

## **Chapter 2 – The Problems of Transition Economy: Economic Calculation and Productive Capability**

(This is the introductory chapter of my doctoral thesis. It still subjects to further revision. All comments are welcome.

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### **2.1 Introduction**

The collapse of the socialist block at the ends of 1980s appeared to prove Mises's and Hayek's arguments on the socialist economic calculation debated during 1930s. According to Mises, economic calculation is only possible if there exists social institutions of private property in the means of production and with the aids of monetary prices that affords monetary calculation. In the socialist countries, due to the abolition of private property and monetary prices there is no economic calculation, and as a consequence, economic coordination was inefficient (Mises, 1963:698-715). For Hayek, without a market pricing system, a huge amount of dispersed and specific knowledge will be excluded out of the economic calculation for the society as a whole. As a consequence, economic decisions made by the central planning board for the whole economy would be 'worse' than by many individuals via the market pricing system (Hayek, 1945). In other words, in the long-term, an economy if bases on the centrally planned mechanism (collective property in the means of production) would have economic performance less efficient than if bases on the market mechanism (i.e., private property in the means of production).

The collapse of the socialist block opens another debate in the economist community: how to transit from the centrally planned economy to the market-based one. The debate started with the practical choice on transition policies between one called 'big bang' approach and another called gradualist approach. The former implies that a simultaneous and rapid implementation of reform policies would result in a better fruit. In contrast, the latter implies a reform where reform policies conduct gradually would be better. During the early period of the debate, the former was backed up by simple neoclassical models while the latter simply by documentations without a systematically and consistently theoretical framework (see Roland, 2000; Murrell, 2003). When the actual transition became complex with many surprises, complex models were exploited. Once models become more specialized on particular subjects such as liberalization, reallocation, restructuring, speed of transition, unemployment, output fall, trade, banking and finance etc., arguments induced from them are more or less in favor of the gradualist approach than the big-bang one (see Roland, 2000; Sachs, Woo, and Yang, 2000).

All these neoclassical-based frameworks simply suppose that all individuals of the economy can do economic calculation to follow the most efficient solution without concerning the institutional environment supporting for doing economic calculation and using practical knowledge as pointed out by Mises and Hayek during the socialist calculation debate. The merit of the gradualist approach is indeed resulted from the idea that individual economic calculations are constrained by the speed and sequences of

transition. Institution is only a kind of constraint rather than a mean that signifies knowledge necessary for decision making processes. This conceptualization did not satisfy the new institutional economists who wish to look for a consistent analytical tool to deal with institutional issues in the context of transition economies. The theoretical framework of the new institutional economics (NIE) has gradually been applied and dominated in the economic theory of transition since the late 1990s (Murrell, 2003). Recently, some Austrian economists like Boettke (2001), Colombatto (2002), and Dulbecco and Renard (2003), on one side support the NIE's framework, but on the other side state that the entrepreneurial factor is not considered at a significant extent in this framework and claim the necessity of searching and prevailing fundamental market-supporting institutions to guide the transition process into the right path.

However, the knowledge that institution signifies into economic calculation is only human experience on coordination. Or in other words it is still the environment to do economic calculation while productive capabilities to generate service-embedded objects whose prices and quantities are brought into economic calculations are seemingly never considered in the literature of the economic transition. Without productive capabilities economic calculation is simply a mathematical calculus, without any real content. If productive capability is less complex the less use-value is the real content of an economic calculation, even at the same complex degree of its mathematical calculus. It is therefore necessary to question on the status of the structure of productive capabilities during the transition process and its role in economic calculations conducted by free enterprises.

The objective of this chapter is to review theoretical economic arguments underlying two approaches, big-bang and gradualist, to transition. Based on this review, it is expected to specify some remaining theoretical issues to be solved. The chapter is organized as follows. In the next section, the meaning of transition and reform policies during the transition period are specified. Section 2.3 presents economic arguments underlying the big-bang approach. Section 2.4 reviews three analytical tools, formal models of the neoclassical paradigm, the NIE, and the Austrian framework, to support the gradualist approach. In Section 2.5, the problem of economic calculation is presented to show the gap of the contemporary literature of the economics of transition and a suggestion to deal with the problem. Some concluding remarks are listed in the last section.

