Transition Strategies and Economic Performances
in the Former Soviet States:
A Comparative Institutional View

Ichiro Iwasaki

January 2003

Transition Strategies and Economic Performances
in the Former Soviet States[*]

- A Comparative Institutional View -

Ichiro IWASAKI

Institute of Economic Research, Hitotsubashi University

Naka 2-1, Kunitachi City, Tokyo 186-8603, JAPAN

TEL.: +81-42-580-8366; E-mail: iiwasaki@ier.hit-u.ac.jp

Abstract

The objective of this paper is to elucidate the relationship between the reform process and economic performance in the states of the former Soviet Union (FSU). There were two strategies used by the former Soviet states to cope with the collapse of the USSR. Some of the FSU countries, in an effort to overcome the institutional vacuum caused by the disintegration of the federal economy, centralized their government authority to manage industry. Others decentralized power in an attempt to regain economic independence for domestic enterprises. To evaluate the essential differences and progress gaps among transition strategies, FSU countries can be divided into three groups, which reflect variations in institutional control of the government-business relationships. The differences in economic performance in FSU countries can be explained to some extent by examining the diversity of institutional patterns that characterize each category. The results of various empirical analyses positively support the validity of such an analytical framework. In this sense, this paper presents a new viewpoint on the transition process in FSU countries that may complement that shown in existing literature.

JEL Classification Numbers: P27, P30, P51.

Key Words: transition, government-business relationship, the Former Soviet Union

INTRODUCTION

The process of pushing toward a market economy in the countries of Central and Eastern Europe (CEE) and the former Soviet Union (FSU) has now become an important trend characterizing the present world economy, together with the globalization process and the unification of the EU economies.   Consequently, the experiences and results accumulated throughout the last ten years or so in these countries have been examined multilaterally in theory and according to empirical research.   In other words, this is a set of specific assumptions defining the near future of the world economy and not merely a historical review.

The main trend in this field of research is determined by a series of empirical studies, which econometrically examine the relationships between reform processes and macroeconomic performances in transition economies.   Some pioneers in this field include researchers such as de Melo, Denizer, and Gelb (1996), Sachs (1996), Fischer et al. (1996), Selowsky and Martin (1997), and Hernández-Catá (1997).   The more recent ones include: Fischer and Sahay (2000), Falcetti et al. (2000), Wyplosz (2000), Havrylyshyn and Wolf (2001), and Weder (2001). Moreover, the following reports published by international financial organizations play a vital role in inspiring discourse in the field: *Transition Report* by EBRD, *World Economic Outlook* (2000) by IMF, *World Development Report* (1996), and *Transition - the First Ten Years* (2002) by World Bank.

Thanks to the broad and keen discussions among researchers that took place at the turn of the century, we have come to know very suggestive information regarding the relationships among various factors (such as structural reforms, liberalization, initial conditions, institutional changes, and lapse of time) and the economic crisis during the first stages of transition accompanied by the subsequent recovery process in former socialist countries.   However, some facts have been unreasonably disregarded in earlier studies. For instance, the unresolved puzzle of why recession in the FSU, including the Baltic states, was more serious than that in CEE. Furthermore, it is mysterious that some FSU countries that were reluctant to move toward a market economy, in fact, recorded relatively good economic results, contrary to the expectations of many.

A viewpoint that has met great approval is the notion that, in light of the transition to a market economy, the sudden disappearance of the federal government, which caused an economically destructive decrease in productivity, presented an overwhelming challenge that only FSU states have had to face.   Based on this opinion and interpreting transitional strategies of FSU countries as a reaction pattern to the collapse of the federal economic system, we attempt to shed new light on the causes behind reform results and economic performance throughout a decade of transition.   In other words, the objective of this paper is to illustrate a new opinion that can explain, with some consistency, the experiences of FSU countries, including Belarus and Uzbekistan, which have been regarded as exceptions.   In this sense, a new viewpoint, which may complement existing literature, is proposed to explain the transition economies.

The paper is organized as follows: the first section closely describes and details achievements and unsolved problems of earlier studies. In the second section, transition strategies of FSU states are re-construed as reaction patterns to the collapse of the federal economic system. The third section then treats the relationship between a transition strategy and its economic performance. The fourth section conducts empirical analysis using panel data. Finally, the conclusion summarizes the results and major implications of the findings.

1. ACHIEVEMENTS OF PRECEDING STUDIES AND REMAINING ISSUES

Empirical studies examining the relationship between the reform process and macroeconomic performance in CEE and FSU countries flourished in the late 1990s. Two main reasons can be pointed out to explain how these studies developed. One is that several countries in the region simultaneously overcame the initial transformational recession (Kornai, 1944) and got back on a growth track. This fact, at least in the short term, caught the attention of economists, who wondered about the primary policy factors in play that set prosperous transitional states apart from the failures. The second reason is the accumulation of statistical data and the improvement of its quality. This new reality has allowed researchers to include more details in their econometric analyses. It goes without saying that time is extremely important. Yet reform efforts by each government in the field of statistics and technical support by international financial organizations have made far more statistical data accessible than ever before. Hence, the new materials have motivated researchers to use econometric analysis to understand the transition economies.

It is not hard to imagine that de Melo et al. (1996) and other researchers in the initial period were encouraged by the factors mentioned above. In addition, the interest at that time lay in the suitability of the so-called "Washington Consensus." It means that at the crux of the matter was the issue of whether a radical transition was superior or inferior, right or wrong, compared to gradualism. Therefore, the focus of the analysis was concentrated on the relationship among the positiveness of structural reform, the speed of liberalization, and the economic performance. *The World Development Report,* published by the World Bank in 1996, offered a provisional evaluation of reform achievements in transition economies. Some of the messages in this report are summarized as follows: "Countries that liberalize rapidly and extensively turn around more quickly; After seven years, aggressive liberalizers in CEE and the NIS have come out ahead; Progress with liberalization brings down inflation."[1] These statements boldly sum up the main results from the earlier empirical studies.

A number of critics have subsequently challenged earlier research, namely, by contesting the analytical techniques and policy implications. Among these critics are Christoffersen and Doyle (1998). After discovering a close relationship between the trend in output and the expansion of the export market, they warned that panel data analyses that disregard such

---

[1] Quotation from World Bank (1996), pp. 29-30, p. 39.

relationships may over-emphasize the negative influence of inflation on output. Moreover, Heybey and Murrell (1999) pointed out methodological mistakes, such as standard omitted-variables bias, in the regression analysis and the use of the calendar year to compare transitional countries. Heybey and Murrell strongly opposed the conviction held by some researchers that there is a definite correlation between the speed of reform and economic performance. In Japan, Nishimura (1999) stated that it was a grave error to consider "historically advanced nations of liberalization" (p. 302), which achieved structural reform during the socialist era (i.e., Hungary and Poland), as countries promoting a rapid and aggressive liberalization in the initial period of transition. Therefore, he argued that assertions of a connection between the speed of liberalization and economic growth are weakly grounded.

Based on the existing research including such criticisms, arguments have been developed by giving attention to the refinement of analytical methods and to factors other than structural reform and liberalization. That is to say, Havrylyshyn et al. (1998), Wolf (1999), Berg et al. (1999), and Fischer and Sahay (2000) introduced more accurate regression models and re-examined growth in terms of the effects of reform and liberalization. Moreover, de Melo et al. (1997, 2001), Falcetti et al. (2000), and Havrylyshyn and Wolf (2001) developed an analytical methodology that ingeniously accounted for particular regional problems, such as initial historical conditions, conflicts, civil strife, and economic sanctions. In the meantime, a number of empirical studies were conducted to help understand the various institutional factors that affect economic activities (i.e., property rights, governance, bribery, corruption, and ~~the~~ civil society). Brunetti et al. (1997), Mores (1999), Havrylyshyn and van Rooden (2000), Campos (2000), Weder (2001), and Garibaldi et al. (2001) are the most representative works in this field.

As a result of the above heated but constructive arguments, today there is consensus among researchers about the relationship between the process of transition and macroeconomic performance. There is conformity on the following five points:

(a) The stabilization of prices and the financial system is an indispensable condition for output recovery in the initial period of transition;

(b) Structural reform and liberalization prompt output recovery. However, this positive effect is non-linear and often involves a time lag;

(c) The initial historical conditions are extremely important, but the effects on output are gradually decreasing. In addition, situations, such as war and economic sanctions, have particular regional significance;

(d) In order to keep economic growth stable, institutions play a key role, and their importance increases steadily as the transition towards a market economy progresses;

(e) The traditional inputs, such as capital and labor, were not necessarily the decisive factors in output recovery at the first stage of economic transformation.[2]

---

[2] There is also consensus among researchers that there certainly are uniform strengths and weaknesses for each point. See

It is probably not an unrelated issue that the IMF (2000) and the World Bank (2002) give greater importance to initial conditions, institutional design of economic systems, and political factors as elements determining macroeconomic performance in post-communist countries and that the debate has evolved considerably since the late 1990s.

The five points listed above are generally accepted and provide an understanding of economic transitional processes, which are applicable to the FSU. However, it is well known that under poor initial conditions and being far behind in structural reform and liberalization, several FSU countries achieved relatively stable economic growth. Thus, it is inevitable to think that there must be some errors and oversights in the aforementioned stylized facts. The reason could be rooted in some unrealistic hypotheses (at least for FSU countries) adopted tacitly by earlier studies, which tried to compare comprehensively situations without excluding any of the former Socialist countries around the globe. First, these studies assume *a priori* that the government's attitude toward the market economy of transitional countries is inflexible and consistent. Second, according to prevailing thought, the differences in the reform processes of each country have had to do only with pace and achievement rather than with actual structural reform and liberalization. Third, in much of the existing literature, transitional countries were presupposed to have had a self-completed social and economic system at the start of the transition.

However, the actual conditions of FSU countries were remarkably different from the implicit assumptions mentioned above. In the FSU, there were numerous countries that were making the transition with little hint of ideological "radicalism" or "gradualism." Furthermore, some of the early studies describe these countries as "slow reformers" or as those "in a state of inaction," when, in reality, crisis management measures had been expeditiously and consistently put in place by the governments. Sometimes these countries had even surpassed other FSU countries. Lastly, for FSU countries whose systemic transition originated in the collapse of the USSR, the assumption of a self-completed social and economic system is extremely remote from the actual situations. Indifference to these facts has caused many researchers to overlook important issues. It seems that serious mistakes were caused by a lack of consideration history, that is, the sudden disappearance of the federal economic system in the USSR. Therefore, focusing on this matter, an attempt is made in the next section to re-interpret the transitional strategy of the FSU countries.

