Deterrence And Regulatory Failure in Emerging Financial Markets: Comparing China and Russia

Katharina Pistor[1] and Chenggang Xu[2]

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Abstract

Abstract: Transition economies faced the formidable task of creating financial markets to ensure that enterprises gained access to external sources of funds under circumstances that were unfavorable for such markets to take off. The two major obstacles for financial market development we identify in this paper are highly incomplete law and the absence of reliable company specific information. We argue that in light of these obstacles standard law enforcement practices, including deterrence and reactive law enforcement by courts, and ex ante screening and proactive law enforcement by regulators are not effective. To jumpstart financial markets under these circumstances, other avenues have to be explored. We suggest that China, but not Russia, has been quite successful in seeking such alternatives. We identify the decentralized process of selecting companies for listing on major stock exchanges as a means for collecting company specific information that cannot be easily standardized and would therefore remain unexplored in a system that relied only on financial reporting and disclosure. While state agents involved in the selection process may have incentives to select lemons rather than viable firms for listing, we argue that the competition among different regions and ministries instilled by the so-called quota system has mitigated these dangers. By contrast, Russia's reliance on a standard Western disclosure system with law enforcement by a combination of courts and regulators not paid off so far. On the contrary, uncertainties about the effectiveness of law enforcement and absence of reliable information have restrained financial market development. Evidence on lower co-movement of stock in China than in Russia lends support to our theoretical analysis.
JEL classification: G3, K2, K4, N2 [PLUS TRANSITION]

1 Introduction

This paper explores the institutional conditions for the development of financial markets in emerging markets and transition economies. We focus on the development of the legal and regulatory framework for stock markets, but suggest that our framework would also

[2] Columbia Law School
[2] London School of Economics and CEPR

be applicable to the law governing credit markets and banking institutions. Given the importance of financial markets for economic growth and development (McKinnon, 1973), efforts to promote the development of such markets has been a corner stone of economic policies in transition economies. Not all countries, however, have been equally successful in creating sustainable financial markets. This is true even for countries that have followed blue prints of what are widely regarded best practices for governing financial markets. This paper offers an explanation for why this may be the case.

We start from the premise that law is intrinsically incomplete, which implies that it is impossible to write a law that can unambiguously specify all potentially harmful actions. Because law is incomplete, law enforcement by courts may not always effectively deter violations. Rather than attempting the impossible task of completing the law, the effectiveness of law enforcement may be enhanced by re-allocating lawmaking and law enforcement powers (LMLEP). In separate papers we show that when law is highly incomplete and violations of the law may result in substantial harm, it is optimal to allocate law enforcement rights to regulators rather than courts (Pistor and Xu, 2002; Xu and Pistor, 2002).

Similar solutions, which worked reasonably well in developed market economies with a long history of commercial law development, may, however, not work in transition economies. The reason is that transition economies face conditions that render enforcement by courts and regulators both ineffective. We identify two key conditions that undermine classic forms of law enforcement that have been tried and tested in developed market economies: the level of incomplete law, and the absence of reliable information. Transition economies have engaged in wholesale reforms of their legal systems. The scope and meaning of newly enacted laws, however, is difficult to discern from statutory law alone. Due to language, cultural, and institutional differences case law from other countries that may help interpret the law is not easily transferable. Countries that transplant law from elsewhere, therefore, have little or no access to interpretative sources, which makes transplanted laws further incomplete. Only after a substantial body of domestic case law has been developed will individuals as well as law enforcers know the reach and limits of the new law.

The more incomplete the law, the weaker its deterrence effect, as the uncertainties about the scope and meaning of law increase with higher levels of incompleteness. Moreover, courts in transition economies often lack capacity and experience to address new legal problems effectively, which aggravates the problem of incomplete law. Attempts to improve law enforcement by introducing a regulator may not work, primarily because effective regulation depends heavily on reliable information. Companies in transition economies face substantial problems in bringing previous accounting data, which were compiled on the basis of socialist accounting principles in line with new accounting standards. Even when they do so, substantial concerns remain as to how accurately these new books reflect the intrinsic value of the firm. Moreover, the uncertainties that surround the conversion of accounting data creates possibilities for manipulation. As a result, the information that regulators obtain is much more noisy than is the case in a developed market economies. Over time information may become more reliable and intermediaries may enter the market that can help verify information - but before then, law enforcement by regulators will be ineffective and may even result in regulatory failure. Transition economies therefore face a fundamental dilemma. They need to develop financial markets, and yet they lack the

ingredients it takes to do so. Worst, recipes for law enforcement that have historically worked elsewhere may not help in the short to medium term. Unlike developed economies where extensive commercial law existed at the time financial markets emerged, in transition economies and newly emerging markets, law, legal institutions, and markets need to be created simultaneously.

An alternative strategy for transition economies is to use measures beyond law enforcement to initiate market development. This paper suggests that an important strategy may be to access insiders' knowledge of a company's potential. This strategy is bound to be less transparent and raises concerns about the accountability of agents charged with selecting companies. Still, these problems can by controlled by ensuring that decisions are taken collectively and by allocating liability for wrongful decisions to those who participate in the selection process. If such checks are in place, measures beyond law enforcement may be less prone to corruption and regulatory capture than standard law enforcement strategies. The reason is that the same factors that render standard law enforcement strategies ineffective in transition economies, i.e. highly incomplete law and low quality information, also give law enforcement agents ample room for discretion, which can be easily misused. Paradoxically, the appearance of standard law enforcement institutions and practices may disguise the fact that given the underlying problems of incomplete law and information problems, they broaden rather than reduce the scope for corruption. By contrast, processes that may appear to be prone to corrupt practices, may be less vulnerable to misuse as long as other mechanisms, such as multiple-party decision-making and competition, are in place that reduce the possible scope of misuse.

We use the experience of China and Russia to exemplify two different strategies in trying to jump start financial market development. In both countries the process started in the early 1990s. Russia began the process of financial market development by privatizing thousands of companies and distributing their shares to the public. At the time, courts were the only enforcement agents. By 1994 a securities commission was established. Its powers were limited at the beginning but expanded over time. Available data suggest that both courts and regulators have been quite active in enforcing the law. Financial market development in Russia has, however, been slow. Most of the companies that were privatized in the early 1990s have never been traded. The market is dominated by companies in oil, mining and energy, i.e. companies where the underlying assets are sufficiently valuable to balance concerns about lack of information and reliable governance structures. In fact, stocks of listed companies move together, suggesting that investors pay little attention to firm specific information.

In China, by contrast, virtually all of the companies that are listed are partly state-owned. The legal framework developed in the early 1990s established an elaborate merit system for companies wishing to issue shares to the public. This system was, however, replaced by a quota system. Under the quota system, a certain volume of funds to be raised by state owned enterprises in the form of equity was allotted to regions and or ministries, which in turn were responsible for selecting the companies for this program. Given the increasing scarcity of bank loans, access to the equity markets was attractive to companies. The risk of bad decisions was borne not only by investors, but also by agents responsible for selecting

companies, because they were forced to bail out companies that failed on the market and faced lower quotas in the future. The number of listed companies in China today exceeds the relevant number in Russia by a factor of five. Manufacturing companies dominate the market. Most strikingly, increasingly independent stock movements of listed companies suggest that more firm specific information may be available to investors.

We recognize that incomplete law and information problems may not be the only factors that explain the divergent experiences of Russia and China in developing financial markets. The goal of this paper is to offer a theory that helps explain why standard enforcement practices work less well in transition economies. We suggest that the evidence we present from Russia and China is consistent with our theory, but we do not claim that we can fully rule out other explanations.

2 Law Enforcement under Incomplete Law

In earlier work we developed the theory of incomplete law (Pistor and Xu, 2002). We argued that law is intrinsically incomplete. Even the best, social welfare maximizing, lawmaker cannot write law that is fully complete, because lawmakers cannot foresee all future contingencies. A lawmaker (court, legislature, etc.) may choose to write a relatively more or less complete law, but fundamentally cannot escape the problem that even the best efforts will render the law incomplete. Given that law is incomplete, the power to address future contingencies, i.e. the residual lawmaking and law enforcement powers (LMLEP) have to be allocated to maintain effective law enforcement. Although this will not result in full deterrence (after all, law remains incomplete), law enforcement can be enhanced.

