paper shows that a compound board system may be beneficial for similar reasons in the central banking context, in that it can ensure independence by allowing the government to appoint only upper board members.

With regard to central bank accountability, the paper analyzes what aspects are important for central banks, based on the work of Jackson, which regards accountability as a principal's tool for monitoring its agent in a principal-agent setting. Following Jackson's approach, the paper distinguishes several types of accountability: political, legal, financial and efficiency. The paper argues that accountability with respect to efficiency is not important for a central bank because of the significant difficulties in measuring such efficiency, or more fundamentally, in defining it.

Section 3 revisits the fundamental question of why a central bank needs to be independent from the legislative and executive branches in a representative democracy, from the perspective of public choice theory. Benefiting from studies that critically scrutinize majority rule in the decision-making process in a representative democracy, it shows that the public interest is not always correctly represented and conveyed to the central bank. The literature suggests that in such circumstances a central bank finds itself susceptible to political pressure from politicians maximizing votes and seeking short-term gains. It is thus necessary to ensure central bank independence to guard against such pressure.

1. Application of transaction cost economics

This section applies transaction cost economics to the public governance of a central bank.[6] First, Williamson's "governance as probity" hypothesis is applied to central banks and clarifies why they should be considered public organizations similar to bureaucratic organizations that do not pursue profit or efficiency maximization. Next, Boylan's theory that central bank independence is necessary to reduce to a minimum the potential for and hence the costs of policy swings – a theory based on Moe's autonomy of bureaucracy hypothesis – is introduced.

1.1 Application of Williamson's "governance as probity" hypothesis

Williamson (1999) directly applied transaction cost economics to public sector transactions and proposed a new category of governance structure, "governance as probity", in addition to the original three categories (market, hierarchy, hybrid). This new governance structure is structured to mitigate probity hazard, one of the transaction costs in public sector transactions that Williamson considers the most important. It is held that such a governance structure can be realized in public agents but not in private organizations. After explaining Williamson's "governance as probity" theory, public governance of a central bank is examined by applying the above theory.

1.1.1 Importance of probity in sovereign transactions

According to Williamson, public agents constitute a "puzzle" for economics since they continue to exist despite being regarded as "a haven for inefficiency". Therefore, he believes it necessary to look into "public sector transactions" based on the fundamental question of why private organizations cannot substitute for public agents.

Williamson first divides public sector transactions into six: procurement, redistributional, regulatory, sovereign, judicial, and infrastructure. "Sovereign transactions" are an extreme case among the six, being uniquely conducted by the public sector. "Examples of sovereign tasks include foreign affairs, the military, foreign intelligence, managing money supply, and, possibly, the judiciary", but Williamson mainly analyzes foreign affairs.

In line with the analytical procedure of transaction cost economics, the transaction costs of public sector transactions – especially sovereign transactions – are scrutinized. Such transaction costs are essentially "contractual hazards". Having pointed out "asset specificity" and "probity hazard" as two important contractual hazards in sovereign transactions, Williamson regards probity hazard to be more important. With respect to "asset specificity", while physical assets are negligible (since they are hardly used in sovereign transactions), human assets that undergo non-transferable training are necessary. Thus contractual hazards based on human asset specificity, specifically the "hold-up problem",[7] cannot be neglected. Nevertheless, since the hold-up problem is not unique to sovereign transactions, "what really distinguishes the foreign affairs transaction […] is the hazard of probity" (Williamson (1999)), and so the latter is examined in more depth. It should be noted that the "hazard of operating cost excesses" that poses a serious threat in private sector transactions is not considered a big issue.

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[6] For an introduction to transaction cost economics, see Brousseau and Glachant (2008).

[7] Refer to Klein (2008) for details of the hold-up problem.

For Williamson, “probity” is the same as the “loyalty and rectitude” or “high standard of integrity” with which a foreign affairs transaction (for example) is discharged.[8] Here probity means an honesty that has a deep relation with trustworthiness, and that if a person has probity, others will trust his words and have faith in his judgment. Moreover, “professional excellence” at the service of the organization and “fidelity to self-defining principles” are also considered to be included in probity. Williamson explains that transactions that require probity are extremely long-term, self-renewing and ongoing, and require “loyalty to leadership and to the mission” and “process integrity”.

With these definitions as a premise, the probity of foreign affairs transactions is shown to consist of three aspects as portrayed in Figure 1: vertical, horizontal, and internal. Probity under each aspect and the probity hazard that may arise are explained as follows.

First, “the vertical aspect” of probity concerns relations between the foreign affairs agency and the president, who is primarily responsible for the administration of foreign affairs. Williamson points out that probity is involved when considering responses to the following questions: “Does the president have confidence in the information and assessments that are provided by the foreign affairs agency?” “Does the agency comply with directives in a timely and efficacious way?” “Is the agency sufficiently responsive to the president?”[9] “Is the agency perceived to be adventurous?” “Does the agency have an abiding respect for the mission?” The probity hazard here is the risk of breaking such relationships between the president and the agency.

Second, the “horizontal aspect” with regard to the probity of the foreign affairs agency concerns the relationship with “counterpart agency[ies]”, which are the foreign affairs agencies of countries with which it negotiates. Probity in this respect includes “accurate communication” and “authority” although the former may intentionally be made vague in some cases. Should counterpart agencies perceive that the agency lacks authority, probity hazard arises, thereby hampering effective negotiation. The reason why this probity hazard arises stems from two aspects: probity hazard in relation to the president and that in relation to the internal organization.

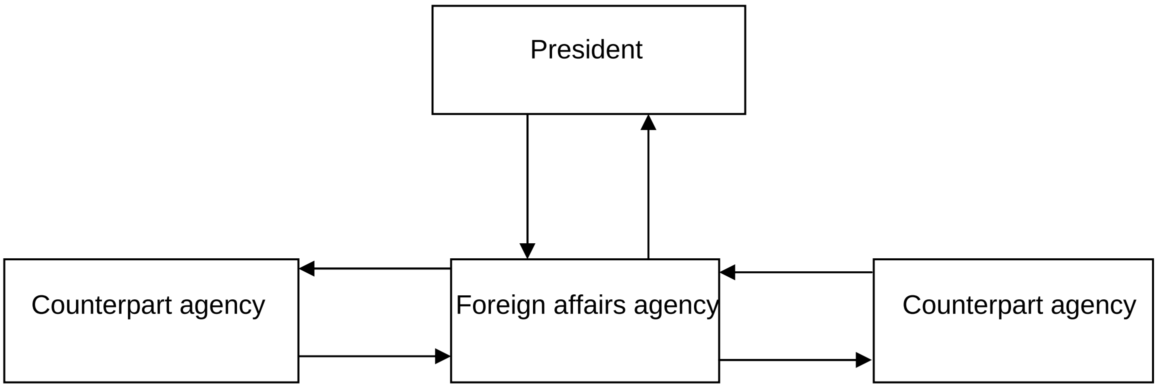
Third, the probity of the internal organization refers to the integrity of officers and staff of the foreign affairs agency and accordingly encompasses a broad concept that includes professional ability and process integrity. Probity hazard in this regard is considered to cause probity hazard in both vertical and horizontal aspects.

[8] According to *Merriam Webster Third New International Dictionary*, probity is defined as honest, upright, virtuous; uncompromising adherence to the highest principles and ideals; unimpeachable integrity.

[9] “Responsiveness” is a concept used in the theory of public administration to show how swiftly and wholeheartedly bureaucrats respond to requests from the public and politicians. It is considered to be in a trade-off relationship with the concept of “neutrality” which shows to what extent bureaucrats give neutral suggestions and analysis without having to fawn on politicians.

Figure 1

Probity considerations



Source: Williamson (1999).

1.1.2 Governance of sovereign transactions

Williamson thinks public agents have a more “adequate” governance structure than private organizations in maintaining the necessary probity for sovereign transactions and reducing transaction costs to a minimum (ie mitigating probity hazards). “Adequate” is not in the sense of reducing financial costs to a minimum, of course, but whether a transaction’s objective could be achieved or not.

Four attributes of “governance as probity”

Based on practical analysis of the US Department of State, the public agent that actually conducts foreign affairs in the United States, Williamson identifies four attributes of a governance structure that are essential for maintaining probity and adequately countering probity hazards:

a) Very low-powered pecuniary incentives

b) Career staff with employment security

c) Extensive administrative controls and procedures

d) Appointment and termination of agency officers by the president and legislature

Williamson calls a governance structure with the above attributes “governance as probity”, and argues that public agents are best suited for realizing such an arrangement. Inappropriate as it may seem in light of efficiency, it is difficult for private organizations to realize the above governance structure. In summary, public agents are considered the “best feasible governance response” against probity hazards affecting sovereign transactions.

Since these attributes are correlated with one another, Williamson does not explain them separately. His explanation is summarized as follows.

a) Very low-powered incentives

The first attribute of a governance structure that prevents probity hazard is that the organization’s incentive scheme should be “low-powered” and would not contain any high-powered incentives designed to maximize profit and efficiency.[10] Specifically, (i) "[l]est pressure to realize operating cost savings arises at the systems level, unexpected budgets will not accrue to the agency but will be returned to the central Treasury"; (ii) "payments contingent on realized cost savings will not be made to individuals who discover and implement cost savings; neither will such savings be used to improve on-the-job consumption of amenities"; (iii) "compensation in such an agency will be flat and also resource deployment will be restricted"; and (iv) the organization "has little risk of bankruptcy and has a reliable budgetary base in the face of economic adversity".

High-powered incentive schemes would undermine the probity of the overall organization. High-powered incentives increase probity hazard, and since probity hazard cannot be prevented by imposing a penalty, it is necessary to use a low-powered incentive scheme. By making the incentive scheme low-powered, "adventurousness" and "unwanted enterprise" can be restrained. A low-powered incentive scheme is also necessary for employment security.

b) Career staff with employment security

Generous employment terms, such as job security, is a second attribute of governance as probity. This would nurture "career staff" within the organization and strengthen loyalty towards the organization and "vocational commitment". At the same time, such an approach is expected to overcome staff reluctance to specialize.

Based on employment security, strong value is placed on "skills in negotiation, cultural sophistication and good manners". Deep knowledge and "integrity to the mission" is similarly highly valued within an organization. Additionally, "[c]aution, an aversion to bold language or action, a desire for consensus", the importance of accuracy prevailing throughout the organization, that "seniors should be consulted (vertical coordination)" when responding to non-routine events, and that any discontent should be expressed via "administrative due process", are also vitally important traits. In order to promote staff specialization, "specialized training will be used to inculcate the distinctive values and practices of the foreign affairs organization".

As a result, staff are endowed with high "social conditioning" and career staff participate in foreign affairs on a long-term basis. Although doors are open to outside employment, career staff mostly look inward for "career moves" and a "specialized internal labour market" develops within the organization. Therefore, it is highly likely that foreign affairs leadership comes from promotions from amongst the career staff.

c) Extensive administrative controls and procedures

When employment is secured under the above low-powered incentive scheme, it may induce some staff to "shirk", causing the organization to be inefficient. Therefore, governance to limit "egregious shirking" through detailed administrative controls such as "bureaucratic rules, regulations, and standard operating procedures" becomes the third attribute. While admitting its effect against shirking, Williamson states that "the main purpose of administrative controls is to promote probity".

Examples given of such administrative controls are "respect for protocol", stipulated obligation, "jurisdictional ordering by official rules and regulations", and clearly established

[10] Moe (1990b) introduced the concept of "inefficiency by design" whereby public agent inefficiency was deliberately intended by parliament and voters as a means to counter political uncertainty. Moe explains that if a public agent is efficient, unwanted policy may then be efficiently carried out with a change in political power. Therefore, by intentionally introducing complex administrative procedures, public agents are made inefficient.

“hierarchical authority”. Moreover, in light of due respect for probity, even the slightest breach of secrecy will be treated as an inexcusable breach of contract.

d) Appointment and termination of agency officials by president and legislature

Fourth, it is necessary to have a governance structure whereby an agency chief is appointed by the president and approved by the legislature. This is necessary for the foreign affairs agency to gain the confidence of both domestic and overseas parties. The foreign affairs organization must exhibit adequate “responsiveness” to the president, and, on the other hand, authority given by the president will enhance probity when negotiating with counterpart agencies.

Williamson considers approval by the legislature of presidential appointments is good governance practice. In a division of powers system, the agency chief’s probity towards the mission can be strengthened through the hearings and approval process of the legislature. The president will have a stronger incentive to choose a candidate who inspires confidence, rather than choosing on the basis of personal likes and dislikes. Williamson also points out that “since the legislature can reach an understanding with the agency chief as to his policy and plans through the process, deviations from the expressed policy and plans can be made the subject of hearings”.

However, agency officers should not always be passive vis-à-vis the president and the legislature, but may need to collide with short-term political interests in order to protect probity towards the mission. Since a trade-off exists between short-term political interests and the long-term interests of the state, Williamson suggests that “mission safeguards” should be introduced when designing governance structures.