2 THE COLLAPSE OF THE SOVIET UNION AND DIVERSIFICATION OF THE TRANSITION STRATEGIES OF FSU COUNTRIES

It is unnecessary to emphasize that FSU countries only played a role as "sub-systems" in the unified and highly centralized economy of the Soviet Union. Not surprisingly, in comparison to other COMECOM members, the economic system in these countries was less prosperous in terms of systemic independency. In addition, in the Soviet Union, central administration

detailed surveys by Havrylyshyn (2001) and Campos and Coricelli (2002).

organizations, represented by the all-union ministries and the union-republican ministries, were widely instituted in the industrial sector. Such organizations imposed their authority over major enterprises and factories in each state directly and exclusively.[3]   In other words, in each state of the FSU, a production system was widely operational, even beyond the control of the highest decision-making authority of a given state and its council of ministers (**Figure 1**).

Facts relative to this issue are shown in **Table 1**.   In 1989, industries under federal jurisdiction (IFJ) produced 61.4% of the gross industrial output of the entire Soviet Union. Similarly, the shares of labor and fixed capital committed to the same sector were at extremely high levels: 64.2% and 81.1%, respectively. This is to say, the IFJ overwhelmed the Soviet industry. Thus, when attention is turned to the states, it can be seen that the weight of the IFJ on output varied from 69.0% in Russia to 28.4% in Moldova. However, when fixed capital is set as a standard, in most of the republics, the weight of the IFJ goes far beyond 50%, with Russia leading at 86.8%. This clarifies the IFJ's central role in capital-intensive heavy industries in every republic. In addition, the same table suggests that the states' economies were extremely dependent on foreign trade. Moreover, exports and imports within the Soviet Union represented an overwhelming part of trade activities of the states. As it is widely known, intermediate goods formed the bulk of regional trade in the Soviet Union, and this kind of trade was handled mainly by interconnected state-owned enterprises. Because of this establishment, the collapse of the Soviet Union brought about a twofold systemic crisis. On the one hand, there was a partial or total loss of the superior decision-making organs of enterprises at the center of production activities, and, on the other hand, the interruption of trade relationships and industrial activities spread from organizations of central authority in all directions. There has never been another example of transformation on such a grand scale as that of the states of the FSU moving out of an enormously defective economic system. Therefore, the decisive factors in prescribing the course of progress for output performance and the economic system depend on the transition strategy that a government enacts to deal with unprecedented economic woes. This implies that parameters such as speed and achievement of reform were unsuitable for describing the degree of the transition toward a market economy in this region.

Depending on the reaction pattern to the collapse of the federal economic system, the transition strategies adopted by the FSU countries can be divided broadly into two categories. The first category is *"centralization strategy,"* which was designed to overcome the institutional vacuum that immediately followed the breakdown of the Soviet Union by concentrating supervisory authority over enterprises into the government of the new sovereign state and restructuring industrial organization.

In the countries that adopted this strategy, the governments introduced several elements

---

[3] The union-republican ministries mean industrial-sector ministries, and were established both in the center and republics.   The ministries at the republic level were under the control of the superior branches of the federal government and the council of ministers of the given republic (Nove, 1986, p. 5).

of a market economy. However, they reconstructed the vertical and centralized industrial management system to maintain strong economic influence over domestic industries. In other words, the government approved liberalization in the fields of price formation, enterprise transaction, and labor contracts while securing ways to actively interfere with production activities. The following measures were therefore taken: (1) The official price system was maintained for energy and major products; (2) The state order and centralized trade regimes were maintained for major exports; (3) State ownership was maintained over major enterprises, and an enclosure of privatized enterprise stocks was protected by government-ruled financial and commercial organizations; (4) The exclusive possession of foreign capital was defended by the state through a multiple exchange rate system and a surrender requirement for export earnings. In these countries, many of the economic ministries and sectoral production associations[4] from the Soviet era still exist in largely the same way. In some cases, they have been ostensibly reorganized as semi-governmnetal business organizations or business concerns. In reality, however, they were acting as management intermediaries to materialize state control over enterprises.

The second category is *"decentralization strategy,"* which attempted to recover economic independence by radically decentralizing discretionary powers to domestic enterprises. These included the former centralized enterprises that had lost superior decision-making bodies. Transferring economic power of the government to the enterprise sector was in complete agreement with the policy goal of marketization. Therefore, FSU countries that selected the *decentralization strategy* almost wholly adopted certain measures, such as introducing a law system that secures private enterprise activities, market liberalization, and the privatization of state-owned enterprises. In the governments, many of the economic ministries were streamlined, and sectoral production associations were converted, one after another, into private enterprise organizations, stock holding companies, or management consulting companies. As a result, countries that had chosen *decentralization strategy* established an economic system that was much more decentralized than it had been in the socialist era.

To reflect the essential differences and progress gaps among transitional strategies, government-business relationships in FSU countries came to have three institutional patterns. The following three items were the major differences in the patterns: (1) Countermeasures used to combat the economic crisis after the breakdown of the USSR; (2) The allocation of formal decision-making authorities to determine enterprise strategies; (3) Corporate monitoring and governance style. Focusing on the governmental commitment to corporate management, each institutional pattern is named hereafter as the *Order State*, the *Rescue State,* and the *Punish State (Hands-off State)*, respectively. Each state model is illustrated in **Table 2**, along with

---

[4] The Sectoral Production Association (*"Proizvodstvennnoe ob'edinenie"*) is an administrative organ of the corporate union. This was to replace the chief administrations (*"glavki"*) of economic ministries as a result of the reform of the soviet administrative organizations enforced in 1973. A production association was in charge of the transmission of information among ministries and enterprises, mediation among enterprises, and supervision of production norms and financial affairs indexes.

other aspects of the reform process.

Order State

Government business relationships are prescribed by *the centralization strategy*, which means that the government collectively leads the industrial sector in order to stabilize all output activity in the nation to combat a potential series of macro-shocks that could affect the entire domestic economy.   Meanwhile, compensation is given for obeying government commands; enterprises are supplied with goods and financial support.   When it comes to corporate management, the deciding vote in strategic decision-making belongs to the government leader or to an administrative head appointed by the government.[5]   To use this authority effectively, the government monitors each corporation at all times and intervenes in corporate management activities as necessary.   The following countries are included in this category: Belarus, Turkmenistan, Uzbekistan and, Azerbaijan, and Tajikistan, beginning in the 1990s.

Rescue State

Government business relationships are determined by *the decentralization strategy*. In this case, when facing financial crises, the government enforces more general policy packages in order to ease the crisis instead of directly participating in corporate management.   Each enterprise is called upon to deal with the crisis based on its own judgment of the circumstances and management strategy.   Therefore, the formal decision-making authority in management strategy belongs, in principal, to the corporate manager.   Consequently, the top manager is responsible for the principal task of corporate management.   On the other hand, the government limits its actions by dispatching officials from the ministries and the State Asset Committee to meetings of shareholders and/or to a board of auditors, and, in addition, it conducts periodical inspections to examine the condition of financial affairs.   The *Rescue State* certainly does not conduct systematic monitoring, as is done by the *Order State*.   However, if a corporation falls into a crisis that threatens its survival, the government, after temporally divesting itself of the decision-making authority, eventually rescues enterprises *ex post facto* by injecting capital and reshuffling the executive officers.   Countries that fall under this category are: Armenia, Georgia, Kazakhstan, the Kyrgyz Republic, Moldova, the Russian Federation, Ukraine, the Baltic countries in the first half of the 1990s, and Azerbaijan and Tajikistan in the latter half of 1990s.

Punish State (Hands-off State)

This sort of state is an institutionally developed version of the *Rescue State* (or *Hands-off State*).   In this category, the roles of the government and an enterprise are divided more precisely.   In addition, the crisis management system is more decentralized and exhaustive

---

[5] Included here are   (1) Establishment/merger/dissolution of corporation; (2) Adoption and change of corporation charter; (3) Appointment and dismissal of the managers; (4) Approval of an audit board report; (5) Increase and decrease of charter capital; (6) Large-scale capital investment; and (7) Establishment of joint ventures with foreign capital. In fact, in Uzbekistan and Turkmenistan, presidential decrees and cabinet resolutions that give approvals to these matters are promulgated widely. Furthermore, occasionally, "orders" and "approvals" by ministries and government offices to corporations under their jurisdiction were published in the newspapers (Iwasaki, 2002a, p. 33).

than that of the *Rescue State*.   The decision-making authority in corporate management belongs to corporate managers formally and in practice.   Consequently, the government avoids direct participation in corporate management.   In addition, when corporate management suffers financial reverses, the government impartially executes a plan to reorganize assets and resuscitate enterprises in accordance with domestic laws, including bankruptcy laws.   In contrast with the *Rescue State*, the *Punish State* does not conduct *ex post facto* rescues in principle.   The Baltic states of the latter half of 1990s belong to this category.

As stated above, the relationships between the government and enterprises in FSU countries showed signs of diversification as early as immediately after the collapse of the Soviet Union.   Here, the attitudes of government leaders toward the role of the nation in a market economy and in the national economy and the public mentality were reflected.   As the reform process diverged and deepened, the institutional relationship between the government and businesses became clearer.   Of course, within actual government-business relationships in FSU countries, there were intricately interwoven patterns.   The differences among countries are drawn by questions of degree or measurement.   This notwithstanding, it seems that the above-mentioned institutional patterns characterize the transitional economic systems of each FSU country fairly well.   Thus, the next section is a deliberation on the causality in the reform process and economic performance that is developed by using the analytical framework presented so far.

3. GOVERNMENT-BUSINESS RELATIONSHIPS AND ECONOMIC PERFORMANCE

First of all, the following points are examined: (1) The relation between production activity and the centralizing/decentralizing crisis management system to combat macro-shocks, and (2) The influence of each particular institutional pattern on the incentive level of the government and business entities.   Based on the results of this examination, several assumptions are presented regarding the economic performance of FSU countries.

Order State, Rescue State, and Punish State

When it comes to countermeasures against macro-shocks, the centralized production adjustment system does not always prevail over non-centrally-controlled production activities based on decentralized decision-making.   This is because, as Crémer (1990) and Aoki (1995) suggests, the information processing ability and the institutional and organizational conditions of decision-making entities vastly influence the production efficiency of both systems. Therefore, to judge the superiority and inferiority of these different crisis management systems, it is necessary to examine their ability to cope with crises under their actual circumstances, namely, the initial period of economic transformation.