## **2.2 The Meaning of Transition and Reform Policies During the Transition Period**

The essential difference between a centrally planned economy and a market economy is its ideology on the way to generate more wealth for people. According to the former one, all economic activities of the economy should be planned and coordinated via the centrally planning board, while according to the latter, all economic activities should be autonomously planned by individuals and coordinated via the market price system. Each ideology is then protected by a different institutional structure. The former one is organized in the form of a communist regime where individuals only have the right to coordinate one another via a set of designed forms of specific relations issued by the government; while the latter is organized as a structure of spontaneous forms of specific relations established by individuals following the rules of laws which are enforced by a limited government whose operations are constrained also by the rule of laws. Under

such different planning and coordination mechanism and corresponding institutional structure, individuals and physical means of productions are combined together to form productive units to conduct various economic activities. All such productive units are linked together to constitute the productive structure of the economy. Physically, there is no difference between a productive structure which is established on the basis of the centrally planned mechanism and one on the basis of the market mechanism. The difference remains solely on the way of organization, or exactly, on the way of establishment of specific relations between individuals and between productive units.

There is 'no such as thing as a mixed economy' between capitalism and socialism (Mises, 1963:258). It means that if the centrally planned model is less efficient than the market model, the economies which were applied the former model have to transform to the latter one. The concept of transition must therefore imply a strict meaning: it is a process of continuous changes of an economy from the centrally planned model to the market one. The ultimate goals of the transition process in this sense are clear: (i) resource allocations conducted by the market pricing mechanism (instead of the centrally planned mechanism); (ii) an institutional structure based on laws and enforced by a limited government (instead of a communist regime); and (iii) an economic structure, from production to consumption, determined by free individuals with free enterprises (instead of communist cadres managing state owned enterprises designed by the central planner). The transition period of a post-communist country is over when these goals are achieved, at least in comparison with a market-based economy with an equivalent level of development.

In any economy, either centrally planned or market-based, government always holds the ultimate coercive power. During the period of transition, all intentional actions of the government towards a limited government, i.e. focusing mainly on the building and enforcement of the rule of law to protect the market mechanism (Hayek, 1960), would impact either positively or negatively on the transition process. These government's actions during the transition period towards three above goals compose into a package of reform policies<sup>1</sup> which particularly include:

- a set of policies to set up market pricing system: (i) price liberalization (i.e., elimination of subsidies for customer and producer products and granting the right for enterprises to set prices for inputs, including the level of wages for labors, and outputs) and (ii) trade liberalization (free transactions, elimination of import quotas and export quotas and unification and reduction of tariffs, and setting a convertible currency).
- a set of policies to build a structure of market institutions to protect the market mechanism: (i) toward a limited government policies (i.e., reducing budget expenditure which requires credit squeeze and tight monetary and fiscal policies), (ii) issuing and implementing a large number of laws, including a new constitution, to back up the right of private ownership of various kinds of assets and the right to conduct economic activities equally for all people of the economy, and (iii) dealing

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<sup>1</sup> More details of reform policies, see Lavigne (1999).

with side-effect phenomena of the market mechanism such as unemployment (via social safety net policies), smuggling, mafia and criminal activities.

- a set of policies to reorganize the economic structure: (i) liberalization of private enterprise sector, (ii) privatization of state owned enterprises, and (iii) opening the domestic market for foreign enterprises, and (iv) setting up of labor markets, capital factor markets and financial institutions.

In principle, any further step that shifts the economy far from the centrally planned model should lead to a better economic performance for the economy. It means that a 'right' package of reform policies should bring not only a better long-term economic development but also a short-term economic growth for the economy. In the next sections we will review different economic arguments between the 'big-bang' approach and the gradualist approach in respect to short-term and long-term economic performances of a transition economy.

### **2.3 Economic Arguments for the 'Big-Bang' Approach**

During the beginning of the transition debate economic arguments for the 'big-bang' approach to transition were rooted in the standard neo-classical framework. Since, according to economists who supports this approach, the main problem of a transition economy is the problem of excess demand, the task of controlling inflation is more important than the issue of recession (Lipton and Sachs, 1990). It is therefore possible to use a modified model applied for Latin American countries during the early 1980s for the case of transition economies. The basic assumptions of this model are as follows (see Murrell, 1993; Roland, 2000):

- (i) Individuals and economic organizations are assumed to do economic calculation or act rationally to maximize their utility under the incentive structure designed by the government. They therefore can promptly and rationally adapt with the new system that is being created.
- (ii) The initial situation of the transition is characterized by the centrally planned economy which is distorted by the central planner who systematically applies administrative and political interventions into the economy. As a consequence, the economy performs inside the production-possibility frontier it might have attained if free-market principles had been followed. The goal of transition is therefore to eliminate main distortions of the previous regime.
- (iii) Reform policies and political constraints are assumed as exogenous variables. The technocrat has precise knowledge of how to construct successful economic institutions and has a powerful influence on the transition process. As a consequence, the goal of reform that the technocrat aims at the initial point are able to achieve.

