UNDERSTANDING STATE INTERVENTION IN THE FINANCIAL SYSTEM: A SIMPLE FRAMEWORK

INSEOK SHIN[*]

Chung-Ang University

I offer a simple framework to address why state intervention in the financial system, prevalent in less developed economies, yields various welfare outcomes, and why such conventional reforms as privatization and fiscal reforms prove insufficient to eliminate state intervention. In the model three institutional factors are in play: 1) control rights over financial institutions; 2) cash-flow rights of the private over financial institutions; 3) monitoring capability of the public on tax/resource collection by the state. Based on the model, I show that state intervention can be developmental or derogatory depending on institutional traits including degree of privatization and monitoring capability of the public over the tax collection by the state. Further I illustrate that as long as state has control rights, conventional reforms such as fiscal reform and privatization may not be enough in eliminating state intervention in the financial system.

Keywords: State Intervention, Financial System, Control Rights, Privatization, Fiscal Reform
JEL classification: P48, N20, O16

1. INTRODUCTION

State intervention in the financial system is prevalent. In a number of countries, states directly own financial institutions (La Porta, Lopez-de-Silanes and Shleifer (2002)). Even when private owners exist, states in many countries routinely intervene in managerial operation of privately owned financial institutions hamstringing the legal ownership structure. Persistence as well as existence of state intervention in the financial system gives rise to natural questions: can state intervention be welfare-enhancing?; why does even seemingly welfare-impairing state intervention persist?

The traditional mainstream view in economics puts forward simple and strict answers. Indicting state intervention in general as distortionary, mainstream economists denounce state control of financial resource allocation as 'financial repression' that hinders financial deepening and economic growth (McKinnon (1973), Shaw (1973)).[1] Along the view, agenda of financial liberalization including privatization and market deregulation were evolved to gain policy priority in the IMF and the World Bank in the late 1970s and begun to be implemented in Latin American economies. Results were often devastating. A series of financial crises frequented the region during the following decades and the sequence of 'half-hearted liberalization, financial fragility and re-intervention' arose (Diaz-Alejandro (1985)). The diagnosis of the mainstream view, which also constitutes its answer for the second question above, is that successful removal of state intervention in the financial system requires fiscal discipline (Dornbush and Edwards (1989), McKinnon (1993)). The argument goes that in the absence of fiscal discipline, state tends to stick to financial sector intervention as it seeks to mobilize resources through non-regular channels such as inflationary tax and direct exploitation of resources in financial institutions.

Plausible it may be in the context of Latin American economies, the traditional view that state intervention in the financial system is bad and rooted in the lack of fiscal discipline appears less conforming to experiences of Asian economies, in particular so called the Asian tigers. During the decades before the Asian financial crisis of 1997, these economies registered illustrious growth performance in the presence of strong state intervention in the financial system. The success stories, often praised as 'Asian miracles', beg a question why state intervention in the financial system seems to coexist with various welfare consequences, challenging the general premise of the mainstream view on state intervention. Further, episodes of financial liberalization in the Asian economies, unfolded more recently, demand the mainstream view uneasy explanation as well. While fiscal prudence, the precondition for successful financial liberalization posited by the mainstream view, apparently existed, financial liberalization processes in the Asian economies that culminated as the financial crisis of 1997 proved to be slow and turbulent.

Alternative school of thought to the traditional view does exist. Centered around experiences of the Asian tigers plus Japan, a group of researchers in political economy coin a new term of 'the Developmental State', arguing that state intervention could be welfare-enhancing (Johnson (1982), Amsden (1989), Wade (1990)). Following the Gerschenkronian idea (Gerschenkron (1962); for a modern formulation, see Murphy, Shleifer and Vishny (1989)), they embrace state intervention in less developed economies, where market system is yet to be mature, as a way to improve the allocation

---

[1] For more recent references, see Levine (1998), Levine, Loyaza, and Beck (1998). In contrast, economist's arguing for benefits of state intervention in the financial system is hard to find. One of such rare case is Hellman, Murdock, and Stiglitz (1997).

of resources and spur development. While mainstream economists rather ignore the first question of the welfare implication of state intervention and focus on the second question of how to remove it, the developmental state school seeks to identify conditions that may render state intervention welfare enhancing. Thus, in explaining the differentiated macroeconomic performance between Asian and Latin American countries, adherents of the developmental state view contend that economic efficiency of the two regions differed because bureaucrats in the Asian developmental state were 'purposeful' while those in the Latin American derogatory state were 'drifter' (Dore (1990)), and/or because the Asian developmental states were guided by such growth-conforming ideologies as 'industrialism' and 'nationalism'.

But, if one simply attributes the difference in welfare outcomes of state intervention to the difference in types of a state as the developmental state view does, answering the second question becomes problematic. After the Asian financial crisis of 1997, even the developmental state school admits that state intervention in the former developmental states may have lasted too long exceeding its productive use.[2] Despite the admittance, no convincing explanation for why state intervention persisted too long has been given, other than the trivial conjecture that the type of a state may have changed rendering a former developmental state a derogatory state.

The purpose of this paper is to argue that driving forces of the evolution of state intervention in the financial system in developing economies are institutions. In general terms, the main idea is that state intervenes in the financial system because it has capacity to do so; the private allows state intervention because it lacks capacity to resist; welfare implications of state intervention differ depending on the deterring power of the private against state intervention; as long as the state has intervening capacity, reforming other institutional features of the economy does not guarantee complete disappearance of state intervention.