In this sense, it is highly possible that the government in the *Order State* had already enacted a formulated plan to cope with economic crisis and that it had been executed effectively. There are three reasons for this: (1) A sixty-year-old bureaucratic organization with much knowledge and experience in planned economy; (2) A vertically integrated business group

established in each particular industry; and (3) Highly centralized industrial organizations. Under these conditions, it is more than possible to demonstrate powerful control over domestic industries while advancing toward a market economy.   For example, the government of Uzbekistan organizes a nationwide production and distribution system for its raw cotton every year in order to fulfill state orders and operate under a centralized trade system.   In 1998, nine governmental economic associations, two state-owned companies, and four state-owned commercial banks played a vital role in providing state support for cotton farms and cotton processing.   This fact proves that, even today, personnel and organizations inherited from the Soviet era are indispensable to the Karimov administration in order to materialize the production cycle of raw cotton controlled by the government.[6]

On the other hand, countermeasures pertaining to the *Rescue State* were very problematic. First of all, the market infrastructure for the commodity exchange market and the banking system were not sufficiently developed.   In addition, management consulting businesses and information services for corporations were underdeveloped.   Under these circumstances, therefore, it was impossible to expect corporations to react quickly and effectively enough.   It must also be noted that the majority of corporations with an organizational structure reminiscent of the Soviet era lacked a subsystem for processing information, namely, a marketing department and a sales department.   Consequently, a macro-shock eventually did corner many corporations, which then had to be rescued from bankruptcy by the government.

In fact, FSU countries that had adopted a *decentralization strategy* had to put various relief measures into operation to avoid a chain reaction of corporate bankruptcies.   These relief measures included: (1) Deficit compensation to state-owned corporations and mixed ownership corporations from the national budget; (2) An emergency loan from the Central Bank; (3) The transfer of a corporation's accumulated debts to the national debt; (4) Emergency import measures of industrial material for domestic industries; (5) Capital injection into major enterprises and their restructuring by utilizing facilities of international financial organizations, as positive actions; (6) A grace period for companies in deficit to apply for bankruptcy; and (7) Counterproductive policy such as intentionally overlooking the payment of corporate taxes, as passive ones.   To what extent these relief measures eased macro-shock is unknown. However, hardly any industrial enterprises went bankrupt until very recently in countries that chose the centralized strategy (i.e. Belarus, Uzbekistan, and Turkmenistan).   This clarifies that the corporate support of the *Rescue State* is less effective than that of the *Order State* in restraining the chain reaction of corporate bankruptcy.

As for the *Punish State*, one would expect a greater macro-shock than in the *Order State* or the *Rescue State ceteris paribus*.   This is because, in the *Punish State*, the government does not grant relief after a shock.   However, this is only a hypothesis because no *Punish State* ever had to deal with an economic crisis after the collapse of the Soviet Union.

The focus now turns to the institutional patterns of each state model and how they affect

---

[6] For details, see Iwasaki (2001b), Chapter 4.

the incentives of the government and business entities.   Aghion and Tirole (1997) state that under the asymmetrical information, when a principal and an agent whose interests are not the same to make a decision on a project, the allocation of the formal decision-making authority contrastively affects the effort levels in the collection of information and in acquiring specialized knowledge.   According to them, the reallocation of formal authority from one party to another makes the effort level of the former lower and that of the latter higher.

With systemic transformation underway, almost all governments in FSU countries are major asset holders and/or stakeholders among a majority of domestic corporations.   Moreover, it is inevitable that the government and corporations will sharply oppose each other in many respects. This is because the government longs for a stable operation of its national economy and wants to secure a certain level of employment. On the other hand, the domestic firms aim to maximize profits and to streamline the managerial structure.   Thus, if we regard the government as the principal and the corporations as the agents, the implications considered by Aghion and Tirole (1997) could be restated as follows: The agent puts more effort into management in the *Rescue State* and the *Punish State* (where the corporation can determine its own corporate strategy independently) than in the *Order State* (where the authority over the corporate strategy is occupied by the government leaders or the administrative heads whom they entrust). Conversely, as for the principal, his desire to reign is stronger in the *Order State* than in the *Rescue State* and the *Punish State*.   The interests of the government and the corporations were no less at odds than were the interests of the shareholders and the managers, or those of the manufacturers and the suppliers.   Thus, these very different motivations are by-products of the allocation of formal authority.   This is extremely suggestive when it comes to understanding the government and corporate relationships in FSU countries.   In addition, it is quite obvious that, when the *Rescue State* and the *Punish State* are compared, the effort level of a corporate manager in the *Punish State,* where the dispersion of the decision-making authority is more thorough and *ex post facto* relief is excluded, is greater than it is in the *Rescue State*, where the desire of the government to control corporations is lower.[7]

Assumptions

Three assumptions regarding the economic performance of FSU countries can be drawn from the above examination.   First, it is quite possible that the countries with an institutional pattern similar to that of the *Order State* could lead domestic industry and very effectively support corporations.   In other words, an *Order State* tends to use the knowledge and experience of a planned economy, existing institutions and organizations inherited from the Soviet era, and highly concentrated industrial organizations.   In such a state, these were considered very effective measures to avoid the disorganization of inter-corporation transactions and financing activities that originated after the collapse of the Soviet Union.   In addition, this institutional pattern could even prevent disorders in trade activities.   Hence, the

---

[7] See Iwasaki (2001a) and the Iwasaki (2002a) supplement (pp. 46-47) for a closer demonstration of the above discussion using mathematical models.

governments in this group could effectively restrain the decrease in production triggered by the economic macro-shock in the initial period of transition by choosing the centralized crisis management system.

Secondly, FSU countries categorized as the *Rescue States* or the *Punish States* were relatively vulnerable in comparison to the *Order State* in terms of the economic crises.   There are three reasons for this assumption: (1) It is extremely difficult for the corporations to act quickly enough with underdeveloped market infrastructures; (2) Corporate relief *ex post facto* is not as effective as the continuous corporate assistance by the *Order State* in controlling a chain reaction of management failure and corporate bankruptcy; (3) It is possible that the IMF's rigid fiscal discipline, along with the oppressive fiscal deficit at the time, seriously restrained the government's *ex post facto* relief.

Thirdly, in the *Rescue State* and the *Punish State*, the transfer of discretionary powers to the corporate sector was conducted positively.   Thus, it is assumed that, in such a state, the effort to improve the management system was more effervescent than in the *Order State,* in which formal decision-making authorities were concentrated in the central government.   In contrast to that, in the *Order State,* the government's motivation to control corporations is relatively stronger than in the other two types of state.   Therefore, it is predictable that a government of an *Order State* tends to shoulder a larger fiscal burden to prove its actions. This point can be strengthened by the clear inference that there must be a major difference in corporation monitoring costs among the *Order State,* which always supervises corporations, the *Rescue State*, which uses its sovereignty over management according to the management situation, and the *Punish State,* which deals solely with the legalities of corporate bankruptcy.

4. EMPIRICAL ANALYSIS

The arguments above emphasize that the divergence of the transitional strategies and the institutional diversification of the government-business relationship caused by the collapse of the federal economic system, are very important factors in deciding the economic performance of an FSU state.   Such a performance encompasses macroeconomic growth, enterprise reform, and public finance.   In fact, there is a clear difference in the average economic performance for each state group (**Table 3**).   Moreover, this fact seems to positively support the theoretical assumptions mentioned earlier.   This section is an attempt to empirically verify the validity of the analytical framework of this paper.

Let us begin by examining the relationship between the reform process and economic performance in each FSU country.   Both retain aspects that can be described with many different parameters. For this reason, hierarchical cluster analysis and principal component analysis were chosen as the analytical methods.   Firstly, cluster analysis classified FSU countries from two standpoints: reform process and economic performance.   This analysis deals with parallelism in reform procedures and economic performance.   In order to rate a reform process, seven indexes have been chosen to indicate structural reform variables and

another five indexes to account for the political system and the extent of governmental intervention in economic activities.   As for economic performance, six variables indicating the status of the private sector, output performance, enterprise reform, and national expenditure on the production sector have been interwoven.   In carrying out the analysis, variables are standardized so that the mean equals 0 and the dispersion 1.   For the agglomerative method, the Ward method was chosen because of its widespread utilization.

Table 4 shows the results from the cluster analysis for four years (1997-2000).   Here, in conformity with the argument in the previous section, FSU countries are combined into three clusters.   In parentheses, the Euclidian distance of each country from Estonia, the leader in terms of marketization, is shown for reference.   According to section (a) in the table, as for the reform process, FSU countries can be divided into three groups, namely, (1) the Baltic states, (2) Belarus, Turkmenistan, Uzbekistan, and (3) the rest of the countries.   In addition, clusters I, II, and III correspond to high, middle, and low groups, respectively, according to their degree of decentralization of the economic system and to government neutrality.   Estonia and Turkmenistan, as can be easily seen, are always on the extreme positions.[8]   Moreover, results reflect the process of moving toward a market economy in Azerbaijan and Tajikistan and how these two countries caught up with the rest, despite being late starters.   On the other hand, section (b) in the table, which depicts economic performance, confirms that each cluster is composed mostly of the same countries as those in the reform process.   In fact, the rate of correspondence reached 87 per cent.   This strongly suggests that a classification of FSU countries based on the argument in the previous section is very effective because it helps to highlight the qualitative differences in economic performance.   The result from 1997, however, shows a concentration of exceptional cases.   This indicates that the influence of armed conflicts and civil war in the early 1990s and the cumulative effects of structural reform were very important factors in determining the economic results of FSU countries.

In addition, we conducted additional cluster analysis prior to 1997 and comprehensively surveyed various studies focusing on economic reform by country and region.[9]   On the basis of all these inquiries, fifteen FSU countries were classified by year in the period 1992-2001 into one of these three categories.   Table 5 demonstrates the result.   This chronological classification is used to assess the production regression model mentioned later.

To back up the intuitive understanding of cluster analysis, we conducted principal component analysis with data from the aforesaid 18 variables for 1997 and 2000.   Table 6 summarizes the main results of the analysis.   First and foremost, let us pay attention to the first two components, whose cumulative proportion of total variance is over 71 per cent.   Based on the value of each Eigenvector and component loading, the first component can be

---

[8] In fact, the Euclidian distance of the two countries was the greatest every year in all combinations.

[9] This includes the following case studies, including some on Central Asia by the author: Genka (1998), Pomfret (2000), Isnolnitel'nyi Komitet Sodruzhestva Nezavisimykh Gosudarstv (2001), Korolev (2001), Grinberg and Vardomskii (2001), Matsnev (2001), Bartlett (2001), Korhonen (2001), Iwasaki (2001a), Iwasaki (2002b), Siegelbaum et al. (2002), and the *Transition Report* by EBRD and *Country Report* by the EIU and IMF.

interpreted as the comprehensive index of the reform process and the second as the economic performance. Thus, the component scores of each FSU state against values for the first two principal components are plotted in **Figure 2**. As in Table 4, Figure 2 also confirms that FSU countries are divided steadily into three groups throughout both points in time. Moreover, a most remarkable fact is that, between 1997 and 2000, the distances among groups grew, whereas the concentration within them became denser. This suggests a stronger correlation between the reform process and economic performance of FSU countries during the later 1990s.

