

A Theory Of Reform For Economies In Transition?

By

Serop Saghdejian

2358781

Major Paper presented to the

Department of Economics of University of Ottawa

In partial fulfillment of the requirements of the M.A. Degree

Supervisor: Professor Marcel Mérette

ECO 7997 F

Ottawa, Ontario

January 2003

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A Theory Of Reform For Economies In Transition?

1. Introduction

It has been more than a decade since the governments of Eastern Europe and the CIS (Commonwealth of Independent States) first broke away from their socio-economic policies of central planning and launched their programs of transition to so-called market economies and democratic form of self-governance. The public interest of these unfolding events was enormous in the beginning of the process when so much was at stake; when, after more than seven decades the notorious Soviet Union was collapsing and the fall of the Berlin Wall was instilling fresh enthusiasm in the proponents of free markets.

What had the economic profession to say about these events? Was there a theory for economic transformation at place at the time when the transition process commenced? Or does such a theory exist now, after more than twelve years of economic turmoil in the transition countries? There are no simple answers to these questions. Whatever theories there were about the market economy have had little to say about economic reality and why or how Western market economies (or the Asian, Japanese or German style economies) worked better in practice compared with the centrally planned soviet block. Of course there were some strands of schools of economic thought which were better equipped to give us a transformation theory but they were so much marginalized that whatever they said was not heard by the reforming governments and sometimes was simply ignored, for political reasons. The radical policies advocated by the dominant camp, the so-called neoclassical school whose proponents are the unwavering defenders of the free market held sway over other moderate policies. This had disastrous consequences for the majority of the people who bore the brunt of the recessions, high unemployment rates, deteriorating real incomes, high degree of inequalities in income distribution, and loss of whatever safety net they had under the communist regime.

Gradually there started to evolve a new literature dealing with transition. This literature reached enormous proportions, consisting of thousands of books and articles written in the most prestigious economic journals by our finest economists. Given the enormity of the literature and its diversity, it is almost impossible to give a fair review of this economic field in a short paper. Consequently, I make no claims to universality. I intend to separate the

wheat from the chaff, so to speak, as far as the literature on transition is concerned. In other words I will selectively analyze different approaches which, in my judgment, are most likely to help us determine what successful economic reform package for a transition economy should look like.

As I have noted, there have been numerous academic discussions about transition but, to my knowledge, nobody has put forward a definition of the term "transition". Yet it seems clear that before we can address the phenomenon itself, we must discover its precise meaning.

First of all, transition is a process, a process of transformation from one state to another. In the given case, the process consists of a complex and multifaceted transformation of a particular form of socio-economic organization: it is the transition from centralized, hierarchical and totalitarian forms of organization to a more democratic forms, whereby the people who are undergoing the transition give up their economic security and leisure in exchange for political rights and freedoms, and freedom of enterprise. In other words, we are dealing here with a process of institutional and behavioral change.

Secondly, it is above all a dynamic and continuous process. There are no time schedules, or rather there should not be, and there are no ideal end points to be reached, models to be emulated, or predetermined procedures to be followed.

Finally, to be successful and welfare enhancing it must be desirable to the population which is undergoing the change.

My definition of transition has been intentionally vague, so as to reflect the breadth of material encompassed by the concept. Ironically, if I have made anything clear by this definition, it is perhaps not the idea itself, but rather the fact that my discussion of transition must be wide-ranging. For this reason I have chosen a hybrid approach, characterized by the combination of different theories and experiences into a comprehensive and coherent whole.

In short, to study such a complex social, economic, and political phenomenon we need a more integrative approach than that which standard Neo-classical economic analysis has to offer.

In the next section we review the socialist calculation debate about the viability of the socialist system. In section three we study the Soviet system in order to have an understanding of the system that needs to be changed. In section four we review the neoclassical paradigm, the dominant school of thought in economics. In section five we look

into the previous experience of the reform advisers. In section six we analyze the typical reform package that was applied in more or less most of the reforming countries. In section seven we take stock of China's experience with reform. In section eight we cover the arguments of the critics of the reform packages. In section nine we present an alternative view to the neoclassical paradigm, put forward by Joseph Stiglitz. In section ten we go on to describe, very briefly, the result of the reform packages and analyze institutional economics. In section eleven we take some insights from the Austrian school of thought and see their relevance for the transition process. Then at the end we try to come up with a concluding argument by borrowing the strongest points from each school of thought and discarding the weaker arguments followed by a summery of most important steps to be taken by reforming government for their reforms to be successful to a reasonable extent.

2. Socialist calculation Debate

Perhaps it will be helpful for us to review, very briefly, the great debate over the viability of the Soviet economic system that emerged during the first quarter of the twentieth century.

The debate about the possibility of central planning, which is better known as the socialist calculation debate, took place in the 1920s at a time when the disasters of Bolshevik planning were becoming apparent, and it lasted through the 1940s. It was started by Ludwig Von Mises (1949) who put forward the following argument against socialism: since socialism calls for the abolition of private ownership of property and the means of production, there will be no market for the means of production; without markets for the means of production, there will be no monetary prices for them; in the absence of the monetary prices, producers will not know the relative scarcities of the means of production and will be unable to make any rational calculation to decide which production process to employ or which product to produce; further after they decide a course of action the producers will have no yardstick - money as a unit of account - to judge the profitability of the enterprise. The task of the producers will be even more challenging under an advanced state of industrial production. So without the institutional context of private property, rational economic calculation would be impossible. Hence socialism is necessarily inefficient or simply impracticable.

Of course this was not his only argument against socialism but it was the major and most important one. His other arguments addressed the incentives that were engendered by private property, profit and loss accounting, and considerations of political economy.

However, in their reply to Mises, Oscar Lange (1936, 1937) and Abba Lerner (1937) based their argument on the neoclassical competitive equilibrium. Lange's defense supported Market Socialism, which advocates public ownership of the means of production but is combined with market mechanisms for the allocation of resources. His contention was that instead of being a kind of Walrasian auctioneer, the central planner could make use of market mechanisms while maintaining the public ownership of production. According to Lange, the central planner has only to order the managers of plants to minimize cost of production, to price the output at marginal cost, and to produce and sell to meet consumer demand.

Following on the heels of Lange's contentions, Hayek (1937, 1945, 1978) produced a more in-depth argument against central planning and socialism. He realized that neoclassical economists, by constructing ever-more refined general equilibrium models, did not solve the economic problem. Rather the economic problem was solved by its own assumptions. By assuming the existence of markets for all goods, and more importantly, by assuming perfect knowledge by economic actors, the economic problem was trivialized to an algebraic problem, something that even low-level managers could solve.

We will shortly address this issue; but beforehand, we should take note of Hayek's first argument against central planning, that is, the overwhelming amount of information that a central planning committee must gather and the enormous difficulty of arriving at the correct sets of equations as well as the impossibility of changing them to keep pace with economic change. Later he mentions the incentive problems that could arise: it is very hard to design the correct set of incentives for the managers to operate efficiently as the production and distribution processes get more and more complicated, to the point where it could be almost impossible to give a correct description of a product or service, let alone its quality. It is also impossible to make sure that the planners will follow social goals in the way that they should. But the most important and enduring argument against central planning and socialism in general is Hayek's knowledge argument. Hayek contended that there was no difference between neoclassical economists and the advocates of market socialism on theoretical grounds, since both schools of thought based their models on the Walrasian competitive equilibrium model with minor differences in their assumptions. That model was designed and perfected to show under which conditions economic efficiency can be attained at a given point in time. One of its crucial assumptions is perfect knowledge. By assuming perfect knowledge neoclassical economics assumed away the very problem that economics should

solve, thus finding a solution only by trivializing the problem. By contrast, Hayek forcefully argued that it is not possible to plan efficiently (Hayek, 1937). The reason for this impossibility, according to him, is that: “the data from which the economic calculus starts are never for the whole society “given” to a single mind which could work out the implications, and can never be so given” (p.519). He goes on to tell us more about the knowledge that any society that is characterized or based on the division of labor must use to be able to function (Hayek, 1945).

“the knowledge of the particular circumstances of time and place. It is with respect to this that practically every individual has some advantage over all others in that he possesses unique information of which beneficial use might be made, but of which use can be made only if the decision depending on it are left to him or are made with his active cooperation” (p.521)

Further he tells us that this knowledge, which is totally different from information, is never given to any economic actor; it must be constantly discovered and created through the workings of a competitive market process. Without the institutional arrangements of the private property-based market economy or the competitive environment in which economic actors must act, the discovery, creation, and transmission of socially useful and productive knowledge will not be possible. (Hayek, 1978)

Planning is inevitable. Our economic problems cannot be solved without some kind of planning. We must decide how to employ the scarce resources we have for the ends we desire and with the means we possess. The most important question in such a situation is, *who* does the planning? and *who should* do it, in order for the outcome to be more efficient and conducive to freedom and prosperity? Hayek believed that central planning couldn't work because it couldn't avail itself of the merits that “knowledge of particular time and place”, or the “existing knowledge”, has to offer. Certainly, it is much better to leave the planning to the man on the spot who knows and is adapted to the particularities of his time and place; and it is better to create the economic environment in which he can discover and transmit his knowledge and coordinate his plans with the other economic actors via price systems and other institutional arrangements, than to trust a central planning committee which may have the best of theoretical and scientific knowledge to carry out its job, but lacks the practical knowledge -- the “knowledge of particular circumstances, time, and place”. Hayek asserted that the planner couldn't possibly gather such practical knowledge for several reasons. First individuals who have the knowledge may not be willing to pass it on to others because it may not be their optimal strategy; second, even if whoever has the specific

knowledge is an altruist, he/she may not be able to transmit it because this kind of knowledge is about ways of doing things, ways of thinking, in other words it is inarticulate knowledge. The problem of transmission of knowledge can be solved, or is actually being solved by the price mechanism. The price system, although not a perfect tool, can be much more efficient than the Soviet bureaucratic apparatus.

On this point Hayek was certainly right. The proof is the ubiquitous nature of shortages, inflation, and inefficiency in the Soviet economy and its inability to compete with capitalist countries on the technological front. Certainly ignorance of the central planners were not the only reason for the shortages, there were other reasons which we will come to later, but it was one of the main reasons. The Soviet economy scored some impressive achievements in terms of output growth, economic security, and technological innovation in some key military industries, but at the expense of enormous environmental degradation, human suffering, and inefficiency.

Nevertheless, the classical Soviet economy long withstood the test of time, having functioned for more than seven decades and made impressive achievements in terms of output growth. The neoclassical and Austrian economists were hard pressed to explain the reasons for these achievements. After all, economic calculation under Soviet system, which must have been much worse than under market socialism, proved sustainable for more than seven decades, nor did it collapse as quickly as the Austrians predicted. One of the most important reasons for the failure of the neoclassical economists to give adequate economic policy advice to transition governments was their misunderstanding of the socialist economy.

So the important question for our study remains unresolved. How did the Soviet economy function? What were its defining characteristics? Without adequate answers to these questions we cannot possibly address all the reform challenges that lie ahead of a reforming government.

3. The Classical Socialist Economy

To assist with our analysis of the transition, we should gain an understanding of the Soviet economic system. Without understanding the prevailing reality we wish to transform by an accurate and thorough analysis, it goes without saying that our attempts at reform will be frustrated by the inherent forces that strengthen and enable the system to survive as it did in

1965, 1967, 1972, 1976, 1979, 1982, and 1987 when successive Soviet regimes tried to reform the system, but categorically failed.

To account for the endurance of the classical Soviet economy Peter Boettke gives us a conception of the system which argues (Boettke, 2001) that it could be considered essentially as a modern type of mercantilist economic system in which an autocrat distributes monopoly privileges to the politically loyal class in exchange for revenue. According to this view the "Soviet economic reality was one in which the plan served as an ideological veneer". He bases his arguments on the much-publicized "venality" of the soviet bureaucracy and the process of bargaining between the bureaucratic strata to carry the planned targets on the ground. It is true that bureaucrats did accept bribes and sometimes in large amounts and did bargain for an easy task in a way that Kornai describes (Kornai, 1992), but it never reached to a point where the manager of a giant plant felt, acted, or had the same incentives as a monopolist under French mercantilist system. This model could be more relevant to our study to account for the functioning of the classical soviet economic system after Stalin's death in general and towards the end of Soviet regime, especially when Gorbachev dismissed the branch ministries, when plant managers had more discretionary powers to take economic decisions; but we must add some qualifications. After the death of Stalin the threat of arbitrary punishment was somewhat eased and managers bargained with some ease and under less pressure (I will later mention how Kornai described the character of the bargaining and the interactions within the bureaucracy). The system began to coalesce into a giant and rigid bureaucratic enterprise where plans were not prepared at the top but were the result of the aggregation of plans at low levels of the hierarchy. In this bureaucratic mess the managers and politicians frequently shifted positions and the difference between them became increasingly blurred. Jerry Hough put it as follows (Hough, 2001):

"The Soviet economic system was bureaucratic; it lacked competition between producers; and its incentive system encouraged managers to make compromises with quality and innovation. But it was a system in which the planning process began from below as it does in any bureaucracy. Soviet leaders and economists gave inordinate attention to the creation of incentives and indicators to try to lead managers to optimal decisions and to reward them if they fulfilled the goals set in the indicators. As a result, the economic system had relatively little arbitrary intervention by politicians in the Brezhnev era, but it had the opposite flaw. It was too regularized and too inflexible for the complex modern economy". (p.90)

It seemed to observers, such as Hough, that the problem of Soviet planning was one of incentives, rigidity, coordination of plans, or one of complexity. This was certainly true; as

we mentioned, Mises and Hayek have raised that argument against central planning; but the problem was deeper than what it appeared on the surface. How did the system function before the Brezhnev, or Gorbachev, era? What were the motives and character traits of the managers and citizens under previous Soviet regime? To answer this question we turn to Kornai's description of the system.

In 1992, right in the beginning, when most of the socialist countries were taking tentative steps towards transition or preparing models of grand scale changes with western advisers, Janos Kornai, an economist at Harvard University, who spent much of his time studying the USSR and the transition of Eastern Europe and CIS to market economies, gave his account of the socialist experiment. In his book *The Classical Soviet Economy* (Kornai, 1992), Kornai attempted to pin down a detailed and, more or less, comprehensive description of the "classical socialist" system. In chapter 15, in his discussion of the coherence of the socialist system Kornai gives us the main elements that made it possible for the system to function and survive for several decades. The first and most important element was "the undivided power of the communist party imbued with its specific ideology". Second, in order of importance, was the ownership of property and means of production by the socialist state, with only a tiny fraction of business being privately owned. The combined consequence of the first two elements was the centralized, state and bureaucratic, control of production relations through comprehensive plans, with almost total elimination of private enterprises and the competition among them; incidentally the latter is the driving force of the capitalist system.

These two most important institutional factors, through incremental adjustments to new realities and unexpected contingencies, gave rise to (and subsequently were affected by) all other characteristics of the socialist classical economy. Being the owner of the property and production process, the Soviet state had to create a coordination mechanism to make sure to a reasonable extent that its plans were correctly carried out. Due to the enormity of the task -- central planning of the production, pricing, and distribution of 25 million products, not to mention services -- planners adopted a policy of delegation or "disaggregating". The highest planning office broke down the national economic plan for the ministries, and then the ministries allocated their portion to the directorates, which in their turn distributed their assigned portions to the firms under their control. This planning was characterized by "vertical flow of information". The plan volumes and priority products were decided at the

top and each subordinate level of the hierarchy was obliged to carry out the plan. There was horizontal flow of information too, among the ministries or the directorates, but it occurred under the direction and supervision of a superior body in the hierarchy. The upward flow of information was characterized by distortions, constant underestimation of production capacity and “withholding performance”. The reason was simple enough. The head of the firm (and for that matter the employees working in the plant) had an interest in receiving as easy an assignment as possible, so he bargained for more inputs, capital and labor, and lower output targets. To do this he had to pass distorted information to the directorate, i.e. underestimate his production capacity and overestimate the input requirements; the directorate, in turn, had an interest in obtaining an easy task from the ministry and so on. The echo of Hayek’s critique sounds loudly here. People who had the “knowledge of the particular circumstances of time and place” did *not* pass it to the planners, and were in a position that made passing the information not a good strategy for welfare improvement.