If law were complete, that is, if a law could stipulate unambiguously all future contingencies, law could fully deter harmful actions. The key task for such a law would be to stipulate the appropriate level of punishment. Existing theories predict that a rational individual with a full knowledge of the - complete - law will not violate the law. Indeed, much of the traditional literature on law enforcement (Becker, 1968; Polinsky and Shavell, 2000; Stigler, 1970) focuses on the appropriate level of punishment and treats law implicitly as complete. By contrast, if law is incomplete, law cannot effectively deter. We argue that in this second best world of incomplete law, legal systems need to allocate LMLEP to deal with future contingencies that were unanticipated at the time law was made in order to enhance the effectiveness law enforcement. Absent the allocation of LMLEP, many actions will not be sanctioned, even if they result in substantial harm. Legislative change may make law more complete after assembling sufficient expertise, but this will take effect only in the future. Moreover, new actions or factual situations the revised law did not contemplate will undoubtedly arise, leaving it once more incomplete.

Given that law is incomplete, a crucial question is, who should hold the power to interpret or and adapt law in light of new circumstances. We argue that the allocation of LMLEP should be related to the lawmaking and law enforcement functions that different agents perform. In what follows, we attribute particular functions to different agents. These functions are admittedly stylized, but closely resemble the functions such agents perform in developed market economies. Legislatures are agents that make law ex ante, but typically

do not exercise any law enforcement powers. Courts usually make law ex post, that is after the critical facts of a case have been revealed. However, case law once made also has ex ante implications for actions taken in the future. Courts also exercise law enforcement powers. More importantly, courts enforce law only after a party other than the court brings an action. This party may be the victim, or it may be a state agent, such as a prosecutor or administrative agency. We therefore call courts reactive as opposed to proactive law enforcers. This design feature is crucial for courts to function as neutral arbiters.

Regulators also combine lawmaking and law enforcement functions. Just as legislatures, they make law ex ante. Unlike legislatures, regulators are typically vested only with limited lawmaking powers defined by certain activities or sectors, but within the scope of their lawmaking powers, they can change the law more flexibly and with fewer procedural requirements. This allows them to be more responsive to socioeconomic or technological change than legislatures. However, a similar function could be achieved by setting up a special parliamentary committee to deal with a specialized area of the law. The distinctive feature of regulators thus lies not in greater flexibility and/or greater expertise as compared with legislatures, but in combining lawmaking with proactive law enforcement. In contrast to courts, regulators can take the initiative and launch an investigation, enjoin actions, or impose fines, and do not have to wait for others to bring such actions. These particular features make regulators potentially very powerful law enforcers. The very same features raise concerns, as regulators may misuse these powers and suppress potentially beneficial actions or even engage in rent-seeking activities. To optimize law enforcement it is therefore important to identify the conditions under which the benefits of regulators outweigh their potential costs.

When law is highly complete, law enforcement by courts in a reactive fashion has sufficient deterrence effect. It may therefore be better to reallocate LMLEP to different agents. The optimal allocation of LMLEP is determined by many factors, including the level of expected harm and the cost of standardizing actions, which is crucial for regulators to enforce law effectively (for details of the analysis see Xu and Pistor 2002). When firms come to the market, investors face a lemons problem (Akerlof, 1970). Incidents of misrepresentation of information may seriously discourage investments in shares as is evidenced by market crashes in response to the revelation of stock fraud schemes or systemic misrepresentation in financial statements - as most recently demonstrated by the market response to the discovery about financial misreporting at Enron, Worldcom, etc.. Thus the expected degree of harm–undermining the functioning of securities market–is high. Agents that can enjoin actions before harm has been done, are therefore of critical importance. Theoretically, courts may also enjoin actions before harm has been done. They can do this, however, only after an action has been brought by someone else, such as a current shareholder or potential investor, who needs the right incentives to launch a lawsuit at the right time. By contrast, regulators can initiate enforcement procedures on their own and do not need to wait for others to bring action. Disclosure rules for financial markets can be standardized at reasonable costs. Lawmakers can define the type of information that must be disclosed, and adapt these rules over time as market behavior changes or as it becomes apparent that investors require different information. Giving regulators this power ensures

that disclosure rules will be adopted faster and more flexibly than leaving this task with legislatures. Moreover, regulators can use their expertise from law enforcement to decide on the need for further lawmaking activities.

In sum, under incomplete law legal systems that rely exclusively on reactive law enforcement by courts may experience deterrence failure and allocating LMLEP to regulators may be superior. The efficacy of regulators, however, hinges on their ability to rely on firm specific information that can be standardized at relatively low cost. As we will show in the next section, if standardized information is not available or not reliable, legal systems and markets may suffer from regulatory failure. Therefore, alternative governance mechanisms may be needed.

3 Deterrence and Regulatory Failure in Transition Economies

In transition economies, the incompleteness of law problem and the information problem are both more severe than in developed market economies. Given the scale and scope of economic and legal reforms that are taking place concurrently, law in transition countries is bound to be highly incomplete, i.e. its meaning and application to specific cases is largely untested and the scope of liability is therefore uncertain. As a result, court enforcement cannot effectively deter violations. The intuition for this argument is as follows: Deterrence is said to work effectively, if the level of expected punishment is sufficiently high (Becker, 1968). The Becker model is based on an implicit assumption that law is complete and that individuals refrain from carrying out harmful actions as long as the expected punishment is sufficiently high, because they know unambiguously the expected punishment for all possible harmful actions. Arguably, the problem of incomplete law is even more severe in transition economies than at the outset of financial market development in the West. When England's stock market soared in the nineteenth century during the railway mania, there were no securities laws or regulators that would monitor the amount or type of information companies disclosed when issuing shares to the public. But there was a highly developed contract and tort law at hand. Although the principles of the law had been developed with different cases in mind, a sufficiently large body of case law was available to determine how these principles should be applied to the newly arising securities fraud and misrepresentation of information cases. Moreover, courts had experience with handling matters of a commercial nature and with adapting law over time in response to new fact patterns. Although court enforcement ultimately proved to be insufficient for dealing with the problem of law enforcement in securities matters, courts nevertheless played an important role in advancing legal standards to deal with stock fraud schemes and imposing civil and criminal liability. Moreover, the legislature closely observed case law and readily intervened whenever it saw reasons to fill gaps left by the courts or to correct decisions made by them.

By contrast, Russia or China did not have much of a commercial law at the outset of transition. China had dismantled its legal system in the late 1950s and virtually started

from scratch after 1978 (Zheng, 1988). Russia was left with socialist law from the past and basic reform legislation developed during the period of perestroika (Black, Kraakman, and Hay, 1996; Pistor, 1997). The entire body not only of corporate and securities, but also of contract, tort , and white collar criminal law had to be developed anew. The pace of legal reform in transition economies has been remarkable. Most countries put the relevant laws on the books within a decade after the beginning of transition (Pistor, Raiser, and Gelfer, 2000).

However, enacting law on the books is only the very first step in establishing an effective legal system. The incomplete law theory helps explain why this is the case. Because law is incomplete, its meaning and implication for a particular fact pattern cannot be easily derived from statutory law alone. Even when law is highly specific, new fact patterns raise new questions about how the law should be interpreted. Russian courts, for example, had to determine whether a legal provision that prohibits a director from transacting on behalf of the company he is representing with a company in which he holds a substantial stake, also applies when the director acquired the stake shortly after the transaction had been entered into. It is impossible to stipulate all the possible meanings and applications of the fiduciary duties a director or managers owes to the corporation. Any attempt to do so would leave key aspects unresolved. By using broad, ambiguous terms, lawmakers in essence invite law enforcers to give meaning to this provision when applying it to specific cases, or put differently, they allocate residual lawmaking powers to enforcement agents, i.e. courts and/or regulators. Conversely, attempts to clearly articulate actions that are considered violations of the law invite strategies to circumvent the law and require future lawmaking to avoid major gaps in the law from developing. Given the pace of financial market development, the propensity for gaps to develop is high, which results in deterrence failure.