Specifically, I propose a model similar to Shleifer and Vishny (1994), where following the incomplete contract approach, control rights can be separated from cash-flow rights or legal ownership.[3] In the model three institutional factors are in play: 1) control rights over financial institutions; I take them historically given to the state, 2) cash-flow rights of the private over financial institutions; I assume that 'privatization' in the model implies transfer of cash-flow rights from the state to the private, 3) monitoring capability of the public on tax/resource collection by the state; I assume that fiscal reform refers to the strengthening of the monitoring capability of the pubic. Based on the model, I show that state intervention can be developmental or derogatory depending on institutional traits including degree of privatization and monitoring capability of the

---

[2] For example, in Woo-Cumings (1999), one of the most recent collection of the papers of the developmental state view, it can be seen that many authors take more cautious stance in endorsing the favorable evaluation of Asian interventionist states with respect to social welfare implications.

[3] See Hart (1995) for detailed discussion on ownership in terms of incomplete approach.

public over the tax collection by the state. Further I illustrate that as long as state has control rights, such conventional reforms as fiscal reform and privatization may not be enough for elimination of state intervention in the financial system.

The critical notion of the paper is that in some countries the state can exert control rights over financial institutions regardless of legal ownership structure. The idea itself can be found in the developmental school literature in a descriptive form. For example, Woo-Cumings (1999) claims that there exists a category of economic relationship that is neither free-market nor socialist. She explains that in the former system private ownership coincides with private control, while in the latter both ownership and controling power remain in the state. In the developmental state, she contends, private ownership is "conjoined" with state guidance. In this paper, I develop the idea into a model where crucial institutional factors are clearly specified.

Another important presumption the model of the paper hinges on is that apparatus of rent-seeking and control by the state comprise institutions deeply rooted in the society, and so reforming of those institutions is harder than such conventional reforms as fiscal reform and privatization. One may connect this paper to the recent literature that posits the legal origin as an important factor for financial development of an economy (La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998, 1999, 2002)). This reading of the paper can be justified if the legal origin of an economy represents institutional characteristics of the economy concerning state's control rights over the financial system.

The rest of the paper is structured as follows. In Section 2, to justify the critical assumption of the paper that the state is equipped with controlling right over the financial system regardless of legal ownership structure, I briefly describe institutional features on the interface between the state and the private in Korea. In Section 3 and 4, the model of the paper is introduced and analyzed. Section 5 discusses effectiveness of conventional reforms such as privatization and fiscal reform. Section 6 contains concluding remarks.

2.   BACKGROUND

Although the framework in the paper is relevant for most of developing economies, I present the Korean case as a motivating example. The purpose of the case description is two-folded: to justify the key assumption of the model that state has capacity to exert controlling rights irrespective of de jure ownership structure; to demonstrate that the model of the paper is structured to capture major characteristics of financial evolution processes in developing economies.

2.1. Institutional Characteristics of the Interface between the State and Financial Markets in Korea

Until the financial crisis of 1997, three institutional traits characterized the interface between the state and the financial sector in Korea: state supremacy in the legal system; dominance of the state (government) over the financial supervisory body; strict legal formalism or positive regulation system.[4]

State Supremacy in the Legal System

The 'state supremacy' points to the convention that the administrative body practically assumed both functions of legislation and enforcement/interpretation of financial regulations. In Korea government officials in the Ministry of Finance and Economy[5] drafted and amended all the bills related to the financial sector. The legislative body, the National Assembly, rarely made its own case and almost automatically approved proposed bills by the government. Lower level regulations such as presidential decrees, ministry orders and supervisory agency regulations are also under the control of the same government body. Thus, the government ruled the whole financial regulation making process. The passivity of the legislative body was shared by the court as well. Korea imported the German legal system, channeled through Japan. Hence, it shares the common feature of the German Civil law system that roles of the judge and the court in the legal system is limited relative to the English Common law system. In enforcing financial regulations, the passivity of the court of Korea has been particularly conspicuous. Any case of court debates on possible constitutional or/and legal violations by financial regulations or financial regulators cannot be found. In the absence of the legislative body initiative and the court review, the government enjoyed maximum discretionary power in making and enforcing of regulations.

Dominance of the Government over the Supervisory Body

The Korean financial system before the crisis of 1997 is notable in that the government maintained de facto governing power over the whole financial supervisory body regardless of de jure governance structure. Such regulatory functions as rule making were simply part of the government job as aforementioned. In addition, the government exerted managerial discretion over entities forming the supervisory body by appointing key executive officers and constantly masterminding major decisions.

---

[4] This part draws on Shin (2004), where more detailed discussion can be found.

[5] Formerly, it was the Ministry of Finance that was in charge of financial law making and policy. In 1994, Ministry of Finance and Ministry of Economic Planning were merged into the Ministry of Finance and Economy.

Strict Legal Formalism/ Positive Regulation System

'Legal formalism' refers to that activities of financial institutions and markets are required to be recognized by the regulator beforehand. Some extent of legal formalism exists in each country. In fact, one might say that the origin of financial statutory acts in advanced countries and public financial supervisors such as the SEC (Securities and Exchange Commission) in the US was to force certain financial activities to be recognized and thus monitored by public supervisors. What distinguishes the Korean case from advanced countries lies in the regulatory attitude toward other activities that are not mentioned in statutory regulations. In countries under the English Common law tradition, economic agents including financial institutions are entitled to engage in all other market activities otherwise stipulated in regulations. On the contrary, under the Korean financial regulations, financial institutions can conduct only those activities that are specifically recognized by law and thus chartered by the regulator. For example, in the US securities companies are required to register to the SEC in order to act as securities broker and certain activities including commercial banking activities are specifically prohibited. But, in the absence of other regulatory provisos restricting business scope, they are free to pursue other businesses.[6] In contrast to the 'negative' regulation system of the US, the Korean regulation takes the 'positive system'. In every financial regulation concerning business operation of financial institutions, there is a proviso that generally prohibits all the economic activities. Then, another proviso in the same regulation allows only certain businesses recognized 'proper' for financial institutions by specifically listing them. As a result, new financial instruments such as derivatives could not be dealt by Korean securities firms until they were allowed to do so by amending related regulations.