All economic decisions, like establishment and liquidation of a firm, appointment, promotion, and dismissal of a manager, allocation of products and material, allocation of labor, investment, technical development, price setting, financial regulations, foreign trade, etc., were taken and carried out by the bureaucratic apparatus, which operated not according to efficiency concerns, but based on political, national security, and social considerations. The high-level bureaucrats who set the plan constantly intervened in the implementation process. In such a hierarchical command process, the lower level bureaucrats (keep in mind that the managers were part of the bureaucracy) did not, nor was it optimal for them to take full responsibility for their actions. The character traits, including a “servility and heads-down mentality”, which they developed under such an institutional setting were described rather colourfully by Kornai:

“It is unwise to criticize upwards, come out with unusual ideas, or take initiatives. It does not pay to think for oneself or take risks on one’s own. A subordinate wanting to do something should “cover himself” in advance by obtaining his superior’s prior approval and spreading the risk over as many superior leaders as possible; then he will not come to grief. Since most people have at least some venality, it also worth flattering the superior”. (p.121)

The Soviet subject was living under the tutelage of his notorious state. Again Kornai gives us a good perspective on the living conditions of the Soviet citizen:

“Free education and health care are accompanied by compulsory assignment to a particular school, doctor, and hospital. If need be the state ensures shelter for all, but it decides who lives where and under what conditions. It cares for all the incapable, but

everyone, capable and incapable alike, is caught in a state net embracing the whole of society. The solicitude follows the citizen from birth in the state hospital through a state day-nursery to a state old-people's home, and if need be, a state-supplied funeral, but this lifelong solicitude is paired with lifelong surveillance and ideological indoctrination. The police provide effective protection from criminals, but they keep an equally effective watch on innocent citizens too". (p.315)

The only way to make sure that the state had no rival, the communists took two very decisive measures; first, they eliminated public life by taking control of political process and social activities by force, intimidation, and a heavy dose of ideological indoctrination; second, they made sure that all sorts of private property rights were virtually eliminated and their holders prosecuted. Ideological indoctrination was part and parcel of everyday life and in the early stages of communist rule it served such a powerful tool to control the population, the majority of which had been very poor under the Tsarist regime. But gradually people found ways to defend themselves, taking a sarcastic approach and living a double life. On the one hand, they had to accept the state propaganda, which was glaringly obvious especially towards the end, and on the other hand, they had to go on with their daily life being careful not to criticize or oppose the established doctrines. Boettke (2001) cites Vaclav Havel describing the social pact that emerged was "We pretend to work and you pretend to pay us". He goes on to tell us that "Public discourse and productive economic activity were both channeled into *sub rosa* existence. Individuals within these societies dwelt within a dual reality in economic, political, cultural, and intellectual affairs". (p.203).

The vast party, bureaucratic, state, and police apparatus arose out of inherent needs of the Soviet system, which survived in the beginning largely due to the communist ideology and revolutionary atmosphere that held sway at a time when the Soviet Union fought the Nazis and raced the West to achieve economic prosperity, but, contrary to the West, with equal distribution of income. Whether we like it or not, we have to accept the fact that ideas and policies, and for that matter ideologies, certainly do play a very important role in shaping the institutions under which economic agents have to act. However, all regimes, no matter how repressive, must have some legitimizing features and they cannot survive for long without having the support of a substantial proportion of the population. Certainly people who were part of the system and those who benefited from it, like the communist party members, bureaucrats, etc. supported it enthusiastically but it also had a considerable support from the constituencies which were disinterested in politics or conformed to the demands of the

system and availed themselves of the relatively poor but nevertheless important economic security and at the same time went on with their double lives. This economic security included: full employment, free public education, free health services, housing and shelter, comprehensive public pension system, etc.

But how can we account for the impressive output growth? In the first place, the growth no longer seems all that impressive. There were many studies lately (Ericson, 1991) that characterized the output growth of the Soviet economy, which had so impressed the West for a long period of time, as “statistical illusions”, a result of “mismeasurement, faulty methodology, systematic incentive for exaggeration, and ideologically and politically motivated distortions”. However, considering the amount of inefficiency and wasted resources the system should have collapsed long ago. Moreover it had endured the Second World War and with heavy casualties and losses. The main driving engine of the Soviet economy appears to have been the high levels of investment in capital and education (see Table1).

Table 1
Growth of GDP and Capital Investment: international Comparison

	Average Annual Growth Rates, 1950-79	
	GDP	Gross Fixed Capital Investment
Socialist countries		
Bulgaria	5.13	10.89
Czechoslovakia	3.67	6.11
East Germany	3.77	8.52
Hungary	3.64	8.85
Poland	4.12	9.7
Romania	5.81	11.33
Soviet Union	4.95	8.02
Capitalist countries		
Australia	4.54	4.43
Canada	4.57	4.36
Finland	4.48	4.54
Greece	6.2	7.16
Italy	4.92	4.79
Netherlands	4.58	5.1
Norway	4.15	4.93
Sweden	3.69	4.18
West Germany	4.85	5.69

Source: F.L. Pryor (1985, P.76)
Taken from Kornai (1992,p.168)

coupled with the vast amount of natural resources, which subsidized production. Right from its start the communist revolutionaries had a strong belief of the superiority of their system over the capitalist system. They believed, and indoctrinated the population to that effect, that they can reach and perhaps surpass the Western living standards in quite a short period of time. The “investment hunger” emerged and was reinforced by the inherent process of the system: there was nobody to be blamed or suffer the loss of bad investment decision, and the circumstances and ideology demanded rapid growth. Plus they needed not to rely on imports of capital and raw material. But without the intimidation and isolation from the outside world that grew out of the logic of the system, the communist regime could not have survived, as it did, for more than seven decades. The system was perfectly suited for mobilization of resources to achieve certain well-identified goals but inadequate for long-term prosperity. Under such a system, for instance, it was impossible for the politicians to give the right incentives to all managers and workers to come up with good product quality and innovation in civil industries: the Soviet Union was technologically unable to compete with the West (see Table2 in appendix 1) but it was a good competitor in the field of military technology because most of the attention of the planners was directed to find ways to counter outside threats with equally destructive force and technology¹; this was achieved at the expense of consumer welfare, consumption was low, and the quality of the product in the civil industries was very poor. As economic growth theory explains, however, there is a limit to growth in per capita output that results from input accumulation (capital and labor); the crucial factor for long term sustainable economic growth (per capita income or output) is technological progress that leads to productivity growth, that is an increase in the quantity of output per used input; the Soviet Union’s output growth was simply not sustainable, since the productivity of its inputs was poor and lagged far behind that of the West (see Table3 in appendix 1). After seven decades of planning, the system was not sufficiently viable to keep the Soviet Bloc intact anymore. Some changes had to be made and very quickly in order to make the economy more competitive in the long run. That is where Gorbachev came with his plans of glasnost and perestroika, but he added more uncertainty to the economy by engaging in misguided economic policies, like high government expenditure in the form of subsidies and credit lines to the Soviet republics. He did envision an eventual market economy, as his

¹ The Soviet Union was able to launch the first satellite, Sputnik, and had a lead in space, thereby causing alarm in the West.

reform plan attests; but his plan wasn't implemented at the end because of the political battle with Yeltsin. Yeltsin and his allies, perhaps wishing to have a share of the pie, drew their own plans and a political battle ensued between the two figureheads of the new political establishment of the Soviet Union (Yeltsin with other radical reformers versus Gorbachev flanked by conservative communists and moderate reformers). These events eventually led to the fall of the Soviet Union.

In short, any reform package should take into account all of the political and social constraints that existed under the Soviet regime, in the spirit of the description of the classical Soviet economy that we discussed above. Reform does not take place in a vacuum; the behavior of economic agents to some extent is likely to be based on their previous, formative experiences in a centrally planned system.

Long before the dissolution of the Soviet Union, Eastern European countries started to reform their economies by allowing the entry of new private enterprises. Until 1991 countries like Poland, Hungary had developed a sizable private sector. The Western economists had, until then, concentrated their efforts on the problems faced by these countries. Everybody was caught by surprise when the Soviet Union collapsed; suddenly there were so many countries ready and waiting to be transformed, but lacking both the time and the tools and resources to confront the challenge. Since there were no other competing alternative economic systems, the question was simple: What should the transition governments do to transform the planned economy into a market economy? So another question arises rather automatically: what is the market economy? How does it function, or how is it supposed to function? Or rather how did the economic advisers perceive it?

To search for an answer we must understand the neoclassical paradigm, which was and continues to be the dominant school of thought in economics, and its relevance to the economic problem that the transition countries were facing. We do this just to have a sense of how most of the economic policy advisers perceived the working of a market economy and later we will illustrate how they approached the problem of transition with economic theories based on this paradigm.

4. Neoclassical paradigm:

Neoclassical economics is essentially classical economics grounded in the marginal utility theory, in a framework where economic agents have perfect foresight or at least rational

expectations and they maximize their utility given the constraints they face (income, technology, etc.). The most precise and formal explanation of the neoclassical model was provided by Arrow and Debrue (1954). This model formalized Adam Smith's "invisible hand" claim and gave us a model which described the conditions under which the market economy would achieve efficiency.

Two fundamental theorems of welfare economics sprang from this model. The first postulated that *any competitive equilibrium is Pareto optimal*, and the second, that *any Pareto optimal outcome can be achieved as a competitive equilibrium if appropriate lump-sum transfers of wealth are arranged*, perhaps by Pigouvian taxes.

First fundamental theorem of welfare economics

The first fundamental theorem was a very powerful way of explaining the superiority of the market economy to central planning. Or perhaps it would have been powerful, if its assumptions were more relevant to the market economy in general: To achieve Pareto optimality or efficiency, we have to assume, in this model, that markets are competitive, which means that there are large number of buyers and sellers who behave rationally and are perfectly competitive. Further we have to assume that there are markets for every contingent commodity. This meant that there should be a perfectly competitive market for all goods in all states of the world and all locations. The states of the world must be a complete description of a possible outcome of uncertainty, sufficiently fine for any two distinct states of the world to be mutually exclusive. Still further for the market to be well defined it is indispensable that information be symmetric across economic actors. Equilibrium was reached after each participant in the market maximized his objective function, subject to constraints.

Second fundamental theorem of welfare economics

The second fundamental theorem of welfare economics, very conveniently, allowed the possibility of the separation of efficiency from equity considerations, so that economists were able to concentrate on efficiency matters, which they should always do. In other words, they were able to concentrate on how to make the economic 'pie' as large as technically possible and leave the sharing of the pie to be decided by the governments and society in general. That is, a government or any authority who wishes to implement any Pareto optimal outcome (that it, or the public, decides to be optimal) can do so by appropriately distributing wealth and then letting the market, or the invisible hand, work its magic. Perhaps borrowing some

ideas from the so-called socialist calculation debates, it was assumed rather superficially that prices carried with it crucial information to the economic agents allowing them to coordinate their plans using the available information efficiently.

Although everybody understood that the market was not the paradise on earth, nevertheless it served as a “benchmark for thinking about the outcomes of the market economy”. So there would be room for government intervention if any of the assumptions were violated in the actual economy just to move the economy closer to that perfectly competitive benchmark. So, in other words, markets fail and the government has a limited role in the economy if it can cure those market failures. What, then, are those failures and what can the government do about correcting them?

Market failures and their solutions

Markets may fail to achieve Pareto optimality because of externalities, or because some firms may have the power to set prices (monopoly or oligopoly), and finally they may fail in the case where a good is not tangible or its use cannot be withheld from the people who wish to use it without paying for it, in other words free-riders. So government can help the market here. In the case of externalities when some consumers are directly affected by the actions of others in the economy, that is, when there are external effects from activities of some consumers and firms (industrial pollution, automobile exhaust...), there are two ways by which the government can correct externalities to achieve optimality: first by taxing the externality or subsidizing its reduction (but it is essential to tax the externality producing activity directly, which is more easily said than done); and second, the government need not be so intrusive in the economy to achieve optimality, it need only assign enforceable property rights (Coase, 1960) to the economic actors and leave it to the parties themselves to reach an optimal agreement on the level of externality, provided there is a perfectly competitive market for the externalities. In case of public goods the market provision will be inefficient in general, except very rarely; on theoretical grounds it may be possible when we are able to define personalized markets for the public good (see Lindahl, 1919). In the case of public goods it might be desirable for the government to directly provide or subsidize them. As for cases where firms have market power, either in the form of monopolies or oligopolies, the government could intervene by setting up institutions to fight monopolistic, oligopolistic, or collusive practices along the lines of the anti-trust laws that exist in the US.

However, in all these cases, the role of the government was perceived to be very limited; markets were believed to be constrained Pareto efficient. Indeed in all other spheres of economic activity, neoliberal economists believed that the government should not interfere at all, except taxing, of course, which serves as the major source of government revenue to provide public services. Generally the adherents of the neoclassical school have a pessimistic view of state intervention in the economy, since according to their view it distorts more than it fixes and it is beneficial only to the extent that it doesn't interfere in the economy and enforces law and order.

The Neoclassical Perception of Soviet Economy

This Neo-classical paradigm inevitably leads us to certain conclusions. First of all, its static nature excludes any question or discussion about the dynamic nature of the market, which lies at the heart of the Austrian school of economics, especially as represented by Schumpeter and Hayek; ironically, the problem that transition countries faced was dynamic in nature. According to the adherents of Neo-classical school the problem of socialism was one of misaligned prices, excessive control and intervention by the central government, and some missing markets. In other words, the economy was functioning at a level well below the limits of the production possibility frontier (PPF). The proposed reforms were intended to constrain the powers of the central government, and liberalize the market to "get the prices right" and fill the missing markets so that the economy can move outward on the PPF.

We should note that the Western advisers were not without credentials. They had the experience they acquired during the 1980s when they consulted the Latin American Countries and designed reform packages to lift them up from stagnation and high inflation rates.

5. The Previous Reform Experience of Neoclassical Economists and the Lessons learned

After the Second World War the less developed countries of the world, eager to catch up with the industrialized countries, inspired by the example of the Soviet Union and influenced by the convergence of many historical factors, including intellectual currents that emphasized market failures², developed inward-oriented models of economic development. These models

² The Great Depression and Keynesian economics have cast doubt on the stability of the market economy; many countries in the developing world, like India and most of the African countries, have newly emerged from under a colonial system that had made heavy use of government regulation of their economies; the Latin American countries were greatly encouraged by the US example of government intervention. Economic thought had an equal share in promoting government intervention; apart from the Marxist view of the chaotic and

incarnated their ambitions of rapid industrialization, acquisition of modern technology, and urbanization. The perceived method of achieving these goals in Latin American countries was not by the specialization and free trade advised by international trade literature, but rather by adoption of inward-oriented, autarkic, and import substitution policies; India generated its own version of central planning where the state led the industrialization drive; China adopted the Soviet central planning method; African countries adopted the same import substitution policies as Latin America and India right after they achieved their independence during the early years of 1960s. These policies were characterized by excessive government intervention in economic decisions by encouraging certain key industries and some import-competing industries, which were perceived to be important for self-sufficiency and national interest; they typically consisted of import controls, overvalued exchange rates, price controls, interest rate ceilings, public deficit spending, and a substantial amount of public ownership of production. The perception was that less developed countries (LDCs) could not compete with industrialized countries on foreign trade; therefore it was necessary to protect and support the development of an advanced and protected domestic industrial base capable of competing in international markets. However it turned out that not only could markets fail to achieve their potential but also governments could fail to achieve their goals. Indeed, interventionist government policies generated excessive amounts of waste, and directed the private entrepreneurial potential away from productive initiatives to rent-seeking activities. However, unlike IMF's assertion, the primary factor that brought these countries to ruin was not government intervention in microeconomic affairs as such but rather macroeconomic mismanagement, which resulted in unsustainable levels of government spending and balance of payment deficits that ultimately led to debt crisis; these macro mismanagements were more pronounced in Latin America where the accepted wisdom was that inflation was a result of structural rigidities and imbalances rather than excess demand. Faced with macroeconomic and balance of payment crises the Latin American Countries sought the help of the Washington Trio (US treasury, IMF, World Bank). Meanwhile neoclassical economics had for years increasingly grown critical of

unequal nature of the markets that influenced the designers of the Soviet and Chinese economies there were other economists like Paul Rosentain-Rodan and Albert Hirschman who advocated active government intervention and support to push underdeveloped countries on to the path of development. Furthermore, Raul Prebisch and Hans Singer argued that the world demand for exports of developing countries was not enough to support the export push development.

government intervention and had exceedingly extolled the virtues of liberalism and free trade, especially after some empirical studies, by Jagdish Bhagwati (1978,1988), Anne Krueger (1974,1978), Bela Balassa (1971,1978,1980,1989), and others, that made a strong case for the superiority of free trade.