Following theses analysis, the degree of the macro-shock that took place after the collapse of the Soviet Union, which affected the output performance of FSU countries, was examined. Due to data limitations, the macro-shock impact has been measured by estimating regression models of the real growth rate of the gross domestic product (GDP) and the industrial production (INP) of each FSU country to the weighted average of the economic growth rate of all FSU countries without the given state (FSU) and Regional Tension Dummy (RTD).[10] The goal is to compare the degrees of macro-shock by evaluating the value of the regression coefficient of all explanatory variables and the coefficient of determination. The analysis is divided into two periods: (1) 1992-1996, the period of the serious economic crisis following the collapse of the Soviet Union, and (2) 1992-2001, the first decade of transition. Three cases were used to obtain the regression model estimate: (1) the *Order State* (OS), (2) the *Rescue State* and the *Punish State* (RS+PS), and (3) all FSU countries (ALL FSU). In the last equation, the *Order State* Dummy (OSD) was added to the explanatory variables.

The results are shown in **Table 7**. As it is clearly shown, the results of the two groups contrast starkly. The regression coefficient of the *FSU* in the case of the OS is far smaller than that of PS+RS. Furthermore, the results that take an industrial production growth rate as the dependent variable are not even statistically significant. On the other hand, the results in the case of PS+RS are satisfactory in general. In addition, the value of the *FSU* clearly attests to the intensity of the macro-shock in the industrial sector. This trend was more remarkable in the first five years of transition. According to the estimates used to evaluate FSU countries (ALL FSU), the crisis management of the *Order State* played an inconspicuous but vital role, constituting about 3 per cent of GDP and about 9 per cent of industrial production. This result is very consistent with the argument in the previous section, especially since the analytical framework of this paper focuses on the relationship between the government and industrial firms. From the reasons given above, it can be inferred that those FSU countries that moved forward with the decentralization plan and showed a tendency toward helter-skelter in the initial period of transition experienced a stronger macro-shock in their production activities than the countries that preserved a centralized government-business relationship.

Finally, based on the results of these examinations, we conducted a regression analysis of GDP and industrial production growth (INP) during the first decade of transition. The regression model is formularized as follows. First, the natural logarithmic value of the

---

[10] *RTD* controls shocks from neighboring states, such as wars, civil conflicts, and economic sanctions.

inflation rate (INF) and the Regional Tension Dummy (RTD) were introduced as base models. The natural logarithm of the inflation rate was approved for its high validity as an explanatory variable by many preceding studies. The Initial Condition Index (ICD), developed by the EBRD, was also introduced as a variable dummy to control the differences among the initial conditions. This index includes various initial conditions, such as the development level in the late Socialist period, years of experience in planned economy, geographical factors, and availability of natural resources. Each country is given values from 0.0 for Lithuania to –3.4 for Turkmenistan.[11] When the ICD was adopted, according to the discussion in section I, the radical time-decreasing effects of the initial conditions were taken into consideration. Lastly, the state dummies OSD, PSD, and RSD were taken into consideration. These dummies reflect the evolution of the government-business relationship that went along with the diversification of transitional strategies and the deepening of reform. The values for these dummies took the duration time of each institutional pattern in accordance with Table 5 in order to reflect the accumulation effects of institutional development. In addition, non-linear effects of the institutional development were also examined by estimating regression models that have the squared value of the state dummy as an explanatory variable. Six different estimation equations for each explanatory variable (i.e., GDP and INP) were introduced for verifying the explanatory power of the variable dummy (ICD), the state dummies, and the robustness of the results.

The results are listed in **Table 8**, which shows several interesting findings. First, the INF and RTD have negative values and demonstrate a high level of significance and explanatory power in all cases. This fact strongly supports many of the preceding studies. Second, the apparent lack of significance of ICD matches the intuitive impression that there are many countries that have overcome poor initial conditions and managed to enjoy relatively good economic performance. Third, the state dummies are statistically very significant in each model and remarkably improve the explanatory power as a whole. This tendency is especially strong in models I to L, which take the INP as explanatory variables. In addition, the explanatory power of these models is relatively stronger than that of C to F which have GDP as the subject of explanatory variables. These results confirm that the argument presented in this paper is useful for analysis, especially within the industrial sector. Lastly, the relation *OSD PSD RSD* holds up in all cases in which state dummies are introduced. This relation can be regarded as an additional proof of the argument mentioned above concerning the effect of the macro-shock on production activities. Likewise, this fact also indicates that the institutional development from the *Rescue State* to the *Punish State* may promise more satisfying economic performance in the near future.

The results of the empirical analysis presented here are highly consistent with the arguments presented in the previous sections. Moreover, the results demonstrate that the analytical tool developed from a comparative institutional viewpoint may be an effective

---

[11] Refer to EBRD, *Transition Report 1999* and Falcetti et al. (2000) for details on this index.

approach to elucidate the causality between the reform process and the economic performance in FSU countries.

CONCLUDING REMARKS

The above examination can be summed up in the following five points: First, among existing literature that examines the relationship between the reform process and macroeconomic performance, some of it regards many of the countries of the FSU as exceptions due to a lack of analytical consideration for historical events, such as the collapse of the Soviet Union. Second, the transitional strategies of the countries of the FSU can be divided into two groups as a reaction pattern to the sudden disappearance of the soviet economy, namely the strategies of centralization and decentralization. Third, reflecting differences in transition strategies and in the progress of reform, FSU counties have developed into three types of state groups, namely, the *Order State*, the *Rescue State*, and the *Punish State* (*Hands-off State*). These are formed in light of a particular institutional arrangement of government-business relationships. Fourth, the differences among the institutional patterns characterizing each state group can explain without contradiction the differences in economic performance that have appeared in various situations. Finally, empirical analyses positively support the validity of the analytical framework of this paper.

One of the most important findings revealed here is that, contrary to the presumptions of many, a transitional strategy, which is far from the ideal transitional process to a market economy, was very workable in protecting citizens from serious economic damage after the collapse of the Soviet Union. Needless to say, the ultimate goal of the systemic transformation was to increase the wealth and welfare of the people in the post-communist world. The transition toward a market economy is merely the means to an end. The current population crisis in Russia symbolizes the immeasurable mischief that radical political and economic reforms have invited.[12] Hence, it is unwise to criticize political decision makers solely on the grounds that they do not follow the traditional path to a market economy.

However, planned economies have demonstrated that centralization of economic power is no guarantee to a stable and dynamic economy over the long term. The countries which can be regarded as *Order State*s are yet to reflect seriously upon such lesson. However, this is not the only problem. As stressed in the third section, the advantage of the *Order State* lies in the robustness of its production activities against macro-shocks. Since the negative effects caused by the collapse of the Soviet Union are easing day by day, the importance of decentralization, which works much better against individual shocks in terms of informational efficiency, is surely increasing.[13] Hence, it is quite possible that the advantage of the *Order State* is weakening. In fact, the dispersion of the real growth rate of GDP and the industrial production of FSU countries have decreased widely when the two halves of the 10 years of transition (1992

---

[12] For details on the Russian population crisis, see Kuboniwa and Tabata (2002).

[13] See Aoki (1995) and Aoki and Okuno-Fujiwara (1996), Chapter 2 for a detailed argument on this matter.

to 2001) are compared: from 131.6 to 26.1 and from 219.4 to 107.0, respectively.   This may reflect the rapid recovery in countries categorized as *Rescue States* or *Punish States*.   Because of the path-dependency and the inertia of institutional evolution, it is next to impossible to modify an economic system in order to immediately adjust to new environmental changes. Besides, to the political leaders in the *Order States*, recognizing the necessity for economic conversion constitutes a very risky political observation.   As **Figure 3** suggests, if institutional crystallization deepens in the *Order States,* which is in fact currently taking place, there are fears that centralized systems, such as those in the *Order States,* will be "locked in" to an economic system that is entirely different from a capitalist market economy.   It is quite likely that further progress toward a market economy will be difficult for the *Rescue* and *Punish States,* which at present are in developmental stages.   Therefore, the systemic transformation from the *Order State* model presents an even more challenging scenario.

In conclusion, the best that can be hoped for is that countries adhering to centralization and undergoing policy changes are capable of avoiding serious economic deterioration and political crises which could potentially threaten the lives of their citizenry.

REFERENCES

Aghion, Philippe, and Jean Tirole (1997), "Formal and Real Authority in Organizations," *Journal of Political Economy*, 105:1, pp. 1-29.

Aoki, Masahiko (1995), "An Evolving Diversity of Organizational Mode and its Implications for Transitional Economies," *Journal of the Japanese and International Economies*, 9:4, pp. 330-353.

Aoki, Masaaki, and Masahiro Okuno-Fujiwara, eds. (1996), *Comparative Institutional Analysis: A New Approach to Economic Systems*, Tokyo: University of Tokyo Press. (in Japanese)

Bartlett, David (2001), "Economic Recentralization in Uzbekistan," *Post-Soviet Geography and Economics*, 42:2, pp. 105-121.

Berg, Andrew, Eduardo Borensztein, Ratna Sahay, and Jeromin Zettelmeyer (1999), *The Evolution of Output in Transition Economies: Explaining the Differences* (Working Paper No. WP/99/73), Washington, D.C.: IMF.

Brunetti, Aymo, Gregory Kisunko, and Beatrice Weder (1997), *Institutions in Transition: Reliability of Rules and Economic Performance in Former Socialist Countrie*s (Policy Research Working Paper No. 1809), Washington, D.C.: World Bank.

Campos, Nauro (2000), *Context is Everything: Measuring Institutional Change in Transition Economies* (Policy Research Working Paper No. 2269), Washington, D.C.: World Bank.

Campos, Nauro, and Fabrizio Coricelli (2002), *Growth in Transition: What We Know, What We Don't, and What We Should* (Discussion Paper No. 3246), London: Centre for Economic Policy Research.

Christoffersen, Peter, and Peter Doyle (1998), *From Inflation to Growth: Eight Years of Transition* (Working Paper No. WP/98/100), Washington, D.C.: IMF.