2.2.   Brief History of the Korean Financial System

Birth of the State Control

Scholars of the developmental state school claim that institutional capacity of the developmental state existed in Korea as historical legacy. Lim (2000) notes that the tradition of central government control had always been a crucial feature of the Korean medieval history. Others argue for the role of the Japanese colonial period. Johnson (1995, p.13) observes that, in Japan "the bureaucracy drafts virtually all laws, ordinances, orders, regulations, and licenses that govern society. It also has extensive extra-legal

---

[6] In fact, when income flows from brokerage fee business began dwindling after the May day reform of 1975 that triggered fierce brokerage commission fee competition, US securities companies ventured into M&A advisory, derivative engineering and real estate development business that now constitute their major income sources.

powers of 'administrative guidance' and is comparatively unrestrained in any way, both in theory and in practice, by the judicial system." Kohil (1999) argues that institutional foundation of the developmental state took a root in Korea as early as during the colonial period when Japan diffused such legal and bureaucracy system as described by Johnson.[7]

In the presence of the institutional foundation, explicit control of the financial system by the state came to existence in modern Korea around 1960 under the Park Chung Hee administration. Declaring "economic modernization" as the national agenda, Park's government set out to subjugate the financial sector to the state. In 1962 the "Bank Of Korea Act" was amended to strengthen the government's control over monetary policy. Under the new act, the minister of the Ministry of Finance appointed other members of the Board including the governor of the Bank Of Korea and retained the power to overrule board decisions.[8] In addition, the Park administration took steps to nationalize commercial banks. Private owners of commercial banks were accused of tax evasion and other illegal business practices, and their equity shares in commercial banks confiscated.[9]

Persistence of the State Control

Financial liberalization in Korea began in the 1980s, influenced by the global trend. First, privatization of banks were pursued. In the early 1980s the government began divesting its stake in government-owned banks, which were completed toward the end of the 1980s. As a next step, over the 1990s the government-owned special purpose banks were transformed into regular commercial banks and privatized subsequently. However, despite the newly established private ownership, the government apparently maintained controlling power over the privatized banks. The government routinely interfered in major managerial decisions of banks while key managers of banks were de facto appointed by the government who were mostly former government officials.

Deregulation measures, which were adopted In tandem with privatization, resulted in a similar consequence. For example, first attempts of interest rate liberalization in the 1980s went abortive.[10] Over the 1990s, measures of interest rate liberalization were implemented but extremely slowly. Thus, major interest rates were under the

---

[7] See also Cumings (1987) for a similar claim.

[8] This account of the BOK Act amendment draws on Park (1982).

[9] Description of the nationalization process is due to Lim (2000).

[10] In 1981 the government introduced commercial paper (CP) without any restriction over issuance rates. But, shortly after CP rates became subject to regulation, as the government deemed market rate excessive. In December 1988, the government declared that most of the lending rates of banks and non-bank financial institutions were to be liberalized. However, the government effectively resumed interest regulations in 1989, when the interest rate became unstable as a result of high inflation.

government control until the crisis of 1997. Kim and Shin (2003), in their review of Korea's financial liberalization concludes as follows: "... until the late 1980s financial market in Korea was heavily regulated. And when efforts for financial liberalization were made beginning in the 1990s, the pace of liberalization remained cautiously slow until the crisis of 1997. ... government intervention persisted despite liberalization. As to financial market opening, the Korean government maintained lukewarm stance."

3.   THE MODEL

I suppose an interventionist economy where the state completely controls its financial system. In the economy, following Shleifer and Vishny (1994), legal contracts are assumed incomplete so that control rights and cash-flow rights are completely separable. As suggested by the description of the Korean case, in this economy the state is given institutional capacity to exercise control rights over the financial system, regardless of legal ownership of financial institutions.

$$Max_f \, B(f) - C(I)$$

$$s.t.$$
$$I + \pi(f) \geq \beta RK, \tag{IC}$$

where

$$0 \leq \beta \leq 1$$
$$C(I) = 0 \quad for \quad I \leq 0$$
$$C'(\,) > 0, C''(\,) > 0 \quad for \quad I > 0$$
$$\pi'(f_M) = 0, \quad \pi''(\,) < 0.$$

In the model, in particular, I assume that legal ownership guarantees only cash-flow rights. Further I assume that As a result, private shareholders are subservient to the state and remain passive in determining financial flows. What they are entitled to is returns for their investment in financial institutions. In other words, legal rights only guarantee cash-flow rights, denoted by βK in the model.

The first line of the model describes the state behavior. The state exercises complete control over the financial system and so decides financial flow *f*. When controling financial flows *f*, the state maximize its payoff function *B(f)*. The state needs to fulfill the incentive compatibility condition of private shareholders, which is given as (IC) in the model where *R* is the reservation rate of return for private shareholders.

In satisfying the incentive compatibility condition, the state is assumed to make use of ex-post money transfer, *I*. The provision of transfer is based on tax collection, raising of which incurs political costs. *C(I)*, the function of political costs may be discontinous

at *I=0*, implying that political cost may jump from zero to a certain positive value when the state impose taxes for the purpose of the transfer financing. Note that, in the model, explicit tax collection is the only source that entails political costs to the state. In particular, when the state owns portion of shares in the financial system, the state has no obligation to achieve reservation returns for the investment. The incentive compatibility condition of the model is constructed to embody this feature. In the condition, the portion of private agents' share-holdings out of the total capital investment K in the financial system is denoted by β, and the state needs to guarantee the reservation return rate only for the private share-holdings. I define β as 'privatization rate'.

The profit function $\pi(f)$ depicts the profit schedule at each level of *f*. It is assumed to be a usual concave function, taking its maximum at f_M. To allow a room for the developmental state view, I suppose that state intervention may exploit positive externality and so the social profit function $\pi_S(f)$ is different from the private profit function $\pi(f)$. In particular, the social profit function attains its maximum at f_S, where $\pi_S(f_S)$, f_S are equal to or larger than $\pi(f_M)$, f_M respectively.[11] Incorporating the assumption, with state intervention, (IC) is changed to

$$I + \pi_S(f) \geq \beta R K .$$ (IC)

Also following the tradition in the literature of public economics, I assume that tax collection incurs the dead weight loss along an increasing convex function *d(I)* in $I \geq 0$. I assume that $d(0) = 0$ and $d'(0) = 0$.