On the basis of these assumptions, according to the big-bang strategists all policies should be conducted rapidly and simultaneously since they are complementary (Lipton and Sachs, 1990; Murphy, Shleifer, and Vishny, 1992).<sup>2</sup> Beside the reason of the

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<sup>2</sup> Lipton and Sachs (1990) wrote: "The transition process is a seamless web. Structural reforms cannot work without a working price system; a working price system cannot be put in place without ending excess demand and creating a convertible currency; and a credit

complementarity of the constitutive institutions of economic systems, there is another reason for the preference of big-bang strategy in transition. It is the disappointing experiences with partial reform in Central and Eastern Europe prior to the fall of communism. They expect, with the rapid transition process, the reform would be irreversible. Other problems like rent-seeking and corruption are often raised. Further, Aslund, Boone, and Johnson (1996) suggest that there exist positive externalities from rapid transition process. For example, "if the rapid adjustment of one firm permits others to learn how to operate more efficiently in a market economy, there will be externalities associated with learning. A greater number of private suppliers means more competition and hence a market that functions better, with information more widely available and lower costs of doing business" (p. 252). In short, the big-bang approach should bring more benefit than the gradualist ones. The recession, if occurred, would be insignificant and at a short period and quickly reaped by the power of natural market force (Lipton and Sachs, 1990:102). The basic rules for a market economy would be possible to establish in the short-run. Sachs (1991:236) claims that the economic, legal, and institutional basis for a market economy could be established in one year.

However, when the actual transition process led to too many unexpected consequences, especially a large fall of output, and under the pressures of progressively well-built critiques from the gradualist theorists, the big-bang economists seem to cease the simple neoclassical model and try to look at a complicated explanation. Typically, Sachs and Yang (1999), Sachs and Woo (1999), and Sachs, Woo and Yang (2000) bring the constitutional factor into their framework. They use the inframarginal analysis of the network of division of labor to investigate of institutional evolution. They also combine the comprehensive documentation of changes of institutions and policies and their economic consequences with the inframarginal analysis in order to capture the complexity of institutional changes during the transition process (Sachs, Woo and Yang, 2000:4).

According to Sachs and Yang (2000), economic development is a process with evolution in division of labor. In a world of bounded rationality, individuals and organizations have to experiment with various patterns of division of labor to discover more efficient and complex ones. This is the case of developed countries where the efficient patterns of division of labor were found by gradual social experiments on the ground of the capitalist institutions. However, the information on the efficient patterns is free for the latecomers of economic development to use. They can mimic efficient and complex patterns of division of labor by jumping over many intermediate levels of division of labor. The relatively successful industrialization in the Soviet style socialist countries in the 1930s and 1950s is an example of the imitation of the efficient pattern of division of labor created by capitalist institutions in the absence of the capitalist institutional infrastructure. As Sachs (1994) suggests, this imitation strategy without the support of a capitalist institutional infrastructure can generate short-run impressive growth performance. But, in the long-run, since this system does not have the capitalist institutional infrastructure that

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squeeze and tight macroeconomic policy cannot be sustained unless prices are realistic, so that there is a rational basis for deciding which firms should be allowed to close. At the same time, for real structural adjustment to take place under the pressures of tight demand, the macroeconomic shock must be accomplished by other measures, including selling off state assets, freeing up the private sector, establishing procedures for bankruptcy, preparing a social safety net, and undertaking tax reform. Clearly, the reform process must be comprehensive (p. 99)".

can create its own capacity for economic development and institutional innovations, it cannot generate more efficient and complex patterns of division of labor as the capitalist countries would do. As a consequence, the long-run cost of this strategy will overshadow its short-run benefit.