1.1.3 Replication by a private organization

A. Private organization and four attributes of governance

An organization incorporating the above governance structure is of course considered to be a public organization, but Williamson intentionally raises the question: can a private organization replicate such governance? By proving that it cannot, Williamson emphasizes the importance of the probity of the public organization.[11]

Williamson argues that if a private organization took on responsibility for foreign affairs, it would end in failure. Since a private organization attaches greater importance to cost control and profits, probity would be sacrificed. A private organization could tend to appropriate the net income resulting from cost savings resulting from reforms. But such savings should go to the Treasury – and the very low-powered incentive in a public agency is part of this mechanism and reinforces the commitment of career staff in a public institution. By contrast, a strong incentive scheme is one of the main features of a private organization, but this would loosen administrative controls, weaken the responsiveness of the agency to the president, and erode the employment security of career staff. That is, if a private organization were to take responsibility for foreign affairs, trade-offs would exist between foreign policy efficacy and net income. Against such a background, to safeguard the interests of the state, the state would not fully delegate authority concerning foreign affairs to a private organization. Accordingly, counterpart agents in other nation states would not regard a private organization as the clear representative of the State and would frequently request review, change, or complete renegotiation.

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[11] Moreover, Williamson discussed governance structure where a “regulatory agency” that is neither a public agent nor a private organization assigns foreign affairs to a private organization and supervises the organization, and reached the conclusion that a public agent was the most appropriate for sovereign tasks.

B. Incomplete contract and adaptive coordination

Williamson believes that this is because a contract to entrust foreign affairs transactions to a private organization cannot but be very incomplete. How could a private firm reconcile the contract to shoulder responsibility for foreign affairs with the demands of responding to an unanticipated event? How should a competitive bid be carried out? It would be very difficult, if not impossible, to write a contract that specified in advance what the firm should do in each case, since neither governments nor private organizations can accurately forecast all future contingencies.

As such, Williamson believes that "adaptive coordination" (adaptive and sequential decision-making) is the only feasible way to counter contingent events not covered in a contract and with which to play a negotiation game rich in countermove strategies. Williamson's theory of adaptive coordination places importance on probity during the "adaptive process", and accordingly differs from the theory of Hart, Schleifer, and Vishny (1997) that emphasizes human asset specificity. Hart et al consider that human asset specificity will lead to the hold-up problem and for this reason there are transactions that cannot be entrusted to private organizations. While Williamson admits that the hold-up problem is one of the reasons that some transactions cannot be entrusted to the private sector, it is only part of the adaptive process. He considers that probity hazards that affect the overall adaptive process pose are the more significant impediment.[12]

1.1.4 Application to central bank governance

Williamson's theory applies to central banks – and Williamson himself considered the management of the money supply as an example of a sovereign transaction.

A. Features of central bank transactions

The first step is to examine the features of central bank transactions. Though features of central bank transactions have been discussed in Oritani (2004) by differentiating between public sector goods and club goods, this paper will reinvestigate them in line with Williamson's typology of public sector transactions.[13]

Central bank transactions are similar to foreign affairs transactions in that they are made not in pursuit of private profit but for the benefit of the country. However, while foreign affairs transactions are limited to sovereign transactions, central bank transactions involve not only sovereign transactions (management of the money supply) but also transactions providing infrastructure. The central bank provides three types of services: (i) management of the money supply (monetary policy, monetary operations); (ii) payment and settlement services; and (iii) maintenance of financial system stability.

First, it seems appropriate to classify the management of the money supply under sovereign transactions, as suggested by Williamson. However, monetary policy is normally, in

[12] According to Williamson, "[a]daptation entails eight steps: 1) the occasion to adapt needs to be disclosed, after which 2) alternative adaptations are identified, 3) the ramifications of each are worked out, 4) the best adaptation is decided, 5) the chosen adaptation is communicated and accepted by the agency, 6) the adaptation is implemented, 7) follow-up assessments are made, and 8) adaptive, sequential adjustments are made thereafter", and Williamson criticizes that, of these eight steps, Hart, Schleifer, and Vishny (1997) consider only steps 1, 4, and 5.

[13] Oritani (2004) mentioned that central bank services can be divided into public sector goods and club goods. In this connection, monetary policy and the maintenance of financial system stability can be considered to have the feature of public sector goods and settlement services, the characteristic of club goods. Bank of Japan (1999) analyzes in depth the legal aspect of Bank of Japan business operations from the perspective of whether they are administrative or not.

advanced countries, conducted through monetary operations. And, monetary operations are carried out as part of banking operations centering on financial transactions (sales of securities and fund loans) in the financial markets between a central bank and private financial institutions. This differs greatly from foreign affairs transactions.

Second, payment and settlement services, unlike foreign affairs transactions, should be classified under "infrastructure" according to Williamson's types of public sector transactions. The payment and settlement services of a central bank comprise the issuance and circulation of banknotes and interbank settlement services, both of which are considered transactions that provide infrastructure.[14] However, the provision of payment and settlement services entails the characteristics of a sovereign transaction and cannot be considered as just the simple provision of infrastructure. This is because, as described in Oritani (1996), interbank settlement services accompany credit extension by a central bank to participants in payment and settlement systems. And this credit extension has the feature of a sovereign transaction just like monetary policy and the maintenance of financial system stability.

Third, services related to the maintenance of financial system stability through central bank transactions seem to have a strong similarity to sovereign transactions as is the case with monetary policy. Also, central bank loans to private financial institutions to maintain financial system stability are similar to monetary policy in the sense that sovereign transactions are made in the form of financial transactions with private financial institutions. And, while the supervision and regulation of private financial institutions by a central bank have the aspect of sovereign transactions, they also have the feature of transactions accompanying the provision of infrastructure considering that they are implemented to monitor payment system participants as part of the provision of payment and settlement services.

As such, central bank transactions consist of varying degrees of sovereign transactions: (a) high-degree sovereign transactions (monetary policy); (b) low-degree sovereign transactions (payment and settlement services); and (c) medium-degree transactions (maintenance of financial system stability). All central bank transactions share, albeit to a different degree, the common feature of being a sovereign transaction. Therefore, this paper will consider central bank transactions comparing with foreign affairs transactions focusing on their common feature of being sovereign transactions.

While foreign affairs transactions are conducted using relatively stable skills such as foreign affairs negotiation tactics, central bank transactions are conducted through banking operations that are easily influenced by changes in information technology (IT) and financial transaction techniques. Therefore, it is necessary to change and renew the skills and facilities/services related to central bank transactions in accordance with changes and progress in IT and financial transaction techniques. Such a difference in transaction features should be taken into consideration when applying Williamson's discussion on foreign affairs transactions to central bank transactions.

B. Probity structure of central bank transactions

Based on the features of central bank transactions as mentioned above, probity and probity hazards relating to central bank transactions in line with the three aspects of probity in Williamson's foreign affairs transactions are shown in Figure 2.

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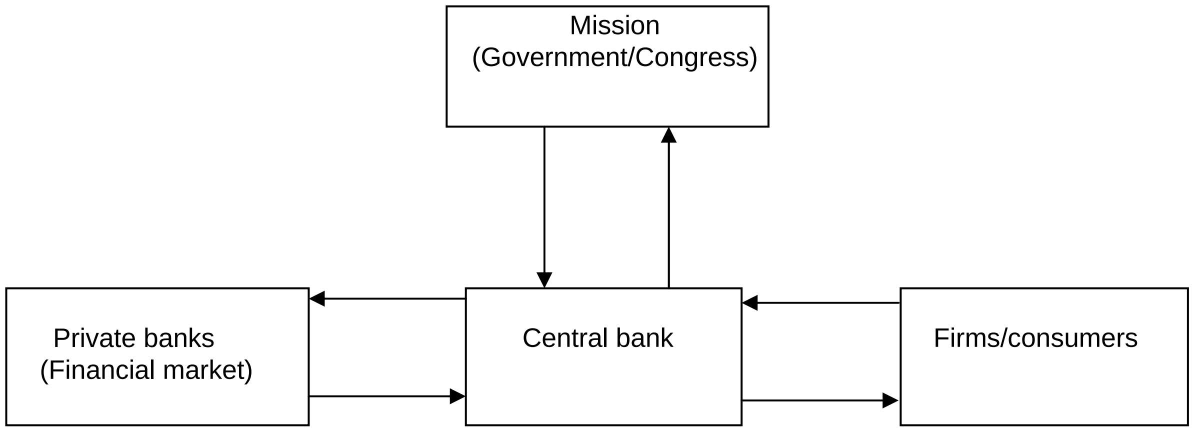
[14] Among public sector transactions, Williamson explains "infrastructure" as follows: "The administration of police, fire, roads, parks, prisons, education, etc. is mainly a matter for state and local government. These transactions will not be considered here but are gist for the study of comparative economic organization and are increasingly coming under scrutiny." And, having the construction of prisons in mind, Williamson considers that although the possibility of probity hazard in providing infrastructure is less than for foreign affairs transactions, the possibility of contractual hazard with regard to asset specificity and cost savings is higher.

Figure 2

Probity considerations in the central bank



In Figure 2, what clearly differs from foreign affairs transactions in Figure 1 with regard to the vertical aspect is that the central bank does not have a direct relationship with the president (executive branch) and enjoys a considerable degree of independence from both the executive and the legislative branches. As such, the “mission of the central bank” will take the position of president in foreign affairs transactions. In this respect, central bank probity will be “abiding respect for the central bank mission” such as price stability and the stability of financial systems, in line with Williamson’s “abiding respect for the mission”. The mission will not be self-determined, but typically defined by the legislature (often in consultation with the central bank). While a central bank enjoys independence from the executive and legislative branches, it nevertheless has regular indirect contact, which means that probity with respect to responsiveness such as “whether reliable information is provided” to the executive and legislative branches will become an issue, albeit less than with foreign affairs transactions.

Therefore, probity hazards in this respect would be, for example, being disloyal to the mission, not providing information faithfully to the executive and legislative branches, and the lack of a relationship of trust with the executive and legislative branches. Such hazards would undermine the basic attributes necessary for conducting central bank transactions and would also greatly affect the second aspect which will be explained in the next paragraph. As for probity regarding responsiveness, this is deeply related to the “accountability” of public agents, including the central bank, which will be considered in detail in 2.5.

Looking at the horizontal aspect, counterparties of central bank transactions are basically domestic financial institutions and the general public. Overseas central banks and international organizations that correspond to the counterparties of foreign affairs organizations as in foreign affairs transactions are also included. Therefore, the direct counterparties of monetary policy and monetary operations are the participants in financial markets, and indirect counterparties include firms and the general public. As is the case with foreign affairs transactions, probity is required on the part of a central bank in dealing with such counterparties with some intended and necessary reserve or discretion. As for the counterparties of payment and settlement services, they are financial institutions that have current accounts with the central bank in the case of interbank settlement services, and the general public that uses cash in the case of small-value settlement services such as banknotes. The direct counterparties of transactions concerning the maintenance of financial system stability are private financial institutions, although firms and the general public are also included indirectly.

Probity hazard in this respect consists in the words and actions of the officials and staff of a central bank that undermine so-called “market confidence or weaken policy credibility”.

Market participants will deem that the central bank does not have the appropriate authority not only if central bankers lose market confidence but also if they lack probity vis-à-vis their mission or if the relationship of trust with the executive and legislative branches is lost. In this sense, what Williamson pointed out with respect to foreign affairs transactions also holds true for a central bank. The same could also be applied to central bank transactions such as payment and settlement services and the maintenance of financial system stability.

With respect to the third probity aspect, the internal aspect of a central bank, this is basically the same as probity regarding the internal aspect of a foreign affairs agency. Specifically, probity refers to the integrity of central bank officials and staff toward the mission, their professional ability and process adequacy. The fact that probity hazard in this respect will bring about probity hazard in the first and second aspects is also the same.

Table 1 summarizes the features of central bank transactions and probity structure in comparison with foreign affairs transactions.

Table 1

Comparison of transaction features and probity structure

	Relationship with executive and legislative branches	**Relationship with counterparties**	**Relationship with internal organization**
Foreign affairs agency	Responsiveness alone	Negotiations on foreign affairs	Stable necessary skills Low necessity for innovation
Central bank	Responsiveness and autonomy	Financial transactions Bank supervision, regulation	Evolving necessary skills High necessity of innovation

C. Attributes of central bank governance

Based on the above features of central bank transactions and probity structure, when we consider the attributes of governance structure that would maintain the probity necessary for central bank transactions and mitigate probity hazards, the four attributes proposed by Williamson can be applied almost perfectly to central bank transactions as well. It is impossible for private organizations (eg private banks) that pursue efficiency and net profit to fulfill such attributes. Central bank transactions are best conducted by a public organization with a low incentive scheme, specifically a central bank, even if efficiency is sacrificed.[15] The governance of foreign affairs transactions and central bank transactions is compared for each attribute in Table 2.

15 This explanation also illuminates the raison d’être of a central bank. Oritani (1996) explained the raison d’être of a central bank through transaction costs incurred by competition among private banks in a world where central banks do not exist.