If law is incomplete neither individuals nor law enforcers can stipulate whether a particular action will fall within the scope of a law and will therefore face sanctions. To ensure compliance even with incomplete law, legal systems could increase the level of punishment. However, this might result in excessive punishment of harmless and potentially beneficial actions. To prevent this, the punishment level is typically pitched at a level that is insufficient to deter harmful actions when law is incomplete. Thus, law fails to deter optimally.

3.1 Model Setup

Ideally, the law should punish only actions that will actually result in substantial social harm. When law is incomplete, however, it is likely that law will be either under-enforced, or over-enforced. We define the measure of completeness of the law as the probability that the law will be enforced when the evidence of a harm is demonstrated. The probability is denoted by q where $q \in [\frac{1}{2}, 1]$. Obviously the law is complete, if $q = 1$.

The players in our model are share issuers; investors; law-makers; and law-enforcers.

The underlying value of shares is denoted as s. It is a random variable that follows a uniform distribution: $s \in [\mu - S, \mu + S]$. S is a measure of heterogeneity of shares traded in the financial market. It can also be interprested as a measure of the degree of information asymmetry between share-issuers and investors.

Each share-issuer observes his own realized s as private information. Based on this information the share-issuer determines his disclosure strategy. The disclosure strategy is a function of the underlying value of shares, s, δs. When the share issuer cheats, $\delta > 1$; when he is honest, i.e. when he discloses truthfully, $\delta = 1$.

Investors derive welfare or harm from investing in shares, which depends on the disclosure strategy chosen by the share-issuer:

$$U(\delta, s) = ws - \underbrace{hs(\delta - 1)}_{\text{harm as a result of cheating}}$$

AInvestors may collect information about the likelihood that the issuer will cheat, but cannot discover s. We denote the additional, noisy information that issuers may collect as $\delta + \varepsilon - 1$, where noise $\varepsilon \in [-x, x]$ is determined by the cost spent on collecting information. To make the model simple, we make x exogenous.

Given the evidence $\delta + \varepsilon - 1$, suppose the punishment for cheating is $\tau(\delta + \varepsilon - 1)^2$, a share-issuer's payoff from issuing shares with a strategy δ is the following:

$$V = bs + s(\delta - 1) - \underbrace{q\tau(\delta + \varepsilon - 1)^2}_{\text{punishment for cheating}} - \underbrace{(1 - q)\eta s\tau}_{\text{punishment of harmless actions}}.$$

Adding up payoffs of share-issuers and investors, the social welfare function is defined as follows:

$$SW = \int_{\mu - S}^{\mu + S} \int_{-x}^{x} (V(\delta; s, \tau(\delta, \varepsilon)) + u(\delta; s)) f(s) f(\varepsilon) d\varepsilon ds.$$

3.2 Deterrence Failure under a Court Regime

We suggest that the larger a financial market, the more serious the deterrence failure problem. The reason is that for any given punishment level, when market value increases the issuer's benefits from cheating also increases. To deter cheating the level of punishment would have to be increased. But for any given incompleteness level of law, this would also increase the expected punishment of harmless actions. To avoid excessive punishment of such actions, the deterrence level is restrained.

The combination of highly incomplete law, low levels of punishment relative to the level of incompleteness, and high market values may result in deterrence failure. The more incomplete the law, the greater the likelihood that deterrence occurs even when financial markets are still small. Given the level of incomplete law in transition economies, they are likely to suffer deterrence failure at an earlier stage of financial market development than did countries with better-developed legal systems.

Following the classic enforcement literature (Becker and Stigler) we assume that the key function of law is to deter harmful actions and that the key function of courts is to re-enforce the deterrence power of the law by enforcing those that violate it. Given the degree of completeness of law q, marginal punishment level τ, and the quality of evidence x, the

share-issuer chooses a disclosure strategy to maximize his payoff, that is

$$\max_{\delta} \frac{1}{2x} \int_{-x}^{x} \left(bs + s\left(\delta - 1\right) - q\tau\left(\delta + \varepsilon - 1\right)^2 - \left(1 - q\right)\eta s\tau \right) d\varepsilon.$$

The issuer's optimal strategy is :

$$\delta = \frac{s}{2q\tau} + 1.$$

At date 0, the lawmaker takes share-issuer's $\delta\left(\tau\right)$ as given, and for the known q determines the optimal punishment level τ to maximize social welfare

$$SW = \max_{\tau,\delta} \frac{1}{4xS} \int_{-x}^{x} \int_{\mu-S}^{\mu+S} \left(U\left(\delta, s\right) + V\left(s, \delta, \tau, q\right)\right) ds d\varepsilon$$

$$\begin{aligned} s.t. \qquad \delta &= \frac{s}{2\tau q} + 1 && \text{(IC)} \\ v &\leq V\left(s, \delta, \tau, q\right) && \text{(IR)} \end{aligned}$$

By solving this model, it is clear that when only courts enforce the law in a reactive manner, the effectiveness of law-enforcement is determined by the level of completeness of the law. In particular, when law is complete ($q = 1$), if evidence is perfect ($x = 0$), the first best is achieved that at equilibrium there is no cheating, i.e. $\delta = 1$. This is because when $q = 1$ and $x = 0$ the optimal punishment level can be infinitely high. Under complete law ($x > 0$) the second best is achieved if evidence is perfect, so that at equilibrium all issuers will issue shares with 'optimal' level of cheating,

$$\delta^*\left(q = 1\right) > 1,$$

which is induced by a finite level of punishment at equilibrium:

$$\tau^*\left(q = 1\right).$$

However, when law is incomplete ($q < 1$) at equilibrium there is more cheating than the second best

$$\delta^i > \delta^*.$$

This is caused by a weaker (than the second best) optimal punishment level,

$$\tau^i < \tau^*.$$

The proof of the above results are in Xu and Pistor (2003).

Suboptimal punishment can result in deterrence failure. We define deterrence failure as a decline in social welfare as a result of the legal system's inability to deter harmful actions.

To illustrate deterrence failure, we use the expected underlying value of the market μ as an example. In principle, when the market value μ increases, both share-issuers and investors should benefit. When law is incomplete, however, an increase in market value may result in deterrence failure.

Proposition 1 *For any given degree of incompleteness of law, i.e. for any $q < 1$, there exists a critical value $\underline{\mu}$ at which social welfare decreases in μ when $\mu > \underline{\mu}$ (deterrence failure).*

Proof. To be provided.

The intuition of deterrence failure is that when μ goes up, share-issuers will have higher s. This increase their temptation to cheat; yet punishment τ increases at a decreasing rate when μ increases. The reason is that when law is incomplete, τ is designed to increase at a lower rate in order to avoid preventing actions that may be socially beneficial.

We suppose that compared with developed market economies, emerging markets and transition economies have lower q and higher S. The following result shows how this affects financial markets in transition economies.

Proposition 2 *For given parameters, $\underline{\mu}$ increases in q and decreases in S such that*

- there exists $\underline{q}$ so that if $q < \underline{q}$, the economy suffers from deterrence failure; or
- there exists $\bar{S}$ so that that if $S > \bar{S}$ the economy suffers from deterrence failure.

Proof. To be provided.

This result says that ceteris paribus, an economy more incomplete law (lower q) as well as an economy with higher levels of asymmetric information (higher S) has a lower critical value $\underline{\mu}$ at which deterrence failure will occur.

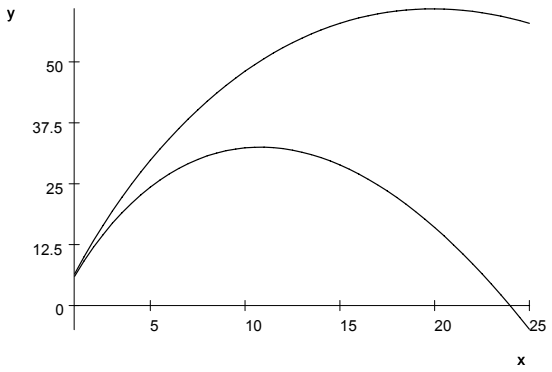
The following simulation result further illustrate this point.