If we accept the constitution of the capitalist institutional structure as a universal one that is essential for long-term successful economic development, according to Sachs and Woo (1999), it is necessary for the Soviet style socialist countries to transform its current institutional system into the global capitalist institutions, rather than to create institutional innovations that are substantially different from the capitalist institutions. But since the socialist economies, via the imitation process, has already developed a high level of division of labor where the sophisticated input-output network is coordinated by the central planning system, it is extremely difficult to separate the dismantling process of the central planning from the malfunctioning of the coordination of a large network of division of labor so that a gradual reform is possible to take place. If following the gradualist approach, the system itself does not have the 'right' constitution that is necessary for discovering the efficient institutional arrangements over the transitional period. A shock therapy therefore may be necessary to dismantle the central planning coordination mechanism from the high level of division of labor (Sachs, Woo and Yang, 2000).

When the reform occurred, according to Sachs, Woo and Yang (2000), the fall of output during the initial period is inevitable. To induce this argument they use the model developed by Lio (1998). According to Lio's model, the network of division of labor is reliable only if it is maintained by an insurance umbrella. Prior to the reforms, the socialist countries had an implicit complete insurance system as an attribute of the totalitarian system. For examples, there was complete employment insurance, pension insurance, medical insurance, trade insurance, and so on. Each state firm was insured for all goods it produced in the sense that the central planner would buy all of them. When the reform occurs, the central planning system is removed. The reliability of the large network of division of labor therefore decreases sharply before the market for insurance is developed. The entire network of division of labor then fails to work. As a consequence, there is a large output fall after the reform is officially launched.

However, the implication does not stop at the explanation of the fall of output. What Lio's model implies is that "there is a trade off between incentive provision, which can be increased by incompleteness of insurance, and reliability gains of the network of division of labor, which can be increased by insurance" (Sachs, Woo, and Yang, 2000:34). So, "focusing on incentive provision and ignoring the positive contribution of the implicit insurance to the network reliability of division of labor may not achieve the efficient balance of the trade off. The development of various insurance markets is essential for the success of privatization reforms" (ibid.).

In short, according to the big-bang theorists, the transition process of a complex system should be rapid and simultaneous. The reason is not only induced from the arguments based on the simplified assumptions of the standard neoclassical model, but also from the arguments that consider the complex pattern of the division of labor that the socialist

economies mimicked from the Western countries for a long period. The fall of output during the initial period of reform is inevitable due to the removal of implicit complete insurance made by the centrally planned system for the reliability of the network of division of labor. This fall of output can be reduced if the trade off between incentive provision and stability of the network of the division of labor is carefully considered. However, the most importance is that the rapid transition process shall bring long-term benefit for these economies since they set up new institutional structure based on the universal capitalist constitution.

## **2.4 Economic Arguments for the Gradualist Approach**

Economists who support the gradualist approach use different analytical tools to derive their arguments. Although they come to the same kind of normative implication but different analytical tools emphasize on different aspects of the transition. In this section we review three analytical tools used by economists during recent years: formal models, the new institutional economics, and the Austrian economics.

### **2.4.1 Based on Formal Models of Transition**

When the transition process became complex, economists expect to separate different mechanisms and factors causing to economic phenomena. Modeling is a useful tool for them to do this task. Economic models are often simplified and more or less based on the neoclassical framework. Individuals and economic organizations are still assumed to do economic calculation or act rationally to maximize their utility. However, they add another assumption that the action of one individual is constrained by the consequence of the prior actions conducted by other. So, their objective is to find the optimum path of transition, particularly the optimal speed and sequencing of reforms, the optimal speed of sectoral reallocation, the optimal speed of price liberalization, and the efficient methods of restructuring of state firms. Two key figures here are Gerard Roland and Olivier Blanchard. Their own and joint models with other fellow economists are combined and presented correspondingly in Roland (2000) and Blanchard (1997).

In the field of political economy, Roland (2000, ch. 2) models the effect of political constraints on the optimal sequencing and speed of reforms under uncertainties. They showed that the gradualist approach is superior than the big-bang to reform in term of overcoming both ex ante and ex post political constraints because it allows for experimentation with reforms and because it has an option value of early reversal that big-bang does not have. Their models also show that if the gradualist approach is chosen then reform policies should be started with those that have a higher likelihood of giving important gains to a majority rather than those with hurting a majority.