Table 2

Comparison of governance features*

	Incentive scheme	**Staff**	**Management scheme**	**Appointment of officers**
Foreign affairs transactions	Very low incentive scheme Efficiency neglected No adventurousness	High degree of employment security Mainly career staff	Detailed administrative control Clear hierarchical structure	Direct appointment by government, the legislature
Central bank transactions	Relatively low incentive A certain level of efficiency needed A certain level of adventurousness accepted	Intermediate level of employment security Mixture of career staff and mid-career people	Intermediate level of administrative control Intermediate level of hierarchical structure	Indirect appointment by government, the legislature
Private bank transactions	Strong incentive scheme Efficiency strongly pursued Regards adventurousness as entrepreneurship	Low employment security Low perception of career staff	Low administrative control Flexible hierarchical structure	Independent from government, the legislature

***** According to BIS (2009), 80% of governors are appointed by the head of state, and nearly 25% by the government or minister of finance (see Fig 19, p 70).

a) Very low incentive scheme

If a strong incentive scheme were to apply to central bank transactions in order to achieve efficiency and profit, it would conflict with the intrinsic purpose of central bank transactions and would cause probity hazard. The maintenance of price stability requires the forgoing of opportunities to maximize revenue by expanding monetary issuance. As final supplier of liquidity to the monetary system, a central bank could use its monopoly power to extract rents from financial institutions. And so on.

Even if a contract with an objective aim is introduced so that the intrinsic purpose of central bank transactions is not hampered by the pursuit of efficiency and profits, it would be impossible to write one that could cover all unexpected situations which might arise, as Williamson pointed out. Therefore, it would be impossible to delegate central bank transactions to a private organization and successfully counter probity hazard through the terms of a contract intended to cover all levels of the adaptive process in all situations.

For example, if a private bank implemented monetary policy and monetary operations, it would use the information gained from such implementation to obtain profits from investments and fund raising in the markets causing “ultimate insider trading”. Even if the private bank specialized in monetary policy and monetary operations, it would face the problem of how such transaction costs are calculated and how information leakage should be prevented (such issues are related not only to a strong incentive scheme but also to employment security and management control, which will be discussed later).

Also with regard to payment and settlement services, a strong incentive scheme focusing on cost savings might undermine the security and quality of such services. With regard to the maintenance of financial system stability, for example, a strong incentive scheme whereby the compensation of bank examiners is based on simple indicators, such as the number and importance of suggestions made during on-site examination, may involve the risk of creating probity hazard similar to other central bank transactions.

As mentioned above, Williamson also identifies "adventurousness" as a probity hazard and considers the role of a low incentive scheme in restraining such adventurousness. Its application to central bank transactions provides a valuable insight. Since central bank transactions are implemented using state-of-the-art financial transaction techniques and skills, especially IT, constant innovation is necessary in line with the progress of IT and financial transaction techniques (innovation is more important than in foreign affairs transactions). In this regard, central bank governance requires an incentive scheme with strong but "not adventurous" characteristics that allow for innovation.

b) Career staff with employment security

Employment security, which Williamson pointed out as a useful governance attribute of a foreign affairs agency, could also be applied to a central bank. While an increasing number of firms in Japan are adopting salary schemes based on short-term performance, these cannot be fully applied to a central bank since they would increase the possibility of the central bank encountering probity hazard. In addition, central bankers have to confront infrequent events, and their policies take effect only after long time lags. Employment security in such circumstances facilitates the employment of staff with a good institutional memory and long time horizons.

c) Extensive administrative controls and procedures

The "extensive administrative controls and procedures" pointed out by Williamson can be applied to a central bank almost in their entirety. When the various administrative controls described by Williamson are applied to a central bank, it is notable that insider trading regulations must be strictly adhered to by bank executives and staff. Such strict compliance is necessary since central bank transactions are implemented through financial transactions with private financial institutions and decisions on monetary control directly influence interest rates and various financial assets, all of which provide rent-extraction opportunities. The exceptionally high standards required of central bankers mean that the press and politicians will often criticize senior officials for actions that even hint of a conflict of interest.

A trade-off is also seen between the "clearly defined hierarchical authority" that Williamson considers a governance attribute of foreign affairs transactions and the necessity of innovation in central bank transactions. Excessively rigid hierarchical authority may carry the risk of slowing innovation in central bank transactions. But if central bank officials become too flexible or act in an ad hoc way, authority and responsibility would become ill-defined and might invite probity hazard. From this perspective, the "abolition of divisions in the department"[16] conducted by the Bank of Japan in 2004 raises probity hazard concerns.

[16] In July 2004, the Bank of Japan abolished "divisions" (established by the Governor) within the head office with the exception of the Currency Issue Department, Operations Department, and Administration Department. The Director-General of each department can, at his/her discretion, establish a team (equivalent to divisions) and appoint a team leader (equivalent to division chief). This was expanded to all departments in July 2006.

d) Appointment and termination of agency officers by president and legislature

The appointment of central bank executives differs somewhat from that pointed out by Williamson and this is a notable feature of the governance of a central bank. Governors are more often appointed by the head of government via a process that involves checks and balances than by the government directly. And strong protections against being fired by the current government are built in. Although central bank transactions have the characteristic of sovereign transactions, independence from the government so as to maintain focus on the mission is of paramount importance compared to foreign affairs transactions.

This is consistent with Williamson's view that "lest the integrity of the state be seriously compromised, mission safeguards need to be introduced into the design" in appointing officers of a foreign affairs agency. The same can be said for a central bank. A central bank conducts monetary policy to realize its mission of price stability and, since this may conflict with the government's objective of shrinking the fiscal deficit, mission safeguard is also necessary for a central bank. Appointment procedures, restrictions on dismissal and central bank independence more generally are such safeguards. Central bank independence is the main distinctive feature of the public governance aspect of a central bank, and will be discussed in detail throughout this paper.

1.2 Application of Moe's theory on the autonomy of a bureaucratic organization

Positive political theory (PPT) applies economics – including transaction cost economics – to political science. While notable research includes that by Epstein and O'Halloran (1999), a series of studies by Moe seem to be the most valid when considering the public governance of a central bank. Moe's theory not only applied transaction cost economics to the political process, but also provided a logic for the autonomy of bureaucratic organizations based on transaction cost economics. Moe's theory is briefly summarized below and then applied to central bank governance.

1.2.1 Moe's theory on the autonomy of bureaucratic organizations

According to Moe (1990a), the "theory of public bureaucracy" that was initiated by the pioneering work of Niskanen (1971) can be roughly divided into "bureaucratic politics", which analyzes the behavior of bureaucratic organizations in the political process such as their relation with the legislature, and "bureaucratic organization theory", which analyzes the internal organization of public bureaucracy.[17] In both theories, bureaucrats are not assumed to be just an entity that executes requests from voters and the legislature passively and efficiently. Rather, the theory is based on the assumption that, just like other economic entities, bureaucrats also act to maximize their self interest.

Moe (1991) surveyed existing research on the interrelationship between political science and organizational economics, concluding that in order to integrate the two theories, organizational economics should be applied after identifying the essential features of the political process. Moe (1980) had earlier proposed applying transaction cost economics to the political process and in Moe (1990a, 1990b) pointed out the importance of bureaucratic organization in the political process. In particular, how the autonomy of bureaucratic organizations emerged was clarified. An outline of Moe's theory on the autonomy of bureaucratic organizations is as follows.

[17] The aforementioned theory by Williamson can be considered as one of the theories on public bureaucracy. However, his theory cannot be categorized according to Moe's dichotomy since it has features of both sides.

When private firms and bureaucratic organizations are compared, bureaucratic organizations are similar to private firms in that they have a mission, resources, and strategy. However, while private firms are guaranteed property rights, the right to exercise "public authority" – the equivalent of property rights – is not guaranteed to the political actors. This is because, in a democratic state, public authority can be transferred from one party to another based on elections, etc. Such transfer risk of public authority is called "political uncertainty". All political actors, including bureaucratic organizations, face such political uncertainty, and on this point greatly differ from private firms. Today's policy decisions can be overturned in the future, as public authority is transferred to today's opposition parties.

Both bureaucrats and politicians have an incentive to incorporate autonomy for bureaucratic organizations into the institutional framework to mitigate such uncertainty. First, bureaucrats seek autonomy in order to neutralize, as much as possible, the impact of "political disruption" – that is, a favorable political power suddenly turning hostile because of a regime change. Motivating the case for autonomy involves seeking strong professionalism and promoting operational experience. Such technical and operational expertise becomes all the more significant for achieving autonomy as time passes, which could be explained by the concept of "transaction specificity"[18] in transaction cost economics. For example, even if a bureaucratic organization does not have any special technical and operational expertise at the time of its establishment, such expertise will accumulate as the organization continues operations. Accumulated expertise cannot be readily duplicated by alternative agents (a hold-up problem caused by mutual interdependence as in transaction cost economics).

Second, the legislature and voters (interest groups) also have a tendency to favor extending a certain level of autonomy to bureaucratic organizations as a countermeasure against political uncertainty. By insulating bureaucratic organizations from the legislature, even if there is a change in regime the new power cannot easily implement a bold and unfavorable policy through such autonomous bureaucratic organizations.[19]

1.2.2 Application to central bank governance

Central banks can readily be seen as bureaucratic organizations – although some aspects of corporate governance apply, public governance aspects dominate.[20] Applying Moe's theory, central bank autonomy might also be seen as a countermeasure against political uncertainty.

From the perspective of central bank executives and staff as bureaucrats, the consistency of monetary policy cannot be maintained if major changes are forced on monetary policy whenever there is a shift in political power. Should swings in political power affect not only monetary policy but also personnel management, it would be difficult to implement highly professional central bank operations based on banking operations. Long since established, the professionalism of central bankers is deeply embedded in the organization and this serves as a strong foundation for the autonomy of a central bank, as explained in the concept of transaction specificity in transaction cost economics. And politicians and voters may also benefit from the stability that results from giving autonomy to a central bank, since it then becomes impossible to pursue a policy that is completely opposite to the one pursued by the previous political administration.

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[18] Looking at "transaction specificity" from the asset side, it is called "transaction-specific asset" and the feature of such an asset is called "asset specificity". Refer to Williamson (1985) for details.

[19] Kanemoto (1991) takes the police as an example and states that: "For politicians in power, autonomy of the police may not be desirable, but considering that they may not stay in power in the future, it may be desirable to continue to maintain such autonomy."

[20] Many studies have applied organization theory to the central bank assuming it is a bureaucratic organization (eg papers given in Mayer (1990) and Toma and Toma (1986)).

Applying Moe's theory to an examination of the political background to central bank reforms of Chile in 1989 and Mexico in 1993, Boylan (2001) concluded that central bank autonomy was an "insulation strategy" to insulate the central bank from changes in political power. According to Boylan, central bank reform in both countries was: "by making the central bank autonomous, control over monetary policy is effectively removed from the hands of politicians", "where authoritarian elites fear the populism that may be endemic to new democracies and know that a change of regime is imminent, they can be expected to create an autonomous central bank to lock in a commitment to price stability over the long haul".

The revision of the Bank of Japan Act in 1998 was implemented to enhance independence of the Bank of Japan, with the major objective seeming to have been to curtail the power of the Ministry of Finance (bearing in mind the criticism leveled against it during the so-called "bubble economy" in the latter half of the 1980s that led to financial system turmoil in the 1990s). This may also be consistent with Moe's theory and the suggestions made by Boylan, in that changes in the political regime in Japan are very rare. Thus the motivation to enhance central bank autonomy as a counter to political uncertainty may not be as strong in Japan as in the United States and Europe, where changes in political power are more frequent. Indeed, independence under the new Bank of Japan Act was not as comprehensive as in the United States and European countries (eg the expense budget is subject to approval by the Ministry of Finance, government representatives attend monetary policy board meetings, the government's right to request postponing a vote on proposals regarding monetary control matters, etc). Even under the arrangements, statements against the Bank of Japan's independence are frequently heard from politicians (see 2.3.2).

Thus, while Moe's theory provides insights into the reasons for central bank independence, it is not a complete explanation. There are differences between a central bank and other bureaucratic organizations. Two significant ones stand out. First, as noted in Oritani (2004), in addition to a public governance concept, a corporate governance concept can be applied to a central bank. Therefore, a central bank has the characteristic that it cannot easily or should not be affected by public governance (influence from politicians and the government). Second, central bank independence is required for purely economic reasons regardless of political factors. Such a necessity comes from the fact that banknotes issued by a central bank are money in a fiat currency system. In other words, under the gold standard, the quantitative constraint of a natural resource, gold, restrained the money supply so that price stability was maintained. In a fiat currency system, however, it is the independence of a central bank that is expected to restrain the money supply and hence inflation.

In regard to the above two points, Boylan (2001) terms the grounds for the argument on central bank independence by Cukierman (1992) and Maxfield (1997) "credibility literature" and emphasizes that her treatment of the economic effect of central bank independence differs from theirs. While "credibility literature" stresses that central bank independence enhances credibility of a central bank and brings about price and foreign exchange stability, Boylan considers central bank independence necessary to minimize political transaction costs in the political process and that the economic effect is not its direct objective. In this sense, she argues that central bank independence in her theory is based on "institutionalism" in political science.

2. Application of agency theory

In this section, agency theory will be applied to the public governance issues of a central bank. First, after introducing agency theory in general, we will observe what kind of principal-agent relationship exists between a public agent and legislature/politicians when the theory is applied to the political process. Then, the central bank's principal-agent relationship will be compared with that of government ministries and its features considered. Also, the congressional dominance hypothesis that asserts the superiority of the legislature over public agents is introduced and the possibility of sanctions and threats the central bank would receive from the legislature/politicians based on the hypothesis is considered. Then, by applying the compound board theory advocated by Fama and Jensen, this paper reviews mechanisms to lessen the possibility of sanctions and threats to the central bank from the legislature and executive branch through the appointment of senior central bankers. Moreover, central bank accountability is proposed as a principal's monitoring measure over an agent in agency theory.

