CHAPTER ONE

Introduction

"We hoped for the best, but it turned out as usual."
—*Viktor Chernomyrdin*

Economic reform in Russia has been anything but the smooth process envisioned by many in 1991. The general problem of reform seemed straightforward. The essential task was to remove the distortions created by central planning. Once the restrictions on economic behavior were lifted, the market would develop. Of course, it was recognized that there would be bumps along the way, but these would not distract from the task at hand. The main requisite was the will. Transition would be like turning a great ship in a choppy sea: set a course designated "market economy" and hold on. There might be great tossing and turning, but if the captain and crew could hold the course, the ship would eventually reach its destination.

In practice, the Russian transition has turned out to be vastly more complicated—so much more so that a better image might be that of replacing the propeller engines of a passenger airplane with jet engines . . . during flight. Attempting this is not only complex and unprecedented; it is highly likely that the airframe may be completely unsuited to the new engines. As time passes, the passengers worry less and less about the unpredictable turns and sudden changes in elevation. They forget about how soon, or even whether, they will reach the planned destination. Rather, their overriding concern becomes the sheer struggle to stay aloft—survival.

Regardless of the metaphor one chooses, the difficulties that Russia has encountered in the transition have posed an interesting set of problems for analysts. Trying to understand the reasons for these difficulties has become a growth industry among observers of the Russian economy. Most analyses of what went wrong fall into one of two camps:

—*Technocratic:* The wrong policies were adopted, embodying either too much or too little therapy.

—*"Russia is different":* Russia's unique culture and history ensured that the policies promoted by market reformers would not work.

These arguments share the premise that the choice of policies made the reform path so arduous. Of course there is a great difference between camps over what the bad choices were. In the technocratic view the problem is that the wrong policy settings were chosen for transition to the market economy.[1] In the "Russia is different" view the problem is that the chosen path was inconsistent with Russian history and culture. It is, of course, tempting to focus on bad choices because it makes blame easier to assign and because it makes the difficulties of transition seem potentially avoidable. It is not clear, however, that succumbing to this temptation enhances understanding.

Our approach to the problem of Russian transition is different. We focus on the inherent difficulties of the process stemming from the economic structure bequeathed by central planning. We would not argue that no mistakes were made along the way. However, we do not believe that the principal causes of the rocky road were remediable policy errors. Instead, we emphasize the inherited problems, primarily a vast industrial structure that could not compete in a market setting. This heavy industry sector, where the bulk of industrial employment still is located, has been the most resistant to reform; and it is the continued presence of this sector that most negatively affects Russia's growth prospects. Had it been possible to quarantine this sector of the economy and let it decline slowly, the transition might have been different. In the absence of such insulation, however, what happens to this sector affects the whole economy and politics. In particular, when this industrial structure was shocked by the sudden collapse of central planning, economic agents adapted their behavior to survive in the new setting. Optimists had assumed that agents would adapt their behavior in a manner consistent with a market economy. In fact, they adapted

1. Notice that "technocrats" disagree over the nature of the mistake. Some argue that shock therapy would have worked if it had been fully implemented. See, for example, Aslund (1999). Others argue that the shock therapy approach (in the form of the so-called Washington Consensus) was inherently deficient; it ignored the role of institutions and locked Russia into an inferior path. See, for example, Roland (2000).

their behavior in a different manner, to a mode consistent with what we call the virtual economy. Explaining this process and what it means for economic development in Russia is the purpose of this book.

Our goal is to provide a method of analysis—a model that can be used to think about transition in Russia. We believe that without such a model it is not only difficult to understand developments in Russia, but is even harder to think about how Russia can escape the virtual economy trap.