I conceive the social welfare function as the social profit function after subtracting the dead weight loss. Rent to the state, which is specified below, does not enter the social welfare function because it is considered pure redistributive transfer.

$$Social\,Welfare(SW) = \pi_S(f) - d(I) .$$ (E1)

Finally, I assume that in controlling the financial system, the state has both rent seeking and social planning motive. Formally, I specify the payoff function *B(f)* of an interventionist state as a convex combination of the social welfare function and non-pecuniary rent, represented by $B_p(f)$.

$$B(f) = \alpha B_p(f) + (1 - \alpha)[\pi_S(f) - d(I)] .$$ (E2)

$B_p(f)$ is a concave and increasing function of *f* with $B_p(f_M) = 0$. The assumption

---

[11] That is, private financial resource allocation underinvests in certain positive externality-yielding projects.

reflects the notion that politicians/bureaucrats receive more rent as the state controls larger financial flows. It is assumed that positive non-pecuniary rent occurs only when state-chosen level of financial flows exceed the level that market would select. It reflects the idea that politicians can reap non-pecuniary rent only when they provide interest groups with financial resources that market would not. The parameter α, which takes a value between 0 and 1, denotes the weight that the state places on the payoff from the rent. I dub it as 'rent-seeking rate'. The rent-seeking rate may be considered the type of a state: a lower α indicates a better type.[12]

4.   IMPLICATIONS OF THE MODEL

4.1.   Solving the Model

It is easy to notice that (IC) should hold as an equality at the solution of the model, which allows to write I in terms of f.

$$I = \beta RK - \pi_S(f) \,. \tag{E3}$$

Define f_0 to be the level of financial flows at which I becomes zero. Inserting (E3) into (E2), unless the optimality is attained at f_0, the necessary condition of optimality is obtained as follows.

$$\alpha B_p'(f) + (1-\alpha)\pi_S'(f)[1 + d'(I)] + \pi_S'(f)C'(I) = 0 \,. \tag{E4}$$

The first term corresponds to the marginal rent benefit to the state from the intervention. The second term, which is always negative at the solution level of f as long as α takes a non-zero value, shows the marginal cost to the state from social welfare decrease.[13] Finally, the last term, which is always non-positive, indicates an additional marginal cost to the state of intervention due to the political cost.

---

[12] Before closing the section, it is notable that the presented model may be seen applicable for other regulated industries as well. In this regard, one may contend why the paper focuses only on state intervention in financial system instead of addressing state intervention in general. The reason is that, despite the possibility that the model has relevancy for general state intervention, the model is most appropriate for state intervention in financial system. For example, provision of guaranteeing reservation return based on tax money is an important feature of the financial system in most of developing economies. In addition, rent-seeking by politicians are mostly through manipulation of financial resource allocation.

[13] The second term always takes negative values at the solution level because the solution level of f is larger than f_S for positive α, which is easy to see.

(E4) does not completely describe the optimality condition for the model, because $d(I)$ and $C(I)$ are not differentiable at f_0. Therefore, if some value of f satisfies (E4), it is necessary to check whether it gives a larger value to the objective function than f_0. In case such f does not exist, f_0 is the state's equilibrium.

4.2. Type of the State

Suppose that for a given non-zero value of α, f_C is lower than f_0. The state finds the level of financial flows that maximizes its objective function at which the transfer of I is not necessary. By definition, $C(I)$, $d(I)$ and their derivatives take zeroes at such f_C so that (E4) can be simplified to

$$\alpha B'_p(f_C) + (1-\alpha)\pi'_S(f_C) = 0 \quad for \quad f_C < f_0. \tag{E5}$$

From (E5) the relationship between α and f_C can be easily established. As α becomes larger, the marginal rent of f to the sate increases while the marginal cost of f to the state in terms of the social profit decreases. Therefore, as long as f_C remains below f_0, the state can be better off by choosing higher f_C for a higher α.

In other words, a state that puts more weight on the private rent against the social welfare will choose larger amount of financial flows at the cost of social welfare. This monotonic relationship between α and f_C, however, does not necessarily hold for the whole range of $\alpha \in [0,1]$, which the proposition 1 shows.

Proposition 1:
    f_C, *which maximizes* $\alpha B_p(f) + (1-\alpha)[\pi_S(f) - d(I)] - C(I)$, *is non-decreasing in* $\alpha \in [0,1]$. *Specifically,*
    (a) When α is zero, f_C is equal to the social optimum f_S.
    (b) f_C is strictly increasing in $\alpha \in [0, \alpha_0]$ and equal to f_0 at $\alpha = \alpha_0$, where α_0 and f_0 are defined such that $\alpha_0 B'_p(f_0) + (1-\alpha_0)\pi'_S(f_0) = 0$ and $\pi_S(f_0) = \beta RK$.
    (c) f_C may be constant or increasing in $\alpha \in [\alpha_0, 1]$ depending on functional properties of $B_p(f), \pi_S(f), d(I)$ and C(I). Specifically,
    (i) If $B'_p(f_0) < -\pi'_S(f_0)C'(0^+)$ where $C'(0^+)$ is the right hand side derivative of C(I) at 0, then f_C remains constant at f_0 in $\alpha \in [\alpha_0, 1]$.
    (ii) If $B'_p(f_0) \geq -\pi'_S(f_0)C'(0^+)$, f_C remains constant at f_0 in $\alpha \in [\alpha_0, \alpha_1]$ and

strictly increases in $\alpha \in [\alpha_1, 1]$, *where* $\alpha_1 = \dfrac{\pi_S'(f_0)[1 + C'(0^+)]}{\pi_S'(f_0) - B_p'(f_0)}$.