When the so-called “Washington Consensus” policy prescriptions (neoclassical in nature) sprang from IMF/World Bank/US Treasury-designed reform packages for stabilization of Latin American economies in the 1980s, these countries were experiencing high levels and accelerating inflation rates, large government budget deficits, volatile exchange rates, and economic stagnation.

Blanchard, Dornbusch, Krugman, Layard, and Summers (1991) described the basic elements of a typical stabilization program that was applied in Latin America as follows:

First of all, their assumption was that countries usually decide to implement stabilization programs when inflation reaches a very high level that necessitates stabilization. They believed that the origin of inflation usually was an adverse shock, which “typically leads to inconsistent claims to distribution of income”. The adverse shock directly affected budget deficit and inspired the government to monetize its debt by printing money; at the same time, the government’s inability to withstand public demands increased wages or subsidies would trigger a vicious inflationary circle. The policy advice that was given to governments was the following:

1-government had to eliminate its budget deficit, to get rid of the reason behind excessive money expansion and inflation (macroeconomic stabilization).

2-government had to eliminate subsidies, and leave the market to set relative prices which would be consistent with consumer preferences and scarce resources. The removal of subsidies was perceived to be beneficial for the state budget as well (microeconomic liberalization and free market policies).

There was a broad agreement about these two typical measures, but, beyond that, there was little consensus as to what were the practical measures to make the program more credible and foolproof. The practical points of disagreement were on the choice of the nominal anchor³, which was needed for price stability, and the use of income policies⁴.

³ It is not feasible to fix the price level; and to fix nominal prices is not practical since there will be large-scale relative price adjustment. Targeting the money growth presents a major problem after the initial stage of stabilization, since it requires a once for all increase in money growth, which may not be credible. Fixing the exchange rate leads to high interest rates and output loss.

But this typical package was designed for established market economies. Was it sensible to apply the same to an economy with no markets at all? Blanchard and his colleagues asked a simple question. In what way Eastern Europe was different? They saw three major differences, which the package or program designers had to take into account. First, price distortions were much larger and more widespread; secondly, there existed a “purchasing power overhang”, in terms of the amount of monetary assets available to be spent; thirdly, production structures and incentives were radically different from those of a market economy. And finally there was another problem to overcome: the state owned enterprises had to be privatized and restructured.

6. The Reform Program for Transition Countries

The basic idea shared by all involved in transition debate was that there was a need for reform. Other than that there was and continues to exist wide disagreement as to how to reform the system. The majority agreed on the eventual goal of the reform: creation of a market economy; but there was also a small minority who advocated some form of market socialism. The advocates of market economy were divided into two camps: the “shock-therapists”, who wanted to transform the command economies to free markets as soon as possible; and the “gradualists”, who wished to proceed carefully and slowly. For the advocates of rapid transformation, the Soviet centrally planned economic system looked like a “mechanism, tending to counteract forces impinging from outside and to equilibrate the natural forces and tendencies that arise within it”(Ericson 1991). Richard Ericson succinctly summarized the characteristics of Soviet planned economy as follows:

- 1-A hierarchical structure of authority;
- 2-Rigid, highly centralized planning of production and distribution;
- 3-A commitment to maximal resource utilization, implying tautness and pressure in planning;
- 4-Formal rationing;
- 5-Exhaustive price control, yielding multiple and contradictory systems of centrally fixed, inflexible prices;
- 6-The lack of any liquidity or flexible response capability in the system, and in particular the lack of a true money;
- 7-The lack of legal alternatives to assigned economic relationships and the inability of any subordinate to alter any of these relationships legally;
- 8- Absolute and arbitrary control of superiors of the norms, indices, and parameters of the assignments, performance evaluation, and rewards;
- 9-Incentives that are geared to meeting the plans and desires of evaluating superiors (p.19).

⁴ Income policies are needed because the existence of a large state sector

According to shock therapists, the purpose of reform was to restructure the centrally planned economy in favor of production that generated more value-added per unit of input, and to make the economy [production] flexible enough to respond to changing future supply and demand conditions. To be successful, any reform had to change the characteristics listed by Ericson in their totality; since they are all interconnected and mutually supporting. Previous reform attempts had been frustrated mainly because of the opposition of insiders - managers and employees of state owned firms - who were not ready to give up their protected life tenure jobs and subsidies; in other words the reform had to change all the characteristics of the classical Soviet economy and to induce the insiders to accept this change. According to the shock-therapists, the only way to do this was by immediate and rapid liberalization, stabilization, and privatization; they welcomed the massive unemployment that shock therapy generates because they perceived that unemployment performs a positive role by making it clear to insiders that they have either to change their skills to be suited to more productive work or to accept low wages.

The previous reform experience of Western economists, coupled with the neoclassical paradigm and a shared sense of urgency, gave rise to a consensus among most of the Western international advisers in transition countries⁵. All the countries that embarked on the transition path consistently received the same advice and the typical reform package that was prepared by the World Bank, IMF, and the US treasury (or more accurately US Treasury and IMF); it was remarkably similar to the reform agenda that was applied in Latin America (Dubbed by Williamson as the "Washington Consensus" (Williamson, 1990)). Lawrence Summers, then the chief economist of the World Bank, encapsulated it in the following manner (Summers, 1992):

⁵ The consensus on these reform elements was more than a tacit agreement. For Example, Vaclav Klaus, then Prime Minister of the Czech Republic elevating the consensus to the status of "ten commandments", listed as follows:

- Reforms in post-communist countries are the outcome of a complex social and political process, and cannot therefore be pre-planned or socially-engineered by any one person or centre.
- The role of foreign aid is marginal.
- An economic shock, meaning a large fall in output, is inevitable.
- Dramatic actions are required to impose a restrictive macroeconomic policy, liberalise prices and foreign trade, and establish a process for privatisation.
- A restrictive macroeconomic policy must be sustained.
- The price shock resulting from price liberalisation must be vigorously defended and survived.
- Economic restructuring requires comprehensive privatisation.
- Transformation costs must be widely shared.
- Successful transformation requires the opening of markets to foreign goods and the free flow of peoples and ideas.
- Successful transformation requires successful politicians.(Klaus Vaclav ,1993)

The elements of reform can be grouped into four categories:

1-Macroeconomic stabilization: tightening fiscal and credit policies, and addressing internal and external imbalances;

2-Price and market reform: removing price controls, liberalizing trade, and creating competitive factor markets;

3-Enterprise reform and restructuring; private sector development: establishing and clarifying property rights, facilitating entry and exit of firms, restructuring of enterprises.

4-Institutional reform: redefining the role of the state: legal and regulatory reform, social safety net, reform of government institutions (tax administration, budget and expenditure control, monetary control). (p.112)

It is always good to have a short list that summarizes the whole package, but it is not very informative if we wish to acquire useful information for the task I have set out for myself in this paper. Therefore, I will shed some light on the major elements of the program each in turn (see in Fischer, 1991 for a good explanation).

First: Macroeconomic stabilization: macroeconomic stabilization is mainly needed to bring about stability of expectations, by curbing inflation, achieving a steady interest rate, and low government budget deficit, to mitigate the uncertainties that plague market economies and to prepare an economic environment conducive to investment and growth; therefore, budget deficit, which is usually the main cause of inflation, should be cut and the inflation should be brought to reasonable levels. The technical difficulty of achieving the first is almost nil; the latter, however, is somewhat problematic; it can be achieved by Orthodox (money based, or exchange rate-based) or Heterodox methods (the same as orthodox but with income policies) (see Bofinger, Flassbeck, Hoffmann, 1997, for supplementary and detailed explanation).

Money-based stabilization uses the money stock or the net domestic assets of the banking system as intermediate targets. Its central theoretical premise is the stability of demand for money; the US, Canada, and UK abandoned this approach in the 1980s when they realized that money demand stability was not a viable assumption. Nonetheless, if a central bank adopts this approach, it uses the pure quantity theory equation:

$$MV = PY$$

Taking the natural logarithms and rearranging we arrive at the rate of change equation: $\underline{M} = \underline{P} + \underline{Y} - \underline{V}$ (money growth rate = change in inflation + change in output – change in velocity). Since there were no reliable real data for trend values of these variables, the IMF programs used their forecasted values (the velocity was assumed to be stable or increasing)⁶; but in

⁶ Only Bundesbank and Swiss National Bank use this method; although Bundesbank has announced several times that money targeting is used as a medium term guideline for monetary policy. See for further detail of

order for this approach to work, money demand must be stable, forecasts should be accurate, implementation of the policy must be transparent, and it has to have a high degree of credibility.

The exchange rate-based stabilization uses the stable nominal exchange rate as an indicator. The central bank announces a nominal exchange rate target for the domestic currency; the exchange rate provides the public a very transparent picture as to what the future inflation rate will be; pegging the exchange rate to a hard currency in the short run virtually identical with stable domestic prices, especially if the hard currency is heavily traded in the private sector⁷. This approach is much more credible than the money-based approach because it is easier to apply, more visible to the public, especially if the foreign currency is traded in the country, and more serious as a target; unlike the money-based approach that has many arbitrary and overly restrictive assumptions.

Income policies come in the form of wage and price control by direct or indirect means.

The performance of both approaches based on prior empirical work is as follows:

- in money-based stabilization, economic activity contracts sharply at the beginning of the program...In exchange rate-based stabilization, real activity increases at the beginning of the program and later contracts.
- in orthodox programs the reduction of inflation rate is slower than under heterodox stabilizations;
- in money based stabilization real interest rates will be very high and will go down very slowly;
- over time, in orthodox programs a financial crisis of the enterprise sector and the banking system will emerge (Bofinger, 1997, p23)

Fischer (1991) recognized that in the transition countries there were no usual mechanisms of a market economy; therefore, he concluded, that in addition to the conventional methods of stabilization mentioned above there was a need for unconventional measures of direct control, such as elimination of subsidies to firms, public sector wage control, credit ceilings, control on inter-enterprise credits. The IMF used both heterodox and orthodox, money-based and exchange-based stabilization approaches in transition countries⁸. Broadly the picture

how the Bundesbank uses trend values for each variable in money-based stabilization in (Bofinger *ibid.*), thereby making its policy counter-cyclical.

⁷ See Dornbusch, 1990 for further details.

⁸ I use the term IMF instead of the transition governments themselves because, as I will explain later, these countries did not have much choice in deciding the appropriate macroeconomic policies; the IMF imposed heavy conditionalities on transition countries in exchange for loans.

looked as follows: heterodox exchange rate-based stabilization approaches were used in Eastern European countries and orthodox money-based stabilization in the CIS.

Second: Price and market reform: during the Soviet era firms were extremely centralized, it being easier for the planners to control the operation of small number of large plants than a large number of small plants. Prices (they include wages, prices of raw material, and prices of intermediate and final goods) were set by the bureaucracy and reflected the Party's ideological agenda more than the scarcity of resources (see table 4).

Table 4
Selected Price in East and West Germany, 1988

Indices	FRG	GDR
Price (FRG=100)		
Potatoes	100.0	17.2
Meat	100.0	57.2
Coffee	100.0	392.2
Children's shoes	100.0	30.5
Panty hose	100.0	267.7
Washing machines	100.0	234.0
Coal	100.0	17.1
Mail	100.0	25.0

Source: Sachverständigenrat.

Taken from:

Blanchard Olivier, Dornbusch R., Krugman P., Layard R., Summers L. (1991,p.14)

Workers had to live in the vicinity of the firm in which they worked. The only capital account was the savings account in the Soviet Central Bank. Given these large distortions and their interdependence, it was seen that the best way to proceed would be to eliminate them all at once, not in a single day or with a single decree but more or less simultaneously, and to allow all the prices to be decided by the market. So the following measures were needed: First, price liberalization: the best way to know what prices to set was to look at the world market prices; the immediate second step was opening the economy to the world market, by allowing free trade in goods and services; these two steps were believed to lead to an increase in competition imposed by free entry of foreign firms and long-run hardening of budget constraints; the next step was "demonopolization" of the transport, distribution and trade sectors. Finally labor and capital markets were to be liberalized as well. For the labor market the following measures were needed: relaxation of wage regulations, introduction of unemployment insurance, and the establishment of institutions that encourage labor mobility, for example employment agencies. As for the capital market, the financial markets, and

private sector financial institutions, these had to be built from scratch and capital accounts had to be made convertible.

However there were some complexities that reformers had to take into account in designing the reform packages: if wage regulations had been relaxed before or at early stages of privatization, workers and managers would have bid their wages up, leading to an upward spiral of prices and inflation; without a legal framework, regulatory institutions, skills, and information systems, introduction of financial institutions would have made little sense; "monetary overhang" (the saving deposits possessed by Soviet citizens, or what we call wealth in the West) also had to be addressed. The future advisers envisioned three possible solutions to this issue: monetary reform (a freeze or confiscation of financial balances above certain levels, in other words forced expropriation), inflation (another form of expropriation), or selling state property. There weren't any clear-cut answers, of course, as to which method to use, but the choice depended on feasibility more than anything else.

Third: Enterprise reform (privatization and restructuring): According to the reformers, enterprise reform was the heart of the transformation process and it was at this point where most of the reform battles were fought. First of all one might ask why do we privatize? Is there something wrong with state ownership? The answer is not decisive of course; there are theoretical arguments both for and against privatization. Critics of privatization stress the fact that state-owned firms can adopt pricing policies taking into account the social cost of production (Shapiro and Willig, 1990) or emphasize that workers bear the heavy costs associated with restructuring (through massive layoffs, wage cuts, and unemployment) that privatization entails; furthermore they propose the logical possibility that the observed higher profitability of private firms may come at the expense of workers and the rest of society. But the recently accepted wisdom among neoclassical economists is based on two main assumptions; the first is that managers of state-owned firms lack the proper incentives to focus on the efficiency and profitability of such firms (Vickers and Yarrow, 1988); and the second is that because governments pursue not economic but political ends (as we have mentioned in our analysis of classical the Soviet economy) they are more likely to neglect the issue of the efficiency of state-owned firms. For example, they may decide to keep unproductive workers from fear of a political backlash. Therefore, the political goals of governments can lead to inefficient state enterprises. Of course privatization is not a panacea by itself. The government can pursue the same political goals giving subsidies to privatized

firms, but privatization makes it politically costly to give subsidies to inefficient and unproductive private enterprises (Boycko, Shleifer, and Vishny, 1996)⁹. According to the neoclassical theory, only competition and private property can engender the necessary incentives to make state-owned enterprises more efficient and profitable.

At the beginning of the transition there was neither competition nor private property. There were two options open to the reformers: they could either have concentrated their efforts on building the institutions that facilitate competition, easing the entry of new firms with new human and physical capital and new production technology that was crucial to the development, or they could have concentrated their attention on privatizing the existing state owned enterprises. The shock-therapists chose the latter, which was one of their crucial mistakes.

Privatization of state-owned enterprises was the thorniest issue in all reform programs. All the debate about the speed of transition concentrated mainly on privatization of state owned firms. Those who gained the upper hand (for reasons I will explain shortly, in the section on political economy) were the shock therapists; they advocated the quick and irreversible privatization of state owned enterprises, leaving the restructuring to the eventual private sector owners.

The prominent advocates of the rapid privatization schemes were: Frydman and Rapaczynski (1991), Lipton and Sachs (1990), Blanchard (1991), and Boyko, Shleifer and Vishny (1993), Berger (1992).

They have raised a number of arguments in defense of rapid privatization, namely:

- Price liberalization in public ownership economy does not engender the correct set of incentives; therefore, private property is necessary for the correct incentives to emerge;
- Maintaining the existing system in which state owned firms lacked clear incentives and no institutions for corporate governance was costlier than the cost associated with rapid privatization;
- There was a real risk that privatization might be blocked if the process was slow or reversible;
- Since there were no clearly defined private property rights, enormous energy would have been wasted to define it; under these circumstances there was a real dangers that the managers would asset strip the firms under their management;
- It was difficult to value assets in case-by-case basis, since there were no capital markets;

⁹ When the government owns the firm, its extra spending for political purposes does not appear in its budget, since it is part of the firm's balance sheet. When the firm is privatized, however, the government has to include all kinds of subsidies and transfers in its budget.

-State control on economic activity had to be eliminated in a fast and irreversible manner, since there was no guarantee that the reformist government will be reelected and it was important to tie the hand of the future governments (the production process must be de-politicized);

-It doesn't matter to whom the initial private property right is assigned, since according to the Coase theorem the economic actors would soon renegotiate the distribution between themselves and the most efficient producer would win the ownership right.

