

A Stakeholder Analysis of the Soviet Second Economy

By

CHOI, Jae-hyoung

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Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
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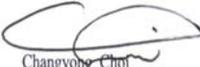
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Abstract

This research aims to demonstrate, through a stakeholder analysis, that the institutionalization of the second economy in the Soviet Union was a natural byproduct of the interaction among three major stakeholders of Soviet society: the state, the bureaucracy, and the people. The three stakeholders responded to the incentive structure of the socialist economic system, interacting with each other in order to enhance their own interests. This research argues that their interaction was the *internal necessity* or *dynamics* that formed this informal market mechanism and elevated it to a characteristic feature of Soviet society.

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Acknowledgments

Dear all,

Thank you for everything. I am responsible for any errors.

Sincerely,
Jason.

I. Introduction

One of the characteristic features of the Soviet economy was the institutionalization of the shadow economy, which will be hereafter referred to as the *second economy*. The second economy was not only an integral part of Soviet life, but also distorted the formal apparatus of the Party-state hierarchy. The members of Soviet society, from the lowest of workers to the highest-ranking Party officials, were infected with the private gains provided by the second economy. In the process, the second economy disrupted the functions of the Soviet Union's official economic system, public administration, politics, and even ideology. In a socialist state, it equals the disintegration of the fabric of society. Thus, prominent Sovietologist Gregory Grossman (1998, 25) explicitly argues that the Soviet second economy and "the rest of its underground in the end contributed to the system's collapse."

How did the second economy grow to such an extent that it became an institutionalized aspect of Soviet society? This paper aims to answer this question by analyzing three stakeholders of Soviet society: the Soviet state (top-ranking Party officials including Politburo members), the Soviet bureaucrats (including state enterprise managers), and the Soviet people. These categories capture the three most important socioeconomic forces in Soviet society as well as in the Soviet second economy: those who were supposed to lead the nation according to the state ideology (the state), those who were supposed to follow the state ideology (the people), and those who were supposed to execute the state ideology (the bureaucracy). Behind the façade of socialism was a "double life," which was "the split between the public and the private self, official and unofficial language, outward conformity and inward dissent" (Ash 1989, 10 quoted in Gaddis 2006, 186). Since the goal of this paper is to find the internal necessity behind the second economy, which was the economic dimension of this "double life," these three categories are hopefully large enough to capture all the relevant actors that contributed to the second economy.

The three stakeholders behaved in the socialist economic and political system in a way that maximized their own interests. This paper aims to demonstrate the *internal necessity* or *dynamics* that institutionalized the Soviet second economy by analyzing the interaction among these stakeholders. Therefore, this paper will refrain from describing the detail of the wide variety of second economy activities. After all, this a qualitative analysis, and the fact that the second economy was extremely prevalent serves the purpose of this paper well enough. For those who are interested in the concrete detail of the Soviet second economy, the present author recommend that he or she read the *Berkeley-Duke Occasional Papers on the Second Economy in USSR*, a collection of 38 extremely fine papers on the Soviet second economy published between 1985 and 1993.

This paper will discuss the stakeholders one by one and define the meaning of the second economy in the end. After Chapter 1 introduces the background of this analysis in a brief literature review, Chapter 2 analyzes the interests and motivations of the Soviet state. The chapter will also discuss the pervasive and chronic economic shortages caused by the dysfunctional socialist national economic planning. Chapter 3 introduces a microeconomic model to explain how the Soviet people were compelled to engage in the second economy in response to the shortages. It then proceeds to discuss the empirical veracity of this model's logical extensions. Chapter 4 is devoted to analyzing the Soviet bureaucrats, who had their own interests. This chapter will focus on the alliance between Soviet state and Soviet bureaucracy, and how the second economy was involved in this alliance. Chapter 5 gives a brief account of actual instances in which the interests of two stakeholders conflicted in order to show why the Soviet Union was incapable of restructuring its economic system. Then Chapter 6, the conclusion, based on the findings collected in the previous chapters, will define what the second economy meant in the larger context of ideology.