2.1 Agency theory and the political process

2.1.1 What is agency theory?

Agency theory, or "principal-agent theory", analyzes the relationship between the employing organization and staff as a relationship between "principal" and "agent".[21] There are numerous relationships that can be considered principal-agent relationships in our social system as seen in that between doctor (= agent) and patient (= principal), and solicitor (= agent) and client (= principal). Such relationships, where a certain entity relies on another, came about since the division of labor generally enhances productivity. As Hayek (1945) put it: "If we can agree that the economic problem of society is mainly one of rapid adaptation to changes in the particular circumstances of time and place, it would seem to follow that the ultimate decisions must be left to the people who are familiar with these circumstances, who know directly of the relevant changes and of the resources immediately available to meet them. We cannot expect that this problem will be solved by first communicating all this knowledge to a central board which, after integrating all knowledge, issues its orders." That is, such relationships are created when it is deemed efficient to use professionals as agents rather than principals doing everything themselves.

As such, the principal-agent relationship creates efficiency, but has costs or risks. Such costs are called "agency costs" or "agency problems". They arise when the agent acts not on behalf of a principal's benefit alone, but also for their own benefit.

Agency theory and transaction cost economics have many points in common. For example, the principal-agent relationship in agency theory is equivalent to the transaction relationship in transaction cost economics, and agency cost to transaction cost. And, the incentive system to counter the agency problem in agency theory has the same function as governance structure in transaction cost economics. However, while agency theory pays attention to the difference in the concerned parties' position (principal or agent) and places importance on the prior design of a contract to mitigate agency problems, transaction cost economics takes the stance that it is impossible to design a perfect contract that prevents opportunism due to transaction specificity that arises after the contract. Therefore, transaction cost economics pursues governance structure that reduces transaction costs in the whole transaction process to a minimum.

2.1.2 Application to the political process

The political process is a structure where voters, the legislature, and the executive branch make policy decisions through interaction. Numerous studies in the field of political economy have recently applied agency theory to the political process. For example, Stevens (1993) believes it significant to apply agency theory to the political process for the following three reasons.

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[21] For an explanation of agency theory, refer to Slangen, Loucks, and Slangen (2008).

First, laws (including constitutions) envisage hierarchical relationships in the political process and, in this regard, the application of agency theory is in line with the spirit of the law. Since voters select cabinet members through election, they can be considered as a legislature's principal, and the legislature the agent of the voters. Moreover, with regard to authority relationships within the government, in the case of a parliamentary system the prime minister must have support of the legislature and the prime minister appoints cabinet members and executives of public agencies. The cabinet and public agencies jointly constitute the executive body. Here, the legislature is the principal, and the executive body (cabinet and public agencies) is considered an agent. Within the executive body, the cabinet is the principal and public agencies the cabinet's agent. In the case of a presidential system, the president is directly elected by the voters and although the legislature has the role of checking the activities of the executive body including the president, it is not the president's principal.[22]

Second, the respective parties of the political process hold different information, both quantitatively and qualitatively. For example, politicians have less professional knowledge than bureaucrats. Agency theory is suitable for analyzing the behavior of such parties with differing information since the main objective of agency theory is to study how an efficient incentive system can be structured between parties with differing information as in the relationship between a doctor and a patient. The governance structure of the political process, that is, public governance, can be regarded as such an incentive system

Third, agency problems evidently arise in all relationships in the political process. For example, voters sometimes feel that the legislature is not necessarily keeping its promise or the legislature criticizes public agencies for not acting in line with their intentions (this point will be closely looked at from the perspective of accountability in 2.5).

2.2 Features of the principal-agent relationship of a central bank

Agency theory can be applied to central banks, as to other government institutions. However, the principal-agent relationship of a central bank can be characterized as having multiple principals and having the feature of an independent agency, which will be explained below and the implications for public governance studied.

2.2.1 Multiple principals of a central bank

In major countries, the central bank's direct principals often include the legislature, as well as the head of the executive body (president or prime minister). This places the central bank in different position than the executive branches of the government. No senior central banker (such as governor) is elected (or recommended, nominated, appointed, approved, etc) by a national referendum. Therefore, although the general public is the ultimate principal of a central bank, it is not the direct principal.

In major developed countries, the governor of a central bank (or Chairman of the Federal Reserve Board in the United States) is appointed by the head of the executive body, president, or cabinet (prime minister), and, in this respect, the principal of the central bank is the head of the executive body. At the same time, there are countries where not only the executive body, but also the legislature is involved in electing senior central bankers. In this case, the legislature also becomes the principal. The US Congress is involved in the selection process in the form of approving the Chairman and Governors of the Federal Reserve Board appointed by the President. In the case of the Bank of Japan, members of

[22] Palmer (1995) and Moe and Caldwell (1994) made a comparative analysis of presidential and parliamentary systems based on agency theory.

the Policy Board are appointed by the Cabinet and approved by the Diet. Also, with respect to the European Central Bank (ECB), ECB executives, such as the President, are determined through consultation among member nations' government representatives and the European Parliament based on a recommendation from ECB's General Council. In this regard, the ECB has multiple principals such as the General Council, the member nations, and the European Parliament.[23]

Dixit (1996) calls such relationships with several principals "multiple principals" and compares the situation with a single principal. Dixit argues that the existence of multiple principals weakens an agent's incentives, which is a source of inefficiency in public agencies with multiple principals. If applied to a central bank, there would be little incentive to follow the monetary policy line proposed by one specific principal. Since the executive body and the legislature may have different opinions concerning central bank policy, the existence of multiple principals may even be useful in preventing a central bank from pursuing a biased policy. And, as explained in 1.1.2, according to Williamson (1999) the necessity of congressional approval of executives appointed by a president has the benefit of reinforcing the probity of the executives vis-à-vis the mission.

2.2.2 Independent agencies

A. What is an independent agency?

The nature of the principal-agent relationship in the political process is not homogeneous. Independent agencies exist in the United States and Japan (and elsewhere); these differ from government ministries in their structural proximity to the executive, and thus in the executive's ability to command and control. Central banks in both the United States and Japan have some features of independent agencies. Ito (1982) describes the independent agency as follows (translated from Japanese):[24]

> The so-called independent agency system was developed in the United States from the end of the 19th century to the beginning of the 20th century with a view to introducing legal economic restrictions in line with the development of advanced capitalism. Such agencies have a quasi-legislative power to enact regulations and also quasi-judicial powers to settle disputes in addition to dealing with administrative affairs. After World War II and reflecting the desire of the General Headquarters of the Allied Forces, many independent agencies were established in Japan to eliminate bureaucracy-led executive branches in the government, lessen concentration of power in the Cabinet, and better convey the public will to the administrative authorities.

Specific examples of independent agencies are the Interstate Commerce Commission in the United States and the Fair Trade Commission in Japan. While both US and Japanese independent agencies are independent from the President (Cabinet), they are subject to public governance by the legislature. The degree of independence is not total, just greater than for other government ministries. That is, the President (Cabinet) cannot intervene in an independent agency's budget or operations but can appoint agency heads. In this regard, independent agencies can be considered to be endowed with "independence within government".

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[23] See Section 8.1 of BIS (2009) for details of cross-country practices.

[24] An independent agency is an organizational concept of US federal government and Japan's central government. It is an agency that exists outside federal executive departments and is not part of a fourth branch of government. Instead, it exercises executive functions outside of any executive department.

B. The central bank as an independent agency

Most central banks are not pure independent agencies,[25] but many have key features of independent agencies because of the following characteristics:

a) Decision-making

In many cases, decisions regarding the operations and policies of a central bank do not need to be authorized by the executive branch if due process is observed. However, changes to decision-making procedures and high-level policy strategies need, in general, to be authorized by the government.

b) Staff matters

As mentioned, the legislature is involved in the selection of senior central bankers. Also, the terms of senior central bankers are often longer than those in government ministries and strict criteria must be observed in dismissing them during their term of office. Looking at the terms of office of central bank governors and executives, for example, in the case of the Federal Reserve, it is 14 years (but for the Chairman, four years), the President and executives of the European Central Bank eight years, and the Bank of Japan Governor five years. Most central banks have strict criteria for dismissing senior central bankers and the appointer cannot dismiss them at will. This differs from the dismissal of senior civil servants in government ministries.

c) Accounting

With regard to procedures to decide the budget of major central banks, some operations of the Bank of Japan and the Bank of England need approval from the budgetary authority. But other central banks decide their budgets independently. As for financial statements, the Bank of Japan needs to obtain approval from the Minister of Finance, and the Bank of Canada has to submit financial statements to the national legislature via the Minister of Finance (the Bank of England needs to obtain approval for some operations from the Treasury). However, other central banks do not need to obtain approval from either their financial authority or legislature and their autonomy is duly observed.

C. Constitutional doubts about independent agencies and the Bank of Japan Act

Constitutional doubts have been raised both in the United States, the birthplace of the independent agency,[26] and in Japan. The US Constitution stipulates that "the executive authority shall be vested in the President of the United States of America" (Article II, Section 1) and the Constitution of Japan (Article 65) says that the executive authority belongs to the Cabinet.[27] According to Bank of Japan (2000), in the process of discussing revision of the Bank of Japan Act and during actual revision in 1997, there were arguments regarding the considerable independence of the central bank, despite it having to fulfill various administrative obligations pursuant to Article 65 of the Constitution. Japan's Cabinet Legislation Bureau issued an opinion that, in order to secure the constitutionality of the Bank of Japan's independence, the executive branch of the government would have to take control of the "budgetary authority" and "appointive authority". Based on the opinion, under the new Bank of Japan Act, a budget for expenses (limited to those specified by a Cabinet order as not hampering currency and monetary control) needs to be authorized by the Minister of

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[25] The Board of Governors of the Federal Reserve System in the United States is regarded as a pure independent agency.

[26] Miller (1986) studies constitutional issues regarding independent agencies in the United States.

[27] Bank of Japan (2000) explains in detail the constitutionality of independent agencies in Japan.

Finance, and executives (Governor, Deputy Governors, Policy Board members) appointed by the Cabinet, subject to approval of the House of Representatives and the House of Councillors.

However, the Study Group on the Central Bank from the Perspective of Public Law (chaired by Professor Hiroshi Shiono of Tokyo University) discussed, in detail, the constitutionality of both the independent agency and the new Bank of Japan Act. It reached the conclusion (published in Bank of Japan (2000)) that the Cabinet Legislation Bureau's opinion was wrong. The Study Group considered that (translated from Japanese) "although the Cabinet Legislation Bureau mentioned budgetary authority and appointive authority as a basis for the constitutionality of the Bank of Japan Act, if true, then even the Supreme Court can be said to be under the control of the Cabinet". As for appointive authority, the Study Group said that "the Cabinet's control over the appointive authority of the Bank of Japan is not a condition for securing constitutionality". Rather, it concluded that "considering that the policy and operations of the Bank of Japan are entrusted to it by the nation, involvement of the Cabinet and the Diet in the staff matters of the Bank of Japan should be perceived from the perspective that the public should select the person that bears ultimate responsibility for what they entrust". And as for budgetary authority, the Study Group reached a consensus that "the Cabinet need not have budgetary authority over the Bank of Japan in order to prove that the Bank is under the authority of the Cabinet subject to the Constitution".

2.3 Congressional dominance hypothesis and the central bank

As mentioned in 2.1.2, according to the law, the legislature acts as an agent of voters and principal of the executive branch (including independent agencies). There is heated discussion as to what extent this principle is actually the case, especially as regards the relationship between the legislature and the executive branch ("the executive branch" in this section refers to public agencies such as general government ministries). In this discussion, the view that considers that the legislature controls the executive branch in line with the law is called the "congressional dominance hypothesis". According to this hypothesis, the legislature, as the principal, can in various ways sanction the executive branch, the agent, in place of monitoring. This hypothesis will be applied to the central bank, pointing out the strong influence of the legislature and politicians on a central bank, with due attention to the threat posed through the authority to appoint senior central bankers.

2.3.1 What is the congressional dominance hypothesis?

Major research on the congressional dominance hypothesis based on the agency theory has been conducted by Weingast (1984) and Weingast and Moran (1983). In this research, the authors believe it mistaken to conclude that the legislature does not closely monitor the executive branch in the US political process. Such a point of view can be sustained by pointing to "a) the lack of oversight hearings, b) the infrequency of congressional investigations and policy resolutions, c) the perfunctory nature of confirmation hearings of agency heads, d) the lack of ostensible congressional attention to or knowledge about the ongoing operation and policy consequences of agency choice, and e) the superficiality of annual appropriations hearings" (Weingast and Moran (1983)).

Yet Weingast (1984) believes that this point of view is mistaken. Because politicians, as principals, have the power to sanction the executive branch, the executive branch has an incentive to be sensitive to politicians' intentions. Based on the US political system, Weingast cites as measures that politicians can use against the executive branch as sanctions "that substitute for direct, continuous surveillance of regulatory administration": (a) approval of budgets; (b) the use of a veto against appointment of officials; (c) and policy interference.

2.3.2 *Application of congressional dominance hypothesis to a central bank*

As noted, a central bank commonly enjoys greater independence than government ministries and has features of independent agencies. Several observers have, however, noted that central banks can still be influenced by the political forces from which they are formally independent. This section considers the potential for informal influence, through the lens of the congressional dominance hypothesis. It goes on to discuss political business cycle theory and the associated research, which provides some empirical backing for the existence of such an influence.