In respect to the issue of the speed of sectoral reallocation and restructuring, Blanchard (1997) provides both general and partial equilibrium models to explain why the economy would be suffered from a U-shaped response of output, a decline in output followed by recovery, and an extensive increase in unemployment. According to him, transition is dominated by two mechanisms, sectoral reallocation and restructuring of state firms. He shown that when the reallocation occurs, i.e., the subsidies to state firms are removed and

prices are liberalized, the real wage in the state sector is immediately reduced and therefore the unemployment increases which leads to a sharp decline in output of the state sector. Since the output of the private sector is almost remained the total output of the economy is declined sharply during the initial period of the transition process (ibid., p. 26-35). Another consequence of the reallocation in respect to the decline in output is the problem of disorganization (ibid., p. 36). Under the centrally planned economy, 'production in the state sector was organized around bilateral relations between state firms'. With the presence of the central planner all these bilateral relations were maintained. But, when the economy is transformed into a market-based one, with the appearance of new private opportunities some suppliers might not want to deliver their output to other state firms who had bilateral relations with them before. Since state firms do not yet have alternative suppliers, they might lack some essential inputs and hence its production might come to a stop and the output is declined. Atkeson and Kehoe (1995, in Blanchard (1997)) had a similar argument but from a different angle. In their model, reforms destroy existing stock of information while new stock of information takes time to develop. Firms have to explore new sources of information. Since, during the initial period, they have to take trial and error, an initial decline in output is inevitable. But, by the process of transition, the output will be recovered when firms establish a new 'correct' stock of information. However, according to Blanchard (1997), this mechanism is weak to explain the initial decline of output. The collapse of state firms should not come from their trying to find new ways. Rather, it is because of the disruption of the existing interfirm relationships.

The second mechanism, restructuring of state firms, leads to an increase in unemployment due to the improvement of productivity in state firms. The matters is that when transition starts, the state still remains its ownership over state firms but it hands over control rights to insiders - managers and workers - of state firms. Having control rights, but without full property rights, insiders will oppose measures that improve the firm but make them worse off. The degree of opposition depends on privatization rules and the state of the labor market. According to Blanchard (1997), if the worse the labor market conditions are, the less restructuring. In other words, there are interactions between restructuring and unemployment which shape the transition. This explains why countries which had a large initial decline in employment and output are likely to restructure more slowly. In the worst situation, a very high initial unemployment may derails the whole transition process since the restructuring is blocked.

From the models developed by Blanchard and his collaborators the normative implication for transition is straightforward. State firms need to be supported (i.e., maintaining some subsidies) for some time in order to avoid some of the disorganization effects, to limit the rise of unemployment, and to allow the new private sector to develop faster relative to the decline of the old state sector (ibid., p. 128).

In respect to the issue of price liberalization, Lau, Qian and Roland (1997 & 2000), from the experience of 'dual-track' transition in China, developed a model to show that the dual-track liberalization is possible to prevent the output fall associated to liberalization. The dual track approach means the co-existence of a market track and a plan track. In the dual-track liberalization, prices are liberalized at the margin so that the market



information obtained from price liberalization is the same as what would obtain under full price liberalization. In the absence of preexisting markets, the dual-track allows to achieve Pareto-improving gains from liberalization. With this positive effect, from the political economy point of view, it is a way of overcoming potential resistance to price liberalization. The dual-track also allows to prevent the output fall by maintaining past contractual obligations from the plan.

In sum, models provide us ideas on the speed and sequencing of reform policies during the transition period. Although they acknowledge the importance of institutional factor but they only consider it as a constraint upon individual economic calculations rather than a knowledge-embedded means supporting economic calculations. Therefore there is no question of how to establish and change institutions is addressed here.

#### **2.4.2 Based on Insights of The New Institutional Economics**

Not like the modeling approach which focuses on the optimum path of transition, the representatives of the new institutional economics (NIE) focuses on the role of institutions on economic performance and development as well as explaining their changes during the transition period. The representative authors of the NIE are Murrell (1992, 1993, and 2003), Kornai (1991), Lichtenstein (1996), Smyth (1998), Voigt and Engerer (2002).