Some readers may ask, Why is this relevant now? In the year 2000, Russia's gross domestic product (GDP) grew 9 percent. Although the growth rate slowed to 5 percent in 2001, it still represents a great improvement over the first seven years of transition. Barter is down, and Russia is repaying its debts to the International Monetary Fund at an accelerated pace. Perhaps, one might argue, the problems that we are concerned with are in the past now. Perhaps Russia has finally achieved the critical steps that make growth self-sustaining.[2]

Although there are some positive signs of change in Russia, as always it is best to think about Russia as an iceberg: it is what is below the surface that must be watched carefully. Consider then figure 1-1, which shows the percentage of loss-making industrial enterprises in Russia during transition. What is remarkable about this picture is that despite the real depreciation of the ruble and high oil prices, the share of loss makers continues to be exceptionally large, nearly 40 percent.[3] There was a one-time improvement after the August 1998 crisis, but subsequently the share remained stable.[4]

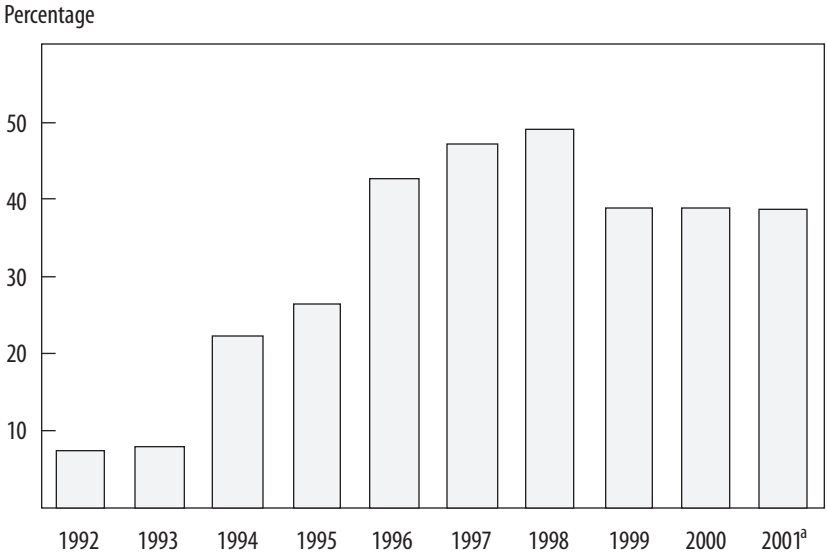
What this suggests is that there continues to be a large core of enterprises that survive *despite* their performance rather than because of it. The future for this core cannot be ignored in thinking about how Russia will develop. When the dinosaurs became extinct, niches were opened for mammals to

2. We are tempted to note that we have heard this all before. In 1996 and 1997 we read about the coming Russian boom. Of course, things are different now: GDP is growing and tax revenues are up. However, the reason why things are different is precisely the real depreciation of the ruble that occurred after August 17, 1998. This has changed the economy significantly. Combined with high oil prices, the devaluation has put Russia in a far better situation than before August 1998. However, as is evident from figure 1-1, this improved environment has not changed some of the key fundamentals of the economy.

3. In absolute numbers, the loss makers total around 60,000 large and medium-sized industrial enterprises. See sources for figure 1-1.

4. The share of loss makers is higher now than in the early years of transition. The relatively higher profitability in 1992–95 is surely due to the high inflation of those years, which covered up losses. Similarly, the real appreciation of the ruble up to 1998 accelerated the number of loss makers.

FIGURE 1-1. Percentage of Loss-Making Industrial Enterprises, 1992–2001



Source: For 1992–99, *Rossiyskiy statisticheskiy yezhegodnik* (2000, table 21.31); for 2000, *Interfax* (2001, no. 22); for 2001, *Interfax* (2002, no. 47).

a. January–September 2001.

develop and thrive; bit players in the previous era evolved into the dominant forms of life. In Russia, however, the dinosaurs—this large industrial core—survive, and as long as they do, they inhibit economic progress. Because of their sheer size and their importance for employment, these enterprises have a political and social significance far in excess of their economic importance.[5] The virtual economy thus remains relevant.

What Is the Virtual Economy?