Therefore, what the reforming government had to do was to "transfer the state property to private hands in a manner that was rapid, equitable, and fiscally sound" (Lipton, and Sach, 1990, p.333). To achieve this end shock therapist recommended the following steps:

-Rapid conversion of state enterprises into corporate form (corporatization), so that they could move out of ministry control and start to function as commercial enterprises with temporary board of directors, until the firm was privatized;

-Free distribution of blocks of shares to various groups in the population (voucher privatization), like workers, commercial banks, pension funds, and mutual funds and the population at large¹⁰. Since there were no capital market and the valuation of assets were not possible, it was necessary, according to their view, that the shares were distributed for free. It was necessary to sell the shares to dominant owners rather than distributing them to all citizens, since they recognized that keeping the firm under state ownership and distributing its share to a large number of shareholders were essentially the same, given the absence of the corporate governance. So the rationale for distributing the shares to pension funds and mutual funds was to create dominant owners to monitor the management and to prevent the managers and workers from stripping the firm's assets and squandering its profits.

Fourth: Institutional reform (redefining the role of the state): None of the institutions of the market economy existed in centrally planned economies. Therefore they had to be created from scratch. These institutions included legal codes for definitions and enforcement of property rights and contractual arrangements, as well as social safety nets to protect those who are adversely affected by the reform. Moreover, government institutions had to be reformed or created anew (for example, accounting and audit systems for organization and monitoring of information, human capital must be upgraded or created in areas of accounting, banking, bank monitoring, auditing, management, marketing, finance, etc.). Without the active participation and encouragement of the state, it would take decades for a functioning market economy to emerge. It was envisioned that institutional reform could go hand in hand with other reform initiatives (privatization, liberalization, stabilization).

¹⁰ This method was called voucher privatization, since it was achieved by distribution voucher (paper with a money value on it) to citizens. Moreover, many believed that it was necessary to choose the new owners of the firm in the privatisation process itself, rather than rely on the market for corporate takeover, because he believed that the market for corporate takeover was highly flawed.

Sequencing of reform:

Given the enormity of the reform task and its multifaceted characteristics (macroeconomic stabilization, price reform, trade reform, privatization, new regulations for private investment and enterprise, creation of social safety net, political and fiscal reform) it was obvious that reforms had to be initiated in some areas before others. The debate about the speed of privatization was accompanied by a corollary debate about the speed and sequencing of reform taken as a whole. Should macroeconomic stabilizations, microeconomic deregulation, privatization all be undertaken simultaneously? Or should there be sequencing? A summary of the proponents of rapid reform was well captured by Summers (1992).

While there is consensus over the nature of the reforms to be implemented, the sequencing of those reforms has been intensely debated. [However], there is broad agreement that macroeconomic stabilization, followed by price and trade reform, should occur at the very beginning of the reform process. Tax reform, the development of the social safety net, and measures to encourage the private sector should follow quickly thereafter

Restructuring, privatization, institutional, regulatory and legal reform can be addressed early in the reform process, but completion of the reform in these areas will take more time. Financial liberalization, full convertibility of the capital account and full wage liberalization should come in later in the reform sequence. (p. 112)

The shock-therapists have argued that the required policies are complementary and that therefore, they have to be implemented together. For example, price liberalization cannot be efficiency-enhancing if firms don't face tight budgetary constraints, which in turn requires separation between firms and the state i.e. privatization; price liberalization will also cause massive price adjustments, high inflation, and great uncertainty, therefore, macroeconomic stabilization measures should also be carried at the same time. The basic point of the shock-therapist was that all reform measures had to start as quickly as possible even though their implementation could take decades (Fischer, 1991).

Political economy:

Stanley Fisher, then the Chief Economist of the World Bank, and Alan Gelb, then Chief of the Socialist Economies Unit, thought that "the main differences among reform strategies largely [reflect] differing views of what will be politically sustainable" (Fischer, 1991, p.104). Indeed, all the economic arguments that were raised were shelved as soon as some

practical obstacle arose, and the whole debate centered on the political economy of the transition.

Proponents of shock therapy forcefully argued for rapid implementation of all required policies because it seemed to them that it was the best time to pursue such a route; the previous experience of Western advisers strongly suggested (see above) that reform might only be implemented when the country is experiencing a crisis, since only then would the public be ready to bear the costs of reform. In the case of transition countries it seemed that the time was ripe for reform; the collapse of communist regimes opened a “window of opportunity” for “extraordinary politics”. During a period when those who could have voiced opposition to reform were defeated and discredited and the public was willing to bear the cost of reform in exchange for the promised future rewards, it was relatively easy for the reforming governments to mobilize the population and implement the required policies. The strongest (although perhaps pretended) fear was that the remnants of the communists would regroup under a new leadership and modified ideology, and block the reform, since after all the institutions of the command economy were still in place; moreover, there were some versions of market socialism floating around which were advocating the preservation of state ownership. For example, Pranab Bardhan and John Roemer (1992,1993) argued that the system could be saved by making three crucial changes: by abolishing the central command over resource allocation, introducing competition, and making the government accountable to the citizens by democratic elections. Thus the strong desire of the reformers to break all ties with the Soviet past and the fear of the return of the Nomenklatura were perhaps the key factors for policy choice in Eastern Europe. Even in the West the debate on the speed of reform was won not because of its economic merits but mostly because of political considerations; in fact Joseph Stiglitz explicitly stated that:

Unfortunately for Russia, the latter school (shock therapy) won the debate in the Treasury Department and the IMF. Or, to be more accurate, the Treasury Department and the IMF made sure there was no open debate and then proceeded blindly along the second route (shock therapy). (Stiglitz, 2000, p 7)

The fact that the IMF took its policy decisions with the US Treasury Department behind closed doors without consulting the economists - who were in intense debate about reform options – strongly suggests that it all rested on the political will of the US government and the other industrialized countries that had majority stakes in the IMF. That decision had a powerful impact on the course of reforms; it gave a strong support to the radical reformers

who blindly pursued the shock therapy line. The radical advisers were in favor of revamping the old institutions and reducing government powers, especially the power to intervene in the economy; moreover, their perception was that governments, “both despotic and democratic are likely to pursue goals that are very different from social welfare- the alleged objective of the helping hand government” (Shleifer and Vishny, 1998, p.4); but strangely enough they were able to reconcile this pessimistic view of government with all the faith they put on transition governments.

The Western advisers were quite confident about their ability not only in matters of economic policy but also in political maneuvering. In fact a growing literature on political economic analysis emerged during the transition period, to which Gerard Roland, M. Duwatripont, Dani Rodric, and Andrei Shleifer are important contributors. I don't find it useful for our purpose to examine this mostly theoretical literature; however, I wish to take issue with some policies that were actually applied during the reform years. Shleifer, who, in his own words, was inspired by “Hirschman's examination of economic reform in Latin America and Huntington's analysis of the tactics of democratization around the world over the last three decades” (Shleifer, and Treisman, 2000, p.5), has actually used some Machiavellian tactics in his role as head of the Western team of advisers in the Russian privatization and stabilization program. In fact, taking stock of his experience as an adviser he has developed a new approach to economic theorizing, which he and Vishny call The Grabbing Hand model. Simply put it accepts the corrupt features of the government as given and tries to *build political coalition* in support of reform. Achieving a coalition for reform requires a great deal of pragmatism and political skills. For example,

If there is political opposition for privatization, say from the employees of the bank accustomed to having well-paid government jobs, the grabbing hand economist might consider ways of convincing these employees to go along, perhaps by bribing them with cheap equity. (p. 7)

Co-opting the opponents of reform is only one strategy; they could also be expropriated, for example; or divide and rule tactics can be used etc. In fact, there is a growing literature that has started to address these issues. It is not clear, however, how successful one can be in designing such policies; it mainly depends on the specific circumstances that one faces. Therefore, much of policy designing will of necessity have to be improvised, which is precisely what Shleifer did during the Russian privatization.

7. China's Experience and results

China was able to launch its reform program in 1979, after it had undergone a very costly "Cultural Revolution", and in spite of what observers perceived as being insurmountable political and ideological opposition to reform. China was a developing country, very poor in terms of per capita income, natural resources, physical and human capital. It had to tackle two overwhelming problems, underdevelopment and transition to a market economy. China adopted none of the reform policies that neoclassical economists preached to the third world, except fiscal discipline. Perhaps this is the main reason why reformers never appreciated its experience. It simply didn't provide the right kind of example, namely, reform as fast as you can, privatize as early as possible, and liberalize right from the start of the reform process. It took the Chinese government twenty-three years to legitimize and protect private property, which is only one of the three main pillars of the market economy (the others being competition and rule of law). Meanwhile its economy was booming with historically unprecedented momentum. It is impossible to perfectly describe the reform experience of a country like China with all its diversities and complex ethnic and socioeconomic make-up. Nevertheless, without taking stock of China's rich experience in reform, we will not make much progress in advancing our understanding of the transition process.

How was China able to reform?¹¹ In the next sections I will give a brief review of the Chinese reform process and its results.¹²

China's reform experience can be divided into three stages: The first stage stretched from 1979, when the first attempts to reform commenced, to 1993, just before the communist government shifted strategy and decided to transform the economic system into a market economy; the second stage began when the Third Plenum of the Fourteenth Party Congress in November 1993 adopted the "decision on Issues Concerning the Establishment of a Socialist Market Economic Structure", which according to Qian was a strategic decision to support the creation of a market economy (Qian, 1999); finally, the third stage started after

¹¹ China's reform is not over of course but what it has achieved so far is impressive and quite successful, its entry to WTO is a sign of that success.

¹² Most of my historical information about the Chinese economic reform comes from reading Yingyi Qian's, John McMillan, Barry Naughton, and Joseph Stiglitz's writings, especially Qian, 1999a, 1999b, and 2001 from which I took the first two stages and added one more stage to reflect the current realities.

the latest Communist Party Congress that was held in November this year, which looks to be a watershed in terms of political reform.

First Stage: The first fifteen years (1979-1993).

Everything originated with the desire of the Chinese communist government to increase productivity of state-owned firms and the living standard of the population. Perhaps inspired by the example of its neighboring “Asian Tigers” (Taiwan, South Korea, Hong Kong, Singapore, Malaysia, Thailand, and Indonesia) it followed an outward-oriented strategy for economic development; but unlike its neighbors it faced other policy challenges, namely reforming the economy without having a clear picture of the desired economic system. Therefore most of the reforms were experimental policies and were tested at local levels, and if successful, applied to the economic system as a whole, which was made possible by early decentralization of the government and economic structure. The Chinese government took several key decisions during this first stage of reform, the most important of which are presented below.

First, China decentralized some governmental functions. The decentralization gave rise to the transfer of administrative functions of the government to local levels. The central government devolved its fiscal responsibilities to local government by a “fiscal contracting system”, which emphasized local self-sufficiency. Local governments started to shoulder new responsibilities; they supervised state-owned firms; they were responsible for investments in industry and infrastructure; they issued business licenses, coordinated business activities, taxed and provided public goods, resolved legal disputes, and played a great role in attracting foreign investment. The revenue of the local governments was thus directly tied to the development of local economies.

Second, financial markets were stabilized, with the introduction of government control over international capital flows and restrictions on domestic interest rates and private financial activities, counterbalanced by relaxation of the restrictions on cash transactions and on the creation of anonymous deposit accounts.

The third step involved market liberalization through dual track approach: prices were liberalized and markets were created gradually, at the margins, under a two-track approach. Part of the system worked under the old model of central planning; on this planned track, economic agents were assigned rights and obligations regarding fixed amounts of output at fixed prices; at the same time a market track was created under which economic agents had

the right to trade at market-determined prices after fulfilling their obligation under the planned component. The practice started in 1978 when several households in Anhui province began to contract with the local government for delivering a fixed amount of grain in exchange for the right to farm on a household basis. The household had the obligation to sell a fixed quantity of agricultural products to the state procurement agency and to pay a fixed tax to the state; it also had the right to receive a fixed amount of farm inputs at a planned fixed price; but after fulfilling this portion of the contract the household was free to sell the remaining output or even buy inputs at market-determined prices. After the successful implementation of this experiment, it was promoted by the local government and later adopted by the central government as a basis for agricultural reform. By 1984 almost all farm households in China adopted this method. This served as a basis to the two-track approach to the total economy.

Fourth, the government started to show greater tolerance for non-state enterprises. The consequence of this step, taken together with the preceding one, was the explosive expansion of the non-state sector, dominated by Township/Village Enterprises (mostly owned by local governments). Between 1978 and 1993 the proportion of non-state enterprises in the economy increased from 22 percent to 57 per cent. Private enterprises constituted only 15 percent of GDP. Meantime the state sector measured in absolute terms was expanding; it absorbed around 35 million new workers that were released by the agricultural sector reform. Finally, the state-owned firms were commercialized; they were allowed to keep some fraction of their profits; they were able to buy and sell in free markets (after fulfilling the planned track) and faced competition from growing non-state sector and to some extent from foreign imported products; new incentive schemes were designed for the state owned sector; managers of the state owned enterprises had to win their job through auctions of top management positions; the managers were given complete responsibility of allocation of resources; their pay depended on the performance of the firm and they were given bonuses, demoted or promoted depending on their performance.

The results of these policies.

1-Incentives were improved: local governments were able to keep the residual returns from their investment and operations.

2-Hard budget constraints were enforced: Local governments faced tight budgetary constraints, since they were in a disadvantaged position compared to state owned enterprises that faced soft budget constraints.

3-Competition was created, among local governments to attract foreign investment and the market that was created by the sale and distribution of whatever goods remained under their control after fulfilling plan obligations.

4-The dual track system made use of the existing institutions (importantly, the government was not burdened by the overwhelming task of creating a market economy anew; it was able to use the existing information allowing complementary informational gains on the market track), protected the existing rents in the state sector, improved efficiency, and created a win-win dynamic of economic change. The market track gave economic agents the opportunity to improve their welfare and the planned track protected the potential losers from reform. Therefore, the distributional consequences of the typical reforms that were applied in transition countries were avoided.

5- China's experience disproved the assumption that reform would necessarily be costly in the short run but beneficial to all in the long run; in other words, China proved that reform need not be a zero sum game in the short run as all neo-liberal economists assumed. The dual track served as a safety net by compensating those who remained in the state sector allowing the rest to take advantage of the new opportunities created by reform.

6-The ever increasing non-state sector has undermined the absolute power and control of the state on public and private life of Chinese citizens; the non-state sector (including household agriculture, rural industry, private enterprises, urban collectives, and joint ventures) has grown much faster than the state sector; in industry the share of state owned enterprises fell from 78 percent in 1978 to 69 percent in 1984 and then to 34 percent in 1994; total tax revenue of government have declined from 40 percent of GDP in 1978 to 19 percent in 1993; during this period the state sector and government revenue were increasing in absolute terms.

7-The productivity of state owned firms has increased.

8-Per capita GNP grew 7.2 percent annually from 1978 to 1990; real exports grew at an annual rate of 10 percent between 1978 and 1990 (McMillan, 1992)

9-The living standards of ordinary Chinese people have markedly improved; the number of people living in absolute poverty decreased from over 250 million to about 50 million in two

decades; life expectancy has increased from 64 years in 1970s to 70 years in 1996; infant mortality fell from over 50 per thousand in the 1970s to less than 30 per thousand in 1990s¹³. As a result of these achievements there was widespread support and public demand for further reform; meanwhile the communist government, unable to resist the public demand and having seen the beneficial effects of existing reforms, and taking into account the collapse of the Soviet Union and its ideology, shifted its strategy to embrace the market economy.

The Second Stage:

The strategic decision to endorse a market economy was taken at the Third Plenum of the Fourteenth Party Congress in November 1993. Three strategies sprang from this congress:

- 1-Designing a coherent package of change and appropriate sequencing;
- 2-Leveling the playing field by unifying the foreign exchange rate and tax rates among all enterprises regardless of their ownership;
- 3- Building market-supporting institutions, centralized monetary system, social safety net, federal structure of government fiscal budget etc.

At the fifteenth party congress held in September 1997, state ownership was downgraded to a “pillar of the economy” and the private sector was elevated to an “important component of the economy”; in March 1999 private property and rule of law were incorporated to the Chinese constitution by an amendment.