There are three core hypotheses of the NIE (see Voigt and Engerer, 2002):

- (i) *Institutions matter on the development of an economy:* In a world where transaction is costly (due to the opportunistic behavior and bounded rationality) institution matters to shape human interactions (as an instrument to reduce transaction costs). The existing institutional matrix provides its incumbent players many benefits such as network externalities, complementarities, and economies of scope.
- (ii) *Internal institutions are generally more stable than external institutions:* The former is more stable because it is not subject to a deliberate collective choice mechanism. The complementarity as well as conflict between internal institutions and external institutions influences on economic performance.
- (iii) *Institutional change is path-dependent:* When some players find new opportunities and want to modify the existing institutional matrix, they will face the resistance from those who still gain benefits from the existing framework. Therefore, institutional change will occur at those margins where the bargaining power of interested parties are balanced. the institution system of an economy in this sense changes incrementally and follows a path-dependent process (North, 1990).

In the beginning of the transition debate the representatives of the NIE only stood at the awareness of the importance of institutions but not consistently followed in the framework of the NIE to induce their arguments. Murrell (1992, 1993) and Kornai (1991) then suggest that the reform should be conducted gradually because of the limited power of the technocrat's knowledge on the path of transition, because of the constraints of

public opinion, because of the effectiveness of the new institutional structure, and because the development of new private sector takes time.

Since the mid-1990s there are a huge number of papers looking at empirical evidences to support the ideas of the NIE. Voigt and Engerer (2002) and Murrell (2003) are two recent rich reviews on the progress of using the NIE as an analytical tool to analyze transition economies.<sup>3</sup> Researches based on the NIE focus on the effectiveness of external institutions, the growth of internal institutions as their relationship with external ones, and the choice of governance structures of private actors under new institutional environments. The general implication from these researches is that high quality institutions take time to build and to be effective. It also means that a quick and comprehensive reform program would lead to the large disruption of coordination between economic players due to the lack of credible institutions.

Although the NIE provides us a rich explanation on the role of institutions as well as its change during the transition period, the main problem of the NIE is that it does not provide us a conclusive answer on what kind of institutions to yield positive outcomes. In other words, it offers little normative prescriptions for change and improvement for transition economies (Colombatto, 2002:64-65).

#### **2.4.3 Based on Insights of The Austrian School of Economics**

In general, the Austrian approach supports the gradualist strategy to transition. It is more close with the NIE than the neoclassical framework. Particularly, it avoids the question of the optimal path of transition and focuses on the practice of reform program to build an institutional structure supporting the market mechanism. The main difference of this school from the NIE is that it puts the development of entrepreneurship at the center of the process of establishing a new institutional structure. This kind of development requires some stable and permanent simple rules or institutions as points of orientation to channel the reform program. Here we review the works of Boettke (2001), Colombatto (2002), and Dulbecco and Renard (2003).

The rationale for searching of stable and permanent formal institutions origins from Lachmann's theoretical framework on institutions. In this framework, institutions are integrated into a coherent structure in order to provide economic actors guideposts for their actions. It is the permanency dimension of the institutional structure. But the institutional structure also needs to have flexibility dimension that allows individual institutions to change to reflect economic changes. "Institutions rise and fall, they move and change. An institution may last a long time, but during this time assume new functions or discard old ones" (Lachmann 1970:77-78). To solve the permanency-flexibility dilemma, Lachmann proposed an institutional structure which consists of few 'fundamental' formal institutions which are not mutable. These institutions constitute the legal order. The key idea here is that the legal order created by these designed external institutions contains *interstices* which need to be fulfilled by undersigned institutions which gradually emerge from the sphere of 'contractual freedom'. The specificity of

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<sup>3</sup> For other reviews, see Lichtenstein (1996) and Smyth (1998).

those interstices shared by both kind of institutions is the source of the institutional dynamics of an institutional structure of a society, without altering the institutional structure as a whole.

The permanency-flexibility dilemma that Lachmann (1970) specified indeed exists in any economy. But, according to Dulbecco and Renard (2003), this dilemma in transition economies is deeper because the force to eliminate old institutions of a planned economy is too strong while the emergence of new institutions of market economies, especially informal institutions, is difficult, timing, and at divergent speeds. As a consequence, the institutional order of the economy may be chaotic when reform occurs. Solving the permanency-flexibility dilemma in transition economies is really difficult since there are very few existing stable and permanent external institutions that support the development of a market economy in the socialist regime. But, it is the task of a reform government.