A. Influence of legislature and politicians on a central bank

Using the lens of the congressional dominance hypothesis to examine the potential for political influence on the central bank – over and above that formally provided for in the relevant legislation – this section evaluates several specific mechanisms for influence. The first set involves mechanisms that various theorists argue are in fact not supportive of the congressional dominance hypothesis. The second set relates to the possibility of political sanction/threat to a central bank. And the third involves the possibility of cooperative action between the legislature, politicians, and the bureaucracy.

a) Counter-observations given by those opposing the hypothesis

Weingast and Moran (1983) provided five arguments as to why the congressional dominance hypothesis is wrong in asserting the political domination of independent agents. The relationship between the legislature and a central bank can be examined under five corresponding headings.

1) Lack of oversight hearings

In fact, many central banks regularly take part in public hearings in the legislature. For example, the Bank of Japan Act (Article 54) stipulates that in addition to biannual explanations to the Diet of a written report on the Bank's business operations, the Governor (or representative) shall also attend Diet (including committee) sessions when requested.

2) Infrequency of congressional investigations and policy resolutions

According to BIS (2009), only 15% of central banks face no legislative reviews, and just under half have regularly scheduled reviews (more than a quarter of these being more than annually), and half face reviews "on special request".[28]

3) The perfunctory nature of confirmation hearings of agency heads

It depends on the country. In some cases, effective confirmation hearings may not be easy. In many cases, however, the legislature and politicians does intervene in the selection process.

4) Lack of knowledge about ongoing operations and the policy consequences of agency choices

Since monetary policy is easy to understand superficially, even politicians without expert knowledge can give their judgments and, as a matter of fact, they do so quite frequently.

[28] Table 17 of BIS (2009).

5) Superficiality of annual appropriation hearings

Although as a matter of routine, the central bank will take care to avoid provoking the legislature or the public by lax spending decisions. Many central banks do not need to discuss their budget with the legislature.

b) Possibility of a central bank being sanctioned/threatened by the legislature/politicians

A second potential channel of influence is the threat of sanction of the central bank by the legislature and politicians. There are various forms of sanction/threat, both formal and informal. Major sanctions are as follows:

1) Use of legislative power

Current central bank legislation guaranteeing independence, unless the relevant legislation is deeply embedded (for example in a constitution), can usually be changed.

For example, according to Willet and Keen (1990, p 17): "The institutional independence of the Federal Reserve from political pressures is far from complete [...] the current institutional arrangements are legislative provisions, not constitutional provisions. Such legislation is not lightly changed, but the possibility is not so remote that Fed officials have felt free to ignore signals coming from Congress and the executive branch. Ironically, in order to maintain the Fed's independence, Fed officials often have bowed to political pressure."

Japan has also experienced such political pressure. For example, the following appeared in the *Nikkei* newspaper of 15 January 2007 (translated from the Japanese):

> In a lecture in Toyokawa, Aichi Prefecture, Hidenao Nakagawa, Secretary-General of the Liberal Democratic Party, commented on a further interest rate increase as follows: "Should the Bank of Japan judge otherwise, the government has the responsibility to effect the authority stipulated under Article 19 of the Bank of Japan Act"; and called for the government to exert its authority to postpone a vote on proposals made on monetary policy matters. [...] Nakagawa stated that "should the Bank veto again, one cannot but consider that the Act is gravely amiss".

2) Exercise of appointive authority

In many countries, the possibility of reappointment gives politicians implicit influence. In countries where it is not, incumbents' concerns about the future composition of the governing body might lead them to avoid policies that directly challenge politicians' views.

3) Budgetary authority

No central bank in developed nations has to obtain budget confirmation from the legislature. However, the legislature can question a central bank's financial statements as well as budget, and the way they question may pose a threat to the central bank as will be explained below.

4) Questions in the legislature

The central bank governor and executives can be summoned to testify to the legislature and, in the case of Japan, quite often depending on the content and how questions are presented, such events could become a sanction/threat to the governor and executives who are called on to respond.

This involves a form of "reputation risk" for the central bank governor and executives. Since monetary policy is implemented under uncertainty, and assessing the appropriateness of policy is difficult even well after the event, how their judgment is evaluated is of concern to the central bank governor and executives.

c) Cooperative action among the legislature, politicians, and the bureaucracy

The central bank may conflict with officials (the Ministry of Finance) on the financing of a fiscal deficit. If the Minister disagrees with the Bank concerning financing of the fiscal deficit, he/she can impose a sanction or threaten to use his/her authority. If the Minister of Finance disagrees with the central bank on this issue, the ministry will have several ways of putting pressure on the central banks.[29] Concerning financing of the fiscal deficit, he/she can impose a sanction or threaten to use his/her authority.

Especially in Japan where a political power shift rarely occurs, the relationships between the ruling party, the cabinet and the bureaucracy have traditionally been close. They are thus more likely to cooperate in pressuring the central bank. Where the opposition party has little influence, the bureaucracy will tend to act in accordance with ruling party's wishes.

B. Political business cycle theory

Although the congressional dominance hypothesis can be applied to relationships involving the central bank, there is no direct research as to any effect on monetary policy. Political business cycle theory (a branch of public choice theory, as will be explained later) does, however, indirectly capture the influence of politicians/bureaucrats on monetary policy in related empirical research.

Political business cycle theory was first advocated by Nordhaus (1975) who argued that the business cycle in the United States was correlated with the electoral cycle. The evidence for this was that in the year before a presidential election year, the US government adopts an expansionary policy to increase spending but then pursues a contractionary policy after the election to prevent inflation.

For such a policy to succeed electorally, a trade-off needs to exist between the unemployment rate and the inflation rate, at least in the short term (short-term downward sloping Phillips curve). In the 1970s, when the political business cycle theory was advocated, a short-term downward sloping Phillips curve was generally accepted, and may have been in the minds of those determining economic policy. More recently, most macroeconomists doubt that there is a stable – or at least exploitable – relationship between the unemployment rate and the inflation rate. Accordingly, more modern researchers are sceptical about the political business cycle (eg Beck (1982)). Mueller (1989) summed up such views, writing that "although there exists clear evidence that some governments in some countries at some point in time have behaved as the political business cycle model predicts, the evidence is not strong enough to warrant the conclusion that this type of behavior is a general characteristic of democratically elected governments".

There is also research on a more direct relationship between politics and monetary policy. Beck (1987) tested whether the federal funds rate tended to be lower during US election (presidential and congressional elections) years than normal years. They found no such evidence. Willett and Keen (1990), however, using a different methodology, did find an election cycle in Treasury bill rates.

Chang (2003) also shows that the appointment of the Fed Chairman and members of the Board of Governors is an important avenue of political influence. This econometric analysis

[29] For instance, the central bank's budget is subject to minister of finance veto in several countries; see BIS (2009, pp. 92–95).

examined both voting on monetary policy (using data from the Fed's voting records) and the opinions expressed on monetary policy in presidential and senatorial statements.

2.4 Compound board system of the central bank based on agency theory

Oritani (2004) analyzes the features of central bank services and holds that a "compound board", which consists of one board from the perspective of public governance and another from corporate governance, is desirable. Using Fama and Jensen's agency theory, he argues that a compound board is indeed desirable to secure central bank independence even from the perspective of public governance alone. With regard to the appointment of senior central bankers, the involvement of the legislature and the executive branch should be limited to that of the upper board, which should in turn be responsible for appointing the lower board.

2.4.1 Fama and Jensen's compound board theory

According to Fama and Jensen (1983a, 1983b), "complex organizations" have "decision hierarchies": "decision management" and "decision control". Such decision hierarchies help to mitigate the agency problems arising from the "separation of ownership and control".

Fama and Jensen hold that a compound board scheme consisting of a Board of Directors and an Executive Board help to prevent management (= the agent) from acting contrary to the interests of the shareholders. The Board of Directors makes decisions on the employment and compensation of members of the "Executive Board". The Board of Directors also monitors and ratifies important decisions made by such staff. Fama and Jensen consider that if management is divided into controller (Board of Directors = upper board) and manager (Executive Board = lower board), a mutual monitoring system would result as the two boards would informally monitor each other,[30] in addition to formal checking via the upper board controlling the lower board.[31]

Under a compound board scheme, the principal-agent relationship overlaps at various levels from shareholders to board of directors and executive board. This is called a "multi-level principal-agent relationship". Such overlapping relationships may be desirable since, as pointed out by Hayek (1945), decentralized decision-making is more efficient than concentrated (authoritarian) decision-making.

2.4.2 Application of compound board theory to a central bank

Fama and Jensen also believe that the superiority of the compound board scheme applies also to non-profit organizations and large professional partnerships. In the following paragraphs, their discussion will be applied to central banks in relation to their public governance. This reviews the potential role for a compound board structure where further safeguards for independent central bank decision-making from political influence are desired.

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[30] Stevens (1993) also pointed out mutual monitoring of agents as one measure to counter the agency problem (see 2.5.1).

[31] Also, Turnbull (2000, 2001a, 2001b) further argued that a compound board scheme was more desirable than a unitary board scheme since corruption of power and restricted information feedback to shareholders occur under the latter scheme. Williamson (2008) explained the importance of Board of Directors even if it does not always exercise vigilant monitoring of the Executive Board.

A. Governance structures of central banks in major developed countries

First, looking at the governance structure of major central banks, all but the Bank of Japan adopt a compound board scheme as shown in Table 3.[32] The compound board scheme adopted by central banks traces a hierarchical relationship between the two boards. Both the nature and the degree of hierarchy differ among central banks. It is also very complex, containing both formal and informal elements. Summary comparisons across different central banks, therefore, necessarily entail some oversimplification. This should be kept in mind in the paragraphs that follow.

A two-tier principal-agent relationship is formed within each central bank. The hierarchical relationship can be seen from the fact that the upper board is involved in, and makes decisions on, the appointment of lower board members, not to mention its power to decide the baseline of central bank management. Therefore, the distance between the legislative/executive branches and lower board of a central bank is greater than that of general government ministries.

Adoption of a compound board scheme has often been a legacy of history – that many central banks began as private banks. In addition, central banking requires specialized professional knowledge. A decision may have been made that it would be better to leave the direct conduct of business operation to the agent (lower board) with professional skills rather than the principal (upper board). Therefore, the intention of the compound board scheme in Fama and Jensen’s theory, which is to mitigate the agency problem by separating the internal organization into monitoring and execution, may apply less to a central bank than to a private corporation.

The same may also be seen in how top management and members are decided with respect to the two boards. Excluding the Swiss National Bank and the US Federal Reserve Banks, the same person heads both the upper and lower boards. Moreover, there have been cases of overlapping members. Hence, the two boards are not in a genuine hierarchical relationship.[33]

Considering that monetary policy is a central bank function, it is quite natural to separate the board for implementing monetary policy from that for monitoring, according to Fama and Jensen. The upper board should confine its responsibility to the monitoring of the lower board and in this sense overseeing the operation of the central bank. However, the lower board, the internal board of the central bank, should take responsibility for conducting monetary policy.

[32] Until enactment of the new Bank of Japan Act in 1998, the Bank of Japan had Executive Meetings in addition to Policy Board Meetings. This could be regarded as a compound board scheme, but, under the new Act, a unitary board scheme was adopted. However, the Bank of Japan is less of an outlier when a wider sample is taken: about one third of BIS member central banks do not have a supervisory board (see Table 8 in BIS (2009).

[33] For example, in the case of the European Central Bank, the President heads the Executive Board, the lower board, as well as the Governing Council consisting of member central bank governors and members of the Executive Board. Moreover, the Governing Council has the authority to decide monetary policy and from these facts it is apparent that emphasis is placed on monetary policy. As for the US Federal Reserve Banks, members of the two boards are completely separated, but this may be due to the fact that the banks do not directly have the authority to make decisions on monetary policy.

Table 3

Two-tier principal-agent relationships of major central banks in developed nations

	Upper board	**Lower board**
Bank of Japan	Policy Board	None
Federal Reserve System	Federal Reserve Board, Federal Open Market Committee	(Conference of Presidents)
Federal Reserve Banks	Board of Directors	Executive Meeting
Swiss National Bank	Bank Council	Governing Board
European Central Bank	Governing Council	Executive Board
Bank of England	Court of Directors	Monetary Policy Committee, Financial Stability Committee
Bank of Canada	Board of Directors	(Executive Committee)

Note: See also Table 8 in BIS (2009). The bodies shown in parenthesis may not be considered lower boards in the normal sense: the Conference of Presidents is an advisory, not executive, body and the Executive Committee is a sub-committee of the Board.

B. Problems of direct involvement by the executive/legislative branches in central bank officer matters

Strong public governance characteristics with respect to monetary policy are reflected in the way the executive branch and legislature are involved in the appointment of senior central bankers. In most countries, the executive branch and the legislature are directly involved in the selection of board members that are responsible for monetary policy. In the case of Switzerland, the executive branch and the legislature are only involved in the selection of upper board members, and delegate to the upper board the selection of the lower board members who decide monetary policy.