1.1 Literature Review

First of all, let us find a working definition of the second economy. The definition of the second economy needs to satisfy two conditions. First, it should be able to roughly reflect the difficulties in drawing a line between official economy and second economy. In the Soviet Union, the official economic entities often served as a front for second economy activities, and the two economies were highly interdependent (Grossman 1977, 25). Feldbrugge (1989, 327-328) even argues that second economy activities became so essential an element in the functioning of the state economic system that quantitative assessments of the official and second economies was questionable. Therefore, the definition should show the complex entanglement of the two economies rather than attempt to make a clear-cut separation. Second, it should include the Soviet state and the bureaucracy's dependence on the second economy. The Soviet bureaucrats colluded with the second economy agents for private gains, and these private gains, of course, were not detected in the official economy, though a substantial portion of them flowed back into the official economy, further blurring the line between official economy and second economy. On the other hand, the Soviet state tolerated the second economy to a level that was not too threatening to the power of the state, but such toleration required substantial violation of the Soviet Union's ideology and system. Considering that the topic of this paper is not estimating the size and extent of the second economy, these two conditions are sufficient for what this paper sets out to do.

Thus, this paper adopts the definition Grossman (1977, 25) introduces: The second economy is "all production and exchange activity" that meets *at least* one of the two criteria, "(a) being directly for private gain; (b) being in some significant respect in knowing contravention of existing law." First, this definition captures the plainly illegal actions committed by the Soviet state and the Soviet bureaucracy. Second, this definition, as Grossman points out himself, is imperfect in that it includes much of the perfectly *legal*

private activity (1977, 25). Since one of the goals of this paper is to show the difficulty in drawing a line between formal economy and second economy, the imperfection of Grossman's definition best serves the purpose of this paper. Of course, the subsequent literature frequently tried to come up with a more precise definition of the second economy than Grossman's, and most of them are worth academic attention (O'Hearn 1980; Feldbrugge 1989). Again, to proceed with the present inquiry, only the two conditions in the previous paragraph need to be met, and, therefore, Grossman's definition is good enough for this paper.

The literature on the Soviet second economy consists of microscopic approaches and macroscopic approaches. Since Grossman's (1977) pioneering work, large literature on the Soviet second economy has amassed. Grossman provided a rough sketch of the second economy landscape including the forms of second economic production and transactions. The works in the ensuing literature are roughly divided into attempts to draw a more or less comprehensive portrait of the Soviet second economy, and attempts to comprehend its mechanism by studying its specific sectors. The academic value of the latter types of works lies in the fact that they provide vivid sectional views of the Soviet second economy. However, they do not give a bird-eye view that covers the interests, positions, and powers of all the stakeholders of Soviet society. Since the focus of this paper is the socioeconomic forces that affected the second economy, this paper will rely mainly on the works that tried to understand the larger macroeconomic features of the Soviet second economy. Such works, however, as they try to provide a comprehensive portrait of the Soviet second economy, are inevitably limited by the viewpoints that the authors adopt. For instance, Rutgaizer (1992) provided valuable survey data on the Soviet second economy, but the credibility of her work is limited by her affiliation with the Soviet government at the time when she was writing the report. Yet the academic value of macroscopic analyses is undeniable, since they contain substantial discussions about the interaction among the three stakeholders.

It is widely acknowledged that the second economy of the Soviet Union was prompted by severe shortages. The Soviet economy suffered severe macroeconomic disequilibria in the form of shortages without a break from its foundation. The Soviet Union had persistent trouble resolving shortages in housing, consumer goods, energy, and other necessities (Alexeev 1988; Chin 2006; Grossman 1977; Jeffries 1993; Nove 1992; Treml and Alexeev 1993).

However, economist did not come to agreement about the cause of the shortages that persistently plagued centrally planned economies. The first meaningful instance of such debate was the debate between Ludwig von Mises and Oskar Lange. Mises (1920) argues that economic calculation by a socialist central planning authority is impossible, because prices are not formed due to the absence of voluntary exchange, which is, in turn, due to the complete absence of private property. Lange (1936 and 1937), in response to Mises, develops the Lange-Lerner model in which the central planning board finds the equilibrium prices by trial and error. In this model, the central planning board finds the equilibrium between supply and demand by continuously adjusting prices until the disequilibrium is eliminated. Hayek (1945), countering Lange's model, argues that no central planning body can collect enough knowledge to run the economy. His argument is based on his epistemology that some types of knowledge are hardly transmissible or quantifiable, and that these types of knowledge can be effectively utilized only by the men on the spot rather than the officials who are sitting in the central planning board office. This thesis leads to his conclusion that economic decision-making power should be dispersed across society instead of monopolized by a central authority. This line of debate between socialists allied with the proponents of the Walrasian general equilibrium, and libertarian economists were not exclusively centered on the shortage problem, but they left a great deal of insights into shortages in centrally planned economies.