The first two parts of the proposition describe that for a relatively small α in the range of $[0, \alpha_0]$, a state chooses levels of financial flows where the transfer does not occur. This is so because a state that gives a relatively higher priority to the social welfare prefers avoiding tax-distortion d to pursuing larger f and more private rent. For these values of α, as discussed above, f_C monotonically increases along with α from the social optimum f_S as the minimum to f_0 as the maximum.

The third part of the proposition describes the behaviour of a state with a relatively larger rent seeking rate, specifically α larger than α_0. Since states of this category prefer more private rents instead of social welfare compared to the previous group of states, it might be expected that those states would choose even larger financial flows at the cost of more social welfare. However, it should be noted that once the amount of financial flows reaches f_0 so that profits decreases below the private shareholders' reservation return rate, the transfer financed by tax collection should be made. Such positive transfer supported by tax entails an additional source of the marginal cost to the state for the increase of f, namely the distortion cost $d(I)$ and the political cost $C(I)$. While the marginal benefit of f to the state remains as $\alpha B_p'(f)$, the marginal cost becomes $(1 - \alpha)\pi_S'(f)[1 + d'(I)] + \pi_S'(f)C'(I)$. In view of the comparative static with respect to changes in the rent seeking rate α, the third term due to the political cost $C(I)$ needs an attention. For the same level of f, increase of the rent seeking rate α raises the marginal benefit to the state by $B_p'(f)$ and decreases the marginal cost by $-\pi_S'(f)[1 + d'(I)]$. Without the third term $\pi_S'(f)C'(I)$, the solution level of f_C should increase along with α. But, in the presence of the political cost interesting dynamics may occur, because changes in the rent seeking rate do not affect the marginal political cost of f to the state. At a selected level of f, the state meets the same magnitude of the political cost regardless of the specific value of α. In addition, the nature of the political cost is assumed to arise only for positive tax collection or f larger than f_0, which implies that the marginal political cost of f to the state jumps from zero to a certain positive number at f_0. Combining the observations, when the rent seeking rate α changes from the levels below α_0 to those of over α_0, in determining whether it should increase f_C the state needs to consider the effect on the political cost. If the jump rise of the political cost outweighs the payoff increase from enlarged private rent and the social welfare concern change, despite the change in α the state will choose not to adjust f_C. The two cases detailed in the proposition spell out the condition under

which this occurs.

4.3. Fiscal Reform

Proposition 1 and the subsequent discussion display the role of political cost or political monitoring in the model. The existence of political monitoring deters rent seeking of the state. Proposition 1(c) shows that if political monitoring is strict so that the marginal political cost to the state is sufficiently large, the state will not increase financial flows to pursue more rents even when its desire for rents rises. But, the deterrence exerted by the political monitoring has its limit. Unless the rent seeking rate is zero and, so the state obtains positive payoff from rents, no matter how large the marginal political cost becomes, financial flows determined by the state cannot be reduced to the levels below f_0. Since f_0 is larger than the social optimum f_S, excessive financial intermediation owing to the rent-seeking still remains.

Remark:

Fiscal reform that raises the marginal political cost of the tax collection for the transfer I reduces the extent of state intervention or the level of f_C for $f_C > f_0$. But, it has no effect on f_C for $f_C \leq f_0$.

That the political monitoring is limited in removing rent-seeking stems from the assumed nature of the political monitoring. The political cost in the model is triggered by positive tax collection rather than rent-seeking behaviour itself. Under the assumption, as long as profits are large enough to cover the reservation return for private shareholders, the state will pursue excessive financial intermediation and associated rents without facing the political cost.

4.4. Privatization

Other than the political cost, the reservation return for private shareholders is the constraint that the state needs to consider in determining f_C. Specifically, from (E3) and (E4) it can be seen that f_C is likely to decrease in β because higher β requires larger *I* that will lead to higher political costs to the state. Importantly, unlike fiscal reform, even when f_C takes f_0, rivatization that increases β reduces f_C by lowering f_0. However, increase in β or privatization cannot prevent excessive state intervention completely or f_C from exceeding f_S as long as there exists positive externality that state intervention can exploit. This is so because by taking advantage of profitability improvement, state can increase amount of financial flows exceeding the socially optimal, without incurring insurance payment that entails tax collection.

Proposition 2:

Privatization can limit state intervention. Namely, f_C is non-increasing in β. However, even full privatization cannot prevent excessive financial intervention by the state as long as $\pi_S(f_S) > \pi(f_M) \geq RK$ holds: under the full privatization, the state still chooses f_C which is larger than f_S.

5.   DISCUSSION

5.1.   The Developmental State and the Derogatory State

Now based on the analyses above, I discuss two factors that affect welfare-outcome of state intervention. Note that the change in social welfare due to state intervention, which I denote by *L*, can be written as:

$$L = SW(After\ Intervention) - SW(Before\ Intervention)$$
$$= \{\pi_S(f_C) - \pi(f_M)\} - d[I(f_C)].$$

Since *L* is a function of f_C, direct implications for social welfare can be drawn from Proposition 1 and 2. Proposition 1 reveals the relationship between social welfare and the type of a state. First of all, Proposition 1(a) shows that *L* takes the positive maximum $L = \pi_S(f_S) - \pi(f_M)$ at $\alpha = 0$, resulting in the largest social welfare improvement. It represents the case of the 'social planner state'. Also Proposition 1(b) says that despite being worse than the social planner state case, sufficiently small values of α will ensure state intervention to be welfare enhancing. I summarise the observation as follows.