Crémer, Jacques (1990), "Common Knowledge and the Coordination of Economic Activities," in Masahiko Aoki, Bo Gustafsson, and Oliver Williamson, eds. *The Firm as a Nexus of Treaties*, London: SAGE Publications, pp. 53-76.
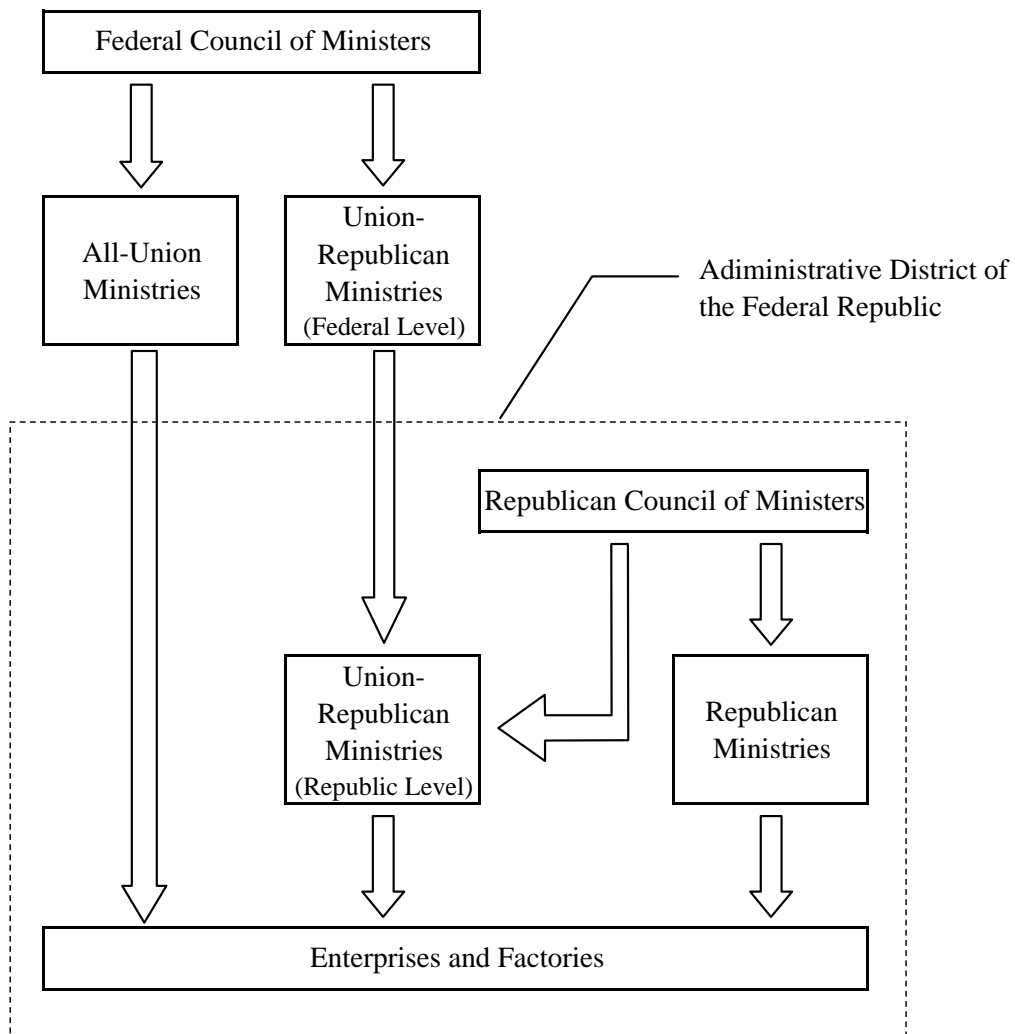
de Melo, Martha, Cevdet Denizer, and Alan Gelb (1996), "Patterns of Transition from Plan to Market," *World Bank Economic Review*, 10:3, pp. 1-31.

de Melo, Martha, Cevdet Denizer, Alan Gelb, and Stoyan Tenev (1997), *Circumstance and Choice: The Role of Initial Conditions and Policies in Transition Economies* (Policy Research Working Paper No. 1564), Washington, D.C.: World Bank.

de Melo, Martha, Cevdet Denizer, Alan Gelb, and Stoyan Tenev (2001), "Circumstance and Choice: The Role of Initial Conditions and Policies in Transition Economies," *World Bank Economic Review*, 15:1, pp. 1-31.

EBRD, *Transition Report*, London: EBRD. (various issues)

Economist Intelligent Unit (EIU), *EIU Country Report*, London: EIU. (various issues)

Falcetti, Elisabetta, Martin Raiser, and Peter Sanfey (2000), *Defying the Odds: Initial Conditions, Reforms, and Growth in the First Decade of Transition* (Working Paper No. 55), London: EBRD.

Fischer, Stanley, and Ratna Sahay (2000), *The Transition Economies after Ten Years* (Working Paper No. WP/00/30), Washington, D.C.: IMF.

Fischer, Stanley, Ratna Sahay, and Carlos Végh (1996), "Stabilization and Growth in Transition Economies: The Early Experience," *Journal of Economic Perspectives*, 10:2, pp. 45-66.

Freedom House, *Nations in Transit*, Freedom House: New York. (various issues) (available at http://www.freedomhouse.org/research/nattransit.htm/)

Garibaldi, Pietro, Nada Mora, Ratna Sahay, and Jeromin Zettelmeyer (2001), "What Moves Capital to Transition Economies?" *IMF Staff Papers*, 48 (Special Issue), pp. 109-145.

Genka, Tomonori, ed. (1998), *Recommendation on Japan's Technical Assistance for Azerbaijan* (Research Report submitted to the Ministry of Foreign Affairs of Japan), Okayama: Okayama University. (in Japanese)

Gosudarstvennyi Komitet SSSR po Statistike (Goskomstat SSSR) (1990), *Narodnoe Khoziaistvo SSSP v 1989 g.: Statisticheskii Ezhegodnik*, Moscow: Financy i Statistika. (in Russian)

Grinberg, R. and L. Vardomskii (2001), "Deciatiletie Evoliutsii i Perspektivy Strukturirovaniia Postsovetskogo Ekonomicheskogo Prostranstva," *Possiiskii Ekonomicheskii Zhrnal*, 8, pp. 55-67. (in Russian)

Havrylyshyn, Oleh (2001), "Recovery and Growth in Transition: A Decade of Evidence," *IMF Staff Papers*, 48 (Special Issue), pp. 53-87.

Havrylyshyn, Oleh, Ivailo Izvorski, and Ron van Rooden (1998), *Recovery and Growth in Transition Economies 1990-97: A Stylized Regression Analysis* (Working Paper No. WP/98/141), Washington, D.C.: IMF.

Havrylyshyn, Oleh, and Ron van Rooden (2000), *Institutions Matter in Transition, But So Do Policies* (Working Paper No. WP/00/70), Washington, D.C.: IMF.

Havrylyshyn, Oleh, and Thomas Wolf (2001), "Growth in Transition Countries, 1990-98: The Main Lessons," in Havrylyshyn, Oleh, and Saleh M. Nsouli, eds. *A Decade of Transition: Achievements and Challenges*, Washington, D.C.: IMF, pp. 83-128.

Heritage Foundation, *The Index of Economic Freedom* (available at http://www.heritage.org/index/).

Hernández-Catá, Ernesto (1997), "Liberalization and the Behavior of Output during the Transition from Plan to Market," *IMF Staff Papers*, 44:4, pp. 405-429.

Heybey, Berta, and Peter Murrell (1999), "The Relationship between Economic Growth and the Speed of Liberalization during Transition," *Policy Reform*, 3:2, pp. 121-137.

IMF, *IMF Country Report*, Washington, D.C.: IMF. (various issues)

IMF (2000), *World Economic Outlook 2000: Focus on Transition Economies*, Washington, D.C.: IMF.

Isnolnitel'nyi Komitet Sodruzhestva Nezavisimykh Gosudarstv (2001), *Ekonomika SNG: 10 Let Reformipobaniia i Integratsionnogo Razvitiia*, Moscow: Finstatinform. (in Russian)

Iwasaki, Ichiro (2001a), *Government-Business Relationship and Economic Performance in Central Asia* (Paper submitted to the 41st Annual Congress of the Japan Association for Comparative Economic Studies), Sapporo: Hokkaido University. (in Japanese)

Iwasaki, Ichiro (2001b), *A Comparative Study on Transition Economies of Central Asia* (Doctoral Dissertation), Tokyo: Hitotsubashi University. (in Japanese)

Iwasaki, Ichiro (2002a), "Government-Business Relationship and Economic Performance in Central Asia," *Ajia Keizai* (Institute of Developing Economies), 43:3, pp. 29-49. (in Japanese)

Iwasaki, Ichiro (2002b), "Legislative and Institutional Framework for Economic Reform in Tajikistan," *Eurasian Geography and Economics*. (forthcoming)

Japan Association for Trade with Russia & Central-Eastern Europe (ROTOBO), *Quarterly ROTOBO Economic Trends*. (various issues). (in Japanese)

Korhonen, Iikka (2001), "Progress in Economic Transition in the Baltic States," *Post-Soviet Geography and Economics*, 42:6, pp. 440-463.

Kornai, Janos (1994), "Transformational Recession: The Main Causes," *Journal of Comparative Economics*, 19:1, pp. 39-63.

Korolev, M. (2001), "Desiat' Let Sodruzhestvu Nezavisimykh Gosudarstv," *Obsheatvo i Ekonomika*, 11-12, pp. 187-216. (in Russian)

Kuboniwa, Masaaki, and Shinichiro Tabata (2002), "Russia's Demographic and Pension Crisis in the 1990s: A Preliminary Observation on Inter-generational Equity Problems in Transition Countries," *The Economic Review* (Hitotsubashi University), 53:3, pp. 247-267. (in Japanese)

Matsnev, D. (2001), "Makroekonomika SNG: Deciatiletie Reform," *Possiiskii Ekonomicheskii Zhrnal*, 5-6, pp. 60-70. (in Russian)

Mezhgosudarstvennyi Statisticheskii Komitet Sodruzhestva Nezavisimykh Gosudarstv (CISSTAT). (2001), *10 Let Sodruzhestva Nezavisimykh Gosudarstv (1991-2000): Statisticheskii Sbornik*, Moscow: CISSTAT. (in Russian).

Michalopoulos, Constantine, and David Tarr, eds. (1994), *Trade in the New Independent States* (Studies of Economies in Transformation No. 13), Washington, D.C.: World Bank.

Mores, Luc (1999), *How Important Are Institutions for Growth in Transition Countries?* (Discussion Paper No. 99-004/2), Amsterdam: Tinbergen Institute.

Nishimura, Yoshiaki (1999), "Reconsideration on Transition Policies for the Transformation from a Socialist Planned Economy to Market Economies," *The Economic Review* (Hitotsubashi University), 50:4, pp. 299-311. (in Japanese)

Nove, Alec (1986), *The Soviet Economic System* (3rd Edition), Boston: Allen & Unwin.