Corruption is another major element of this paper's analysis. Works on corruption in

the Soviet Union give vivid descriptions of the interaction between Soviet state and Soviet bureaucracy. Those works are, either explicitly or implicitly, based on two facts about bureaucracy. First, bureaucrats pursue their self-interests as any other human beings; second, therefore, the state has to create an incentive system that can prevent its bureaucrats from acting against the state's interests. Harrison (2002), although he was not interested in the second economy, presents the mechanism that the state replaces coercion with rewards and punishment. According to Harrison (2002), since there are diminishing returns to monitoring public officers, the least costly way of controlling bureaucratic behavior is providing incentives. However, most of the Soviet bureaucrats opportunistically pursued their own interests, and their collective behavior fueled the institutionalization of the second economy. Solnick (1996) shows that, as soon as the power of the state over resource allocation became questionable in the midst of the chaos caused by Gorbachev's *perestroika*, the Soviet bureaucrats immediately assumed the control of state assets, and hence the ominous title of his book *Stealing the State*.

II. The Soviet State

The simplest and most fundamental question about the relationship between Soviet state and Soviet second economy is: *why did the Soviet Union not put an end to the second economy instantly?* Considering that the second economy was a substantive threat to the Communist Party, this is an important question. There are at least three reasons why the Kremlin might have found the second economy threatening.

First, the second economy undermined the ideological unity of the Soviet Union. The Soviet Communist Party was the only legitimate institutional incarnation of the state ideology, which dictates that all economic activity be governed by and based on the socialist principles. Therefore, the spread of a non-socialistic economy within the system was bound to compromise the authority of the Party and the state ideology that the Party was supposed to represent. This partly explains why socialism's appeal as a vision for the future was never so strong among the Soviet people whose daily lives were more or less dependent upon the second economy. As early as in the 1960s, in Moscow, only one in eleven propagandists believed that their audiences had absorbed the Marxist-Leninist content of lectures as their personal convictions (Service 2009, 418). Therefore, the second economy compromised the status of the Party as the legitimate ruler of the union.

Second, the second economy distorted the national economic planning. Suppose Region *A* is suffering a shortage of x , while Region *B* is having a surplus of x due to a bad national economic plan. The second economy agents in Region *B*—the drivers of state-owned trucks, workers at an x -producing factory, etc.—transport x to Region *A*, generating profits that they could secretly keep in their pockets. This practice, which resembles arbitrage transactions in a capitalist society, resolves Region *A*'s shortage. To those who are in charge of national economic planning, however, it would seem as if both of the two regions were enjoying just enough quantity of x and the plans they produced were successful. This kind of

integration of the official economy and the second economy was widespread, and it seriously distorted the officially projected view of total economic control from the top (Feldbrugge 1989, 329). It means that the second economy weakened the Party's grip over the economy.

Third, by making the bureaucrats as well as ordinary workers less dependent upon the salary paid by the state, the second economy could distract the direction of their loyalty. In the Soviet Union, loyalty was supposed to flow only up, and only to the highest, central authorities, without any intermediate loyalties (Klugman 1986, 77). A vibrant second economy would attract individuals to the world of illicit economic activities where they could earn incomes that the Party could not monitor. It would then redefine their relationships with the Party that hardly paid enough salary. Those who were no longer dependent upon the salary given by the state could have always turned away from the state. The New Economic Policy, a relatively freer economic system temporarily implemented after Lenin had experienced a large failure in the original design of the socialist economy, made it evident that the capitalist sector of society was "still prepared to profit at once from any relaxation of governmental pressure, and would... always constitute a powerful opposing element to the Soviet regime and serious rival for influence" (X 1947, 568). Thus, there existed a fundamental tension between second economy and Party.