Example 1 *This example illustrate two economies, a **developed economy (DM)** $q = 0.9$; and an **emerging market economy (EM)**, $q = 0.83$. The value of other parameters for the two economies are identical:*

w	S	η	c	h	b	x, ψ
9	*1*	*6*	*1*	*2*	*.5*	*1*

In the diagram the vertical line represents social welfare SW^i and the horizontal line is μ. As can be seen, for a developed market (DM) with $q = .9$ deterrence failure occurs when $\mu > 20$. By contrast, for transition economies (TE) with $q = .83$ deterrence failure occurs whenever $\mu > 10$. If we are examining an economy with the same set of parameters, and $\mu = 10$, then $\underline{q} = 0.83$. In other words, for any TE with $q < .83$ deterrence failure occurs. Finally, an incomplete law can result in economic collapse when $\mu > 24$; in comparison, a

DE breaks down only when $\mu > 45$ (not shown in the diagram).



$SW^i(\mu; q = .9)$ *and* $SW^i(\mu; q = .83)$

3.3 Optimal Regulatory Regime

A possible way to enhance the effectiveness of law enforcement and to avoid social welfare decline is to reallocate law enforcement powers to a different agent, for example by introducing a regulator. Regulators can enforce law ex ante by enjoining actions that have the potential of causing harm; they can establish entry barriers and use them to screen companies prior to listing. The efficacy of these regulatory tools, however, depends crucially on the quality of company specific information. To see this, consider how a regulator enforces law proactively. The regulator functions as a gatekeeper for companies wishing to come to the market. Companies have to submit information on the basis of which regulators can approve, deny approval, or defer a final decision until additional information has been provided. For regulators to make meaningful decisions, the information initially provided as well as the additional information requested after the ”smell test” (Coffee, 1999a) has been performed, must be reliable.

In this section we explore the properties of regulator. We define a regulator as a law enforcement agent that has the power to initiate law enforcement proceedings, including ex ante and ex post law enforcement, and is therefore better placed to prevent harmful actions from occruing.

A regulator will introduce an approval regime. In developed market economies, this is typically based on disclosure, although merit requirements are also in use. For now we focus on disclosure. All issuers must disclose δs to investors and to the regulator. Once this information has been submitted, the regulator conducts a ”smell test”, on the basis of which it can request additional information, which we denote as k.

A major feature of transition economies and emerging market economies is the lack of reliable information. To capture this, we assume that in TEs information k can be fabricated.

Thus, for any disclosure strategy δ the possibility that k is fabricated implies $\beta\delta$, where $\beta \in [0,1]$. In a perfect economy $\beta = 1$; in an under-developed economy $\beta \to 1$; in a transition economy or emerging market $\beta \ll 1$.

The regulator enforces the disclosure rule based on the issuer's perceived strategy $\beta\delta$ and k. The regulator will approve the share issue with a probability of $\alpha(\beta\delta, k)$. For purposes of simplification, we treat the approval rule as a reduced form which satisfies the following properties, when $\beta = 1$:

- conservative regulator: when the regulator has no information ($k = 0$) about s, approval is denied: $\alpha(\delta, k = 0) = 0$;
- effective regulator: the greater the cheating the smaller the chance of approval: $\frac{d}{d\delta}\alpha(\delta, k) \leq 0$;
- efficient regulator: the more information the more accurate the approval rule: $\frac{d^2}{d\delta dk}\alpha(\delta, k) < 0; \alpha(\delta = 1; k \to \infty) = 1$

The following functional form of the approval rule satisfies the above properties:

$$\begin{aligned} \Pr(\text{aproval}) &\equiv \alpha(\delta, k) \\ &= \left(1 - e^{-k}\right) \exp(1 - \beta\delta) \text{ , for } \beta\delta \geq 1 \text{ which is satisfied at equilibrium} \end{aligned}$$

We also assume that the cost of disclosing k is born by issuers regardless of the approval result. Thus, a share-issuer chooses strategy δ to maximize his payoff:

$$\max_{\delta} \left\{ \left(1 - e^{-k}\right) \exp(1 - \beta\delta) (s(\delta - 1 + b)) - ck \right\}$$

As the solution, the optimal disclosure strategy is

$$\delta^* = \frac{1}{\beta} + 1 - b.$$

Applying this to emerging markets, where β is lower than in developed economies, we find that with the same disclosure rule share-issuers in emerging markets cheat more than their counter parts in developed economies. This is summarized in the following Lemma.

Lemma 3 *With lower value of β in emerging markets and transtiion economies, share-issuers cheat more than in developing economies under identical disclosure rules.*

Given share-issuers' optimal disclosure strategy, the corresponding approval rule is:

$$\alpha(k, s; \delta^*) = \left(1 - e^{-k}\right) e^{-\beta(1-b)}.$$

The regulator chooses k to maximize social welfare:

$$SW^R(k) = \max_k \frac{1}{2S} \int_{\mu - S}^{\mu + S} (\alpha(\delta, k)(V(\delta) + u(\delta)) - ck)\, ds$$

$$\begin{aligned} s.t.\ \delta &= \frac{1}{\beta} + 1 - b \qquad \text{(IC)} \\ k &\geq 0 \end{aligned}$$

From this, we derive the optimal approval regime.

Lemma 4 *The optimal regulatory requirement is*

$$k^R = \beta(b-1) - \ln \frac{c\beta}{\mu(1 + w\beta + h(b\beta - 1))}$$

and k^R increases in β.

Using the optimal disclosure requirement k^R, which is enforced by approval rule α, at equilibrium social-welfare is:

Lemma 5 *The social-welfare under optimal regulatory regime is*

$$SW^R = e^{\beta(b-1)}\mu\left(w + hb - \frac{1}{\beta}(h-1)\right) - c\left(k^R + 1\right).$$

3.4 Regulatory Failure

The above analysis suggests that an effective regulatory regime is contingent on the availability of meaningful information. From the above Lemma one can see that when β is only slightly lower than one, it has negative impact on the economy, which is linear. In particular, when $\beta \ll 1$, the negative impact of bad information becomes exponential.

In Transition economies reliable company specific information is difficult to obtain and standard practices, such as disclosure of financial information may be more misleading than reflecting the true worth of a company. If mandatory disclosure rules are common, financial information was created by translating existing accounts that followed socialist book-keeping principles with no relation to market prices into accepted market based accounts. Chinese balance sheets to this day have double entries: one for the value of company assets according to legal accounting principles, which may be legal, but do not present the intrinsic value of the firm and another with re-evaluation estimates, which may be closer to the actual market value, but remain guesswork in an environment where markets for many assets remain underdeveloped. Similarly, it has been pointed out that in transition economies financial accounts often do not reflect company practices, in part because of tax avoidance issues, in part because companies are struggling with how to record old debt, or barter transactions (Bailey, 1995). The information problem is aggravated by the absence of reliable independent sources of information or experts.

In this environment, proactive law enforcement by regulators cannot be effective. Under a disclosure rule, a regulator would require an issuer to reveal a set of standardized information. It would then use this information to perform a ”smell test”, i.e. to determine

whether the public issue can go forward, or whether additional information should be requested. Once the additional information is revealed, the regulator decides whether the company may or may not go forward with the issuance. If the information that is submitted is noisy or manipulated, the smell test and the final decision will have a large margin of error. Put differently, in an environment where information is unreliable, a regulator lacks the necessary ingredient (reliable information) for effective proactive enforcement. The result is regulatory failure.

As in the example of deterrence failure, we use μ to illustrate regulatory failure.