Pomfret, Richard (2000), "The Uzbek Model of Economic Development, 1991-99," *Economics of*

Transition, 8:3, pp. 733-748.

Sachs, Jeffrey (1996), "The Transition at Mid Decade," *American Economic Review*, 86:2, pp. 128-133.

Selowsky, Marcelo, and Ricardo Martin (1997), "Policy Performance and Output Growth in the Transition Economies," *American Economic Review*, 87:2, pp. 349-353.

Siegelbaum, Paul, Khaled Sherif, Michael Borish, and George Clarke (2002), *Structural Adjustment in the Transition: Case Studies of Albania, Azerbaijan, Kyrgyz Republic, and Moldova* (World Bank Discussion Paper No. 429), Washington, D.C.: World Bank.

Weder, Beatrice (2001), *Institutional Reform in Transition Economies: How Far Have They Come* (Working Paper No. WP/01/114), Washington, D.C.: IMF.

Wolf, Holger (1999), *Transition Strategies: Choices and Outcomes* (Princeton Studies in International Finance No. 85), New Jersey: Princeton University.

World Bank (1996), *World Development Report 1996: From Plan to Market*, Washington, D.C.: Oxford University Press.

World Bank (2002), *Transition the First Ten Years: Analysis and Lessons for Eastern Europe and the Former Soviet Union*, Washington, D.C.: World Bank.

Wyplosz, Charles (2000), *Ten Years of Transformation: Macroeconomic Lessons* (Discussion Paper No. 2254), London: Centre for Economic Policy Research.

Figure 1. Industrial Management System of the USSR in the Late 1980's

Federal Council of Ministers

All-Union
Ministries

Union-
Republican
Ministries
(Federal Level)

Adiministrative District of
the Federal Republic

Republican Council of Ministers

Union-
Republican
Ministries
(Republic Level)

Republican
Ministries

Enterprises and Factories

Source : Authour's illustration.
Note : The arrows indicate the flow of administration commands, including
production norms.

Table 1. Integration of the Federal Republics to the Soviet Economy

( )

	(a) Weight of Industries under a Federal Jurisdiction (1989)			(b) Degree of Trade Dependency (1990)		
	Total Output	Amount of Labor	Fixed Capital	% of Whole Trade to GNP	% of Regional Trade to GNP	Share of Regional Trade
USSR	61.4	64.2	81.1	[1] 23.2	[1] 17.0	73.9
Armenia	50.8	54.3	71.9	28.4	25.6	90.1
Azerbaijan	46.7	50.6	81.4	33.9	29.8	87.7
Belarus	53.5	53.7	74.4	47.3	41.0	86.8
Estonia	28.5	34.2	59.0	32.9	30.2	91.6
Georgia	31.4	41.9	65.9	28.9	24.8	85.9
Kazakhstan	49.5	50.7	67.0	23.5	20.8	88.7
Kyrgyzstan	33.0	45.9	69.0	32.3	27.7	85.7
Latvia	38.7	44.9	62.2	41.4	36.7	88.6
Lithuania	39.2	41.7	66.1	45.5	40.9	89.7
Moldova	28.4	35.6	48.2	33.0	28.9	87.7
Russia	69.0	70.7	86.8	18.3	11.1	60.6
Tajikistan	28.9	32.1	72.4	35.9	31.0	86.5
Turkmenistan	37.0	30.5	83.0	35.6	33.0	92.5
Ukraine	58.0	63.1	72.8	29.0	23.8	82.1
Uzbekistan	34.8	35.5	66.1	28.5	25.5	89.4

Source : Goskomstat SSSR (1990, p. 331), Michalopoulos and Tarr (1994, pp. 4-5, p. 15).

Note : 1) Author's estimation.

Table 3. Economic Performance by State Group [1]

( )

	Order State	*Rescue State*	*Punish State*
GDP growth rate [2]	0.7	-3.7	-1.0
Industrial production growth rate [2]	4.4	-5.6	-4.1
Weight of production-related expenditure in the national budget [3]	22.6	15.0	8.4
Ratio of production-related national budget in fiscal spending to GDP [3]	7.4	3.5	3.1
Enterprise reform and corporate governance [4]	1.2	2.0	2.9

Source : See Annex Table.

Note : 1) Refer to Table 2 for the composition of each group.

2) Average of 1992 to 2001.

3) Average of 1997 to 2000. Includes expenditures for mining and manufacturing, Agriculture-, forestry-, and fishery industry-related measurements, industrial subsidy, and government investment and lending

4) In 2000. Evaluated in 4 ranks by EBRD.

Table 2. Institutional Diversity of FSU Countries

Differences in institutional arrangement	*Order state*	*Rescue state*	*Punish state*
Countermeasures against systemic shock	The government has a strong leadership. By leading the whole industrial world with a centralized authority and key industries as its core, the government deals with crises (centralized crisis management system).	As a general rule, corporations are called upon to deal with a given crisis based on their judgment of the circumstances and to act accordingly. Meanwhile, the government aims at easing the crisis with monetary/fiscal measures and structural reform (dispersed crisis management system).	The role of the government is kept strictly separate from that of a corporation. A much more dispersed crisis management system than that of the rescue state has been established.
Allocation of formal corporate strategy decision-making authorities	Belongs to the government leaders or to the head of administrative organization entrusted by the government.	It, for the most part, belongs to the manager of the corporation. The government dispatches its representatives to shareholders' meetings and/or board of auditors acting as an asset holder.	Belongs in practice to the manager of the corporation. In many cases, the government has lost its position as a major shareholder and does not positively participate in corporate management.
Corporate monitoring and governance	The government continuously monitors corporation management and intervenes when necessary.	The government does not conduct systemic monitoring. However, when a corporation falls into a critical management condition, the government puts *ex post facto* rescue measures into action.	When a corporation falls into a critical management condition, the government holds the manager responsible and reorganizes and rehabilitates the corporation in accordance with bankruptcy law.
Progress toward a market economy	Private corporate activities are guaranteed by laws, but price liberalization and corporate privatization are developing slowly. The status of private corporations is low. The state order system is widely maintained.	Private corporation activities are legislated, and the progress of price liberalization and corporate privatization is relatively rapid. Hence, the market share of the private corporation sector is rapidly increasing. Most of the state order system has already been abolished.	Private corporate shares have considerably surpassed those of state-owned corporations. Liberalization is widespread.
Control over trade and foreign currency	The centralized trade regime is subjected to major export items. Foreign currency is strictly controlled by the government. The surrender requirement of foreign currency income is applied as well.	The centralized trade regime is practically disestablished. Free access to foreign currency reserves and free exchange of national currency are allowed.	Flexible trade and exchange measures have been introduced to meet the requirements of the WTO and the EU.
Corporate financing	Corporate financing is, in fact, conducted by direct donation from the national treasury or concentrated credit supply from national banks following the government's decision.	Corporate financing is, by and large, dominated by credit supply and based on the discretion of government financial organizations and private commercial banks. Sometimes financial action and emergency financing measures are taken to rescue a corporation.	The main source of funds is the equity finance loans from private commercial banks and the capital market. Financial action to rescue corporations is banned, and direct financing from governmental organizations is limited.
Other complementary institutions	Corporate sector is overwhelmingly owned by the state. The centralized political power is virtually equivalent to that of the Soviet era. The leader is charismatic. The rule of law (the parliamentary system) is purely symbolic. Private ownership rights are slighted.	Domestic corporations are predominantly owned by the state. Authoritarianism is in place. The leader tends to be populistic. The government and industrial worlds are on cozy terms. The rule of law (the parliamentary system) is weak. Private ownership rights are respected.	Private ownership is predominant in the corporate sector. The political system is democratic. The rule of law (the Parliament) competes with the state leaders. Private ownership rights are protected.
Countries in the category (2001)	Belarus, Turkmenistan, Uzbekistan.	Armenia, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Ukraine.	Estonia, Latvia, Lithuania.

Table 4. Results from the Cluster Analysis

(a) Hierarchical clusters of the reform process in FSU countries. (3 clusters)

1997		1998		1999		2000	
Estonia	(0.00)	Estonia	(0.00)	Estonia	(0.00)	Estonia	(0.00)
Latvia	(2.48)	Lithuania	(2.74)	Lithuania	(2.60)	Lithuania	(2.26)
Lithuania	(2.51)	Latvia	(2.83)	Latvia	(2.86)	Latvia	(2.69)
Russia	(3.48)	Moldova	(3.89)	Moldova	(4.50)	Moldova	(4.80)
Moldova	(4.29)	Kyrgyzstan	(4.69)	Russia	(5.29)	Georgia	(5.37)
Kyrgyzstan	(4.59)	Russia	(4.82)	Kyrgyzstan	(5.46)	Russia	(5.47)
Kazakhstan	(5.12)	Armenia	(5.03)	Kazakhstan	(5.72)	Kazakhstan	(5.53)
Georgia	(5.43)	Kazakhstan	(5.11)	Ukraine	(5.75)	Kyrgyzstan	(5.67)
Armenia	(5.55)	Georgia	(5.73)	Georgia	(5.82)	Ukraine	(5.81)
Ukraine	(6.09)	Ukraine	(5.93)	Armenia	(5.90)	Armenia	(5.94)
Uzbekistan	(7.09)	Azerbaijan	(6.35)	Azerbaijan	(6.84)	Azerbaijan	(7.01)
Azerbaijan	(7.54)	Tajikistan	(7.66)	Tajikistan	(7.83)	Tajikistan	(7.68)
Tajikistan	(8.06)	Uzbekistan	(7.31)	Uzbekistan	(7.57)	Uzbekistan	(7.80)
Belarus	(8.60)	Belarus	(9.22)	Belarus	(9.52)	Belarus	(9.47)
Turkmenistan	(10.08)	Turkmenistan	(10.24)	Turkmenistan	(10.62)	Turkmenistan	(10.94)

(   ) Hierarchical clusters of the economic performance in FSU countries. (3 clusters)

1997		1998		1999		2000	
Estonia	(0.00)	Estonia	(0.00)	Estonia	(0.00)	Estonia	(0.00)
Lithuania	(1.70)	Lithuania	(1.62)	Latvia	(2.04)	Latvia	(2.03)
Latvia	(2.26)	Latvia	(1.96)	Lithuania	(2.05)	Lithuania	(2.10)
Kyrgyzstan	(2.48)	Kazakhstan	(3.37)	Kazakhstan	(3.06)	Armenia	(2.65)
Armenia	(2.53)	Armenia	(2.66)	Kyrgyzstan	(2.76)	Kazakhstan	(2.75)
Kazakhstan	(2.67)	Kyrgyzstan	(2.72)	Armenia	(3.02)	Kyrgyzstan	(3.04)
Ukraine	(3.51)	Russia	(3.20)	Russia	(3.30)	Russia	(3.25)
Moldova	(3.61)	Moldova	(3.98)	Georgia	(3.76)	Azerbaijan	(3.77)
Georgia	(3.97)	Georgia	(4.04)	Ukraine	(3.93)	Ukraine	(3.80)
Azerbaijan	(4.53)	Ukraine	(4.14)	Azerbaijan	(4.30)	Georgia	(3.89)
Tajikistan	(6.12)	Azerbaijan	(4.52)	Moldova	(4.37)	Moldova	(4.26)
Russia	(3.38)	Tajikistan	(5.37)	Tajikistan	(5.23)	Tajikistan	(5.11)
Uzbekistan	(4.47)	Turkmenistan	(4.55)	Turkmenistan	(4.39)	Belarus	(5.44)
Turkmenistan	(4.70)	Uzbekistan	(4.60)	Uzbekistan	(4.73)	Turkmenistan	(5.46)
Belarus	(4.94)	Belarus	(5.29)	Belarus	(5.49)	Uzbekistan	(5.84)

Source : Author's estimation.