Many understand the virtual economy to be synonymous with the phenomenon of widespread barter, other nonmonetary transactions, and taxes

5. This was recognized by President Vladimir Putin in his recent address to the Asia-Pacific Economic Cooperation (APEC) summit: "We are . . . worried about [the gap] between the real economy and the 'virtual' economy, a gap that is fraught with new shocks. . . . We are for the liberalization of economic regimes, but we are categorically against a situation in which the dying off of entire branches of the national economy in developing countries or in so-called 'developing markets' would upset the social balance, a situation that would exacerbate social-economic and political tensions not only in individual states but in entire regions of the world" Putin (2001b).

paid in kind.[6] This is *not* how we have used the term, however, for this confuses a symptom with the disease. The lack of restructuring in the Russian economy is the fundamental problem that the virtual economy model addresses. It is rather easy to understand why there may be forces that do not want to change. We do not need a complex argument to understand why economic transition may threaten the position of certain elements in society. The difficult part is to understand how these agents can succeed at blocking changes that have large economic advantages. The most threatened agents, after all, are those who work in or direct enterprises that are value destroying: the loss-making dinosaurs, the most prominent legacy of the Soviet period. The point of introducing markets is precisely to create the pressure on these enterprises to reform or die. During the first decade of economic reform in Russia, privatization was carried out on a massive scale, and overt subsidies to enterprises were reduced practically to the point of elimination. How enterprises could survive in this environment without restructuring thus presents a serious puzzle.

The virtual economy is the outcome of agents' adapting their behavior to an environment that threatens their survival. It is characterized by a set of informal institutions that permits the production and exchange of goods that are value subtracting, that is, worth less than the value of the inputs used to produce them. Enterprises can continue such production because they have recipients who are willing to accept fictitious ("virtual") pricing of the goods at levels that mask their unprofitability. Buyers and sellers collude to hide the fictitious nature of the pricing (that is, the discrepancy between the virtual prices and the true, market, prices). In the classic form of the virtual economy, they do so by avoiding money: they use barter and other forms of nonmonetary exchange, as well as even more intricate subterfuges. Since value is being destroyed as the system operates, there also has to be a source of value infusion. The ultimate "value pump" in Russia today is the fuel and energy sector, above all one single company, Gazprom—Russia's natural gas monopoly.[7] In exchange for the rights to keep what it earns from exports, Gazprom pumps value into the system by supplying gas without being paid for it (or, more generally, at a cost that is

6. When we began working on this book, nonmonetary transactions were the primary mechanism for redistributing value to enable loss makers to survive. Shocks to the economy since August 1998 have reduced the amount of barter, but clearly they have not eliminated the redistribution of value; otherwise, how would these loss makers survive?

7. For simplicity, we continue to use Gazprom as the stand-in for the value-producing part of the economy. This is a great convenience, and it also reflects the overwhelming importance of that company in the Russian economy.

low enough to keep enterprises operating). Gazprom subsidies—which then lead to arrears to the government—are the primary way in which unprofitable activity is supported today in Russia.

The system survives because it meets the needs of so many actors in the economy. Workers and managers at industrial dinosaurs benefit because the virtual economy postpones the ultimate reckoning for loss-making firms. Government, especially at the subnational level, where much of the important action takes place, benefits because it maintains employment and continues providing social services. Gazprom also benefits, however; the value transfers it makes to the virtual economy are the price it pays to be able to appropriate the massive rents from exports. One side of the transaction for Gazprom is the value that must be pumped into the economy; the other side is the value that leaks out.

This is not to argue that people would not be better off if the virtual economy were replaced by a functioning market economy. There are great inefficiencies in the virtual economy. It is a clear impediment to growth and development. The key point is that the equilibrium is stable; it does not pay for any actors to depart from the behaviors that characterize it.[8] This is surely the most pernicious effect of the virtual economy—those who try to play by the normal market rules are penalized relative to those who play by the virtual economy's rules.

This brief description identifies several of the key themes that recur throughout this book and that distinguish our view of Russia's economy from most others. These interconnected and interdependent themes include (1) an emphasis on the *initial conditions* that Russia faced as it began its transition; (2) the *impermissible* nature of the consequences of serious reform policies; (3) behavioral *adaptation* by agents in the economy; and (4) the extent to which so many agents in the economy participate in what we refer to as "the *loot chain*."