Proposition 6 *For given parameters, in a regulatory regime there exits a $\underline{\beta}$ so that when $\beta < \underline{\beta}$ social-welfare decreases in μ (regulatory failure).*

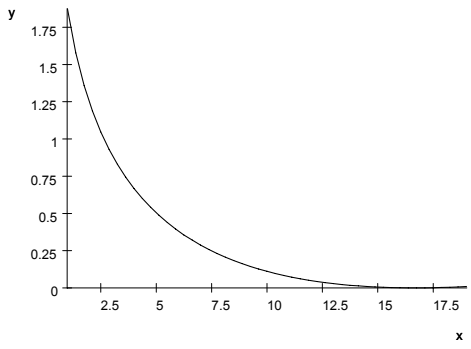
Proof. $\frac{d}{d\mu} SW^R = e^{\beta(b-1)} \left(w + hb - \frac{1}{\beta}(h-1) \right) - \frac{c}{\mu} < 0$, if $\beta < \frac{h-1}{w+hb}$. Obviously $\underline{\beta} < \frac{h-1}{w+hb}$ because of the term $-\frac{c}{\mu}$. ■

The intuition of regulatory failure is the following. When μ increases, both investors and issuers should benefit, and thus social welfare should go up. However, the incentives for issuer to cheat are increasing in μ,because the disclosed information is unreliable and cannot be used effectively to prevent issuers from cheating. When the quality of the disclosed information is too poor ($\beta < \underline{\beta}$), a regulatory regime based on disclosure fails.

Example 2 ***Disclosure failure.*** *In an emerging market or transition economy, $\beta = .35$. And set other parameters in the model as:*

S	w	c	h	b
1	*9*	*1*	*5*	*.5*

The following simulation result shows that the socialwelfare under the optimal regulatory regime declines when μ increases.



Disclosure Failure: $SW^R(\mu; \beta = .35)$

3.5 Combining Deterrence and Regulatory Failure

In this section we model the combined impact of deterrence and regulatory failure.

We still assume that lawmakers are social welfare maximizers. The lawmaker's objective is to compare social welfare of the two alternative regimes (court regime and regulatory regime) and to choose the regime, which generates the highest social welfare, i.e.

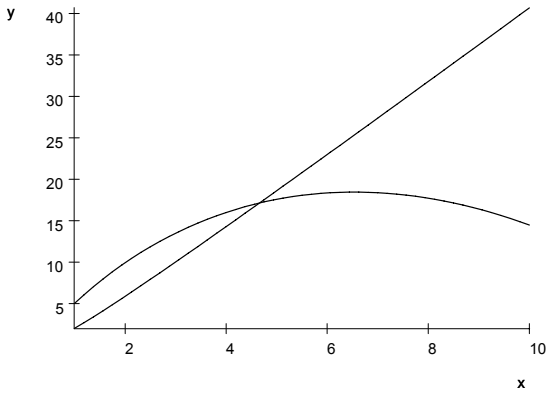
$$\max\left\{SW^{i}\left(\tau;q\right),SW^{R}\left(k;c\right)\right\}$$

First we illustrate regime selection in a developed economy where law is more complete and information more reliable.

Example 3 *This example illustrates a DE where law is less incomplete ($q = 0.9$) and reliable information is disclosed ($\beta = 1$). The other parameters in the economy are as follows:*

x, ψ	S	w	c	h	b
1	*1*	*9*	*1*	*5*	*.5*

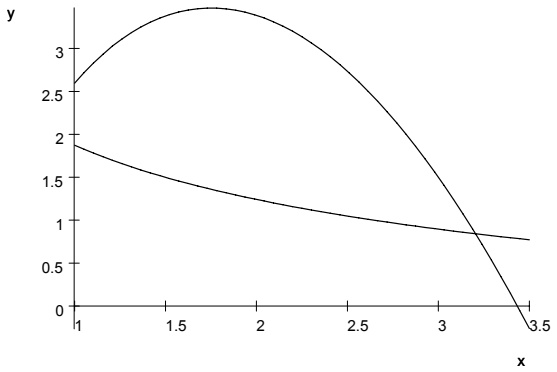
The simulation shows that deterrence failure occurs at $\underline{\mu} = 6.4$. A regulatory regime is more effective when $\mu > 4.8$. However, when $\mu < 4.8$ a court regime dominates. In a developed economy, combining the two law enforcement regimes, socialwelfare always increases in μ.



$SW^{i}\left(\mu;q=.9\right)$ *vs* $SW^{R}\left(\mu;\beta=1\right)$

Example 4 ***Simultaneous regulatory failure and deterrence failure:*** *Now take an emerging market economy (EM) where all parameters have the same value as in the above example except that the law is even more incomplete ($q = 0.7$) and the quality of the disclosed information is much worse ($\beta = .35$). The simulation results show that the more incomplete the law, the greater the probability of deterrence failure – now for $\mu > \underline{\mu} = 1.8$.*

The deterrence failure problem could be mitigated, if a court regime could be replaced by a well functioning regulatory regime. However, as shown in the diagram, given the low quality of disclosed information regulatory failure occurs. As a result, even under a regulatory regime social welfare decreases in μ. As a result, both regimes face decreasing social welfare for $\mu > \underline{\mu}$. Suppose that in this economy $\mu = 3.5$. Then the social welfare of this economy under a court regime is negative; and, because of regulatory failure, the social welfare under a regulatory regime is also very low ($SW^R = .8$).



$SW^i(\mu; q = .7)$*vs* $SW^R(\mu; \beta = .35)$

Proposition 7 *For the given parameters, there exist $\underline{q}$ and $\underline{\beta}$ so that in an emerging market economy where $q < \underline{q}$ and $\beta < \underline{\beta}$ deterrence and regulatory failure will occur.*

Proof. To be provided.

4 Governing Financial Markets: The Experience of Russia and China

China and Russia embarked on policies designed to promote the development of financial markets in corporate securities in the early 1990s. There is evidence from China that already in the 1980s companies were searching for new ways to raise funds and many started to issue shares. Markets for shares sprung up spontaneously, but were later regulated out of existence (Zhu, 2000). In Russia, commodity markets spearheaded the development of financial markets in the late 1980s, but it began in earnest only with the dissemination of privatization vouchers in 1991 and with the trading of corporate shares subsequent to privatization (Frye, 1997).

Although factors other than law enforcement may have an impact on financial market development, research in recent years has pointed out the importance of law as a determinant of financial market development (La Porta et al., 1997; Pistor, 2001). We generate several predictions from our theoretical analysis for the ability of these two transition economies to build effective governance structures for financial markets.

- Given high levels of incomplete law in transition economies, a court regime will not be effective in deterring securities fraud. Courts will therefore play only a minor role in law enforcement at least during the initial phase of financial market development.
- Law enforcement by regulators is contingent on the quality of information regulators obtain from companies. Given the low quality of company information available from (former) state owned companies in transition economies and the lack of a well developed accounting and auditing profession, regulators will not be able to ensure effective law enforcement.
- Absent effective law enforcement, financial market development will suffer from deterrence as well as regulatory failure, unless countries find ways to overcome the incomplete and/or the information problem.

4.1 The Case of Russia

We begin by describing Russia's experience with establishing governing structures for financial markets. Russia's experience fits more squarely the familiar pattern of law enforcement by courts cum regulators. Russia attempted to jump start financial market development by launching a mass privatization program in 1992, which created a nation of shareholders. All Russian citizens were given vouchers, which they could invest either directly or through an intermediary in the company of their choice. Over 15,000 companies were organized as open joint stock companies the shares of which were freely tradable (Boycko, Shleifer, and Vishny, 1995). It was hoped that the auction process would reveal company specific information, as voucher investors could chose among different companies. This proved to be unsuccessful, however, because companies were not put on the auction block simultaneously. Moreover, investors from afar could obtain only very little information about companies. Although the government used a standard formula to describe the companies' underlying assets, number of employees and financial status, the information revealed little about the potential of the company to survive in a competitive market environment. Not surprisingly, most voucher investors invested locally, often in the firms that employed them. Financial intermediaries, such as voucher investment funds, also had little trust in financial information they obtained from the companies and invested in bribing company officials for better information (Frydman, Pistor, and Rapaczynski, 1996).

Russia completed the mass privatization program in 1994. At that time, the commercial court system, the arbitrazh courts, were already functioning. The courts have handled securities disputes on a regular basis: 1,834 cases in 1997 and as many as 3,483 in 1999, and 2,403 in 2000. To be sure, these numbers include all disputes related to financial instruments and disputes involving corporate stock may only amount to a small fraction

of these numbers. Nevertheless, the numbers do suggest that courts were functioning and issuing rulings on a fairly regular basis.