Note: 1) The number in parentheses represents, with Estonia as the standard, the Euclidian distance of each country .
　　　2) See Table 6 for the types of variables and the annex for statistical standards and sources.

Table 5. Evolutionary Path of the Government-Business Relationship in FSU Countries in 1992-2001

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Armenia	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
Azerbaijan	OS	OS	OS	OS	RS	RS	RS	RS	RS	RS
Belarus	OS	OS	OS	OS	OS	OS	OS	OS	OS	OS
Estonia	RS	RS	RS	PS	PS	PS	PS	PS	PS	PS
Georgia	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
Kazakhstan	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
Kyrgyzstan	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
Latvia	RS	RS	RS	RS	RS	PS	PS	PS	PS	PS
Lithuania	RS	RS	RS	RS	RS	PS	PS	PS	PS	PS
Moldova	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
Russia	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
Tajikistan	OS	OS	OS	OS	RS	RS	RS	RS	RS	RS
Turkmenistan	OS	OS	OS	OS	OS	OS	OS	OS	OS	OS
Ukraine	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
Uzbekistan	OS	OS	OS	OS	OS	OS	OS	OS	OS	OS

Source : Author's estimation.

Note : OS   *Order State*   RS   *Rescue State*   PS   *Punish State*

Table 6. Results from the Principal Component Analysis

Component No.	Eigenvalue	Accounted-for variance (%)	Cumulative percentage of total variance	Valuables	Eigenvector First Component	Eigenvector Second Component	Component loading First Component	Component loading Second Component
1	10.022	55.68	55.68	Price liberalization	-0.208	-0.322	-0.657	-0.539
2	2.801	15.56	71.24	Trade and exchange regime	-0.275	-0.171	-0.872	-0.286
3	1.491	8.28	79.52	Small-scale privatization	-0.286	0.012	-0.906	0.020
4	1.085	6.03	85.55	Large-scale privatization	-0.256	0.080	-0.812	0.134
5	0.738	4.10	89.65	Competition policy	-0.187	0.070	-0.591	0.118
6	0.413	2.30	91.95	Banking reform and interest liberalization	-0.298	0.060	-0.944	0.101
7	0.352	1.95	93.90	Security market and non-banking sector	-0.211	0.327	-0.669	0.548
8	0.331	1.84	95.74	Government intervention	0.227	-0.152	0.719	-0.254
9	0.201	1.12	96.86	Property rights	0.229	-0.172	0.725	-0.289
10	0.149	0.83	97.68	Democratization	0.297	-0.013	0.939	-0.023
11	0.125	0.70	98.38	Rule of law	0.281	-0.036	0.890	-0.060
12	0.092	0.51	98.89	Number of administrative organizations in charge of industrial policy	0.244	0.077	0.773	0.130
13	0.069	0.39	99.28	% of private sector to GDP	-0.286	0.072	-0.906	0.120
14	0.058	0.32	99.60	Annual average of GNP real growth rate	-0.036	0.492	-0.113	0.824
15	0.036	0.20	99.80	Annual average of industrial prodection real growth rate	0.123	0.481	0.389	0.805
16	0.018	0.10	99.90	Weight of expenditure related to the production sector in national budget	0.183	0.231	0.580	0.387
17	0.011	0.06	99.96	Ratio of fiscal spending of production-related national budget to GDP	0.140	0.370	0.445	0.619
18	0.007	0.04	100.00	Enterprise reform and corporate governance	-0.288	0.125	-0.911	0.210

Source : Author's estimation.
Note : With regard to data sources and basic statistics of the valuables, see Annex Table

Figure 2. Plot of FSU Countries against Values for the First Two Principal Components
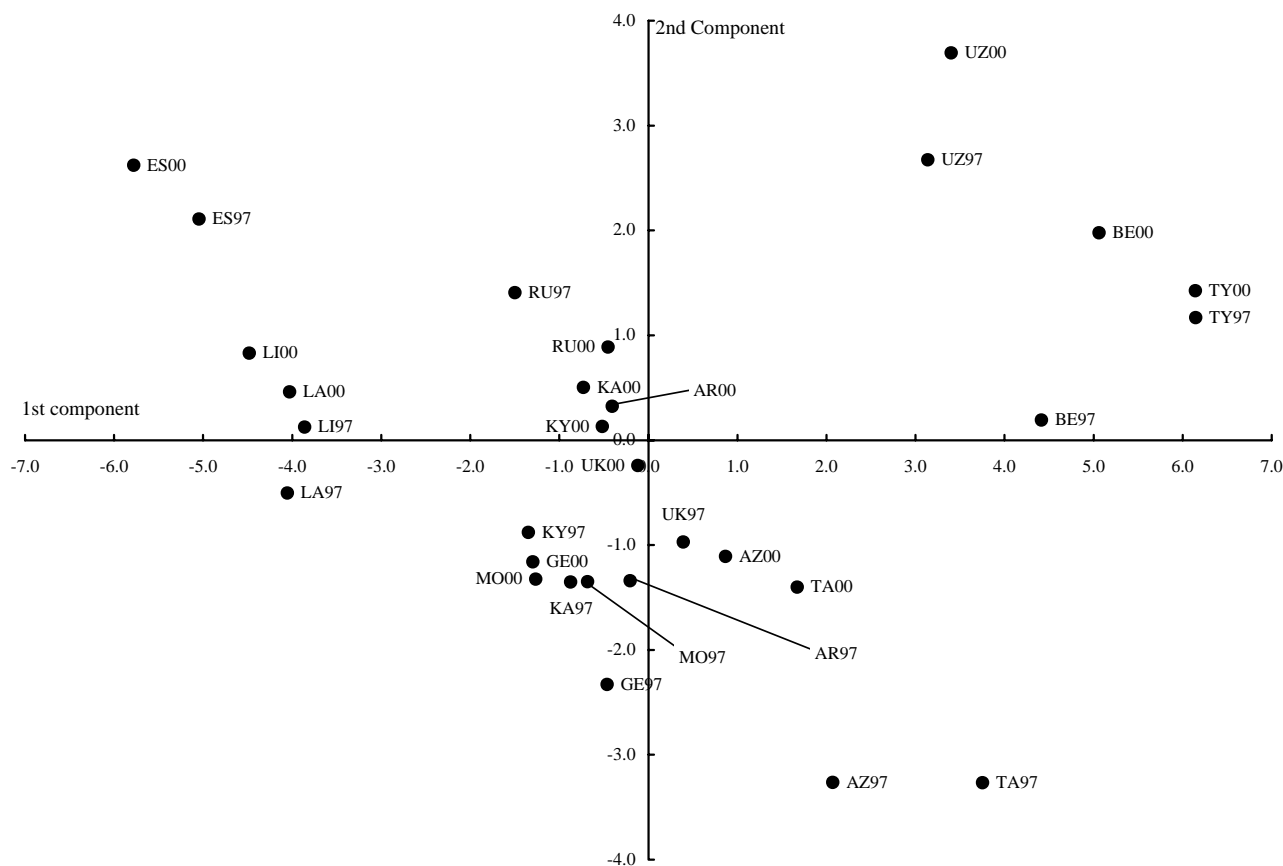
Source : Author's estimation.
Note : The two letters at the beginning indicate country; the following two-digit number indicates the year.

Table 7. OLS Estimates of Macro-shocks against GDP and Industrial Production in 1992-2001

	(a) 1992-1996						(b) 1992-2001							
	GDP			INP			GDP				INP			
	OS	RS+PS	ALL FSU	OS	RS+PS	ALL FSU	OS	RS+PS [1] (1)	RS+PS [2] (2)	ALL FSU	OS	RS+PS [1] (1)	RS+PS [2] (2)	ALL FSU
Const.	0.479 (0.23)	5.028 (1.78)	2.702 (1.25)	-0.937 (0.16)	4.765 (1.49)	0.130 (0.04)	3.927 ** (3.60)	1.162 (1.71)	0.837 (1.10)	1.088 (1.68)	6.893 * (2.46)	-0.053 (0.06)	0.024 (0.02)	-0.422 (0.41)
FSU	0.652 ** (2.96)	1.415 ** (4.77)	1.186 *** (5.49)	0.413 (0.66)	1.939 ** (5.76)	1.479 *** (4.64)	0.844 ** (6.22)	0.951 *** (10.34)	0.920 *** (9.15)	0.930 *** (12.01)	0.901 * (2.58)	1.373 *** (11.00)	1.369 *** (10.22)	1.287 *** (10.42)
RTD	-13.584 ** (6.90)	-18.139 ** (4.23)	-15.307 *** (6.06)	-10.895 * (1.95)	-19.526 ** (4.01)	-14.138 ** (3.79)	-12.956 ** (3.22)	-15.069 ** (6.88)	-20.231 ** (5.91)	-14.902 *** (7.79)	-0.234 (0.02)	-12.974 ** (4.36)	-22.020 ** (4.83)	-11.725 ** (3.85)
OSD	-	-	3.142 (1.56)	-	-	9.564 * (3.21)	-	-	-	3.210 ** (2.38)	-	-	-	9.160 *** (4.27)
R^2	0.766	0.549	0.564	0.193	0.594	0.429	0.667	0.680	0.634	0.683	0.200	0.642	0.644	0.567
$Adj.\ R^2$	0.744	0.530	0.545	0.119	0.576	0.405	0.643	0.674	0.627	0.676	0.141	0.636	0.636	0.558
F	35.95	28.63	30.59	2.62	34.33	17.79	27.10	124.23	84.13	104.62	3.38	105.10	87.56	63.77
N	25	50	75	25	50	75	30	120	100	150	30	120	100	150

Souce : Author's estimation. With regard to data source, see Annex Table.