Proposition 3:

In the presence of exploitable externality, difference of social welfare due to state intervention is non-decreasing in the rent-seeking rate α. Specifically, if α is less than α_N, social welfare improves by state intervention, where α_N is defined as follows: $\pi_S(f_N) = \pi(f_M)$, $\alpha_N = \dfrac{1}{1 + Q_N}$, and $Q_N \equiv \dfrac{B_p'(f_N)}{-\pi_S'(f_N)}$.

Next, Proposition 1 and 2 together indicate another channel that prevents excessive state intervention, even when the rent-seeking rate is large: larger value of β and larger marginal political cost will bring down state intervention, increasing *L*. In particular, if the financial system is fully privatized and the shareholders can demand sufficiently large profit as the reservation return, large enough marginal political cost

will preclude welfare-impairing state intervention. Proposition 3 above indicates that as long as a state has large rent-seeking motive, state intervention will be welfare impairing. But, privatization and fiscal reform can limit the extent of welfare loss.

Remark:

In the presence of positive externality exploitable by state intervention, change in social welfare due to state intervention is non-decreasing in β and marginal political cost.

Overall, state intervention may result in different social welfare consequences because of two reasons. State intervention gives rise to different welfare outcomes simply because states put different weights on social welfare. Alternatively, state intervention entails various social welfare consequences because privatization rates and political scrutiny on tax collection differ across economies.

5.2. Persistence of State Control

Previous analyses also indicate why state intervention in the financial system persists despite privatization and/or fiscal reforms. Even after full privatization and fiscal reform, state has an incentive to exert control rights because room for rent seeking or/and social welfare improving exist. In fact, prevention of state control of the financial system requires several conditions to be met simultaneously, which I specify in Proposition 4.

Proposition 4:

State will continue to intervene in financial system as long as it has capacity to do so, unless all of the following four conditions hold: full privatization ($\beta = 1$), no externality that can be exploited by state intervention ($\pi_S(f_S) = \pi(f_M)$), no excessive profits for financial institutions ($RK = \pi(f_M)$), strict fiscal discipline ($B_p'(f_S + \in) < -\pi_S'(f_S + \in)C'(0+ \in)$ for any positive $\in$).

When the specified four conditions hold at the same time, a state do not receive any benefit from intervening in the financial system. Hence, any political pressure against state intervention would stop a state from exerting control rights over the financial system. Proposition 4 shows that extra conditions are necessary to stop state control in addition to full privatization and fiscal reform. First, no externality exploitable by state intervention should exist. In plain words, the condition says that state should be no better than the private, or state intervention should not be capable of improving profitability of the financial system. Otherwise, a state will intervene to increase financial flows by exploiting externality. Next condition is related to the competition and industrial structure of the financial system: private profitability of financial institutions should not exceed the reservation return rate. If the condition is not satisfied while the other three

conditions of the proposition hold, a state will intervene since it can increase financial flows to its benefit until profitability of the financial industry is reduced to private investors' reservation rate.

6. CONCLUSION

I offer a framework to address questions on state intervention in the financial system. The answer is based on the idea that state intervention becomes possible as the state is equipped with institutional capacity to exert control rights over the financial system. In the presence of such institutional precondition, the state will intervene in financial resource allocation to seek private rents and/or improve social welfare. As the state has control rights, other institutional characters such as degree of privatization, fiscal discipline, private stake holders' reservation return rates and existence of externality form only the constraint environment in the state maximizing its benefits.

The model sheds light on why we observe various social welfare outcomes across interventionist economies. Difference in the rent-seeking motive of a state is a trivial reason. More importantly, state intervention yields different welfare results because institutional conditions constituting the constraint environment of state intervention differ among economies. In addition, the model shows why piecemeal reforms cannot eliminate state intervention. Since privatization or fiscal reform alone implies a change in each constraint, it may limit the extent of state intervention, but cannot stop the state from intervening. Overall, the paper argues that institution matters both for the welfare consequence and elimination of state intervention.

Appendix.   Proofs of Propositions

A1. Proof of Proposition 1

(a) Proving the part (a) is trivial from the definition of f_S .

(b) For the part (b), first of all note that α_0 exists in the range of [0,1]. This is so because $f_0 \geq f_S$ by the definitions of f_0 and f_S , and so $\pi_S{}'(f_0) \leq 0$, where equalities hold at $\alpha_0 = 0$. Now assume that α_0 is non-zero. And for any given $\alpha \in (0, \alpha_0)$, suppose that f_C is the solution of the model. To prove (b), I need to show that such f_C exists in (f_S, f_0) , and increases in α while α is in the range of $(0, \alpha_0)$. That f_C is larger than f_S is obvious. To see that f_C is less than f_0 , assume the opposite, namely $f_C > f_0$ or $f_C = f_0$. But, if $f_C > f_0$ holds, the

following inequalities should hold, giving rise to a contradiction:

$$0 = \alpha B_p{}'(f_C) + (1-\alpha)\pi_S{}'(f_C)[1+d'(I)] + \pi_S{}'(f_C)C'(I)$$
$$< \alpha B_p{}'(f_C) + (1-\alpha)\pi_S{}'(f_C)$$
$$< \alpha_0 B_P{}'(f_0) + (1-\alpha_0)\pi_S{}'(f_0) = 0,$$

where the first equality is due to the necessary condition of the optimality for $f_C > f_0$, the first inequality $\pi_S{}'(f_C) < 0$ while both $d'(I)$ and $C'(I)$ are positive, the second inequality $f_C > f_0$ and $\alpha_0 > \alpha$, and finally the last equality by the definitions of f_0 and α_0. Besides, if $f_C = f_0$ holds, it means that:

$$\alpha B_p{}'(f_C) + (1-\alpha)\pi_S{}'(f_C) < \alpha_0 B_p{}'(f_0) + (1-\alpha_0)\pi_S{}'(f_0) = 0.$$

The inequality implies that the state can raise the value of the objective function by choosing a smaller level of f than f_C, contradicting the definition of f_C. Hence, $f_C < f_0$ should hold.