According to Colombatto (2002), any external institution set up during the transition period needs to meet three criteria: extension of knowledge acquisition, encouragement of individual responsibility, and extension of free entry into the market place. For Boettke (2001), a criterion simply is protection of private property. This criterion also means the government has to be limited. But problem of a transition economy is that when it transformed into the market based one, the institutional structure necessary to protect private property and support free exchange is still absent in the daily time even when it appears *de jure* on new legal documents (ibid., p. 228). However, he supposed that there must exist somewhere some formal institutions in the existing status quo that meet criteria. The government therefore has to persistently search for them and credibly commit to prevail them for all economic activities. The real-time reform according to Boettke (2001) must:

1. start from the existing status quo;
2. unearth the *de facto* organizing principles of that status quo;
3. design a set of reforms which address the incentive and informational problems associated with that *de facto* system; and
4. send a clear, high quality signal that the proposed reforms are credible and commit the governance structure to the new system, and, in doing so, close the gap for the *de jure* and *de facto* organizing system in the new regime. (p. 229)

The research conducted by Dulbecco and Renard (2003) on the case of the Chinese economic reform shown that decentralization is one of formal institutions which allows the integration of change without altering the institutional structure as a whole. This argument is also addressed in many paragraphs of Boettke (2001).

For the purpose of establishment of a credible commitment to limit itself, the government needs to be strong and acts also on the basis of stable and simple rules.<sup>4</sup> With this signal, plus with policies of economic freedom, “economic actors will be willing to bet on their ideas; they will be able to engage in rational calculation concerning those bets, find the

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<sup>4</sup> Boettke (2001:221) quoted from Epstein (1995:53) the suggestion on simple rules for governmental actions that “the simple rules are self-ownership, or autonomy; first possession; voluntary exchange; protection against aggression; limited privilege for cases of necessity; and taking of property for public use on payment of just compensation.”

financial backing to bring those bets to life, and coordinate their plans with the plans of others in the economy to realize the mutual gains from exchange” (Boettke, 2001:268).

In short, similar to the new institutional economists the representatives of the Austrian economics emphasized the role of institution on the process of transition, too. However, instead of discussing the optimal speed of transition or the path-dependent outcome of the process of transition, the Austrian economists focus much on stable and permanent external institutions constituting the institutional order that support the development of entrepreneurial ability possessed by individuals of the society. The reform government has to continually find these external institutions from the existing status quo and widen them to all economic activities to promote the development of entrepreneurship.

### **2.5 Preservation and Development of the Real Content of the Economic Calculation for the Economy as a Whole during the Transition Period**

Although Austrians have brought economic calculations back to the transition debate, they only touch on the development of institutional environment necessary for doing economic calculations. None of Austrians touches on the issue of how to preserve and develop the real content of the economic calculation established under the socialist regime.

It is known that in the former socialist countries the pattern of productive units was determined by decisions of the central planning board (CPB). Such economic decisions though were not based on individual economic calculations but still as the result of the economic calculation made by the CPB for the whole economy.<sup>5</sup> Under the socialist regime every productive unit which was added into, modified within or removed out of the existing pattern of productive capabilities was judged by the command of the CPB in order to increase the complexity of the whole structure. It is the same objective to develop the capital structure<sup>6</sup> as Lachmann (1978) describes via the market mechanism for the case of a free enterprise economy. However, there is one difference. It is that in the former socialist countries the economic calculation was conducted merely by the central planning board and less with monetary prices. As a consequence, a huge amount of practical knowledge of the economy therefore was not brought into the master plan. Decisions were less efficient than the case if they were done by many individuals via the market price mechanism (Hayek, 1945). The legacy of the former socialist regime therefore is still a structure of productive capabilities, but biased by the arbitrary mind of the CPB.

Transition to the market economy allows individuals to participate in the economic calculation for the whole economy via their own individual economic calculations. But if our question concerning the economic calculation for the economy as a whole is important for the development of an economy we must ask under what conditions economic calculations made by individuals during the transition can bring a better result,

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<sup>5</sup> Based on international prices, according to Mises (1963:702).