Direct appointments might give rise to a problem from the standpoint of central bank independence. As mentioned earlier, according to the congressional dominance hypothesis, the legislature, politicians and the executive branch could exert pressure (such as threats/sanctions) on a central bank through various channels, one of which is through involvement in the appointment of executives. Good public governance of central banks suggest that the executive branch (the agent of the legislature and politicians that are in turn the agent of the general public) be closely involved in the appointment of senior central bankers. However, since central bank (public) governance arrangements are also intended to provide central bank independence, it would be inconsistent if the legislature, politicians and the executive branch were to use appointive authority to pressure a central bank on specific decisions. In order to safeguard against such pressures, appointment and dismissal arrangements in many countries incorporate a system to secure the status of executives.

Case of the United Kingdom

In the United Kingdom, the Chancellor of the Exchequer has the right to appoint the Bank of England's Monetary Policy Committee members. In 2006, two positions were vacant for four months. Concerns were raised in the press about the implications of the delay for monetary policy decision-making.[34] Changes in the appointment procedures were subsequently

[34] The *Nikkei* newspaper (22 July 2006) carried an article entitled "BOE's vacant Monetary Policy Committee filled at last, possible revision of selection process".

announced by the Chancellor (in 2007) to reduce the potential for delays and to provide more fully for parliamentary committee hearings on candidates. Both measures reduce the potential for appointive influence and increase likely adherence to the mission.

C. Compound board scheme of the Swiss National Bank

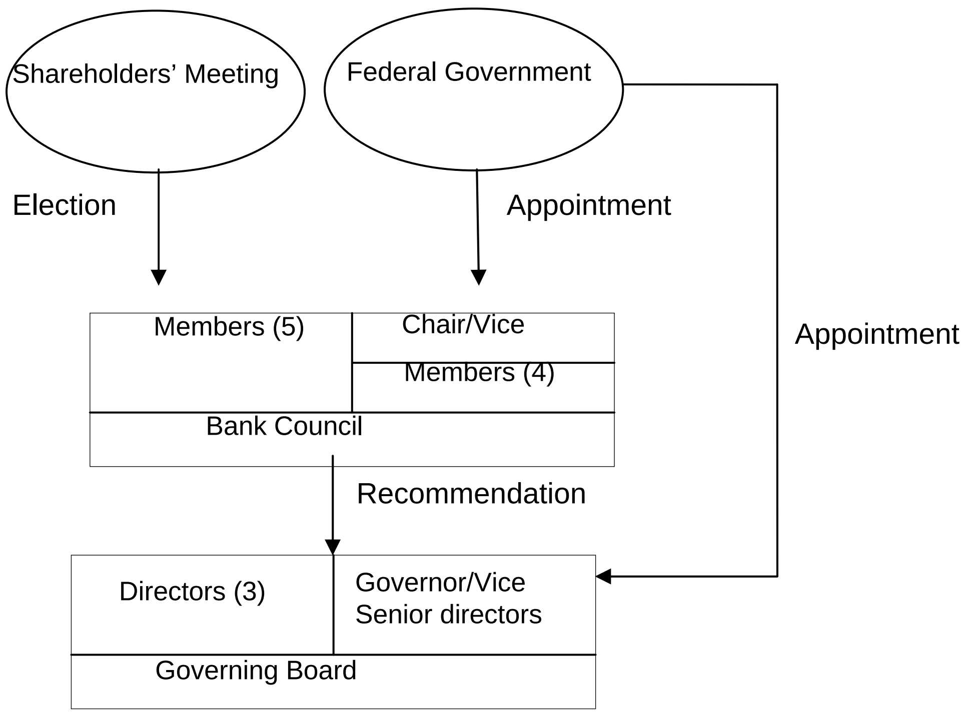
As noted earlier, the Swiss National Bank provides an example of a compound board structure. This case provides a useful example for discussing some of the public governance issues introduced above. After describing the Swiss National Bank arrangement, two issues are discussed: the continuing relevance of the specifics of the appointment mechanism and accountability.

The Swiss National Bank's governance structure is shown in Figure 3. The Swiss government appoints six members of the Bank Council (the upper board), including the president and vice-president (chair and deputy chair). Shareholders choose five members. At the same time, members of the Governing Board (the lower board that has authority to implement monetary policy) are appointed by the Swiss federal government but on the recommendation of the Bank Council. Thus the government does not have unilateral discretion over the appointment of Governing Board members. The Governor of the Swiss National Bank does not concurrently hold the posts of Chairman of both the Bank Council and the Governing Board, and there are no overlapping members.

The appointive authority of the Swiss government with respect to the upper board is restricted by the ability of shareholders to elect five members – a significant proportion of the total, though not the majority. In contrast, the Swiss government retains some influence over lower board appointments, by virtue of the double veto arrangement used to select Governing Board members, and by virtue of the fact that the government selects which of the three prime Governing Board members will be Chairman and which Vice-Chairman. In addition to structure, appointment details matter.

Figure 3

Compound board system of the Swiss National Bank



It is a misperception that a compound board scheme undermines the ultimate accountability to the executive and legislative branches. A two-tier structure may aid accountability – while guarding against congressional dominance-type effects – by allowing close monitoring by the upper board of executive decision-making. The upper board may be influenced by political pressures, but does not directly represent political interests; and by virtue of appointment and dismissal safeguards, it may have greater loyalty to the mission.

2.5 Agency problem of a central bank and accountability

Devices needed to counter the agency problem should be built into the principal-agent relationship. The following section will first introduce some fundamental ideas on this and then look at various countermeasures actually employed in the central bank case. Second, a general view on accountability, which is considered to be the most important measure taken by public agents against the agency problem, will be introduced and applied to central banks.

2.5.1 Measures to counter the agency problem and central banks

A. Measures to counter the agency problem

Among the numerous studies of the design of an incentive structure to counter the agency problem is Kiewet and McCubbins (1991). They propose four mechanisms to overcome agency costs:

1) Screening and selection

Agents should be selected carefully, taking into consideration the agent's previous performance and reputation.

2) Contract design

Contracts should be designed as clearly as possible, to limit the potential for an agency problem to arise.

3) Monitoring and reporting

An agent's activities should be monitored, with the agent being required to submit adequate reports.

4) Institutional checks

Multiple agents should check one another.

B. Central bank measures to counter the agency problem

In this section, Kiewet and McCubbins' four categories are used to examine the countermeasures built into the institutional frameworks of central banks.

1) Screening and selection

Since multiple central banks do not exist in a single country, there is no alternative. However, cautious screening when selecting senior central bankers is possible. Since the abilities required of senior central bankers cannot be gauged by simple indicators and are, therefore, difficult to grasp, it is highly likely that indirect information such as a candidate's previous performance and reputation will be looked at, as is the case in selecting agents in many professional vocations.

2) Contract design

Generally, making the contract with an agent as explicit as possible reduces the agency problem. Studies that have applied this idea to monetary policy show that it is desirable for an explicit contract regarding monetary policy to be drawn up between the central bank and the government (for example, Walsh (1995)).[35] The Reserve Bank of New Zealand provides an example: there the central bank enters into an agreement with the government as regards the inflation rate (discussed further below).

As mentioned by Williamson (1985), however, it is difficult to unite a perfect contract in advance. For central bank policy activities, evaluation based on specific indicators such as an inflation rate provides only partial information on the agent's effort. It is therefore difficult to create a clean incentive structure. The Reserve Bank of New Zealand example does not contain any pecuniary incentive structure, although the law provides the potential for the governor to be dismissed for failing to meet contracted policy targets.

3) Monitoring and reporting

It is common practice for the executive and legislative branches to monitor central bank activities and require reports to be submitted. For example, the central bank governor explains bank activities as well as submits annual reports to the legislature. Central bank accountability involves such reporting requirements.

4) Institutional checks

Basically, there is no alternative central bank within a single country, and therefore institutional checks cannot function. However, legislatures may delegate some monitoring tasks to other specialized public organizations (in the case of Japan, the Board of Audit). Such arrangements may be considered examples of institutional checks.

Further, as discussed in Section 2.4.2, a compound board structure can provide for a system of institution checks within the central bank organization. In New Zealand, for example, the role of the Board of Directors is expressly to monitor the performance of the Governor, on behalf of the Minister of Finance.

C. Agreement between the Reserve Bank of New Zealand and the government

The Reserve Bank of New Zealand Act that was revised in 1989 stipulates that an agreement should be made between the Bank Governor and the Minister of Finance concerning monetary policy. Namely, Section 9, Article 1 of the Act stipulates that: "The Minister shall, before appointing or reappointing any person as Governor, fix, in agreement with that person, policy targets for the carrying out by the Bank of its primary function during that person's term of office, or next term of office, as Governor." The agreement based on this Act is called the "policy targets agreement" and, in the first agreement made in March 1990, a document stating that the annual inflation rate of CPI should be lowered to within the range of 0–2% by the end of December 1992, was signed by the Governor and the Minister of Finance.

The reason why such an agreement is made between the Governor and the Minister of Finance is that the Minister is regarded as the principal and the Governor, the agent. The Governor is appointed by the Minister based on the recommendation by the Bank's Board of

[35] Walsh (1995) regarded the central bank as the government's agent, and, based on agency theory, discussed what sort of incentive should be incorporated to draft the most appropriate contract to eliminate inflation bias. He considered it was most appropriate to link senior central bankers' compensation and the inflation rate. In order to ensure flexibility vis-à-vis new situations that might arise after signing of a contract, the inflation rate used should not be a simple one, but one that can reflect changes.

Directors. The agreement also recognizes the possibility of failing to achieve the required target due to unforeseen events, and possibility of the target being changed. Successive agreements have provided that the Governor must explain both the reasons for missing the target and the steps planned to return to target.

According to Walsh (1995), in the process of revising the central bank act in 1989, financial incentives such as giving a bonus to the Bank's executives for achieving the target were discussed, but, in the end, such an incentive scheme was not included.

2.5.2 Accountability as a measure against the agency problem

Kiewet and McCubbins (1991) emphasized the monitoring and reporting requirement of agent activities as one measure to counter the agency problem. Formal requirements to account for their actions are often imposed on public agents. The section below introduces Jackson's (1982) study on the accountability of public agents which will be applied to central banks.

A. Accountability of public agents

a) Various facets of accountability

Jackson's book *The Political Economy of Bureaucracy* explains that there are a number of facets to the concept of accountability, of which the major ones are as follows:[36]

1) Political accountability

This is the most common and basic facet of accountability – the accountability of responsible people (for example, ministers and chief executives of public agents) for the overall activities of their respective organizations to the legislature and the general public.

2) Legal accountability

Accountability concerning whether activities are lawful or not.

3) Financial accountability

Accountability concerning whether public agents are using resources as designated by the legislature. Specifically, submitting financial reports to the legislature.

4) Efficiency accountability

A requirement for solid reasoning for the cost incurred, and for whether the most efficient measure has been taken to achieve the objective.

b) Necessity of accountability

Being agents of the general public and/or the legislature, it is quite natural that public organizations should be accountable to the general public and the legislature. From such a perspective, Jackson points out the following three objectives for accountability:

[36] (In a chapter entitled "Accountability and Control of Bureaucracy".) Besides the study by Jackson introduced in this paper, Lupia and McCubbins (1994) analyzes the mechanism of the legislature formulating a public agent's accountability as a system using game theory.

1) *Making public agents responsive to the needs and demands of the electorate, especially in a changing environment.*

2) *Ensuring that decisions are "fair", ie that they conform to the general climate of ethical opinion.*

3) *Monitoring and evaluating the performance of the bureaucracy with a view to providing value for money.*

Jackson indicates that the last objective is becoming more important, with efficiency accountability becoming increasingly valued. This follows, in Jackson's view, from a premise of modern institutional economics that bureaucrats are self-interested, and that "such self-interest can come into conflict with the public interest". This presumes that the self-interest of bureaucrats can make a bureaucratic organization inefficient. This contrasts sharply with the probity perspective of Williamson, who argues that low-powered incentives and limited attention to efficiency of resource use are elements of effective governance arrangement for public organizations undertaking sovereign transactions.

From Jackson's perspective, the accountability and independence of public agents are subject to a trade-off: "the control of these dispersed agents of government does, however, have to be balanced against the effectiveness and efficiency which comes from their autonomy".

B. Application to central banks

a) Difference between a central bank and general government ministries

When applying the above discussion on accountability to a central bank as a public institution, it is first necessary to pay attention to the difference between a central bank and other public agents.

First, central banks are also subject to corporate governance requirements, as argued in Oritani (2004). The legislature may be the principal of the central bank, but accountability may need to be broader than simply reporting to the legislature. This point forms the foundation for the following second and third points.

Second, as indicated by Jackson, it may be necessary to strike a balance between the accountability and the autonomy (independence) of a central bank. Requirements to render an over-detailed account may infringe on central bank independence, undermining the intrinsic objective of accountability.

Third, it is necessary to take into consideration the influence that information released by a central bank will have on financial markets. Since a central bank pursues its public objectives through participating in financial markets, prior leakage of its course of action could generate market speculation that could cause market turmoil, making it more difficult for the central bank to achieve its initial objectives. For example, assessing the likelihood of such problems may influence the timing of the release of minutes and announcement of interest rate projections.

b) To whom is a central bank accountable?