Next, since f_C is less than f_0, the necessary condition of the optimality says that $\alpha B_p{}'(f_C) + (1-\alpha)\pi_S{}'(f_C) = 0$. The equation establishes that as α increases within the range of $(0, \alpha_0)$, f_C should increase, too. Finally, that f_C takes f_0 for $\alpha = \alpha_0$ comes from the definitions of α_0 and f_0.

(c) To prove the part (c), suppose that for any given $\alpha \in [\alpha_0, 1]$, f_C is the solution of the model. First of all, notice that f_C cannot be lower than f_0 since the following relationship holds:

$$\alpha B_p{}'(f_0) + (1-\alpha)\pi_S{}'(f_0) \geq \alpha_0 B_P{}'(f_0) + (1-\alpha_0)\pi_S{}'(f_0) = 0.$$

Now to prove (c)(i), assume that f_C is larger than f_0. Then, by the necessary condition of the optimality for $f_C > f_0$, I have

$$\alpha B_p{}'(f_C) + (1-\alpha)\pi_S{}'(f_C)[1+d'(I)] + \pi_S{}'(f_C)C'(I) = 0. \tag{A1-1}$$

Rewriting (A1) in view of α, I get

$$\alpha = \frac{\pi_S'(f_C)[1 + d'(I) + C'(I)]}{\pi_S'(f_C)[1 + d'(I)] - B_p'(f_C)}. \tag{A1-2}$$

Notice that the right hand side of (A1-2) increases in f_C and, therefore, it decreases toward the lower bound as f_C decreases toward its lower bound f_0. Specifically, letting α_1 be the lower bound of α, since $d'(0) = 0$, α_1 is written as:

$$\alpha_1 = \frac{\pi_S'(f_0)[1 + C'(0^+)]}{\pi_S'(f_0) - B_p'(f_0)}. \tag{A1-3}$$

If the condition of (c)(i) holds, α_1 becomes larger than 1 for any $f_C > f_0$ from (A1-3). Since it violates the initial assumption of $\alpha \in [\alpha_0, 1]$, it follows that under the condition of (c)(i), f_C must be equal to f_0.

Now assume that the condition of (c)(ii) holds so that $\alpha_1 \in [\alpha_0, 1]$. In case $\alpha_1 > \alpha_0$ or $C'(0^+) > 0$, f_C must be equal to f_0 for $[\alpha_0, \alpha_1]$. This is so because if f_C is larger than f_0, it contradicts the initial assumption that α can be any value in $[\alpha_0, 1]$.

A2. Proof of Proposition 2

(a) First I prove that f_C is non-increasing in βRK. To do this, assume that the initial value of βRK is given as q_0 and raised now to q_1, which is larger than q_0 but smaller than $\pi_S(f_S)$. Letting $f_C(q_0)$ be the solution of the model for q_0 and $f_C(q_1)$ for q_1, I need to show that $f_C(q_0) \geq f_C(q_1)$. Now define that $f_0(q_0)$ and $\alpha_0(q_0)$ are values of f and α which satisfy both $\alpha_0(q_0)B_p'[f_0(q_0)] + [1 - \alpha_0(q_0)]\pi_S'[f_0(q_0)] = 0$ and $\pi_S[f_0(q_0)] = q_0$. Also define $f_0(q_1)$ and $\alpha_0(q_1)$ in the same way for q_1. Then, since $q_1 > q_0$, $f_0(q_1) < f_0(q_0)$ and $\alpha_0(q_1) < \alpha_0(q_0)$.

Now for $\alpha < \alpha_0(q_1) < \alpha_0(q_0)$, Proposition 1(b) says that both $f_C(q_0)$ and $f_C(q_1)$ should satisfy the same necessary condition of the optimality that does not involve *I*. Therefore, I get:

$$f_C(q_0) = f_C(q_1) \quad \text{for} \quad \alpha < \alpha_0(q_1). \tag{A2-1}$$

For $\alpha \in [\alpha_0(q_1), \alpha_0(q_0)]$, I have that $f_C(q_1)$ is either equal to $f_0(q_1)$ or larger than $f_0(q_1)$ by Proposition 1(c), while $f_C(q_0)$ is lower than $f_0(q_0) < f_0(q_1)$ by Proposition 1(b). Hence I obtain:

$$f_C(q_0) < f_0(q_0) < f_0(q_1) \leq f_C(q_1) \quad \text{for} \quad \alpha \in [\alpha_0(q_1), \alpha_0(q_0)]. \tag{A2-2}$$

Finally, for $\alpha \in [\alpha_0(q_0), 1]$, Proposition 1(c) says that both of $f_C(q_1)$ and $f_C(q_0)$ are either equal to $f_0(q_1)$ and $f_0(q_0)$ or larger than $f_0(q_1)$ and $f_0(q_0)$, respectively. Notice that if the condition of Proposition 1(c)(i) holds for q_1 so that $f_C(q_1)$ is equal to $f_0(q_1)$ for all $\alpha \in [\alpha_0(q_0), 1]$, $f_C(q_0)$ should be also equal to $f_0(q_0)$ because the condition of Proposition 1(c)(i) should hold for q_0, too. In addition, if both $f_C(q_1)$ and $f_C(q_0)$ are increasing, it is easy to check from the necessary condition of the optimality that $f_C(q_1)$ should be lower than $f_C(q_0)$. Combining this with (A2-1) and (A2-2), I conclude that f_C is non-increasing in βRK.

(b) Next I prove that f_C is larger than f_S for any α as long as $\pi_S(f_S) > \pi(f_M) \geq RK$ holds. First of all, note that from Proposition 1. f_C cannot be lower than f_S. Hence, all I have to do is to show that f_C is not equal to f_S. Now suppose that f_C is equal to f_S. Then the following is the necessary condition of optimality:

$$\alpha B_p{}'(f_C) + (1-\alpha)\pi_S{}'(f_C) = 0. \tag{A2-3}$$

Contradiction arises since under the assumption of f_C being equal to f_S the second term of (A2-3) is zero while the first term is positive.