The third stage:

This stage started after the last Communist Party congress held in November 2002. The congress endorsed some major political and economic reforms; the most important political achievement was the transfer of leadership to new cadres in the communist party and opening the door for the Chinese capitalists to join the party and become a major player in public life; on the economic sphere, the protection of private property rights was formally endorsed and the private sector was elevated even further than before to be considered now “on an equal footing”; thus, in his keynote address to the Communist Party congress the outgoing Chinese president Jiang Zemin said: “we need to respect and protect all work that is good for the people and society and improve the legal system for protecting private property” (Financial Times, 2002). This decision effectively removed the preferential status of state-owned

¹³ These statistics were taken from Qian (1999a), whose sources in turn are: *China Statistical Yearbook*, 1997; *Almanac of China's Population*, 1997.

enterprises. Furthermore more measures in land reform was approved; in effect, now over 200 million farmers can sell their land rights to cash the fruits of their labour and probably move to cities for better employment opportunities and to escape the interference and exploitation by corrupt local government officials.

China's success during its first stage of reform did not go unnoticed by the shock-therapists, because first of all it was still practicing central planning, and second it had not followed the Washington Consensus policy recommendation in reforming its economy.

China's reform was the subject of yet another debate among economists. I will not attempt to review the debate, due to lack of space; broadly speaking, however, the debate went along the shock-therapist and gradualist lines. The gradualists lauded China's successes, ascribing them to its evolutionary reform strategy; the shock therapists also described China's performance as a success story but had a different interpretation of the sources of growth. The shock-therapists' arguments mainly rested on the structure of China's economy and political institutions; they didn't believed that the Chinese model of reform was helpful for transition countries, nor did they believe that even some features, like the dual track, could be replicated successfully elsewhere. Jeffrey Sachs (Sachs, 1997), for example, argued that China's case was simply an extension of the unique case of its neighbors in East Asia, which had enjoyed unprecedented growth rates for decades and a dramatic improvement in living standards. According to Sachs, China shared with these countries many characteristics: low initial per capita income level, which gave ample scope for rapid catching-up, favorable physical access to international sea lanes, export orientation through favorable tax and regulatory conditions for exporters (e.g. duty-free access to imported inputs and tax holidays for foreign investors in export sectors), high proportion of the labor force in agriculture or other low-wage activities which provided an elastic labor force of labor-intensive manufactures, favorable demographics (including low old-age dependency), and fiscal policies supporting high national savings (including high government saving, and the absence of state systems to crowd out private saving).

8. Critics of the Reform Packages

Not all economists were in favor of shock therapy; many of them advocated a more gradual approach; the main proponents of this approach were Peter Murrell (1991,1992a,1992b), John McMillan and Barry Naughton (1992), McMillan J. (1995), Dewatripont M. and

Roland J., (1992), Roland J (1994), Hans Van Ees and Harry Garretsen (1994), Kornai J. (1990), Joseph Stiglitz (1994, 1998a, 1998b, 2001, 2002) and many others.¹⁴

The Gradualists

The desirability of the rapid creation of an efficient, market-based economy was not an issue for those who advocated a gradual approach; the real problem was how to achieve such an end point. Many considered the shock therapy approach to be overly utopian, because like any utopian approach its focus was on the end-point (market economy) rather than the existing socioeconomic system. Moreover, it didn't attach any value to the existing state and lauded the virtues of the final goal; further, it focused on the destruction of the present socioeconomic arrangements and the creation of new arrangements according to the standard blueprint (reform program) of a market economy (Murrell, 1992a,1992b). The gradualists had a deep skepticism concerning the workability of the sketchy neoclassical blueprints; they frankly stated that at the present stage of knowledge of the social sciences it was impossible to design a workable model. Their argument went as follows: Flawless models of change could not be designed because of the limits of human intellectual capacity, the complexity of the socioeconomic order, and the inherited nature of the social knowledge. Economic science, even with all the advancements it contributed in the understanding and practice of social sciences, lacks the tools to adequately explain or comprehend change. Most of the neoclassical contribution was based on a perfectly competitive equilibrium model. Such models do not explain or even contribute to an understanding of sources, process, and consequences of systematic change. Therefore all the body of knowledge that was accumulated throughout the past decades would not assist the neoclassical economists in designing reform programs which transform the existing institutions in their totality and create new and supposedly better institutions. Even granting that it is possible to adopt the blueprint of a market system that has proved workable in other societies, this still doesn't solve the problem of implementation; the effective implementation of a perfect blueprint is not possible because of simple reasons that have to do with the nature of knowledge that people possess. Political and social philosophers such as Oakshott and Hayek have argued that human knowledge can be categorized as either technical/scientific or practical/personal.

¹⁴ Not all of them shared all the issues that will be raised. Most of them subscribed to the idea of evolutionary or piecemeal changes, but others, like Roland and Dewatripont were very much against shock therapy because of practical considerations.

Technical knowledge is the kind of knowledge that is taught in schools and universities; it can be conveyed to others and applied by different individuals under different circumstances. Whereas practical knowledge is acquired through activity, trial and error, and daily interaction with different individuals under certain institutional setting that shape behavior and expectations. The effective performance of any activity depends very much on the amount of skill and practical knowledge one accumulates through years of work and life-experience. However, this practical knowledge is relevant only in the context of the particular institutional setting that shaped it. Individuals cannot possibly understand the effects of large-scale socioeconomic changes, especially when the existing institutions are being totally revamped; moreover, they lack the knowledge of how to behave in the new institutional settings, and it takes time to acquire. In the case of transition to market economy, it is easy, for example, to adopt the legal codes of another country but the interpretation of the legal code and its enforcement depend very much on the practical or personal knowledge that can be acquired only in the institutional context of the country of origin.

Thus shock therapy transformation faces obstacles ironically similar to those faced by planning: central planning failed because it attempted "to control the uncontrollable", and there is a high likelihood that shock therapy will fail because the new planners need to process an enormous amount of information and control the whole process.

The criticism of the shock therapy approach was not based on theoretical grounds as discussed above but also historical and empirical ground. China has furnished a great example of reform, for example; many advocates of gradual change have studied how China was able to reform and discovered some features that could be applicable in other countries. And China was not the only empirical case. Even though it was the only country that has gone through some transformation from planned to market economy, we also have the historical example of the capitalist market economy itself, which did not arise by decree or in a short period of time; rather, it evolved through centuries of evolutionary change. Many renowned economists, like Hayek and Schumpeter, have pointed out the most important features of the capitalist system which were not the center of attention for the neoclassical economists. Hayek for example has written extensively about spontaneous coordination of the market, its ability to weed out the loss-making enterprises, and of the evolutionary nature of its institutions; while Schumpeter has emphasized the importance of the entrepreneur and the crucial role of 'creative destruction'.

Gradualists advocated another approach which Peter Murrell calls “piecemeal social engineering”. This approach focuses on the existing state, identifies its worst features, comes up with workable solutions, and implements them in the context of the existing institutions. Therefore, gradualists emphasized the piecemeal, gradual, slow and reversible changes, which allow the possibility of replication if successful.

Privatization: Such an approach does not, for example, advocate voucher privatization. The voucher scheme was a purely theoretical construct; it hadn’t been implemented anywhere and the necessary institutions for its implementation existed only in the minds of the advisers and policy-makers, who usually were technocrats without any substantial stake in the whole process and with no public accountability whatsoever. The population, with huge stakes in the process, were excluded and had no influence on the outcome. According to Kornai (1990), privatization had to be “achieved only through an organic process of development and social change”; the point of privatization was not to hand out the state owned enterprises to the public but sell it to real owners; genuine private entrepreneurial culture should have preceded any privatization attempt. Therefore the best way for privatization was to proceed by traditional ways, by selling state assets to real owners at a fair market price. Indeed all gradualists advocated the traditional means of privatization for which the procedures and consequences of implementation were at least known. The traditional methods included, waiting for interested groups to come up with the necessary funds to buy the capital, seeking out foreign buyers, constructing ad hoc lease-purchase arrangements, or even giving away some firms for free if no one was interested in making the purchase. The gradualists, also, didn’t have misgivings about allowing transition to occur under Worker’s Management, a form of ownership that was strongly opposed by the shock therapists. The gradualists reasoned that if Worker’s Management was a deep part of social fabric and knowledge, its preservation would allow the utilization of the existing social knowledge and social organizational capital. The important thing would be the introduction of new private firms and active competition among the Worker’s Management and private sector firms. The gradualists further charged that a sweeping move towards Western style market economy destroys useful assets that allow the economy to function in the initial stages of transition. They also discussed the possibility of replicating certain features of the Chinese reform experience, such as the dual track, and commercialization of state-owned enterprises.

Some of the practical points raised against the shock therapy approach can be described as follows:

1- If there are no political constraints then rapid privatization is preferable to slow privatization and the task of restructuring could be left to the new owners of the privatized firms. However in the presence of political constraints partial re-nationalization is likely to happen and restructuring may be delayed. These political constraints must be taken into account. They arise from the redistribute nature of privatization and the restructuring of the privatized enterprises (Roland, 1994).

2-When compensation of the losers from the reform program is costly then divide and rule tactics can be utilized under a gradual reform program (Dewatripont and Roland, 1992).

3-Since there is aggregate uncertainty regarding the outcome of privatization and restructuring, it is more advantageous to start restructuring small subset of enterprises in each sector of the economy; such a partial resolution of the outcome of the restructuring gives the policy makers a choice of policy reversal if the outcome of the restructuring process turns out to be bad. This option makes the policy more acceptable to the majority of the population (Dewatripont and Roland, 1993).

Stabilization: Having experienced the shock therapy, Grzegorz Kolodko (1998), Poland's first deputy premier and minister of finance during 1994-1997, was very critical of the applied stabilization programs. Furthermore, Bofinger, Flassbeck, and Hoffmann (1997) were "astonished" at the IMF's use of orthodox money-based stabilization in the three biggest CIS countries (Russia, Kazakhstan, and Ukraine), since all the existing information showed that heterodox exchange rate-based stabilization was a better option for CIS countries than the orthodox money-based. They argued that at the time the CIS and Eastern European countries were facing very particular realities: first, transition countries were liberalizing almost all prices and there was high degree of uncertainty about the outcome of any policy, and therefore, we should expect unstable demand for money in the CIS countries; second, short term forecasts are not at all reliable even in highly stable markets of the West, therefore using forecast in monetary policy decisions was counterproductive to say the least, especially because forecasts of output could be self-fulfilling (for example an expected contraction of output would be materialized by a contraction of the money supply). Third, velocity of money sharply declines if the stabilization is successful, therefore an assumption of fixed or increasing velocity is unrealistic. Fourth, the credibility and transparency of the policy was highly questionable in general and given the CIS situation in particular.

Bofinger and his colleagues' assessment was as follows (this assessment was shared by many economists at the time):

All in all, in the environment of CIS-3 where credibility of macroeconomic policy had already been damaged and where enterprises and banks do not react very strongly to

price and interest signals, the prospects for a money-based stabilization were very low from the very beginning. At least, this situation would have called for a combination with some heterodox elements (p. 18)

Therefore,

With low credibility and lack of transparency money-based stabilizations do not provide good prospects for “rapid synchronized disinflation”. Thus the painless solution of reducing inflationary expectations and inflation *ex ante* without major repercussions on the real economy is not very likely. Instead, the stabilization process has to work the other way round: The central bank has to generate a “credit crunch” with nominal and real interest rates. This leads to negative demand shock for the whole economy which exerts a dampening influence on price and wage increases. At the end, inflationary expectations will be revised downwards (p. 17)

Even the idea of using monetary policy for short term fine-tuning was at odds with the monetarist framework which presupposes a fairly long “time lag”; if, they argued, the money-based stabilization approach is applied when the political support for reform is weak, then it should be abandoned altogether.

Nonetheless, these countries started implementing money-stabilization programs in 1994. But soon all three central banks reduced interest rates and intervened in the foreign exchange market (something they shouldn't have done under the money-based stabilization program), thereby increasing the money stock. Russia shifted to an exchange rate peg (crawling: steady and slow depreciation during pre-specified rates and time intervals) in July 1996 and adopted other heterodox elements (price and wage controls), which were not envisaged in the original program; and the other two countries adopted inflation-targeting measures and wage and price controls; it was the adoption of these *heterodox* elements that resulted in their much-lauded success.

However the most enduring and far-reaching criticism came from Stiglitz, who not only criticized the reform programs as such but also emphasized the failures of the market economy and sought ways to correct them; moreover, he attempted to develop a new vision of economic development.

9. An Alternative View to the Neoclassical Paradigm: Stiglitz and New Information Economics

Perhaps inspired by Hayek's knowledge argument against central planning and following the Keynesian legacy, Nobel Laureate Joseph Stiglitz, George Akerlof, Mike Spence among many others have for decades been deeply skeptical about the efficiency of the market economy; their persistent deliberations finally seem to have borne fruit, giving rise to a new

branch of economic thought that is called the New Information Economics. Stiglitz, like all other New Keynesian economists, starts his analysis of the market by concentrating on the macro level. He perceives the recessions and depressions accompanied by mass unemployment as signs of market failures on a massive scale. Consequently he believes that the neoclassical theory - which assumes that complete markets and perfect information are the rule rather than the exception – is hopelessly inadequate to produce a realistic economic theory that can explain how markets do actually work.

New Information Economics:

As Stiglitz explained in his Nobel Lecture (2001), his research in the area of information began by altering only one of the assumptions of the neoclassical economics, namely perfect information. Soon it became obvious that neoclassical economics was not at all a robust theory. Informational imperfections could be seen everywhere, but they had not entered into formal models of the Neoclassical economists because it was so hard to incorporate them. Stiglitz's message is very clear: market failures are pervasive and hard to overcome by means of the market process itself; the sources of market imperfections are transaction costs (search cost, contract enforcement costs, etc.), incomplete markets (absence of future markets and absence or imperfections in risk and capital markets), and problems with information (asymmetries) -- "different people know different things". Some of the information asymmetries are inherent, for example individuals naturally know more about themselves than about others; other information asymmetries arise out of economic working process, for example a current employer knows more about his employees than any other potential employers. Sometimes the participants in the market intentionally create information asymmetries just to generate market power, for example managers of large corporations purposely increase information asymmetries so that they can entrench themselves (the principle and agent problem, or separation of ownership and control). Such informational asymmetries give rise to market power, which is damaging to competition; further, the structure of the markets and agents' awareness of potential information asymmetries determines their extent and their consequences. Moreover, markets are not complete: complete capital, risk, and futures markets do not exist, partly because the price system cannot coordinate future-oriented activities, like investment; further, the inability to predict future markets causes the market economies to be prone to dynamic instabilities in spite of the presumed existence of rational expectations.

New Market Failures:

All of these imperfections give rise to new kinds of market failure that are quite different in nature from the conventional market failures (Stiglitz, 1994). The old market failures were easily identifiable and limited in scope; they required well-defined government intervention. Given that informational imperfections plague virtually all markets however, the new market failures are pervasive in the economy. In short the First Fundamental Theorem of Welfare Economics is valid only under very restrictive and unrealistic assumptions and therefore, there is room for government corrective action. Greenwald and Stiglitz (See in Stiglitz, 1994) go further to show us the kinds of government interventions that would be Pareto-improving. But they emphasize that their analysis of market failures should not be taken as an action plan for governments, since for the time being we fall short of having all the practical information for government corrective action to be Pareto-improving, especially in areas where market failures are small-scale. However, they perceive that government intervention would be very beneficial for the economy in instances where market failures are large and important. Some of these areas are: major insurance markets, some risk markets (associated with job security for example), and capital markets (this is especially important for investment and growth); furthermore, a very plausible case can be made for government intervention in investment allocation and research and development activities.

Not only is the First Fundamental Theorem of Welfare Economics not generally valid, but also the same is true for the Second Fundamental Welfare Theorem (Stiglitz, 1994). Due to imperfections in information, lump-sum tax schemes for income redistribution give rise to market distortions. Therefore, equity and efficiency considerations cannot be separated, the larger the inequality the larger the distortions that arise from government re-distributive taxation.

Stiglitz criticizes neoclassical economists for ignoring the corporate governance problems in their economic analysis. He argues that the central economic issues go beyond the traditional three questions: what is to be produced? How is it to be produced? For whom is it to be produced? Economists must further inquire: who should make these decisions? How can those who are responsible for making decisions be induced to make the right decisions? How are they to know what and how much information to acquire before making decisions? How can the decisions of millions of economic actors be coordinated?