Initial Conditions

Acknowledging the importance of Russia's initial conditions goes farther than the simple realization that Russia's starting point for market reform was bad. It also requires knowing what those initial conditions were and how they helped shape the subsequent behavior of agents. The first basic fact is that restructuring was not a realistic prospect for a great many Russ-

8. This is especially so for policymakers, since changing this system requires radically restructuring the source of incomes for households. We return to this subject when we discuss the "loot chain," below.

ian enterprises: they began the transition too far away from viability.[9] Of course, a sufficient infusion of outside resources can guarantee successful restructuring for any enterprise, because this makes it possible to reconstruct the entire enterprise from scratch. Therefore, any meaningful notion of restructuring has to consider the opportunity cost of making a given enterprise viable. For most Russian enterprises, the cost of reaching viability was prohibitive. This pandemic condition was hidden from view by the nature of Soviet pricing. Indeed, the transfer of value from the raw materials sector to manufacturing was a critical feature of the Soviet economy. This transfer of value through Soviet pricing hid the true features of the Soviet economy.[10] In effect, Soviet pricing was like a distorting mirror at the carnival. The reflection distorted the relative importance of sectors in arbitrary but systematic ways. The illusion that these enterprises were value producing, when in fact they were value destroying, was one key initial condition of the transition.

A second basic fact was the social importance of the nonviable enterprises. This is also a legacy of the Soviet system. Enterprises were more than just productive units; they were also the major providers of social services. The industrial "dinosaurs" established under the dictates of communist central planning still employ millions of people and support entire cities and regions across the country. Because of the social importance of these enterprises, their viability cannot be assessed solely in terms of their physical capital. Enterprises and their directors accumulate *relational capital* (see chapter 3) to influence the behavior of officials whose actions can affect their survival. Our analysis of enterprise behavior focuses on the interaction of physical, human, *and* relational capital.

The third basic fact is the degree to which value-adding activity in Russia is concentrated in the resource sectors. The Russian economy, like the Soviet economy from which it is descended, is and has been primarily an economy driven by resource industries. Although the Soviet economy produced missiles, cars, planes, and space stations, the bulk of value added was produced in the energy and other raw materials and basic commodities sectors.[11] Little has changed today.

9. We formalize the notion of "too far away" in chapters 3 and 4, using the concept of market distance. The analysis was first developed in Gaddy and Ickes (1998).

10. This is explained most carefully in Ericson (1999).

11. This is a statement about valuation. Soviet prices reflected the preferences of the political leadership, which placed greater value on defense output than does the market economy of Russia. Transition has resulted in a dramatic change in relative prices owing to this change in the system of valuation. See Gaddy and Ickes (2001b).

These initial conditions may seem self-evident to any student of the Russian economy. It is thus all the more remarkable that these conditions are ignored in most of the technical debates about Russian reform. Most debates on reform focus on the speed and comprehensiveness of measures or on the sequence in which reforms must be carried out.[12] Those debates may differ over diagnosis of where reform has gone wrong, but they share a common methodology. The focus is on the intended goal of market reform, not the initial conditions in which this transition is to take place.[13] The debates thus produce a laundry list of needed reforms, all of which are sensible, but no framework within which to understand their interaction and, more important, no way to understand why the economic system rejects these interventions.[14]

Impermissibility

A second key notion underlying our approach comes from the observation that while policymakers—the reformers—in Russia adopted one conventional measure after another in their attempt to transform Russia into a market economy, very few of those measures were ever fully implemented, and the intended effects were rarely achieved. Incomplete implementation and policy reversal have been the norms in the Russian transition. To understand why, we focus on the role of initial conditions and behavioral adaptation, rather than on exogenous political forces alone. This is facilitated by the notion of an "impermissibility constraint," which refers to restrictions on the set of feasible policies that arise from the prevailing values and norms of society.

When policy measures violate the impermissibility constraint, modifications in the implementation prevent them from having their full and intended consequences. These modifications arise precisely because the consequences of complete and proper implementation are politically

12. See, for example, Aslund (1999) and Roland (2000) for examples from opposite ends of the shock therapy–gradualism divide.

13. Ironically, informed discussion of transition policy resembles nothing more than the arguments of the followers of Stanislav G. Strumilin—the "teleologists"—in the great debates about Soviet planning in the 1920s. The teleologists argued that planning must be based on the goal, not on the initial conditions.