A3. Proof of Proposition 3

Applying Proposition 1(b) with $f_0 = f_N$ and $\alpha_0 = \alpha_N$, it follows that the solution of the model f_C is lower than f_N and, thus, $L > 0$ for any $\alpha < \alpha_N$.

A4. Proof of Proposition 4

I prove that f_C takes f_S for any α under the given conditions. First, since f_C is non-increasing in βRK, it is established that f_C takes the minimum at $\beta RK = \pi_S(f_S)$. Now I need to show that this minimum is equal to f_S under the given conditions. Notice that in terms of Proposition 1, the given case is equivalent to when $f_0 = f_S$ and $\alpha_0 = 0$. Then, taking advantage of the proof for Proposition 1(c), it suffices to show that if I assume that f_C is larger than $f_0 = f_S$ for any $\alpha \in [\alpha_0, 1]$, contradiction arises. Now from (A1-2), if f_C is larger than $f_0 = f_S$, the condition of $B_p{}'(f_S + \in) < -\pi_S{}'(f_S + \in)C'(0 + \in)$ for any positive $\in$ implies that $\alpha > 1$. Hence, if

$\beta = 1$, $RK = \pi_S(f_S)$, and $B_p{}'(f_S + \in) < -\pi_S{}'(f_S + \in)C'(0 + \in)$ for any positive $\in$, then f_C must be equal to f_S for any α.

REFERENCES

Amsden, A.H. (1989), *Asia's Next Giant: South Korea and Late Industrialization*, Oxford: Oxford University Press.

Cumings, B. (1987), "The Origins and Development of the Northeast Asian Political Economy," in F. Deyo ed., *The Political Economy of the New Asian Industrialism*, Ithaca: Cornell University Press.

Diaz-Alejandro, C. (1985), "Good-Bye Financial Repression, Hello Financial Crash," *Journal of Development Economics*, 19, 1-24.

Dore, R. (1990), "Reflections on Culture and Social Change," in G. Gereffi and D. Wyman ed., *Manufacturing Miracles: Paths of Industrialization in Latin America and East Asia*, Princeton: Princeton University Press.

Dornbusch, R., and S. Edwards (1989), "The Macroeconomics of Populism in Latin America," NBER Working Paper, 2986.

Gerschenkron, A. (1962), "Economic Backwardness in Historical Perspective," *Economic Backwardness in Historical Perspective: A Book of Essays*, Cambridge: Harvard University Press.

Hart, O. (1995), *Firms, Contracts and Financial Structure*, Oxford: Oxford University Press.

Hellman, T., Murdock, K., and J. Stiglitz (1997), "Financial Restraint: Toward a New Paradigm," in Aoki, Masahiko, Hyung-Ki Kim, and Masahiro Okuno-Fujiwara ed., *The Role of Government in East Asian Economic Development*, Oxford: Clarendon Press.

Johnson, C. (1982), *MITI and the Japanese Miracle*, Stanford: Stanford University Press.

_____ (1995), *Japan, Who Governs? The Rise of the Developmental State*, New York: W.W. Norton.

Kim, C., and I. Shin (2003), "Economic Liberalization of Korea toward an Advanced Economy," KDI Working Paper, 2003/03, Seoul: Korea Development Institute.

Kohil, A. (1999), "Where Do High-Growth Political Economies Come from?: The Japanese Lineage of Korea's 'Developmental State'," in M. Woo-Cummings ed., *The Developmental State*, Ithaca: Cornell University Press.

La Porta, R., Lopez-de-Silanes, F., and A. Shleifer (2002), "Government Ownership of Banks," *Journal of Finance*.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and R. Vishny (1998), "Law and

Finance," *Journal of Political Economy*, 106, 1113-1155.

_____ (1999), "The Quality of Governments," *Journal of Law, Economics, and Organization*, 15, 222-279.

_____ (2002), "Investor Protection: Origins, Consequences, Reform," *Journal of Finance*, 57, 1147-1170.

Levine, R. (1998), "Financial Development and Economic Growth: Views and Agenda," *Journal of Economic Literature*, 35, 688-726.

Levine, R., Loyaza, N., and T. Beck (2000), "Financial Intermediation and Growth: Causality and Causes," *Journal of Monetary Economics*, 46, 31-77.

Lim, W., (2000), "The Origin and Evolution of the Korean Economic System," KDI Policy Paper, 2003/03, Seoul: Korea Development Institute.

McKinnon, R. (1973), *Money and Capital in Economic Development*, Washington: The Brookings Institution.

_____ (1993), *The Order of Economic Liberalization*, Baltimore: The Johns Hopkins University Press.

Murphy, K., Shleifer, A., and R. Vishny (1989), "Industrialization and Big Push," *Quarterly Journal of Economics*, 109, 503-530.

Park, J. (1982), "Monetary Policy and Economic Development in Korea," Joint Research Program Series, Institute of Developing Economies, Tokyo, Japan.

Shaw, E. (1973), *Financial Deepening in Economic Development*, New York: Oxford University Press.

Shin, I. (2004), "Evolution of Korean Financial Regulations," presented at the KDI-EWC conference of 2004, Honolulu, Hawaii.

Shleifer, A., and R. Vishny (1994), "Politicians and Firms," *Quarterly Journal of Economics*, 109, 995-1025.

Wade, R. (1990), *Governing the Market: Economic Theory and the Role of the Government in East Asian Industrialization*, Princeton: Princeton University Press.

Woo-Cumings, M. (1999), *The Developmental State*, Ithaca: Cornell University Press.

Mailing Address: College of Business Administration, Chung-Ang University, Heuk-Seok Dong, Dong-Jak Gu, Seoul, Korea. Tel: 82-2-820-5581. E-mail: ishin@cau.ac.kr