<sup>6</sup> Although Lachmann (1978) mentions only to the capital structure but his implication indeed refers to the structure of productive capabilities since capital in the Austrian economics ‘is embodied knowledge of productive processes and how they may be carried out’ (Baetjer, 2000:148).

i.e. a higher complexity of the structure of productive capabilities, than it was when it was done by the centrally planning board. The free enterprise right for individuals so that they can do their economic calculations is not enough for this requirement. Other conditions must be considered are that whether particular economic calculations per se done by individuals during the transition period are still complex enough and whether they are compatible in the way that makes the economic calculation for the economy as a whole still complex at least at the level done by the centrally planned board.

We only mention these issues briefly here while leave the full establishment of our argument in the next chapters. In our consideration, the complexity of the economic calculation for the economy as a whole reflects the complexity of the network of division of labor of the economy. Each node of this network is a productive unit which is a combination of productive capabilities to generate a complex service. Under the socialist regime, the pattern of all productive units is the result of the economic calculation for the economy as a whole. The complex degree of productive units as well as their connection into the whole depends on the entrepreneurial ability of the CPB. When the economy transforms into the market based one, productive units are supposed to be calculated and driven by individual entrepreneurs, which form cooperative enterprises as we call in the next chapter. The complexity of each productive unit therefore depends on the entrepreneurial ability of the cooperative enterprise. And since there exists no the CPB now the complexity of the whole relies solely on individual economic calculations based on market price signals well as the structure of institution that connect productive units one another. Under a fully developed market economy the existence of a productive unit would reflect the ability of the in-charge cooperative enterprise that fits with the progressive tendency of the structure of productive units. But, during the transition period, the price system is not fully developed and cooperative enterprises have not accumulated many sorts of marketability capabilities such as financial and managerial capabilities. As a consequence, their individual economic calculations are formulated to cover only a few sorts of fragmented productive capabilities that they have the rights of disposal. Productive capabilities that should be used to produce producers' goods might be moved to produce consumers' goods since they would give the highest expected outcome according to individual economic calculations.<sup>7</sup> In this case there are inconsistent changes within the structure of productive units of the whole economy because these individual economic calculations would turn to wrong since they were originally done on the basis of the assumption on the existence of the prior structure of productive capabilities which had been undermined by the earlier shift of productive capabilities from the capital good sectors to consumers good sectors. As a consequence enterprises would tend to stop to follow more complex plans and move to less complex ones. The enterprise's productive capabilities one more time would be turned down. Therefore, the economic performance of an economy would be declined not only during the short initial period but over a long period.

The reform program therefore needs to focus on the preservation and development of productive capabilities associated with individual productive units of the economy in

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<sup>7</sup> One of the main characters of the former socialist economy is the shortage of consumers' goods (see, Kornai, 1992).

order to maintain the complex content of the economic calculation for the economy as a whole. Only with it economic performance is possible to be progressive in the long-run. At this moment we only suggest that we may follow a similar strategy in the maintenance of the institutional order, i.e. finding and preserving the stable and permanent part of the structure of productive capabilities, while allowing the flexible ones to restructure towards more efficient ones. We will elucidate this proposition in the next chapters.

## 2.6 Concluding Remarks

The collapse of the socialist block during the end of 1980s proved the inefficiency of the applying of the centrally planned model in the former socialist countries. No one now questions the aim of introducing a successful market economy based on private ownership into these economies and the necessity of reform policies to push the process to this end quickly and efficiently. The main issue of debate among economists is what kind of reform policies is suitable and how to implement them. As we already reviewed, economists touched many issues from different angles. For those who support the big-bang approach, a fundamental and swift change of the institutional structure is necessary to provide a long-term successful economic development, even with a sacrifice of a short-run benefit. On the other hand, those who support the gradualist approach emphasize the uncertain outcome of the reform and the importance of short-run success in order to gain credibility for further steps of the reform program. The setting up of a new institutional structure needs to consider the specific conditions of the country. In order to have a successful transition, the most importance, according to the Austrian economists, is that the reform program conducted by the government has to stand strictly on some permanent and stable formal institutions towards a limited government and economic freedom.

However, it seems that the essential problem of transition economies, the problem of economic calculation has not discussed in depth. Some Austrians have discussed these issues but it seems that their analyses are still superficial. These Austrians only focus on the right for individuals to do economic calculations rather than the content of economic calculations per se. We suppose that the preservation and development of the real complex content of the economic calculation for the economy as a whole is an important task to gain both short-term and long-term development. We suggest that the preservation of the structure of productive capabilities of such economy is the solution for this problem. This is our task in the next chapters of this thesis.

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