In November of 1994, President Yeltsin established the Federal Commission for Securities Market Regulation (FCSM) by Presidential decree. It took two more years for a comprehensive securities law to be adopted by the Russian parliament. This new law vested the FCSM with the right to oversee financial markets. Also in 1996, Russia's first comprehensive corporate law was enacted. The corporate law was based on a draft written by leading American scholars in comparative corporate governance and draws heavily, though not exclusively, on US models (Black and Kraakman, 1996). The two laws followed somewhat different strategies. The corporate law sought to strengthen shareholder rights, but avoided allocating strong lawmaking and law enforcement powers to courts. This was based on the assessment that Russian courts were slow, incompetent, and even corrupt (Black and Kraakman, 1996). The drafters of the code attempted to circumvent courts by endowing shareholders with extensive self-enforcing rights, including extensive information and voting rights. This strategy was not successful, mostly because the so-called self-enforcing rights proved to be at best "self-help" right, as shareholders were unable to enforce them against management. The Securities Law, by contrast, vested courts with the ultimate power to enforce the securities law. The newly created FCSM had the right to initiate enforcement procedures, but in order to impose fines or delist a company, it had to bring action in court. This strategy can be interpreted as a response to the legacy of powerful state agents who were feared to undermine rather than support market developments in the post socialist countries. Alternatively, it may reflect the ongoing power struggle between the President Yeltsin who had established the FCSM by decree and staffed it with his followers on the one hand, and the Russian parliament (State Duma), which was more skeptical about Yeltsin's economic policies, on the other. In any case, the failure to endow the new regulator with independent enforcement powers, substantially weakened its effectiveness. Still, even a regulator with greater capacity would have faced the problem of low quality information, which is likely to result in either over- or under-enforcement.

In response to continuing enforcement problems, the law enforcement powers of the FCSM were expanded by a Presidential Decree in 1996. Finally, an overhaul of the FCSM's powers occurred in 1999 with the adoption of the Investor Protection Law, which took effect at the beginning of 2000.[3] The new law allows the FCSM to fine companies that fail to comply with the provisions of the Securities Law or the Investor Protection Law for an amount of up to 10,000 times the minimum wage without having to go through the courts. Fines may be imposed for violating registration requirements, among others, for failing to disclose relevant information and for disseminating misleading information. The FCSM may delegate enforcement authority to its branch offices in different parts of the country.

As a result of these reforms, Russia today has a legal framework in place that resembles in many aspects US style securities regulation. Prior to issuing shares to the public, companies need to register with the FCSM and disclose relevant company information. Failure to do so can be punished by a regulator that has the legal power to enjoin actions, to fine, and to initiate court enforcement procedures. In addition, the FCSM makes rules

[3] Law No. 46 on the Protection of Investors Rights of March 1999.

and implementing regulations to adapt to a changing market environment. Information on enforcement activities also suggests that Russia has made some headway in establishing a reasonable legal framework for financial market development. In the first year after the enactment of the Investor Protection Law, the FCSM conducted 1,318 enforcement proceedings in 2001 there were over 6,000.[4]

Still, despite remarkable progress in developing a legal framework that resembles in large parts those in developed market economies, as of now this system has not contributed much to financial market development. Russia's financial market collapsed in August 1998 as a result of the government's default on its loans. In 2002 Russia had once again become a star performers among emerging markets. However, these results can largely be attributed to rising oil prices. Indeed, as of 1999, 73% of Russia's total market capitalization was made up of companies in the oil, gas, and mining sectors, followed by utilities and telecommunications companies (IFC, 1996). Moreover, there have been only few initial public share offerings, suggesting that firms are not using equity markets for external funds, or conversely, that investors have little appetite in parting with their money given the uncertainties they faced in obtaining a return on their investment. Finally, and most revealing for the purpose of our analysis, the stocks traded on Russian exchanges move overwhelmingly together. Morck, Yeung, and Yu (1999) have observed that stocks in emerging markets tend to move together, whereas stock of different firms in developed market economies move more independently from each other. They suggest that the reason for this is the lack of firm specific information. Using the co-movement of stock as an indicator for firm specific information they find that countries range from co-movement of .03 in the US to close to .6 (Morck, Yeung, and Yu, 1999). In most cases, co-movement declined over time. In Russia, the level of co-movement was .28 in 1995, increased to .46 in 1998 and reached a level of .37 in 2000.[5] This suggests that the legal reforms have not enhanced the level of firm specific information available to investors. Even leaving aside the data point for 1998, which is affected by the collapse of the financial market in that year, the level of co-movement in 2000 was still higher than in 1995. The lack of reliable firm-specific information not only undermines investors' ability to make rational investment choices. It also undermines the ability of the regulator to effectively enforce the law, implying a high threat of regulatory failure and market collapse.

4.2 The Case of China

The Chinese case differs in several important ways from the Russian case. In China, the privatization of state owned companies did not precede market development, but may now come at the end of a ten year process, which saw state owned enterprises being listed on stock exchanges and parts of their shares being traded by individual investors. Roughly 60-70% of company shares remained in state hands, with only 30-40% issued to private investors. In November 2002, the State Council issued regulations that allow foreign investors to acquire stakes held by various state agencies in listed companies. Rather than

[4] Information published in various issues of the official gazette of the Russian Supreme Arbitrazh Court (Vestnik Vyshego Arbitrazhnogo Suda).

[5] These data have been kindly made available by Bernard Yeung.

developing institutions from scratch, China used existing bureaucracies as initial regulators and monitors of financial markets. Only gradually were these institutions replaced with a newly established securities regulator. Moreover, although China has also created a remarkably developed legal infrastructure for financial markets over the past ten years, the markets have been governed for most of this period by mechanisms, which are not strictly law enforcement mechanisms, and which we therefore call "beyond law enforcement". Most importantly, China used a decentralized selection procedure for identifying companies that were to be listed and used a quota system to incentivize local agents to invest in the selection process.

Regarding the development of the legal infrastructure for financial markets, we observe a proliferation of agencies and rules intercepted by several attempts to streamline and centralize the regulatory infrastructure. The People's Bank of China (PBC) was designated as the key agent for financial market supervision in 1986 and retained this function officially until 1992. There is evidence that to this day, the PBC and its local branches take part in monitoring markets and ensuring law enforcement.[6] In addition, the office of the state auditor has continued to monitor SOEs, including those whose shares are traded on the exchange. At the regional level, the two major stock exchanges that emerged in 1990, Shanghai and Shenzhen, adopted listing rules and regulations. Over time, their powers were taken over by regulators at the central level. In fact, under the 1999 Securities Law, the stock exchanges seem to serve a function more akin to an agent of China's Securities Regulatory Commission (CSRC), which has emerged as the major financial market regulator.

In 1992, the State Council established the State Council Securities Commission (SCSC). The SCSC became an important body for developing policies for financial markets, but did not become a full-blown regulator. This task was taken up by a second body created by the State Council in 1993, the CSRC. In 1998, the two agencies were merged into a single agency, the CSRC. The chairman of the CSRC is ex officio member of the State Council. Thus, there is no attempt to create an independent regulatory body. The CSRC was given some lawmaking power, and it issued listing requirements as early as 1993. However, until the adoption of the Securities Law in 1999 and the strengthening of the CSRC through its merger with the SCSC, the State Council issued most of the path setting rules and policies that governed financial markets, including the 1993 regulations on the management of stock exchanges and securities fraud, and the 1995 adoption of B-share regulations.