Corporate Governance:

Stiglitz argues that *corporate governance* could be considered a public good in market economies that are plagued with incentive problems as was the case for the Soviet economy; further, *traditional incentives are weak and cannot be relied upon to solve corporate governance problems*. If the shares of a given corporation are widely distributed among a large number of shareholders, and considering that the benefits of an increase of the return on shares accrue to all shareholders, then the small shareowners don't have an incentive to monitor the managers, since they expect that other large owners will do so. Furthermore, voting mechanisms are not perfect, since voting is similarly a public good; if there is a small cost of voting shareholders will not even vote, let alone gather information to monitor the managers.

Competitive takeover markets also work imperfectly, since in practice firms which take over other undervalued firms don't profit because the price will be bid up by other competitors in its market. And finally, financial incentives are inadequate: "management typically receives less than 0.3 per cent of each increment in profits that its actions make for the firm" (1994, p72). Fortunately, there are other means to monitor the management. The most important is the banks and financial institutions, the creditors of the firms. Creditors have a stake in the proper functioning of the firm they lend money to, therefore they have strong incentives to monitor the actions of the management team; managers will also have to operate under constant pressure from their creditors and if they fail to repay the firm's debts then the firm will most likely go bankrupt, they will lose their job, and the prospects of finding another job in the future will be dim. In short, if we don't have a well functioning capital market, it would be unwise to rely on the traditional incentive mechanisms for corporate governance, since they are inadequate.

In general markets are not informationally efficient, so to speak; if, for example, we assume that markets disseminated information instantaneously and perfectly to everybody, then no one would have any incentives to gather information, as long as gathering information was costly.

Stiglitz concludes his research in this area by asserting that markets do fail due to imperfections of information and sometimes all these imperfections, especially those in the capital markets, can add up to produce massive market failures. So markets are not constrained Pareto efficient as most economists would like to believe. Government has a potential role to play in markets - and in fact they already do so in industrialized countries -

that could be Pareto-improving and have a beneficial effect for efficiency of the market, development, and growth.

What is important for us is to realize that prices do not convey all relevant information and imperfections of information, and the problems they generate for economic coordination are generic, they exist in all economies. The Soviet economy did not only lack property rights but it also lacked the correct incentives in both economic and political spheres and more importantly it suffered the worst types of information failures (as we already discussed). These imperfections are especially acute in newly emerging markets, like the transition economies. The Western advisers of reform countries weren't cognizant of these problems since they perceived the transition from a neoclassical paradigm. Stiglitz bitterly criticized the Washington Consensus inspired reform packages in general and those that were recommended to transition countries in particular. Much of his criticism is in line with other gradualists who had an evolutionary and piecemeal approach; but I wish to mention some of the new points he raised that are complementary to the evolutionary approach; these points were raised after the application of "first generation reforms" in transition economies¹⁵.

Stiglitz's Criticism of reform packages:

Privatization: Stiglitz has argued that fostering competition is a better solution than privatizing the large state-owned enterprises. His critical radar didn't miss the failure of privatization programs in transition countries; he reiterated some of his older arguments and raised some new ones arguing that privatization and competition are two faces of the same coin. Privatization without competition and institutional infrastructure of a market economy can achieve very little. Further, the way that privatization is implemented and how the population perceives it matters a great deal. If it is done by illegitimate means, like the Russian "loan for shares program" for example, the newly created private property rights will not be secure and the new owners of the state firms will more likely engage in stripping its assets or invest heavily in the political process to protect their property rights rather than in long term production, thereby undermining the future of the reform and prosperity in those countries. The belief that the new owners would sell their newly acquired assets to better managerial teams in the after-market were not based on reality since there were no managerial market or teams with the skills and the amount of capital that was required to make the state productive and competitive. On the other hand voucher privatization was not

¹⁵ see Stiglitz Joseph and Hoff Karla (2002), Stiglitz Joseph (1994), Stiglitz Joseph (1998a), Stiglitz Joseph (1998b), and (Stiglitz 1999)..

successful either because the long and highly complicated agency chains it gave rise to, something a well functioning market economy can hardly manage. Decentralization of large firms into small units and privatization of those units to stakeholders (workers, managers, suppliers, creditors, and all other parties with stable and long run relationship with the company) was the best course to follow since those stakeholders had a long-term interest in the firm they were working in and their livelihood and prosperity depended on the future of the firm.

Corporate governance: For the newly voucher-privatized large enterprises whose shares are dispersed among a large number of people, the *ownership* and the *control rights* are not identical, especially when the institutions of corporate governance are not in place. The advisers recognized this of course, but the solutions they recommended – having a controlling private owner, as in the case of investment funds in Czech republic and mutual funds in Poland and Hungary - exacerbated the problem rather than mitigated it. The voucher investment or mutual funds had even greater corporate governance problems than the privatized corporations whose shares they owned! The incentives for fund managers were very weak; their maximum gross return and interest in management was less than one percent; therefore, stripping the firms' assets was quite profitable for the monitors of the managers of newly privatized companies. In circumstances like these when there are no functioning corporate governance institutions and it will take years to build them, it is much better to shorten the chains of agency rather than lengthen them. The best way to proceed when there isn't functioning market economy is to unify the principle and agent. Even in the early development of the capitalist economies there were no such long agency chains, it was only after decades or perhaps centuries of experience the market economies created them. Stakeholder privatization (Workers' Management) was the best solution; it would have allowed the new owners to have direct control of the assets they owned and their cooperation was necessary for the functioning of the firm.

Restructuring: The blanket faith in bankruptcy and hardening budget constraints for restructuring firms is not reasonable. The problem that the post-socialist countries faced was how to employ their labor force given the existing capital, regardless of how inefficient the production structures were. Widespread bankruptcies would not help an economy if there were no new firms to absorb the resulting massive unemployment. Furthermore, the inherited financial structure of the firms did not convey information about the long run prospect of a

firm. Widespread bankruptcies, which force firms with high debt-to-equity ratios to liquidate, cause economy-wide recession without the selecting of healthy firms, and as with the inherited financial structure, the selection of firms that survive becomes random. Even selling the liquidated firm becomes a problem when there is systemic bankruptcy, especially when there are no functioning financial markets, since the firms that can make use of the liquidated assets are not likely to possess the required capital to buy the assets.

The best method of restructuring would have been to utilize the knowledge contained in the large and inflexible Soviet state-owned enterprises; this would entail decentralization by “vertically and horizontally disintegrating the [state-owned] firm into separate semi-autonomous teams or profit centers within a federal structure” or by splitting it into “independent business units” which “could be confederated and/or partly owned by the smaller firm” (Stiglitz, 1999, pp16-17). This could have given rise to many opportunities for trial and error. A good restructuring method in one unit could have been duplicated in other units and an error would have been avoided. Further, this method would have preserved the “organizational capital” of the old system without facing the urgent and daunting task of creation of new complex market institution that would require years if not decades to develop.

Misunderstanding the Political Economy: Stiglitz criticized the soundness of whole political process. By adhering to the shock therapy approach, shielding the decision-making process, and keeping the population at dark, the shock therapists have effectively created politically connected small interest groups; consequently, “while privatization was supposed to “tame” political intrusion in markets processes, privatization provided an additional instrument by which special interests, and political powers, could maintain their power”; in other words, the whole newly formalized Grabbing Hand model have only succeeded in “ putting the Grabbing Hand in the Velvet Glove of Globalization” (Stiglitz, 1999, p.21)

New Paradigm for Economic Development:

Stiglitz went beyond simply criticizing the neoclassical paradigm and its shock therapy strategy for transition countries. In his October 1998 Prebisch Lecture he put forward an alternative paradigm for development theory, which is relevant to transition countries in many respects, the core of the New Development paradigm being “the transformation of society”. He criticized the previous technical approaches of all economists of the Right, who relied on the market, and of the Left, who relied on the government, to achieve development

goals. According to Stiglitz these quick fixes have not produced lasting results wherever they were applied, whether in Latin America, Transition Economies, or East Asian countries at the time of crisis. He ascribed this lack of success to the focus on pieces of the whole process and failure to perceive the broader picture. He emphatically argued that any transformation attempt must have at least five core components: private sector development, public sector development, community development, family development, and individual development. According to Stiglitz, the government has a special and important role to play in this transformation, as it had done in the US and East Asian countries in their successful development attempts.

10. The debate about the results of reform

If you think that there was an agreement about the results of the first generation reform, you would be disappointed to know that it is the subject of current debate. I will not review the debate, not because I think it is unimportant but rather I think that it won't be useful for us; it cannot be useful because both sides use the same facts and different measures for success to arrive at diametrically opposite conclusions; in other words, each side has its own way of seeing pieces of the transformation process and basing their conclusion on half-true or even counterfactual assumptions and results¹⁶. What will be useful for us is to elaborate on something that all economists agree now: *institutions*; this is the "buzzword" of the recent debates.

11. Insights from New Institutional Economics

The most important subject that was ignored by shock therapists was the issue of institutional change; some, like Jeffrey Sachs, emphasized the fact that the CIS didn't have the institutional heritage that the Eastern Europe had, but most of others only casually acknowledged its necessity. Perhaps the reason why institutional change didn't occupy a prominent position in the reform program was that neoclassical theory was deficient in that respect. In his Nobel lecture Douglass North criticized the neoclassical theory for lack of institutions in its analysis of the markets; "Neoclassical theory", he said,

is simply an inappropriate tool to analyze and prescribe policies that will induce development. It is concerned with the operation of markets, not with how markets develop.

¹⁶ Broadly speaking the results can be summarized as disastrous: GDP fell sharply in all countries, inequality and poverty have reached alarming levels, and the welfare of the populations has deteriorated markedly. For the statistical results see the World Bank study on transition countries: World Bank (2002)

How can one prescribe policies when one doesn't understand how economies develop?
(North, 1993, p.1)

There is a new school of thought in economics that studies institutions. It started with Ronald Coase's article "The Nature of the Firm" (Coase, 1937). The name of the school, The New Institutional Economics, was coined by Oliver Williamson, to differentiate its subject of study from the institutional economics that existed at the time. Important contributors to this school include Ronald Coase, Oliver Williamson, Harold Demsetz, Steven Cheung, Douglas North, and many others. New Institutional Economists, such as Coase and Demsetz, accuse the neoclassical economists of "disregard for what happens concretely in the real world" and of neglect of real economic activity and flow of goods in the market economy (Coase, 1998). Coase argues that the division of labor, specialization, and improvements in productivity cannot occur without transactions, and if transaction costs are high there will be no exchange or specialization. The costs of transactions depend on the institutions (legal, political, social, educational and cultural systems) of a given country¹⁷. Given a fixed amount of inputs (labor and capital), the total cost of any good is determined by the technology employed and the transaction costs that arise out of the necessity of meeting those who wish to buy the output produced and specifying the attributes of the good (physical measurements: color, size, weight, number, quality, and rights: ownership, use, and rental rights) to the buyer and the enforcement of the subsequent exchange agreement. Wallis and North have found in an empirical study that 45 percent of the U.S. economy was devoted to the transaction sector in 1997 (Wallis, 1986); this is a strong evidence that transaction costs do matter. North argues that the diminution of transaction costs constitutes the key to creating efficient markets; the biggest determinant of transaction costs is the institutional setting that facilitates and enforces transaction. But what are these institutions and how do they arise? Douglass North bases his institutional analysis on five propositions.

North defines institutions as comprising formal economic/political rules, "informal constraints (routines, customs, traditions, and culture)" and self imposed codes of conduct. He contends that the rational choice framework of the neoclassical schools, which assumes that individuals know what is in their self interest and act accordingly, is not valid in the real world, at least not under conditions of uncertainty. Indeed history has shown that ideas and ideologies do matter a great deal in human affairs. To reconcile economic analysis with

¹⁷ The transaction cost approach employed by New Institutional economists is not the only method of institutional analysis; there are others, like game theory and political approaches.

history and reality, he borrowed some ideas from the cognitive science approach to human learning; according to this approach humans possess a genetically structured mind, which changes through experience in the physical and cultural environment that individuals inhabit.

This mental structure

consists of categories – classifications that gradually evolve from earliest childhood to organize our perceptions and keep track of our memory of analytic results and experiences. Building on these classifications, we form mental models to explain and interpret the environment- typically in ways relevant to some goal. Both the categories and mental models will evolve, reflecting the feedback derived from new experiences. (North, 1993, p4)

The cultural heritage, informal constraints and the shared experience of events in a specific geographical location generate closely related mental models, and consequently humans transform their shared belief structure into social, political, and economic structures, through institutional settings. In other words, human beings, who possess a limited intellectual capacity to understand the complex world, create institutions; institutions bring some degree of stability and continuity to the market economy, where individuals feel comfortable enough to plan and engage in long-term productive behavior without great fears of the genuine uncertainty that characterizes the world. Even though formal rules are essential in the functioning of the market economy, he believes that they are not sufficient; that is because informal constraints are more important anchors of economic and political stability; they are “extensions, elaborations, and qualifications” of formal rules and norms of behavior that are inherited and passed on to the next generation by cultural heritage, which makes them path-dependent.

Institutions do change, and the agent of change is the political or economic entrepreneur; these entrepreneurs form political and economic organizations - to represent their interests - that in their turn become the players of the socioeconomic game. North believes that institutions not only generate a stable environment and lower transaction costs but also shape the incentive structure of the society, on the basis of which the entrepreneurs form organizations. If an “institutional matrix” encourages piracy, for example, organizations will be formed which engage in piracy; since the resources are scarce there will be competition among these organizations to acquire the best skills and knowledge of piracy in order to survive; attempts will be made to change the institutional matrix to enhance the interests of the entrepreneurs as they perceive them. On the other hand, if an institutional setting encourages productive behavior, organizations will be formed that invest in skills,

knowledge, and capital to compete for gains from productive work; the institutional change that arises out of interaction among organizations and institutions under the economic setting of scarcity and competition is highly incremental.

What North, and other New Institutional economists, have to say about reform is not encouraging to the reformers, for he quite simply admits that we “don’t know how to transform ailing economies into successful ones” and “we know even less about the consequences of radically altering the institutional framework of central and eastern European countries”; he admits further that, “we know very little about how to create such systems (successful political/economic systems) in the short run or indeed, whether it is possible to create them in short periods of time” (North, 1994, p.4) and “we simply don’t know how to create efficient political markets” (North, 1997, p.16).

He goes on to base his conclusion on some clues that he has gathered during his study of the nature of institutions. Of these, the reformers have to consider some fundamental issues. First, politics shapes the economic performance of countries because it defines and enforces the rules of the game. Second, formal rules can be changed in a very short period of time but the informal rules or constraints can only be changed gradually. Therefore, transferring the formal political and economic rules of a successful country to the Eastern European countries is not enough to generate good economic performance. Third, political institutions can only be stable if they are supported by an influential constituency that is represented by powerful organizations. Therefore, the reformers must aim at creating such constituencies and organizations. Fourth, it is essential that the individuals’ belief systems be changed to suit the new conditions they will face; this change will entail the modification of old informal constraints that were not conducive to economic prosperity, to new constraints that are favorable to economic growth. Fifth, not only new formal rules and informal rules but also enforcement mechanisms are necessary for successful reform.

12. Insights From the Austrian Tradition

The Austrian economic tradition is so rich with dynamic economic analysis and actual market processes that it would be unwise for us not to look at what advice it has to offer regarding the reform process. I will very briefly review the main teachings of this economic school and later see what is relevant to transition economies.

The contemporary Austrian economic thought has evolved mainly through the refinement of the ideas of Ludwig Von Mises and Friedrich Von Hayek. According to Hayek the phenomenon which we as economists have to address is “the unavoidable imperfection of man’s knowledge and the consequent need for a process by which knowledge is constantly communicated and acquired” (Hayek 1945, p.530). The market process serves exactly that task; it has organically evolved through repeated interactions of economic agents and has served, together with price system, as an efficient knowledge-disseminating and plan-coordinating device. Therefore, planning and the coordination of plans should be left to the millions of economic actors and prices should be set free to carry the right kind of (undistorted) information to economic agents.

The Austrians view the market economy as a discovery process. The main movers of this discovery process are the entrepreneurs who are constantly on the look for a potential profit opportunity to be materialized and loss to be avoided. The prime motivator of entrepreneurs, and every other economic agent, is profit and personal satisfaction, but their distinguishing characteristic is their alertness to the factors of which others are unaware. This alertness gives rise to the discovery of new ways of doing things that are better than the old and the routine; it also sets the creativity of the entrepreneurs free to innovate products and technologies which were never heard or thought of before.