14. Kontorovich (1988) provided a classic analysis of how the Soviet economy rejected reforms that were alien to the fundamental mechanisms of the system. Much like antibodies defending the host, the economy reacted to reforms that threatened the primary means of allocation. No similar analysis has, to our knowledge, been conducted with respect to the Russian economy. In chapter 5 we present an analysis of this phenomenon in an evolutionary framework.

intolerable. Russia did not formally reject the policies themselves; instead, it continued with a pretense of market reform. The nation's leadership proclaimed reform policies, while enterprises and other agents continued to behave in ways that rendered the policies ineffective.

Our mode of analysis is to incorporate political factors as constraints and then analyze how economic behavior and equilibria are affected. Considering the impact of political constraints on the reform process does not, by itself, represent a significant departure from previous analyses. But unlike previous studies we do not treat political constraints as exogenous.[15] We root them in the inherited legacy of the Soviet economy. They arise precisely from the specific problems of transforming the Soviet economy. And we study how agents can act to affect these constraints by investing in relational capital.

By treating political factors as impermissibility constraints, we are trying to study the interaction of economic policies with political constraints and to analyze how the economic outcomes arise from this interaction.[16] The course of transition in Russia has followed its particular path precisely because impermissibility constraints have often been binding. Of course, the fact that these constraints have been binding does *not* mean that policymakers have always been cognizant of them. In fact, the failure to consider these constraints has often led to perverse, or unintended, outcomes of economic reforms.

Adaptation

The third fundamental point in our conception flows from the preceding two. Given Russia's peculiar combination of special initial conditions, along with its simultaneous commitment to reform policies and unwillingness to accept the consequences of those policies, agents had a uniquely propitious environment in which to adapt their behavior to survive. They had to adapt

15. Shleifer and Treisman (2000) use political constraints to explain the paradox of selective success of reforms. For example, they study the impact of a decentralized federal structure in inhibiting certain types of economic reforms. For the most part, however, they assume these constraints to be exogenous to the transition process.

16. Our approach to political considerations via the concept of impermissibility follows the approach that has become the convention in information economics. This convention treats incentive constraints as fundamental primitives of economic models; indeed incentive constraints play a role symmetrical with resource constraints in determining equilibria. Our approach is to consider impermissibility constraints in a similar fashion. Thus, as with incentive constraints, one can consider outcomes that would be feasible in a first-best (perfect information) environment. However, actual equilibria depart from the first best because the impermissibility constraints do, in fact, bind.

to an environment that threatened their very existence. At the same time, the incompleteness with which policies were implemented failed to wipe out behaviors that were antithetical to reform. The attempt to reform the Russian economy has thus had significant effects—the key problem is that they are not always the *intended* ones. The idea of adaptation is especially relevant for the robustness of the virtual economy. It means that the virtual economy is not some half-reformed economic system or a flawed version of the ideal. It is a mutant system, with laws of behavior and evolution all its own.

The "Loot Chain"

Finally, we stress the way in which income from control of assets is passed down as payoffs through what we call the loot chain, a notion that was introduced by Gregory Grossman in reference to the Soviet economy. In the USSR, wealth diverted from the official state economy into private hands was shared among networks of individuals in the form of payoffs, bribes, and other schemes. Over time an ever greater proportion of people's incomes depended on the chain of corruption and side payments. In post-Soviet Russia, the loot chain has reappeared thanks to the virtual economy. The living standards of a huge number of people depend on the chain of production and distribution of goods and services in the virtual economy system. In the virtual economy, value redistribution, in contrast to looting pure and simple, occurs in a form that parallels and is intertwined with actual productive economic activity. This makes it especially difficult for agents to discern what their own value and the value of their assets would be in a well-developed and transparent economy. Basic ideas of a market economy, such as the relationship between individual effort and reward, become almost impossibly obscure. One's static position in the production process—for instance, membership in the work force of a particular enterprise—is more important for success than individual skills and abilities. This aspect of the loot chain phenomenon significantly affected privatization of enterprises in Russia.