Ultimately, the principal of a central bank is the general public. Indeed, it may be argued that the central bank is accountable not to the legislature, but to the general public. However, in a representative democratic system, the central bank is not a direct agent of the general public, but is formally an agent of the legislature or the executive branch. This goes to the heart of the problem of multiple principal agents. The formal principal (eg a government at the end of its mandate) may have incentives that lead it to misrepresent the interests of the ultimate principal (eg the public). The formation of a mission statement that reflects the interests of the ultimate principals, and structuring governance and incentives to focus on achievement of that mission, can help in this regard.

c) Jackson's four facets of accountability

Of Jackson's four facets of accountability, three clearly apply. Monetary policy actions are clearly subject to public accountability. Central bank governors give testimony to the legislature, and take part in ministerial level meetings to explain their actions. These are examples of political accountability. Legal accountability is obviously necessary and, as for financial accountability, most central banks submit financial reports to the legislature.

With regard to efficiency accountability, the earlier discussion noted a tension between different views on its place in central bank accountability. Williamson's perspective was that it would distract from probity but Jackson suggested that it is becoming increasingly relevant. It should be noted that it is extremely difficult to measure central bank efficiency. Even the concept of monetary policy efficiency is a difficult one. Nevertheless, there is an example where "budget maximization by bureaucrats" (Niskanen (1971)) is simply applied to the monetary policy of a central bank. Toma (1982) argues that the Federal Reserve adopts a budget maximization policy and therefore has a tendency to raise interest rates on its holding assets.[37] Others (eg Munger and Roberts (1990)) counter-argue that such a simple model cannot explain the behavior of the Federal Reserve. The complexity of the issue and unsettled opinion suggests that more studies are needed. Views on appropriate central bank accountability may need modification.

3. Application of public choice theory

In this section, public choice theory will be deployed to underpin the argument for central bank independence from the executive and administrative branches of government.

Public choice theory is an aspect of public economics, which applies economics to the analysis of the political process and government behavior. This theory regards government (in a broad context including the legislature) as an assembly of many individuals with different interests and objectives: therefore it is mistaken to treat government as a single individual or to presume that it has a clearly defined objective. Such a perspective enables public choice theory to propose a mechanism behind inconsistent behavior on the part of governments. Also, the theory holds that just as the private sector carries the risk of market failure, the public sector may see government failure. This is because, even in a democratic system, political decision-making (collective decision-making) behavior faces intrinsically difficult issues when aggregating the preferences of individuals to determine public sector behavior.

Below, two aspects of public choice theory – so-called "cycle theory" under majority rule and the vote-maximizing behavior hypothesis – will be discussed, in connection with public governance of a central bank.

3.1 Cycle theory under majority rule and central banks

Following Arrow's (1951) impossibility theorem, it became clear that a majority voting will not in general lead to consistent collective decisions. Decisions might not necessarily reflect

[37] Toma and Toma (1986) and Mayer (1990) include many analytical papers on monetary policy of the Federal Reserve from the perspective of public choice theory.

voter wishes; in some circumstances a “cycle” of better options might be generated, resulting in an imperfect decision or a stalemate. Nevertheless, collective decision-making based on majority voting remains the dominant practice in democracies. Theorists explain this paradox using the concept of structure-induced equilibrium. The section below applies these theories to the situation of central banks, and proposes that their independence plays a role in achieving structure-induced equilibrium in collective decision-making.

3.1.1 Emergence of the cycle theory and structure-induced equilibrium

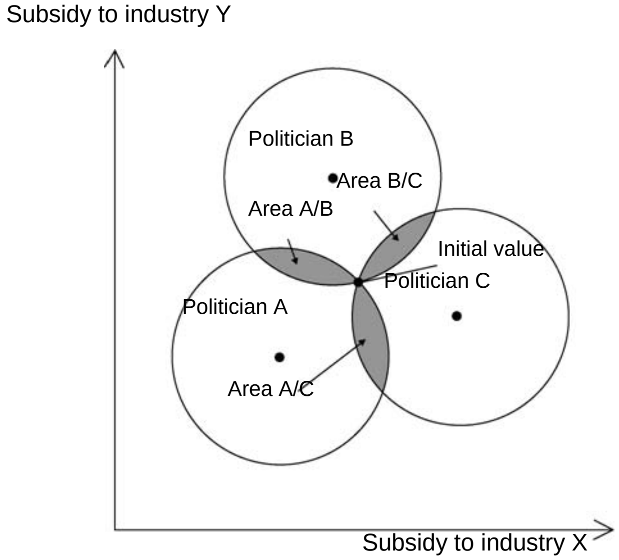
A. The impossibility theorem and cycle theory

Arrow’s (1951) impossibility theorem demonstrated that it was generally impossible to come up with a voting procedure that satisfied various rational criteria such as the consistency and transitivity of choices. This insight was a key building block for theories that explain the potential for government failure within democratic systems.

The impossibility theorem has been specifically applied to majority rule. Various names have been given to this theory such as “cycle theory”, “paradox of voting”, “chaos theory” and “instability theory”. Stevens (1993) explains the theory as follows. Let us assume that, in Figure 4, three politicians have to decide the subsidies to be given to industry X and industry Y. Point A shows the combination of subsidies to respective industries preferred by politician A. The greater the distance from point A, the more undesirable it will be for politician A. Similarly, the sums of subsidies to the two industries preferred by politicians B and C are shown as points B and C respectively. When a decision is to be made by majority vote in such a situation, all sorts of results may arise and the outcome would remain unsettled. That is, if the point is within area A/B, seeing that the point is in a more desirable area than the initial value, politicians A and B will vote for this area and become the majority. Similarly, when the point is in area B/C, politicians B and C will vote for this area and, as for area A/C, politicians A and C will become the majority. Since all three areas have the possibility of becoming a majority, decisions cannot be made, thereby causing a “cyclical problem” (or “preference stalemate”). This example shows that majority rule in a democratic system may not necessarily bring about a result reflecting the voters’ wishes. This is called “government failure”.

Figure 4

Cyclical problem of majority rule



B. Structure-induced equilibrium

Despite the theoretical possibility that no one policy option outranks all others (in terms of majority preferences), policy decisions are still routinely made in democracies with majority voting systems. To explain this, Shepsle and Weingast (1981) introduced the concept of "structure-induced equilibrium".[38]

According to this concept, in a situation where more than two policy options exist, and thus there is a potential for a preference stalemate, the order of presenting the alternatives matters. By deciding which plan to be shown first, the result could be controlled in a way that does not apparently produce a preference stalemate. Thus, equilibrium can be attained if an institution is constructed to decide how to submit policy proposals. As pointed out by Ordeshook (1990), there are various such institutions, of which a committee system of the legislature is an example.[39]

In his theory, majority rule functions as a successful collective decision-making procedure only when there is a well-defined institution such as a committee that creates an appropriate set of constraints on the set of options. Such institutions will endogenously arise in order to make majority rule function effectively. In this regard, Ordeshook (1990) noted that this "new institutionalism" in political economy not only provides key insights into the part played by legislative committees, regulatory agencies, budgetary procedures, agendas, voting rules etc, but also provides a synthesis of several intellectual traditions (including those already discussed in this paper).

3.1.2 Application to a central bank

A. Application of the cycle theory

Decisions related to central bank activities are made collectively and the possibility of a policy stalemate cyclical problem arises.

For the sake of argument, let us suppose that the subjects for decision are the desirable levels for the interest rate and foreign exchange rate. Decision-making is illustrated in Figure 5. In this Figure, similar to Figure 4, three politicians make decisions according to majority rule with regard to a two-dimensional issue. In this case, for the same reason discussed in Figure 4, no combination of desirable levels of interest rate and foreign exchange rate achieves equilibrium and the cyclical problem ensues.

This occurs because decision-making is considered two dimensional, assuming there is no definite correlation between the level of interest rate and foreign exchange rate. Since economic variables are correlated with one another and if such relationships are known, the multi-dimensional decision-making problem could be reduced to a one-dimensional issue. Once reduced to one dimension, the median voter theorem can be applied and the cyclical problem would not emerge.

In practice, of course, the links between the interest rate and the exchange rate are too complex for the interest rate/exchange rate choice to be reduced to a single dimension. This complexity itself creates the need for an expert institution (eg a central bank) to assess alternative policy options.

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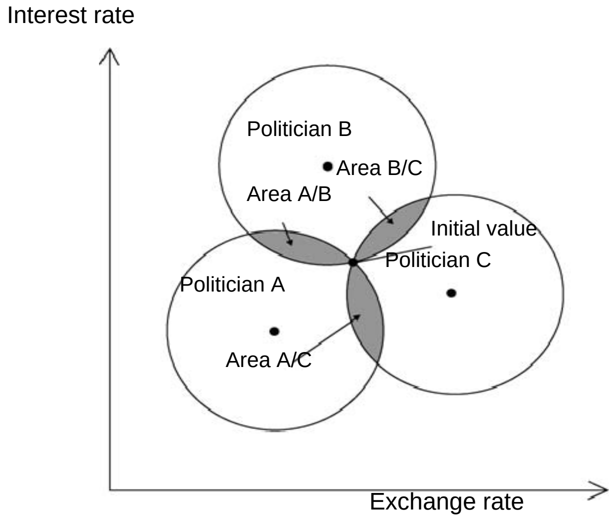
[38] Other procedures include "logrolling" among politicians to make up a majority group or attain equilibrium through "agenda control".

[39] For example, in Figure 4, let us assume that politician A or B (or both) are the ranking members of the committee and are able to play a leading role in forming an opinion, and that the committee has the authority to submit an alternative policy to the plenary session. In this case, an alternative policy in the area A/B will be submitted to the plenary session and will in fact be approved.

Figure 5

The cyclical problem and policy choices faced by central banks



B. Equilibrium attained by the central bank system

As described above, a preference stalemate may emerge with respect to monetary policy if it is decided by a majority in the legislature. Nowadays, such decision-making is usually delegated to the central bank. By playing a similar role as a committee in the structure-induced equilibrium theory, the central bank is preventing a stalemate.

Nevertheless, unlike a committee in the legislature, policy decided by a central bank will be in most cases final. In a few countries, the legislature formally reserves the right to override the central bank's decision in extremis. Not utilizing this right is tantamount to a continuing endorsement of the process by which the decision is taken – even if the government does not agree with all monetary policy decisions.

3.2 Vote-maximizing behavior hypothesis and countermeasures

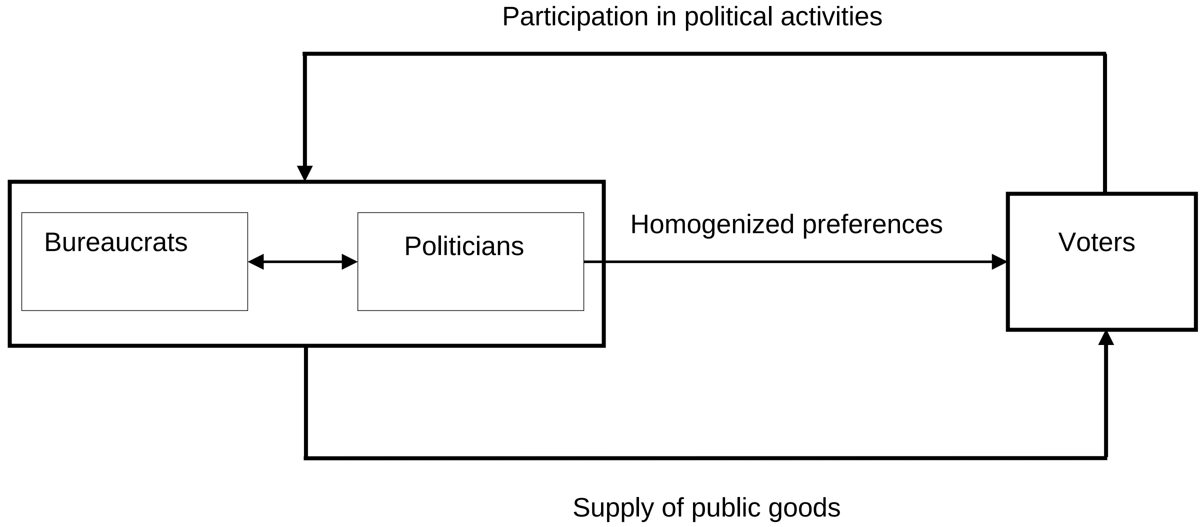
Another theory that explains government failure is the vote-maximizing behavior hypothesis of politicians. This section explains the hypothesis and introduces the concepts of "constitutional restriction" and "public agent as a commitment" as devices that provide countermeasures. Central bank independence turns out to be one such countermeasure.

3.2.1 Vote-maximizing behavior hypothesis

The vote-maximizing behavior hypothesis ascribes utility maximization-motivated behavior to politicians. The theory was first introduced by Downs (1957) and developed by Buchanan and Tullock (1962). According to this hypothesis, "parties formulate policies in order to win elections, rather than win elections in order to formulate policies" (Downs (1957)). Ideally, politicians should act to maximize the welfare of society, but, it is argued, their behavior can be better explained by assuming that they act to maximize their number of votes. That is, the hypothesis considers that politicians are not perfect agents for voters but have their own incentives.

Figure 8

Breton model



Source: Simplified diagram based on Kato (1975).