In 1994, China adopted the first company law at the national level. The law establishes detailed merit requirements for companies wishing to issue shares and to be listed at a stock exchange. A company must, among others, show that it has operated profitably for at least three years; that is has issued shares to the public; that at least 25% of these are in the hands of the general public; and that its registered capital exceeds RMB 400 million. In addition, the company needs approval from the relevant securities authority and the stock exchange. In addition to these requirements, companies must use one of the specially licensed investment banks as under-writers and can choose only among especially licensed

[6] In fact, according to the Law of the People's Republic of China on the People's Bank of China passed on March 18, 1995, People's Bank Of China (PBC), one of the functions of the Bank is the supervision of financial markets. On several occasions, the PBC has participated in the promulgation of sanctions by the CSRC against violators of financial market regulation.

law firms to help them prepare the relevant work for share issuance and listing. In 1999, China's first comprehensive Securities Law was enacted. It does not refer directly to the CSRC, but to the State Council's "authorized unit", which is in charge of financial market supervision, and which is generally interpreted to be the CSRC. The law vests this unit with primary functions of market regulation, but also allows it to delegate decisions, including admission to trading, to the exchanges. Under the law, the CSRC may issue implementing regulations and has made extensive use of this authority. In February 2000, the CSRC issued new regulations for stock offerings; in March it decreed that for new companies share issuance would be spread over a 24 months period; in the same month it established new guidelines for assessing the creditworthiness of underwriters.

Law enforcement activities by the institutions listed above have been rare when compared with Russia and in light of China's much greater financial market development. Administrative sanctions enforced by the CSRC may take several forms, ranging from informal rebukes to a formal ruling. Data are available only for the latter. Between 1997 and the end of 2001, the CSRS published 205 formal rulings, including 15 for market manipulation, 2 for the dissemination of wrongful information, 9 for insider trading, 39 for violation of disclosure rules, 3 listing on stock exchanges outside the PRC without relevant approval, as well as for a number of violations related to the management of client accounts and the use of private accounts for speculating in shares (Pissler, 2003). During this period there were more than 900 companies listed on Chinese stock exchanges on average, more than four times as many as in Russia.

Until recently, law suits in securities matters have been virtually absent in China. Neither corporate nor the securities law gives investors explicit standing in court. Attempts by investors and their lawyers to bring class action suits were frustrated by a Supreme Court Ruling in September 2001.[7] The opinion stated that courts did not have the competence to handle these cases at the time and that they would therefore not accept such cases. In January of 2002, this ruling was modified by stating that in cases of companies issuing misleading information in a prospectus, a case may be heard by a court, provided that the CSRC has investigated the matter and effectively penalized the company.[8] Finally, in January 2003, the Supreme Court issued a new guiding opinion, in which it lays down in great detail the conditions for investor suits.[9] This decision has already triggered a new wave of litigation. However, how courts will handle these cases, and whether court enforcement will ultimately enhance the effectiveness of law enforcement remains to be seen. For the past 10 years of China's remarkable financial market development, these reactive enforcement mechanisms have not played an important role.

Looking only at the familiar framework for financial market regulation outlined above would therefore miss much of governance structure for the early period of financial market development in China. For a deeper understanding, one must take a look at measures beyond law enforcement. The most important governance structure for financial markets beyond law enforcement used in China in our view is the decentralized process of selecting

[7] People's Supreme Court Notice on the Temporary Suspension on the Hearing of Securities Related Civil Compensation Cases of 21 September 2001.

[8] Decisions of China's Supreme Court of 15 January 2002.

[9] Decision of 10 January 2003.

companies that could issue shares to the public combined with a quota system that created competition among the regions. We do not claim that the system was designed for the purposes we describe, but we suggest that it has fulfilled important functions where standard law enforcement mechanisms failed as a result of highly incomplete law and lack of reliable standardized information. Under the quota system, Beijing allocated to different provinces and/or ministries a stated amount in domestic currency that companies owned by these agents could use for issuing shares to the public. There is little data available on how this process worked in practice; we rely on a detailed analysis of the early development of the Chinese capital market (Fang, 1995) as well as on interviews with knowledgeable insiders. The total amount of capital made available to companies was apparently derived in consultation with the People's Bank of China. The PBoC sought to reduce lending to state-owned enterprises, and the amount by which it cut back its lending was replaced by options to raise equity funds. The distribution of these options–expressed in the value of RMB allotted to different provinces and ministries–was the result of an intense internal bargaining process. Factors that were beneficial for a region were its size and economic importance, in particular past economic success, as well as the performance of companies , which were already traded on the market.

Once the amount was set, it was up to the provincial government, in collaboration with the company's owners, including ministries, local branches of the PoBC, and other state agents with a stake in the company, to identify the company for listing and nominate it. In this process, companies were frequently 'repackaged'. Valuable assets were separated by establishing a subsidiary and this subsidiary rather than the parent company would be nominated for listing (Oi and Walder, 1999). Sometimes companies were merged, or assets from different companies were combined in a jointly owned entity that would then be put forward for listing. After the company was nominated by the province, the final decision was left to the CSRC. The CSRC frequently used delaying strategies rather than outright refusal in restricting access to the market. In taking such measures the CSRC was influenced not only by characteristics of a particular company and/or province, but by concerns about the absorption capacity of the market. In several cases, the CSRC has apparently been pressured by "higher-ups" to approve the listing of companies that it had initially rejected.

The most important aspect of the quota system in our view is that it triggered a process of decentralized information gathering by knowledgeable agents of the system at a time when it was impossible to standardize the information that might be relevant for investors, and when intermediaries were not available to verify or certify this information. The selection process helped to unearth information about companies from agents at the local level that had access to company information not available to the regulatory in Beijing. It thereby improved the information basis for those who had to assess the future potential of companies and to give them access to the market. Because the system involved the participation of various state agents, it ensured that it was sufficiently contested to reveal critical information. The relevant company information for making such decisions were not primarily financial reports about past performances, as past performance was at best marginally based on market criteria. Instead, it involved a qualitative assessment of the company's assets and management potential - i.e. information, that cannot be easily standardized.

This positive interpretation of the quota system is contingent on the notion that provinces and ministries involved in the process of selecting companies had incentives to select better rather than worst companies. There is some evidence that the system worked to create such incentives. Substituting state credits with equity funds as such was not a guarantee that provinces and ministries would in fact invest in selecting viable companies for listing on the market. Indeed, provinces may have hoped to diversify the burden of loss making companies, and thus may have preferred to bring their lemons to the market (Akerlof and Romer, 1993). However, the fact that identifiable state agencies were involved in the process of selecting companies also implied that they could be held responsible for bad decisions. On several occasions, regional governments were pressured to ”take care of their children” and bail out loss making firms. Moreover, regional governors have increasingly come to see the performance of their regions as a stepping stone in their own political career. This prospect could be seriously harmed, if one of ”their” companies went under. A substantial number of local or regional state agents also serves concurrently functions in the central political apparatus, such as the Polit Bureau. This ”political integration” (Huang, 1996) has furthered the recognition of broader national interests - i.e. the functioning of a viable securities market - by local state agents. Finally, failure by companies from a particular region or ministry could deprive that region or ministry of future allocations of equity quotas. In sum, the quota system instilled some measure of competition into the system which created incentives for investing in the selection process of companies. We do not suggest that the system ensured that always the best companies were selected, but propose that it created disincentives for bringing the worst companies to the market and thereby considerably reduced the chances of creating a market for lemons.

Still, the quota system produced its own problems. Most importantly, quotas could not used up expediently, as the CSRC kept a cap on the total number of companies that could access the market in a given year. As of 1997 no new quotas were established. In 2000 China formally announced that it would move away from the quota system and that when determining to list a company, the CSRC would rely increasingly on listing requirements established in the company law, its own listing requirements, and information available in financial data that were certified by especially licensed intermediaries.

The decentralized process of selecting companies without pre-established criteria and transparent sources of information is obviously vulnerable to corruption. The negotiations among various state agencies are non-public and as such non-transparent, making monitoring difficult, if not impossible, and thereby reducing accountability. Apart from the minimum merit requirements established in the 1994 company law, which were effectively over-ruled by the quota system, clear criteria for selecting companies were absent, creating the appearance that the selection process was a rather murky undertaking. In fact, news reports suggest that the process frequently disfavored companies with less political influence but perhaps higher merits. Still, the sanctions regions or ministries faced for bringing lemons to the market that would soon fail were sufficiently strong to avoid strategies that rested entirely on political bargains and not on economic merits. Moreover, each nomination of a company was the result of a multi-party bargain, which implied that the various parties kept an eye on how many private benefits their counterparts sought to extract from the bargain.