Note : 1) Including Azerbaijan and Tajikistan.

2) Excluding Azerbaijan and Tajikistan.

3) T-values are given in perentheses beneath parameter significance. *** Significance at the 1 level ** Significance at the 5 level * Significance at the 10 level.
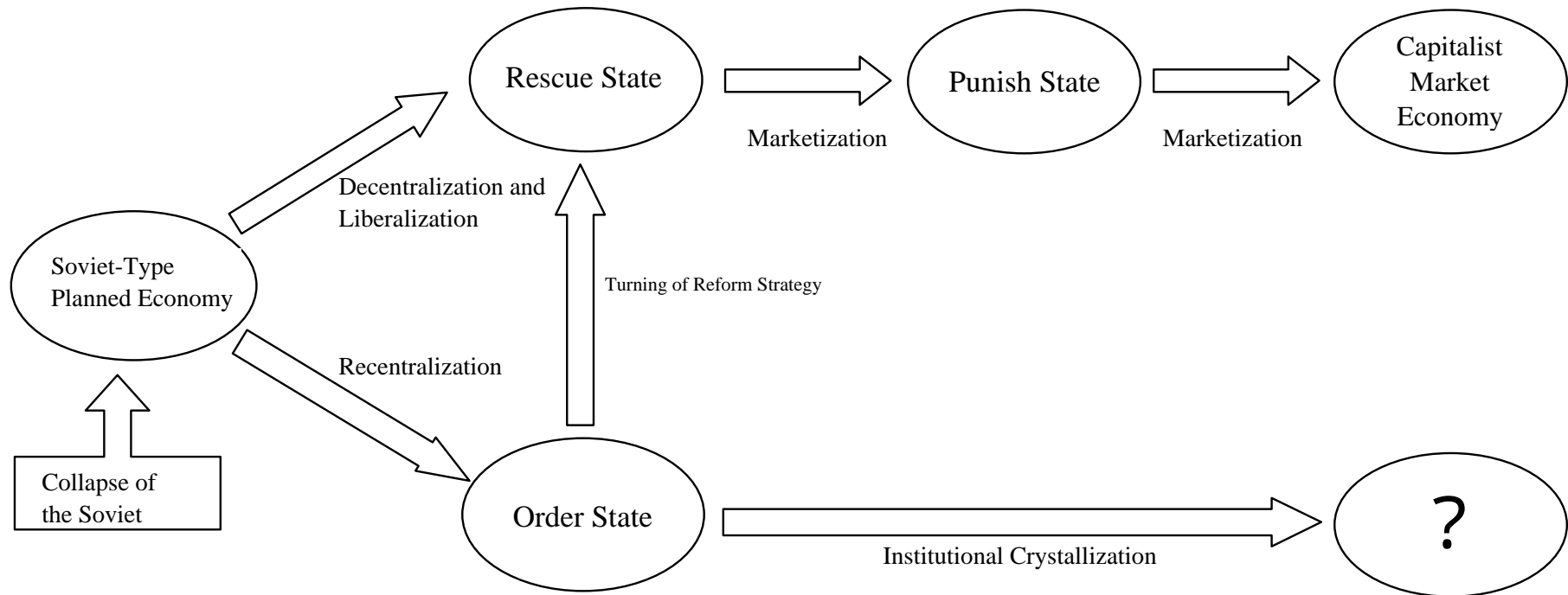
Table 8. OLS Estimates of Real Growth of GDP and Industrial Production in 1992-2001

	GDP						INP					
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
Const.	13.635 *** (8.42)	12.877 *** (7.81)	5.377 * (1.87)	5.583 * (1.93)	8.600 *** (3.82)	8.358 *** (3.71)	15.130 ** (5.51)	14.174 *** (5.04)	-0.507 (1.11)	-0.562 (0.12)	5.250 (1.38)	5.007 (1.31)
$ln\,(INF)$	-3.227 *** (9.16)	-2.945 *** (7.82)	-2.525 *** (6.02)	-2.454 *** (5.75)	-2.689 *** (6.84)	-2.531 *** (6.20)	-3.805 ** (6.37)	-3.450 *** (5.37)	-2.428 *** (3.47)	-2.412 *** (3.38)	-2.705 *** (4.08)	-2.546 *** (3.69)
OSD	-	-	1.581 *** (5.61)	1.519 *** (5.23)	-	-	-	-	2.851 *** (6.06)	2.992 *** (5.98)	-	-
RSD	-	-	0.844 ** (3.01)	0.783 ** (2.72)	-	-	-	-	1.548 ** (3.31)	1.552 *** (3.22)	-	-
PSD	-	-	1.354 ** (2.16)	1.265 ** (2.00)	-	-	-	-	2.883 ** (2.75)	2.887 ** (2.72)	-	-
OSD^2	-	-	-	-	0.144 *** (4.91)	0.138 *** (4.68)	-	-	-	-	0.249 *** (5.05)	0.243 *** (4.88)
RSD^2	-	-	-	-	0.061 ** (2.44)	0.057 ** (2.29)	-	-	-	-	0.117 ** (2.78)	0.114 ** (2.67)
PSD^2	-	-	-	-	0.116 * (1.66)	0.111 * (1.51)	-	-	-	-	0.304 * (1.80)	0.298 * (1.76)
RTD	-14.022 ** (6.23)	-13.078 *** (5.74)	-13.831 *** (6.69)	-13.447 *** (6.37)	-13.681 *** (6.50)	-13.065 *** (6.09)	-12.695 ** (3.33)	-11.505 ** (2.96)	-12.399 *** (3.59)	-12.326 *** (3.50)	-12.142 *** (3.42)	-11.525 *** (3.18)
ICD/t^2	-	2.271 * (1.98)	-	0.993 (0.91)	-	1.523 (1.40)	-	2.864 (1.46)	-	0.384 (0.21)	-	1.525 (0.83)
R^2	0.592	0.603	0.666	0.668	0.652	0.656	0.371	0.380	0.500	0.506	0.469	0.471
$Adj.\ R^2$	0.587	0.595	0.655	0.654	0.639	0.642	0.363	0.368	0.483	0.485	0.451	0.449
F	106.72	73.86	57.56	48.04	53.86	45.50	43.42	29.89	28.82	24.25	25.43	21.26
N	150	150	150	150	150	150	150	150	150	150	150	150

Souce : Author's estimation. With regard to data source, see Annex Table.

Note : T-values are given in perentheses beneath parameter significance. *** Significance at the 1 level ** Significance at the 5 level * Significance at the 10 level.

Figure 3. Achievements of Economic Transformation and Future Perspectives of FSU Countries

Rescue State

Punish State

Capitalist Market Economy

Marketization

Marketization

Decentralization and Liberalization

Soviet-Type Planned Economy

Turning of Reform Strategy

Recentralization

Collapse of the Soviet

Order State

Institutional Crystallization

Source : Author's illustration.

Annex Table. Data Sources and Basic Statistics

Valuable name	Basic Statictics					Source [1]
	N	Mean	Standard deviation	Min.	Max.	
Price liberalization	60	2.8	0.4	1.7	3.3	EBRD, *Transition Report.*
Trade and exchange regime	60	3.1	1.1	1.0	4.3	EBRD, *Transition Report.*
Small-scale privatization	60	3.4	0.7	2.0	4.3	EBRD, *Transition Report.*
Large-scale privatization	60	2.7	0.7	1.0	4.0	EBRD, *Transition Report.*
Competition policy	60	2.0	0.4	1.0	2.7	EBRD, *Transition Report.*
Banking reform and interest liberalization	60	2.1	0.7	1.0	3.7	EBRD, *Transition Report.*
Security market and non-banking sector	60	1.9	0.6	1.0	3.0	EBRD, *Transition Report.*
Government intervention	60	2.8	0.7	2.0	5.0	Heritage Foundation, *The Index of Economic Freedom.*
Property rights	60	3.5	0.6	2.0	4.0	Heritage Foundation, *The Index of Economic Freedom.*
Democratization	60	4.5	1.6	1.8	6.9	Freedom House, *Nations in Transit.*
Rule of law	60	4.8	1.4	2.0	6.8	Freedom House, *Nations in Transit.*
Number of administrative organizations in charge of industrial policy	60	8.1	4.7	3	20	ROTOBO, *Quarterly ROTOBO Economic Trends.*
% of private sector to GDP	60	52.3	15.7	20	75	EBRD, *Transition Report.*
Weight of expenditure related to production sector in national budget	60	15.2	7.5	2.9	35.4	Estimated by author based on CISSTAT (2001) and IMF, *Country Report* .
Ratio of fiscal spending of production-related national budget to GDP	60	4.2	2.5	0.7	11.5	Estimated by author based on CISSTAT (2001) and IMF, *Country Report*
Enterprise reform and corporate governance	60	2.0	0.5	1.0	3.3	EBRD, *Transition Report.*
GDP real growth rate (GDP)	150	-2.3	11.6	-44.9	20.5	CISSTAT (2001), EBRD, *Transition Report* , CIS statistical committee official figure (http://www.cisstat.com)
Industry production real growth rate(INP)	150	-3.3	15.8	-48.2	60.0	CISSTAT (2001), EBRD, *Transition Report* , CIS statistical committee official figure (http://www.cisstat.com) Latvian Central Statiscial Bureau official figure (http://csb.lv) Lithuania Statistical Bureau
Weighted mean of real growth rate of GDP in FSU (*FSU*)	150	-2.7	7.4	-15.0	8.7	Estimated by author based on real growth rate of GDP in each country, per capita income, and population.
Inflation rate (*INF*)	150	521.3	1475.9	-8.5	15606.5	EBRD, *Transition Report Update May 2002* .
Order state dummy (*OSD*) (Table 6)	150	0.2	0.4	0	1	Estimated by author.
Order state dummy (*OSD*) (Table 7)	150	1.2	2.6	0	10	Estimated by author.
Rescue state dummy (*RSD*)	150	3.1	3.2	0	10	Estimated by author.
Punish state dummy (*PSD*)	150	0.4	1.2	0	7	Estimated by author.
Regional tension dummy (*RTD*)	150	0.1	0.3	0	1	Estimated by author.
Initial condition dummy (*ICD*)	15	-1.7	1.1	-3.4	0.0	EBRD, *Transition Report 2001.*

Note : 1) Absence of a publishing year indicates that data was cited from several publications.