Breton (1974) developed this line of thinking, noting that not only politicians but also bureaucrats are involved in the supply of public goods, where the amount supplied is decided by negotiation between them (see Figure 8). There are only voters on the demand side for public goods. Participation of voters in political activities provides a feedback mechanism from the demand side to the supply side. Such political activities range widely from voting to taking part in pressure groups. However, such participation incurs costs. Voters might not therefore participate in political activities despite their discontent with the supply of public goods if the cost incurred exceeds the degree of discontent.

According to the Breton model, the factors behind a possible divergence between voter preferences and the actual supply of public goods are as follows:

a) Voters do not show their preference for a politician's individual policy but comprehensively judge the policy package proposed by the politician. Therefore, some policies that are not supported by voters may be implemented.

b) Public goods are not traded in the market. The free rider problem makes it hard to measure voters' demand for public goods.

c) Since voters do not take part in political activities, if costs incurred exceed their degree of discontent, their discontent would not be fully communicated to politicians.

d) A politician may be able to ignore the preference of voters whose vote is not needed to win an election.

Kobayashi (1988) has underlined Breton's argument that, in a representative democracy, the actual supply of public goods might not satisfy voter expectations. Of the many studies about specific policy outcomes, the research on fiscal deficits by Buchanan and Wagner (1977) has a significant bearing on the public governance of a central bank. Iida (1980) argued that it is almost inevitable that political parties in pursuit of vote maximization willingly neglect fiscal discipline in order to win voters. Democracy has the inclination, almost inevitably, to see fiscal deficits increase. This has an implication for the governance of the money creation process, which will be discussed below.

3.2.2 Measures against vote maximization behavior

A. Constitutional restriction

To counter government failure where government policy is inclined to pursue short-term interests based on vote maximization behavior, public choice theorists advocate an approach called “constitutional restriction”. Constitution here refers to not only a codified constitution, but also any basic rule that cannot be easily changed. Kanemoto (1991) notes that “when making common and longstanding rules, the general public will make a choice based on a wider perspective rather than be influenced by short-term interests”.

Levacic (1990) has named this approach “constitutional political economy” and calls Buchanan and others that advocate it “constitutionalists”. According to Levacic, the theory can be summarized as follows: “Constitutionalists are keen to establish pre-commitment rules which will prevent the zero and negative sum political games [being played to secure] redistributive transfers.”

Buchanan (1991) gives the reason why such rules can help achieve a consensus that produces superior longer term outcomes. The first is: “The individual who recognizes his/her own possible ‘weakness of will’ in future periods may choose to impose upon himself/herself binding constraints that will effectively prevent his/her situational responses, as those responses might be dictated by in-period utility maximization.” The second reason is: “Individuals may do so because they do not ‘trust’ fellow members to refrain from ‘temptation’, and because they recognize that, in majoritarian settings, they cannot effectively forestall undesired political choices.”

B. Public agents as commitment

As another measure to counter government failure accompanying vote maximization behavior, Kanemoto (1991) cites the autonomy of public agents and calls this “public agents as commitment”. Autonomous public agents may have longer horizons than politicians facing periodic re-election, and may thereby reduce policy volatility. In Kanemoto’s view, in some situations (eg the delivery of police and prosecution services) this may be a reasonable return for the risks associated with self-interested public agents acting in their own, rather than the public’s interests.

Independent public agencies can be considered as such commitment devices. This explanation of the raison d’être for independent agencies shares many features with Moe’s theory, explained earlier (Section 1.2, on the autonomy of bureaucratic organizations).

3.2.3 Application to central banks

A. Underlying problems for central banks

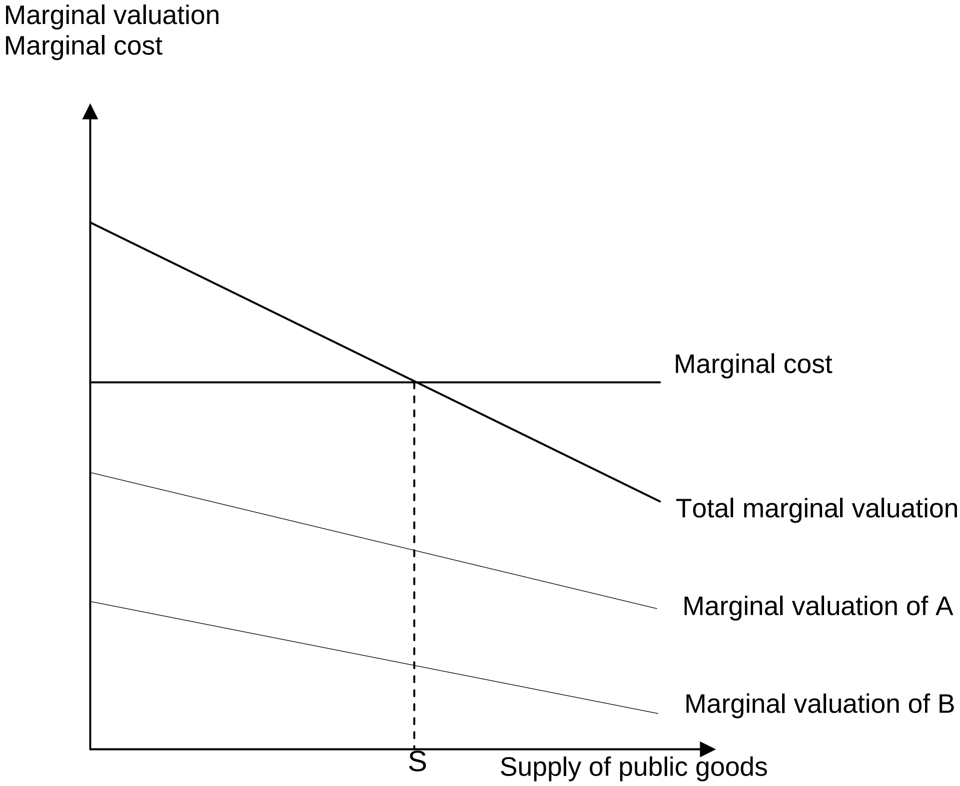
Buchanan and Wagner (1977) applied their analysis of the relationship of the vote maximization behavior hypothesis and the fiscal deficit, to central banks in a chapter entitled “Budget Deficits Financed by Money Creation”.

They began their discussion by “dropping the independence and wisdom assumptions and replacing these by the plausible hypothesis that monetary authorities are, like elected politicians, subjected to both direct and indirect political pressures.” Under such an assumption, public “demand will take the form of pressures brought to bear on elected politicians for expansion in the levels of budgetary outlay” and budget deficits would be financed by money creation. They pointed out the underlying fact that “there will be an inflationary bias when governments are allowed to create deficits and to finance these with currency is very elementary common sense”. Against such a background, since “among all forms of extracting resources, inflation is perhaps the most indirect, and it is the one that probably requires the highest degree of sophisticated understanding on the part of the individual, elected politicians approve programs of public spending; they impose taxes. If they are not required to balance projected spending with revenues, they will not, because the voting public does not hold them directly responsible for the inflation that their actions necessarily produce". That is, Buchanan and Wagner claim that the risk of bringing about inflation by financing budget deficits through money creation is built into a democratic system.

Price stability, which is a service offered by the central bank, can be viewed as a public good. The free rider problem attaching to public goods applies equally to price stability, and creates the familiar problem of undersupply (ie price instability).

Figure 9

Free rider problem



Source: Simplified diagram based on Iida (1980).

In Figure 9, it is assumed that there are two citizens, A and B. The Figure shows the respective marginal valuation (marginal utility) that A and B give for the provided service, ie price stability, overall marginal valuation which is the sum of that of A and B, and also marginal costs to provide such a service. If the two citizens reveal their true marginal valuations, and, summed up as they are in the political process, the supply of this service can be determined at level S. However, considering that the service is assumed to be a public good, it has the feature of "non-rivalness" and "non-exclusion". Then there is the strong likelihood that the two citizens do not reveal their true marginal valuation honestly. For example, even if A only gave a low valuation than actual valuation in order not to bear the cost, if B gave a high valuation, and the service is supplied based on the latter valuation, A can also enjoy the benefit as a free rider. On the premise of such free rider valuation, should policy be determined by politicians who pursue vote maximization behavior, there would be an undersupply of the service, ie price stability, compared with demand. Deviation of voters' demand for public goods and actual supply caused by the free rider problem of public goods is also incorporated into the Breton model.

B. Central bank countermeasures

A central bank could take several countermeasures against government failure.

First, Friedman's *k%* rule is well known as a constitutional restriction measure. Here, the money supply being increased by a central bank by a constant percentage rate (*k%*) every year is stipulated in the constitution or law.[40] Other examples such as the policy targets agreement of the Reserve Bank of New Zealand – more generally, the clarification of central bank objectives in central bank acts – are considered to be a form of constitutional restriction. There are differences of view on the practicality of such constitutional restrictions on monetary policy. Many agree that rules such as the *k%* rule are overly rigid, and might hamper the flexibility of monetary policy. Greater clarity of policy objectives in law provides less of a constraint, and may be more realistic.[41]

Second, discussion on public agents as a commitment behavior has clear relevance for understanding why central bank independence may be desirable. For example, looking at the relationship between the budget deficit and inflation, Buchanan and Wagner (1977) state that "when we assume that there does, in fact, exist a monetary authority, an idealized Federal Reserve Board or central bank, that is totally and completely immune from the pressures of democratic politics, there need be no direct linkage between debt-financed deficits and inflation because of the control powers of the monetary authority".

Such thinking does not apply only to the macro policy of a central bank, but also to its banking operations and supervisory function. In this case, since the banking operations and supervisory function of a central bank are based on individual transactions, pressure from the legislature may well come from individual politicians concerning a specific transaction (or activity) of the central bank. In order to prevent such pressure, central bank independence can be considered effective, as is the case with central bank macro policy.

Conclusion

This paper has applied new institutional economics to various issues of public governance such as central bank independence and accountability. New institutional economics – specifically, three disciplines of economics: transaction cost economics, agency theory, and public choice theory – extends economic analysis to the understanding of the various institutions in the economy and society. The approach provides a common theoretical framework for discussing central banking system issues, at least with respect to relevant public governance issues. The main findings of this paper, drawing on such theories, are as follows:

First, when Williamson's theory of "governance as probity" based on transaction cost economics was applied, it was apparent that probity is very important for central bank transactions. A central bank organization needs "governance as probity", such as a low-

[40] Friedman (1986) proposes: "Set a target path of several years ahead of a single aggregate. […] The Federal Reserve Governors submit their resignations at the end of year in which the growth of a specified monetary aggregate has departed from the advance target by more than a designated amount." However, he himself says: "Unfortunately, I do not really think that's feasible."

[41] The so-called inflation targeting of monetary policy may be regarded as a variant of the *k%* rule and for a similar reason may not be a realistic measure, excluding cases in small economies.

power incentive scheme and employment protection, in order to mitigate probity hazard. Such governance attributes cannot be provided by private organizations (such as private banks) that pursue efficiency and profit maximization. Therefore, central bank transactions should be conducted by a public organization even if efficiency is sacrificed.

Applying Moe's related theory on the autonomy of public bureaucracy, central bank autonomy can be seen as a device to reduce to a minimum the potential for and the cost of policy swings that could otherwise be present when central bank policies are determined by the majority political party. In this light, it can be argued that in Japan, where a change in majority is very rare, the political tendency to reinforce central bank independence may not be as strong as in the United States and Europe, where a change in majority is more frequent.

Second, considering a central bank's principal-agent relationships from the perspective of agency theory, a central bank may have multiple principals (such as the executive branch and the legislature). This may cause some inefficiency. On the other hand, multiple principals may reduce the risk of the central bank taking monetary policy decisions to suit particular political interests. Another approach to limiting the influence of potentially biased principals is to give the central bank independent agency status. The constitutionality of this became a big issue when the Bank of Japan Act was revised. Research discussed in this paper suggests that the revision was consistent with the Constitution.

The congressional dominance hypothesis suggests that a political principal can still heavily influence the decisions of an independent agency, through actual or threatened sanctions. The authority of the legislature and/or executive branch to appoint central bank executives may create such a channel for influence. Some evidence of a "political business cycle" in monetary policy provides suggestive corroboration of the existence of political influence over monetary policy decisions. A potential countermeasure would be for central banks to use a compound board structure, along the lines that Fama and Jensen suggest for private firms. Private firms divide authority into monitoring and execution – with the former assigned to the board of directors and the latter to the executive board – as a mechanism for shareholders to counter with agency problems arising from the separation of ownership and control. In both cases, the appointive power of the principal can be restricted to appointments to the upper board, which in turn appoints the executive board. In the case of the central bank, this would diminish the degree of potential leverage of political principals over monetary policy decisions taken by the executive board. It was noted that such a separation of appointive authority is rare.

Third, public choice theory concepts were used to provide another strand of reasoning for central bank independence from the legislative and executive branches in a democratic system. Essentially, central bank independence, coupled with a clear specification of objectives in the relevant legislation, can guard against a diversion of monetary policy away from serving long-term public interests towards serving short-term political interests.

The various theories under new institutional economics used in this paper share a common perspective in that they all start from the viewpoint that the behavior of the relevant political and bureaucratic actors is likely to be based on self-interest. Nevertheless, they are not necessarily consistent in every detail. Accordingly, they were applied to the problem of the public governance of central banks separately, with mostly consistent but somewhat different insights being obtained. Should new institutional economics become more developed empirically, it could well yield further insights into the public governance of central banks.

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