4.3 Russian and China Compared

On any standard measure of stock market performance, including the number of listed companies, market capitalization, and market turnover as a measure of liquidity (Levine and Zervos, 1996), China outperforms Russia. As of January 2002, there were over 1131 listed companies in China - up from 10 in 1990, and compared to 245 in Russia. Market capitalization as a percentage of GDP was at US$ 524 billion, whereas in Russia it stood at US$ 62.9 billion (Gao 2002) Market capitalization data have to be corrected for the stakes closely held by the state, which amounts to about 60% of total company shares. Note, however, that a similar correction would have to be made for Russian firms, as large blockholders, including state agencies or entities controlled by the state, control on average over 50% of companies that are listed on the market (Kuznetsov and Muravyov, 2000). Finally, only few companies have attempted an initial public offering in Russia, or pursued a secondary offering after they were listed. Distortions in both markets may cast doubt on the extent to which these comparisons are meaningful. However, even if we allow for substantial corrections, it is undeniable that in light China's much lower level of GDP - an indicator which has proved to be a powerful predictor of stock market development (Claessens, Klingebiel, and Schmukler, 2002) - the country's strong financial market performance is quite remarkable.

The most striking feature of China's financial market development in light of the governance system described above is that indicator for co-movements of stock have decreased significantly from .31 in 1993 10 .22 in 2001 (Morck et al. 1999). Although this is still far above levels found in developed market economies, it is substantially lower than in Russia. This trend suggests that in China more firm specific information is available to investors than in Russia.

4.3.1 Beyond Law Enforcement

We argue that China's superior performance in financial market development had taken place not despite of, but because of, governance mechanisms beyond law enforcement. In this section, we tie the empirical analysis into our theoretical framework and seek to explain why what may appear to be interventionist measures, including quotas and merit rules, may be beneficial in an environment characterized by highly incomplete law and severe information problems. We use a stylized analysis of quotas, merit rules, and combination of quotas and merit rules to make our point.

In an environment characterized by information problems, too many companies with too little information may be entering the market at the same time. Entry barriers in the form of quotas may limit market entry and facilitate the process of collecting and assessing information by regulators as well as investors. Establishing quotas to control market entry may help to contain that problem. An example of the use of quotas to control a new market is the creation of only 15 Investment Funds in the Polish privatization program, as compared to the over 400 funds that mushroomed in Russia and the Czech Republic in a market driven process (Coffee, 1999b), which made it virtually impossible for regulators to enforce even the little regulation they had.

Simple entry barriers in the form of quotas, however, do not discriminate between viable firms and lemons. This may be achieved by adding merit requirements, i.e. substantive conditions a company must meet to be admitted to the market. Merit rules are based on the presumption that the conditions stipulated are indeed indicative of a company's worth. They have been criticized because lawmakers or regulators may not have sufficient information to identify such indicators. This critique, however, presumes that investors have other sources of information. If they don't, then merit requirements, as crude as they are, may signal that companies are meeting same very basic conditions (such as profit making for the last several years) and thereby enhance investors' confidence. Absent additional efforts to collect firm specific information, however, merit requirements will not enhance the quality of information and thus not contribute to share price accuracy.

4.3.2 Merit Rule

- A merit rule allows regulators to stipulate a rule $\bar{s} > \mu - S$ that makes approval conditional on meeting certain merit criteria $\widetilde{s} \geq \bar{s}$.
  - with a merit rule the distribution of underlying values of shares is changed from $[\mu - S, \mu + S]$ to $[\bar{s}, \mu + S]$ and becomes $E(s) = \frac{\bar{s}+\mu+S}{2} > \mu$
- A merit rule may help eliminate the worst companies from those issuing shares to the public, but it does not improve the amount of information regulators or investors have about the company. Once a company is listed, regulators face the same enforcement problems as under a disclosure regime, i.e. they need to collect information to monitor companies on an ongoing basis. Moreover, merit criteria are only rough proxies for the worth of a company and may prevent viable companies from coming to the market, or they may result in the admission of companies that comply with the formal criteria, but have little potential to grow, and thus disfavor investors.
- A pure merit regime thus cannot overcome one of the most problematic features of financial markets in transition economies, the information problem.

The Chinese quota system goes substantially beyond a combined quota/merit rule. As discussed above, China did not simply impose a nation-wide quota, but allocated sub-quotas to different regions. Quotas could remain unused, be reduced or reallocated to different regions. In order to ensure that a province would have future access to stock markets as a potential source of funds for its companies, it had to be reasonably sure that these companies would perform. This required additional information gathering by company insiders. The process has been less transparent than a pure merit system might have been. However, it fostered the collection of insider information that would have escaped simple merit rules.

The success of this system in China during the early phases of stock market development does not imply that it would be superior to a disclosure system in the long term. Nor does it mean that it should be taken as a simple recipe for developing financial markets elsewhere. The quality of the information in terms of the investment prospects a particular company offered depended heavily on the effectiveness of checks and balances in place to guard against misuse. We suggest that competition among regions and ministries and the possible

bail-out sanction have gone some way in ensuring that relevant state agents invested in the selection of more rather than less viable firms. However, the system has not been flawless, nor is it necessarily sustainable. There is evidence that once companies have made it to the market, the assets they represent are substituted for different assets in takeover transactions that resemble the acquisition of moribund chartered corporations in England at the time of the South Sea Bubble (Neal, 1990). This process obviously undermines an elaborate information system that rests heavily on the identity of the corporation that is screened prior to listing with the one that is ultimately traded. Other parts of the system create moral hazard problems. Most importantly, the fact that regions were forced to bail out their companies undermined the incentives for managers to perform at a level that would avoid failure, and created disincentives for investors to invest in assets that would generate positive returns. In fact, available evidence suggests that when companies come close to insolvency, their share prices increase. This suggests that the insurance function state ownership provides works pretty well, but also raises the specter of moral hazard problems in hardening the budget constraint for state owned enterprises. The benefit of state agents' responsibility for companies they list, however, is that it creates incentives ex ante to select companies that are expected to perform sufficiently well to avoid a bail out.

Moreover, the system is not beyond reform. As mentioned, the quota system has already been phased out. After several flawed attempts by the state to sell additional shares to the market, which were met by heavy selling and price declines, the latest attempt to reduce state ownership has taken the form of selling blocks to foreign investors. Whether China will successfully manage the transition from a financial market that depends heavily on state agents in selecting and insuring companies to one where market forces will have greater force remains yet to be seen. The comparison with the Russian case, however, suggests that there is no short cut to complex markets and that law enforcement mechanisms that have become standard in developed market economies may be dysfunctional when the task is to create markets and to govern this initial phase of market creation.

5 Conclusion

In this paper, we have analyzed the development of governance structures for financial markets in transition economies, using China and Russia as examples. We argued that even in developed market economies with well developed legal systems, law enforcement in a sector that is as rapidly changing as financial markets are, is not an easy task. Socioeconomic and technological change renders laws that are designed to deter harmful actions highly incomplete. In order to ensure effective law enforcement, legal system must therefore allocate the right to adapt, interpret and enforce the law to agents that are best capable of handling this task. We propose that when law is highly incomplete, allocating LMLEP to proactive law enforcers, such as regulators, may be superior to leaving it with courts, who enforce the law only reactively. This result is based on the assumption that regulators have access to reliable information about companies, i.e. that accounting information is meaningful and can be verified by market watchdog institutions as well as law enforcement agents.

In transition economies law is even more incomplete than in developed market economies, as most laws have only recently been enacted, and lawmaking and law enforcement agencies lack the experience to apply and interpret this law to a variety of newly emerging cases. Moreover, market watchdog institutions are lacking and reliable information is scarce. We suggest that under those conditions, imitating practices of developed economies, such as simply shifting law enforcement from courts to regulators, is not sufficient. Absent reliable information a regulatory regime may fail to enhance social welfare, and may instead result in regulatory failure, triggering a collapse of financial markets. We conclude that standard mechanisms of law enforcement may not work effectively during the early period of market development. Instead, other means need to developed to bring company specific information to the fore when financial reporting system produce ambiguous results at best. Competition among regions in China and multiple party decision making in selecting companies that might be listed has arguably enhanced the availability of company specific information in China. This prediction is born out by available data on the co-movement of stock.

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