The loot chain is also a constraint on the future evolution of the economy. Individuals are dependent on the current system at the same time that they cannot know what an alternative system will offer. The uncertainty causes them to resist abandoning the prevailing system. This ingrained bias in favor of the status quo means that while Russians may or may not vote for "reform" politicians, they are unlikely to permit reform politicians to dismantle the virtual economy.

Plan of the Study

Chapter 2, "Illusion versus Reality," sets the stage for investigating the paradoxes of the Russian economy as they emerged especially in the years 1996–97. At that time the Russian economy looked as if it were on the way to recovery. However, the measures being cited to support that view were highly selective. A different reality lay beneath the surface. Enterprises were defying the logic of economic reform, but they were by no means acting contrary to economic self-interest. The enterprises did not restructure because they had found mechanisms that allowed them to survive. These included barter, so-called offsets, and fictitious or "virtual" pricing. These phenomena were most striking in the run-up to the August 1998 crisis. Since then the manifestation has changed, but not the underlying virtual economy structure.

As we explain in chapter 3, the roots of these virtual economy mechanisms lay in the Soviet system, especially the production relationships that had developed under the Soviet command economy. We introduce the idea that these relationships represent a peculiar type of asset, which we call "relational capital," that supplements the enterprise's conventional physical and human capital. Thanks to relational capital, market reform policies did not necessarily compel the enterprise to restructure in a market sense in order to survive. To analyze enterprise behavior in this setting, we also use the notion of market distance, which measures how costly it is to restructure the enterprise so it can compete in the market environment. We use the concepts of relational capital and market distance to reevaluate how to think about reform. In the conventional account, enterprises differ only in their degree of inefficiency. We supplement this picture with the degree of relational capital the enterprise possesses. The resulting two-dimensional picture we term *r-d* space. This structure allows not only for market-oriented activity, but also for behavior characteristic of the virtual economy.

Chapter 4 analyzes enterprise behavior in the Russian context using the two-dimensional space of market distance and relational capital. It focuses on explaining how enterprises choose between becoming more competitive *in* the market or more protected *from* the market.

The virtual economy was in large part a reaction to incomplete shock therapy—an adaptation that we compare in chapter 5 with a biological mutation. An evolutionary analysis of the development of the virtual economy allows us to study the process by which policies are rejected and altered. The analogy with mutation allows us to talk about rejection of

policies.[17] This is important because the transition in Russia has not been characterized by failures to reform, but rather by failures of reform to stick. Chapter 5 also introduces the notion of leakage of value from the virtual economy system.

In chapter 6 we briefly digress from the analysis of the individual enterprise to show how the enterprise interacts with other parts of the economy. A stylized four-sector "virtual economy" serves to illustrate how fictitious pricing allows value to be transferred across sectors of the economy.

The next three chapters examine the implications of the continued operation of the virtual economy. Chapter 7 considers what happens as the system "runs out of value." We introduce the notion of "shrinkage" and contrast it to true restructuring. We show the effects of shrinkage on the manufacturing sector and on households. Chapter 8 describes the effect of the virtual economy on government and the public sector. The state itself begins to shrink; it is fragmented and weakened. The public sector cannot perform its functions. In chapter 9 we use the framework we have developed to analyze the Russian economy in the aftermath of the August 1998 financial crisis. Has the crisis provided a way out of the virtual economy, or is the recovery that followed more virtual than real?

The final chapter focuses on the eternal Russian question, "What is to be done?" Because the virtual economy is a complex system, where behavior has responded to policies and constraints, no simple solutions for exiting from it exist. Any policies that might lead to real reform of the system must account for the complex of factors that generate this equilibrium. To make progress on formulating such a set of policies, we use the metaphor of a corporate restructuring exercise. We treat Russia as if it were "Russia, Inc." and examine how a group of corporate receivers would structure a plan for this company. We then examine how the political realities of Russia would affect the corporate restructuring plan and develop a "real world" version of the plan. This sets the stage for discussing the potential for its implementation—is there a sufficient reason for Russia to reform?

17. We first explored the evolution analogy in Gaddy and Ickes (2001c). See also Aoki (2001, pp. 271–74).