Recall that the coordination of actions of millions of economic actors is brought about by the price system; prices carry information about the *changes* in peoples’ tastes and preferences (demand) and their willingness or the ability to supply various raw materials, intermediate products and final outputs (supply). Entrepreneurs endowed with their alertness are strategically positioned to respond to changing conditions of the market and to earn profits; profits are the reward for an entrepreneurs’ successful evaluation of the changing conditions and opportunities of the market. Competition gives incentives and opportunities for entrepreneurs to compete against each other for potential profits and by doing so it transforms the profits to consumer satisfaction by lower prices and better quality; meanwhile new products and production processes are continuously discovered, modified, and transformed; knowledge is constantly discovered, created and transmitted.

Imperfection in the information and discovery process, however, appears to be somewhat different from what New Informational Economists, like Stiglitz, had in mind in their criticism of neoclassical economics. Peter Boettke emphasized how Stiglitz’s analysis of informational problems in market economy “leaves out questions of the *context* and *tacit*

dimension of the knowledge” (1997, p.30). The context is the private property market economy and specific circumstances of time and place; the knowledge is more than just information; it is also interpretation; it is not given out there in the market to be picked and used but rather it is dispersed among different economic actors, it is the knowledge of “ the particular circumstances of time and place”; it is inarticulate knowledge of ways of doing certain things, ways of thinking, and interpreting; and finally it is the Kerznerian entrepreneurial knowledge.

As we saw, Stiglitz and his colleagues were able to introduce some realistic elements into neoclassical equilibrium theorizing and found out that that model was very restrictive in its assumptions and very unrealistic in its analysis. The Austrian economists, however, criticized both Stiglitz’s perspective and the Chicago School for their disregard for the subtleties of knowledge and their over-reliance on formalistic models. Indeed, after Hayek’s criticism of the neoclassical assumptions of perfect knowledge and perfect markets, the Austrians acquired a special distaste for formal economic theorizing and have very rarely if at all used formal models as a tool for economic study. Perhaps this is the main reason of their virtual exclusion from policy debates in the second half of the century. But what did we learn from the Austrian economics that can be of use to transition countries?

Austrian interpretation of transition

If we try to judge the reform process on the Austrian criteria then we must look at what kinds of *freedoms* are gained and utilized throughout the process (Colombatto, 2002).

As we saw above, the Soviet regime discouraged entrepreneurial activity often by imposing harsh penalties on those who chose to circumvent state control. The Soviet citizens were living under the tutelage of the state, be it voluntarily or involuntarily; they lacked the potential for self-determination. The collapse of Communist rule and the newly gained freedoms of speech, travel, communication, and enterprise, are in themselves the greatest reform of all. But the utilization of these new freedoms should not be taken for granted. The reformist government must encourage its citizens to rely upon themselves in satisfying their preferences, rather than on state subsidies.

It is also important to note that the transition economies do not have market institutions. Institutions serve the purpose of reducing uncertainty and discretionary behavior. Institutions are crucial during transition when uncertainty is the greatest, when the return on opportunistic behavior of the participants is the highest, and when the detection and control

mechanisms are virtually non-existent, compared to institutionalized and normally functioning economies. Individuals with entrepreneurial tendencies exist in all economies; the important thing is to direct those tendencies to creation to free market economy rather than rent-seeking activities.

Enrico Colombatto sums up the Austrian contribution as follows:

The fundamental policy-making principle which should guide all normative prescriptions...*is that...everybody should enjoy the possibility of expanding the set of opportunities through knowledge and access into the economic and political markets. And should also bear the full responsibility of his actions*". (p.72, italics are my words)

13. Conclusion

My concluding thoughts will be relevant not only to transition countries but also to economic change and development in general, since that is what constitutes transition.

Every theory of transformation and every transition program will necessarily be flawed due to the limits of human intellectual capacities; being educated under the neoclassical paradigm and armed with the "inappropriate" tools that North has mentioned, I myself cannot claim to have an answer that is universally valid; in fact that is why I sought to study different schools of economic thought and look at the overall picture to have a sense of what the transformation must be like. The language that North uses in his writing reveals the depth and substance of our knowledge (or ignorance) of socioeconomic change. Therefore, what I will set out is not yet another new development or transformation theory but some fundamental issues that have often been forgotten, or given scant attention by the Western Advisers, and indeed most reformers.

Political economy

I will start with the political economy and institutional change, which based on my research seem to be the most important elements of any reform package. The assumption of the Western advisers was that the political and economic institutions must be changed by the reformers (the technocrats who have the scientific knowledge of institutional change). The whole shock therapy was designed to insulate the decision-making process from public influence and make it irreversible, and it was implemented by transition governments under the heavy influence of IMF/US Treasury-approved programs. If we assume that the US treasury and the IMF were staffed by economists who were truly honest and dedicated to the cause of the transition countries, if we assume further, that they wanted to do everything possible to push the reform programs that the latest cutting-edge knowledge of economic and

political science had to offer, is it true that they knew enough about the transition countries? Were they aware of the consequences of the policies they pursued or advised? Few can say they were. Many gradualists have insisted that designing transformation programs was simply not possible for the same reasons that central planning was not possible; the amount of knowledge and information necessary to achieve it was literally impossible to gather. If we add to this the number of staff of the IMF - which, according to Jeffrey Sachs, is only seven for each country in which the Fund is involved - and the fact that the Fund and the Treasury didn't even consult the most knowledgeable people (see Stiglitz, 2000), it cannot be argued that they knew what was necessary to reform the planned economies. In fact some of the advisers have plainly admitted that they knew little about the whole process¹⁸. In short, political reform is the most important factor that determined reform, since the politics defines institutions; and the optimal policies are not those that are irreversible but those that enjoy the support of the majority. The very act of shielding the decision making process from the public interest invited the establishment of politically connected special interests and made the whole reform subject to dispute. Reformers were not selfless individuals who acted unscrupulously for the public interest. They were as much self-interested as the Soviet plant managers were portrayed to be, and most of Western advisers have failed to see that. Consider how Andrei Shleifer, then head of Western advisory team for the Russian stabilization program portrayed the Russian reformers in Without a Map: (Shleifer and Treisman, 2000)

under Yeltsin's leadership, a number of economists turned politicians- Yegor Gaidar, Anatoli Chubais, Dmitry Vasiliev, Boris Fyodorov, and others- Struggled to introduce reform in a difficult political context...pursued strategies to prevent hostile interest groups from blocking the enactment and implementation of reform. (p.3)

Even though Shleifer has been able to develop the so-called Grabbing Hand model of economic analysis, he has failed to recognize the simple fact that the Russian reformers have used the "window of opportunity" to enrich themselves and those who were allied with them at the expense of the majority of the Russians. Should this have been the role of the reforming government? The reformers would argue that the redistribution of income (or rather poverty) is a necessary cost that any reforming country should bear, yet we have seen many examples where economic growth and welfare improvement have gone hand in hand;

¹⁸ In the comments and discussion section of "An Analysis of Russia's 1998 Meltdown: Fundamentals and Market Signals" (Kharas, 2001), John Williamson has admittedly said: "at that time I did not feel that I fully grasped what was going on, nor I confess, was I convinced that most of my colleagues in the advice-dispensing business had a much more profound understanding than I did".

China and the East Asian Tigers come to mind. The most important factor that determines what kinds of organizations will be formed or what kinds of activities will be pursued during the reform is, as North argued, the incentive structure of the institutional matrix, but most importantly the incentives that the policies of the reforming government will give rise to. For example, giving "public" property for free to citizens does not encourage productive behavior; any entrepreneur would be insane to think about long-term investment opportunities when there is so much property free for the taking. Institutions that incubate socially productive incentive structures can be created only by governments with extensive social participation in the decision making process. Everybody should have the right and the means to safeguard his/her interests; that right should not only be given to the reformers and their interest groups. Liberalization of prices, free trade, and low inflation rates were quite welcome results of the Russian stabilization program, but at what cost? Shleifer answers this question, explaining how

Part of commercial banking sector was coopted by creation of a market for state securities, protected from foreign competition and offering extremely high rates of return... the central bank- as auctioneer and major dealer in this market- was coopted with enormous profits it was able to earn by treasury bills. As sweetener for commercial bank, the government added the loans-for shares program (*written by the banks themselves*), which transferred billion of dollars of assets to these, *politically connected*, banks essentially for free... At the same time insolvent farms, enterprises, and state-sector organizations were appeased with free or cheap energy. The energy sector was repaid first in tax breaks, export privileges, and other perks and was given a relatively free hand to privatize itself . (p. 78)

If some of us think, with Shleifer, that "the economic costs of the government's stabilization strategy [are] moderate and justifiable", we might find some other minor details helpful: we learn, for example, from Joseph Blasi (an adviser of the State Committee for Management of State Property, the privatization agency), Maya Kroumova, and Douglas Kruse that:

43 per cent of the Russian stock market is accounted for by oil and gas giants, 21 percent by electric utilities, 13 percent by metals, and 11 percent by telecommunications firms, many of which were held back from voucher privatization yet constitute the 100 percent most valuable companies in the country. These are precisely the companies that were privatized by the loans-for-shares scheme, without citizen participation. (p.80)

Russian citizens have the correct instinctive reaction not to accept the results of the stabilization policies, just because 100 per cent of the country's most valuable assets were given as sweeteners and perks to very few politically connected individuals with the whole process kept in the dark. The new "Kremlin Capitalists" who got their wealth from expropriating the state leaving most of the public in absolute poverty have the wrong incentives, but certainly manifest the correct reaction in siphoning their newly acquired

“wealth” to foreign bank accounts. While the privatized Russian industrial firms were mostly given to insiders (managers and workers who were blamed for resisting the reform), they were not the most valuable assets of the state, most of them were bankrupt; moreover, the state had actively participated in attempts to confiscate their acquired assets. Under such circumstances I would not blame those managers and workers who wanted to strip the assets of the firms they acquired or delayed the restructuring of the firms. The most successful countries (Poland, Hungary) have avoided such deep problems by selling state-owned firms to strategic buyers and not by voucher privatization or loans-for-share programs. All neo-liberal economists and reformers attacked the principle of government intervention in the economy mainly because it produces rent-seeking rather than productive activity; yet the reform has done the same, in fact much worse than the usual case. It was argued, further, that the state should only provide law and order and leave production and distribution activities to the private sector, yet the reform programs have put an overwhelming transformational task on transition governments, in effect leaving the task of providing law and order to the private sector. Consider the case of Russia, or all CIS republics. In those countries property rights were not secure, mainly because the power of the government to secure law, order and property rights were greatly diminished¹⁹. As a result numerous criminal and legal organizations emerged (some had existed even during the Soviet times and continued to operate afterwards) to secure the property rights and the profits of productive and criminal activities of the new Russian entrepreneurs. The most important role of the government in transition was thus essentially “privatized”, putting a heavy drag on the economy. Vadim Volkov (1999) documents three types of “violent entrepreneurship” in Russia: “State and Illegal”, which apparently consists of “units of state and security forces” acting separately from the state; the private and legal protection companies; and finally, privately “organized criminal and bandit groups”. Volkov cites data provided by Analytical Center of the Academy of Sciences, stating that 55 % of the capital and 80% of the voting shares of the private enterprises had been transferred into the hands of the criminal capital. According to his findings these criminal groups give protection to businesses in exchange for part of the profit earned, cash, or a share of the capital. Thus for contract enforcement or “question solving” the average price charged may vary between 20% to 30 % of the share of the profit, and when the criminal group has a share in the capital it may charge as much as 50 % of the

¹⁹ In most of the CIS countries the power of the state was weakened but, as Hough (2001) argues, the Russian government kept directing the economy in ways that was harmful for incentives and did not secure property rights.

profit. Obviously this is huge drag on the economy in general and productive activity in particular. Under such heavy additional transaction costs coupled with voucher privatization (the injection of undervalued state property into the emerging private market) any rational economic agent necessarily would try to acquire and use the skills required for criminal or redistributive, rather than productive, economic activity.

Our initial assumption was not quite accurate, however: IMF/US Treasury mostly represent the special interests of the industrialized world, which became patently clear after the IMF management (or rather, mismanagement) of so many crisis in Latin America, East Asia, and transition countries, which led many internationally renowned economists to severely criticize the operations of the Fund, and some others to publicly demand the creation of new and more balanced international institutions that reflect the integrated world economy in which we now live.²⁰ Therefore, whatever advice the transition countries received was not backed by economic merit but the political will of the US and the rest of the industrialized world.

Incentive and entrepreneurs

As I have argued above, incentives are mostly created or sustained within the political game of a certain country. The role of the entrepreneur is crucial in designing the incentive structure of the economy²¹; certainly the entrepreneurial spirit is one of the most valuable treasures that exists in all societies, but the skills and incentives that are necessary to channel that spirit into productive activities rather than redistributive or destructive ones are lacking in most developing countries. This is even more markedly the case in transition countries, where the strength of entrepreneurial spirit was seriously curtailed through seven decades of government control and social cohesion has been undermined by the collapse of the Soviet Union and the consequences of the reform policies. Entrepreneurs usually engage in activities to enhance their interests, as they perceive them: under the Soviet economy, the Communist party and the bureaucracy were the most important avenues for welfare improvement, but under the transition, instead of shifting to productive activity, the focus of entrepreneurs was on the undervalued and easily available state property. The centrally planned economy offered broad avenues for improving efficiency; the reformers had only to endow the population with the freedoms to pursue private economic activity, and the rest

²⁰ Refer to Joseph Stiglitz (1998b, 2000, 2002), James Tobin and Gustav Ranis (1998), Jeffrey Sachs (1997a, 1997b, 1998)

²¹ I am using here the word entrepreneur rather loosely, by which I mean not only those who are involved in commercial activities but also those who pursue political or social interests.

could have been left to the entrepreneurs, that is, the people who have the practical knowledge that makes the wheels of the economy turn. They are the people who daily confront challenges and have the best “knowledge of particular circumstances, time, and place”. Given the right kind of incentives and under a competitive economic structure they perform their role as the engine of the economy quite successfully.

Investment

However, the entrepreneurs need capital and technology for investment. In fact Capitalism is all about capital and self-interest; the great achievement of the classical economists was to show that the interaction of self-interested individuals under certain social and institutional settings, narrowly defined as private property and rule of law, *can* lead to socially beneficial results; that is, *can* and *not must*. It does not matter where, whether under a socialist or capitalist system, the fact is that human beings are more self-interested than socialism expects them to be; this is not to deny of course the possibility of a fundamental change in human nature. The capitalist system is still propelled by capital accumulation and technology, the two most important factors all transition countries have lacked. All of them need massive amounts of investment and technological changes to achieve the desired efficiency gains and welfare benefits of reform. Almost none of the reformers have emphasized how to achieve such a goal; in fact it hasn't been a goal at all. Statistics on investment show that it has declined to an even greater extent than output. Any economy, whether perfectly efficient or totally wasteful, cannot grow and the welfare of its citizens cannot improve without continuous capital accumulation and technological progress.

Yet the realization of long-term investment, which is essential to economic growth, is somewhat problematic; a great deal of trust is needed among economic agents in order for them to engage in long-term investment. Jerry Hough has noted this point in his book *The Logic Of Economic Reform In Russia* (Hough, 2001). His description of the requirements of long-term investment deserves to be quoted in full.

There is no activity in the modern industrial society that rests to such an extent on trust in such a range of actors. Depositors must feel confident in putting their money in impersonal banks; banks must think that borrowers whom they do not know will not disappear; companies must be able to issue stock in whose general honesty investors can believe; entrepreneurs must trust contractors to do reliable construction work, they must assume that their project and its fruits will not be stolen when the project is finished. Investors market demand, but at least they want assurance that a stable market will exist at that time. Neoliberal economists even insist that investors must have assurances about rates of inflation. (p.15)

During the transformation process, when there is great uncertainty and asymmetry in information on the individual level and on the macro level (of the whole transformation process), the opportunistic behavior of entrepreneurs was particularly acute. Moreover, there were neither entrepreneurs with the necessary skills and capital, nor the markets that could mobilize sufficient capital for potential entrepreneurs. A successful transition or development program had to have addressed the investment needs of the economy.

Here we discover the most important determinate factor that reformers could have directly influenced: the government role in mobilizing investment and enlarging the size of the market. None of the now industrialized market economies arose without active government participation in one way or another for the mobilization of long term investment. Government intervention, if done correctly, *can* produce very beneficial results. In spite of neoclassical economists' claim to the contrary, interventionist government policies in East Asia (South Korea, Taiwan, Indonesia, Thailand, Singapore...) and elsewhere have produced successful outcomes in terms of welfare improvement and economic growth. Joseph Stiglitz is one of those economists who emphasized the "pivotal" role of the government in Taiwan and South Korea in their development strategies. These countries haven't solely relied upon the invisible hand of the market to achieve their development goals; their governments have played a coordinating role for investment in some strategic sectors, and they have also helped the creation of the extensive domestic and foreign market networks. Moreover these governments have extensively invested in human capital and infrastructure formation which provide the bases for economic development. The strong support for the private sector has encouraged a productive spirit and given the entrepreneurs the correct set of incentives to seek investment (with government help) in their domestic markets without having to fear the loss of the fruits of their work. What the transition countries needed, and what most of managers wanted (in Russia at least) was an industrial policy that mobilized investment and a strong commitment from the government to private initiatives (Hough, 2001), which would be identical to the modus operandum in all other successful countries. A country need not be very poor and lacking in human and physical capital (like the East Asian countries and China were prior to their takeoff) to be a successful candidate for development. The transition countries have been strategically positioned to pursue industrial policies: they had all the expertise for planning; their distribution of income was the most equitable in the world, and they had high human capital to begin with.

Macroeconomic Stability

Latin American countries have plunged into crisis not because of microeconomic policies but mainly because of bureaucratic and institutional failures and unsustainable macroeconomic policies (most of the transition countries have had the same problems): massive state borrowing that was spent on promoting consumption rather than investment, which has led to debt crisis, or else monetization to avoid foreign debt, which has developed into hyperinflation. However, most economists have adopted “the practice” of lumping a wide range of macroeconomic and microeconomic policies under the name of import substitution and regarding it as the main cause of the crisis; the Washington Consensus has developed out of this same practice.

Macroeconomic stability provides a relatively less uncertain environment for businesses and consumers, so that they can invest and consume without fearing circumstances beyond their control. The uncertainty that macroeconomic fluctuation generates is only part of the problem; unsustainable macroeconomic policies, like excessively overvalued exchange rates, high twin deficits, and high levels of sovereign debt, if not corrected early on will result in massive economic crisis, the consequences of which will be borne solely by the loyal tax payers, and ordinary citizens who trust their life savings to impersonal banks. An economy that experiences such self-induced economic shocks would not grow at its natural trend rate, if it grows at all.

Trade and liberalization

All elements of the reform packages applied in transition countries were inspired or even borrowed from the reform packages that were prepared for Latin American Countries and they carried the spirit of free trade and globalization. Mainstream economists have hailed the success of East and Southeast Asian countries and credited their success to their open market policies; however upon closer scrutiny we see that they haven't followed the advice that was coming from Washington. It is true that they supported the private sector and export-led growth and had sound macroeconomic policies, but other than that they deviated sharply from the Washington Consensus: they have not engaged in massive privatization programs nor they have implemented massive liberalization and deregulation policies. On contrary the government of South Korea has built highly efficient and competitive new factories, and implemented outward-oriented industrial policies with heavy regulations in investment and financial markets (see table5); meanwhile most of the Latin American countries have come

close to perfecting the implementation of the Washington Consensus policies but achieved even lower economic growth rate than what they enjoyed prior to reform.

Table 5

The "WASHINGTON CONSENSUS" AND EAST ASIA		
Elements of the Washington	South Korea	Taiwan
1. Fiscal discipline	Yes, generally	Yes
2. Redirection of public expenditure priorities towards Health, education and Infrastructure.	Yes	Yes
3. Tax reform, including the broadening of the tax base and cutting marginal tax rates	Yes, generally	Yes
4. Unified and competitive exchange rates.	Yes(except for limited time Periods)	Yes
5. Secure property rights	President Park starts his rule in 1961 by imprisoning leading businessmen and threatening confiscation of their assets.	Yes
6. Deregulation	Limited	Limited
7. Trade liberalization	Limited until the 1980s	Limited until the 1980s
8. Privatization	No. Government established many public enterprises during 1950s and 1960s	No. Government established many public enterprises during 1950s and 1960s
9. Elimination of barriers to direct foreign investment (DFI)	DFI heavily restricted	DFI subject to government control
10. Financial liberalization	Limited until the 1980s	Limited until the 1980.

Source: Williamson (1994) for first column, and Dani Rodrik's evaluation.
Taken from Rodrik (1996)

Moreover, the economic crisis in East Asia was a result of premature capital account liberalization, which was done under heavy US and IMF pressure (Stiglitz, 1998b). The

presumed benefits of free trade, deregulation and specialization is that they expand the domestic markets and make increasing returns to scale possible. Therefore countries that choose liberalization and free trade would be able to exploit the economies of scale – which are made possible by technological innovation and the expansion of the domestic market by integrating with the world market - and grow at a sustainable pace. But how have the developing countries that have chosen free trade performed so far? Who are the winners and losers of these new more or less globally established rules and mechanisms of the game? To cut through the enormous amount of rhetoric that clouds the facts of free trade, we must look at the facts themselves to answer these questions. Explaining the intricacies of the dynamic products in world trade Rubens Ricupero, the Secretary-General of UNCTAD, writes in his overview of UNCTAD's Trade and Development Report, 2002:

Differences in income elasticities, product innovation and changing consumption patterns, and shifts in competitiveness of industries across countries, can explain why some products are more dynamic in the world markets than others. However, differences in speed of liberalization of markets have also played a significant role. A particularly important influence in recent years has been the commercial policies of many developed countries, which limit access to their markets. Trade liberalization has been limited and slow in textiles and clothing along with other labour-intensive manufactures, compared to the pace of liberalization in other sectors. High tariffs and tariff escalation have been compounded by other overt forms of protection such as tariff rate quotas, as well as by the adverse impact of anti-dumping actions and product standards. The growing number of non-tariff barriers, especially against unsophisticated manufactures, has reinforced the prevailing patterns of market access, which favour high-tech products over low and middle-range products that tend to gain importance in the early stages of industrialization. (p.VI)

Developing and transition countries are being pushed by reform program conditionalities to open their markets to foreign competitors and to specialize in production of products in which they have a comparative advantage, i.e. labor-intensive manufactures; yet these manufactures are literally blocked from entering the industrialized countries by new cleverly designed tariff and non-tariff barriers.

Ricupero goes on to tell us on the same page:

Perhaps a more decisive influence on product dynamism has been the strategy on Trans-National-Corporation (TNC). The three product groups with the fastest growth rates over past two decades, namely components and parts for electrical and electronic goods, labour-intensive products such as clothing, and goods with a high R&D content, have been most affected by the globalization of production process through international product-sharing arrangements. The increased mobility of capital, together with continued restrictions over labour movements, has extended the reach of international production networks, thereby accelerating the growth of trade in a number of sectors where production chains can be split up and located in different countries. Favourable

tariff provision, often through regional arrangements, and fiscal and other incentives have encouraged this process, promoting a new pattern of trade whereby goods are processed in several locations before reaching final consumers, and the total value of trade recorded in such products exceeds their value added by a considerable margin. Trade based on specialization within such networks is estimated to account for up to 30 per cent of world exports.

There is no denying that openness to free trade has beneficial consequences, for example, the fact that cheap imports can improve the living standards of the consumers. A country that specializes in products in which it has a natural comparative advantage can surely gain from free trade; moreover, free trade is not a zero-sum game, even though some economists like Krugman, have developed strategic trade models where it may follow a zero-sum dynamic. Whatever the neoliberal economists think of the merits of free trade, what is being implemented on the ground doesn't conform to the neoclassical principles: industrialized countries still engage in heavy import restriction when the developing countries are basically denied the right to do the same; among three main inputs only capital, especially money and highly liquid assets, have become very mobile²², the remaining two, technology and labor, still suffer from heavy restrictions. Capital movement (mainly for short term investments) to the developing world is enthusiastically encouraged but labor movement to industrialized countries has been heavily restricted and transfer of technology to developing or transition countries has been vigorously discouraged²³. All of these make the world economy highly monopolized: the IMF and WTO are effectively preserving the monopoly of the industrialized countries on technology and high-tech manufactures, and transforming the developing countries into international production networks for Trans National Corporations (TNCs), where value added accrues mostly to TNC rather than the host country.

14. Secrets of successful reform programs: the sixteen commandments.

1-Anticipate impacts of reform on institutions, organizations and incentives.

2-Allow public participation in the decision making process.

²² This mainly is due to the success of the financial markets of the industrialized world in pushing for capital account liberalization by IMF conditionalities.

²³ The Counsel of economic advisors during Clinton administration thought that the intellectual property protection that was being pursued by the US Treasury and IMF was not balanced and was harmful to innovation, since they recognized that excessive protection of intellectual property right will harm the innovators who are users of intellectual property after all. Moreover, it reflected the interests of pharmaceutical companies and the entertainment industry more than anything else.

3-Eliminate all kinds of political, social, and economic monopoly, giving everybody a share of responsibility in political and economic decisions.

4-Guarantee freedoms of speech and organization to all citizens, to allow the majority of the citizens shape a sustainable incentive and institutional structure.

5-Give entrepreneurs the freedom to engage in *productive* activities and force them to compete against one other.

6-Always take into account the public sector's capacity and financial and human resources. The government must only engage in policies that it is capable of implementing.

7-Pursue policies that citizens of the country can cope with: always take into account the private sector's capacity of producing the desired investment level.

8-Engage in sustainable macroeconomic policies.

9-Perform cross-national studies to know which institutions are conducive to economic growth.

10- Insulate the country from the vicissitudes of global capital markets.

11-Privatize when it is necessary at fair market value and when you find interested buyers.

12-Encourage private sector to engage in exports through creation of domestic and foreign market networks.

13- Mobilize investment through industrial policies.

14- Continue stimulating investment until the market can start to function on its own.

15- Guarantee property rights and adopt necessary regulations to channel entrepreneurial spirit into productive activities.

16-Guarantee a tolerable distribution of income and invest in education and the formation of human capital.

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APPENDIX 1

**Countries Where Technical Advances First Appeared:
International Survey
Table 2**

Product of Service	Pioneering Country	Date of Introduction
Transistor	USA	1947
Integrated circuit	USA	1958
LSI (large-scale integrated circuit)	USA	1968
Microprocessor	USA	1971
Optical Fiber	USA	1973
Memory, storage MOS ROM (Read-only Memory)	USA	1967-68
Floppy disk	USA	1970
Programming languages FORTRAN	USA	1954
PROLOG	France	1975-79
Computers Electronic numerical integrator and computer (first generation)	USA	1945
Transistorized Computer (second generation)	USA	1951
Integrated circuit computer (third generation)	USA	1960-70
Personal computer	USA	1975-81
Software Text editor	USA	1964
Computer network	USA	1981
Business, banking Credit card	USA	1950
Satellites Satellite	USA USSR	1950 1957

(continued)

Table 2
continued

Product of Service	Pioneering Country	Date of Introduction
Telecommunication satellite	USA	1960
Meteorological satellite	USA	1960
Geostationary satellite	USSR	1976
Television Videcon TV camera tube	USA	1945
Color TV	USA	1953
Video recording Black and white video recorder	USA	1951
Video disk	West Germany	1970
Laser video disk	Japan The Netherlands	1983 1983
Consumer Electronics Quartz watch	Japan	1967
2. Energy (nuclear energy) fission (nuclear) reactor to generate electricity	USA	1951
3. Materials Epoxy resin	USA	1947
Nonstick cooking utensil	France	1958
4. Machines and technology steel and engineering CNC metalworking	USA	1956-69
Programmable robot	USA	1956
Assembling robot	USA	1980
Agriculture Plastic Foil tent	Japan, France USSR, Italy Romania	1954 1954 1954
Green revolution hybrids	Mexico	ca. World War II (continued)

Table 2
Continued

Product of Service	Pioneering Country	Date of Introduction
Deep freezing	USA	1950
Printing Computerized type-setting with laser projection	West Germany	1965
Land polaroid camera	USA	1959
Xerography	USA	1952
Laser	USSR,USA	1960
Laser Printer technology	USA	1979
5. Aviation		
Supersonic aircraft	USA	1947
Passenger jet aircraft	GB	1949
6. Medicine		
Penicillin	USA	1945
Insulin (biologically produced)	USA	1982
Sabin Vaccine	USA	1955
Oral contraceptive	USA	1957
Ultra-sound scanning machine	GB	1955
Use of laser for medical treatment	USA	1964
Computer Tomography (CAT)	GB USA	1971 1974
Nuclear magnetic resonance (NMR)	USA	1981

Source: Compiled by P. Gereneser and A. Veszi for Kornia (1992).
Taken from The same book, pp. 298-300

Table 3
Ratio of Input and Output Stocks: International Comparison

	Average Input Stock per Average Output Stock in Manufacturing, 1981-85
Socialist countries	
Bulgaria	5.07
Czechoslovakia	3.07
Hungary	6.1
Poland	4.49
Soviet Union	3.16
Capitalist countries	
Austria	1.06
Australia	1.36
Canada	0.92
Finland	1.92
West Germany	0.71
Japan	1.09
Norway	1.1
Portugal	1.66
Sweden	0.81
United Kingdom	1.02
United State	1.02

Source: Compiled by A. Chikan for Janos Kornai; taken from his 1992 book: *The Socialist System*. p. 168

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APPENDIX 1

**Countries Where Technical Advances First Appeared:
International Survey
Table 2**

Product of Service	Pioneering Country	Date of Introduction
Transistor	USA	1947
Integrated circuit	USA	1958
LSI (large-scale integrated circuit)	USA	1968
Microprocessor	USA	1971
Optical Fiber	USA	1973
Memory, storage MOS ROM (Read-only Memory)	USA	1967-68
Floppy disk	USA	1970
Programming languages FORTRAN	USA	1954
PROLOG	France	1975-79
Computers Electronic numerical integrator and computer (first generation)	USA	1945
Transistorized Computer (second generation)	USA	1951
Integrated circuit computer (third generation)	USA	1960-70
Personal computer	USA	1975-81
Software Text editor	USA	1964
Computer network	USA	1981
Business, banking Credit card	USA	1950
Satellites Satellite	USA USSR	1950 1957

(continued)

Table 2
continued

Product of Service	Pioneering Country	Date of Introduction
Telecommunication satellite	USA	1960
Meteorological satellite	USA	1960
Geostationary satellite	USSR	1976
Television		
Videcon TV camera tube	USA	1945
Color TV	USA	1953
Video recording		
Black and white video recorder	USA	1951
Video disk	West Germany	1970
Laser video disk	Japan	1983
	The Netherlands	1983
Consumer Electronics		
Quartz watch	Japan	1967
2. Energy (nuclear energy)		
fission (nuclear) reactor to generate electricity	USA	1951
3. Materials		
Epoxy resin	USA	1947
Nonstick cooking utensil	France	1958
4. Machines and technology		
steel and engineering		
CNC metalworking	USA	1956-69
Programmable robot	USA	1956
Assembling robot	USA	1980
Agriculture		
Plastic Foil tent	Japan, France	1954
	USSR, Italy	1954
	Romania	1954
Green revolution hybrids	Mexico	ca. World War II (continued)

Table 2
Continued

Product of Service	Pioneering Country	Date of Introduction
Deep freezing	USA	1950
Printing Computerized type-setting with laser projection	West Germany	1965
Land polaroid camera	USA	1959
Xerography	USA	1952
Laser	USSR, USA	1960
Laser Printer technology	USA	1979
5. Aviation Supersonic aircraft	USA	1947
Passenger jet aircraft	GB	1949
6. Medicine		
Penicillin	USA	1945
Insulin (biologically produced)	USA	1982
Sabin Vaccine	USA	1955
Oral contraceptive	USA	1957
Ultra-sound scanning machine	GB	1955
Use of laser for medical treatment	USA	1964
Computer Tomography (CAT)	GB	1971
	USA	1974
Nuclear magnetic resonance (NMR)	USA	1981

Source: Compiled by P. Gereneser and A. Veszi for Kornia (1992).
Taken from The same book, pp. 298-300

Table 3
Ratio of Input and Output Stocks: International Comparison

	Average Input Stock per Average Output Stock in Manufacturing, 1981-85
Socialist countries	
Bulgaria	5.07
Czechoslovakia	3.07
Hungary	6.1
Poland	4.49
Soviet Union	3.16
Capitalist countries	
Austria	1.06
Australia	1.36
Canada	0.92
Finland	1.92
West Germany	0.71
Japan	1.09
Norway	1.1
Portugal	1.66
Sweden	0.81
United Kingdom	1.02
United State	1.02

Source: Compiled by A. Chikan for Janos Kornai; taken from his 1992 book: *The Socialist System*. p. 168