Then, again, why did the Soviet Union not put an end to the second economy instantly? The answer is found in the nature of political power. As are all political powers, the Soviet leadership' supreme interest was to stay in power. The Soviet economy was not run with a view toward making the country richer, satisfying consumer demands, or even catering to the desires of the elite (Feldbrugge 1984, 330). Olympiad S. Ioffe (1982, 1625), who was a leading scholar of the Soviet civil law and later immigrated to the United States, even noted as following:

...[T]he usual questions asked by Western observers of the Soviet system seem naïve: Why cannot the leadership make the economy work? Why does one

economic failure follow another? Why is every economic measure more stupid than the last? In fact, the leadership has made the economy work splendidly as the source of dictatorship. In this regard, Soviet economic policy has never suffered a single real failure, and each new economic measure has appeared as effective as any previous one. The Soviet economy is inefficient only as a source of material wellbeing. This criterion, however, has nothing to do with real Soviet economy efficiency. The measure of material welfare is simply incompatible with the aims of the Soviet system.

But if the Party was to maintain enough stability and thereby preserve their power, it needed to keep the standards of living above a tolerable level, which it usually failed. This explains the curious coexistence of the Soviet Communist Party and the Soviet second economy. *The economically incompetent Soviet state had to tolerate the second economy in order to maintain a tolerable level of the nation's economic health so that they could stay in power.*

2.1 The Legal and Institutional Framework of the Soviet Economy

The Soviet Union was founded under the banner of Marxism, and its economic system was supposed to be constructed accordingly. However, the Soviet leaders had no blueprint on which to base the design of their new world's economic system. Marx only had written extensively about the faults of capitalism but left the revolutionaries no design for an alternative system (Samuelson and Nordhaus 1993, 386). Therefore, ever since Lenin, the Soviet economic system was a purportedly intermediate step toward the full realization of Marxism. It is true that there were considerable variations in Soviet economic policies at different times. However, throughout the history of the Soviet Union, the Soviet economic system largely adhered to the fundamental socialist economic principles.

The Soviet Union made clear their pursuit of the Marxist ideals from the foundations of their state. The Brezhnev Constitution declared the state's complete ownership of the means of production in Article 10:¹

¹ The Brezhnev Constitution, named after General Secretary of the Soviet Union Communist Party Leonid Brezhnev, was the Soviet Union's constitution ratified on October 7, 1977.

The foundation of the economic system of the USSR is socialist ownership of the means of production in the form of state property (belonging to all the people), and collective farm-and-co-operative property. Socialist ownership also embraces the property of trade unions and other public organizations which they require to carry out their purposes under these rules. The state protects socialist property and provides conditions for its growth. No one has the right to use socialist property for person[al] gain or other selfish ends (“Constitution”).

By these provisions, the Soviet Union legally banned the existence of the bourgeois whom socialism defines as those who possess the means of production and employ workers to produce wealth by utilizing their means of production. The roles that the bourgeois perform were absorbed by the state’s extremely centralized economic bureaucracy.

This legal framework of the Soviet Union determined the centralized nature of the Soviet economic system. The state monopoly of the means of production necessarily translated into completely centralized decision-making on their utilization. It was also in line with the state ideology of Marxism. By their ideological mandates, the Soviet economic system was supposed to use “scientific planning” to replace the “anarchy of the market” (Gregory 1990, 18). Conversely, if the Soviet Union was to achieve comprehensive economic planning, it could not tolerate the ownership of the means of production to be dispersed across society. The comprehensive economic planning was possible only when the central authority was in unchallenged control of the means of production (Feldbrugge 1989, 300). The central economic planning authority was called Gosplan (the State Planning Commission), and, although its powers and status fluctuated by the vagaries of Soviet politics, their control over national economic planning remained largely intact. The blueprint of economic planning was vaguely formulated by the top-ranking Party officials at the Politburo, and Gosplan’s job was to process the Politburo’s vague instructions into concrete directives that could be sent all the way down to relevant government agencies and state enterprises. The hierarchical apparatus of the Soviet economic system is represented in Figure 1 in Appendix I.

Gosplan, as Figure 1 shows, was a political entity that executed the commands from

the Politburo, showing why the Soviet Union's economic policies changed in the way that reflected the preferences and tendencies of the leadership at the time. Naturally, there was a large discrepancy between state preferences and popular preferences on economic policies. Internally, the state leaders wanted to achieve political victory in the internal power struggle, and externally, they wanted to expand their influence over other communist states against the United States. These objectives, of course, did not necessarily promote economic growth or enhance higher standards of living for the ordinary Soviet citizens. For example, the CIA (1982, 2) reports that the Soviet Union kept investing heavily on defense, even when they were struggling to achieve food self-sufficiency.

Yet, it does not mean that the Soviet leaders had absolutely no interest in economic performance. The Politburo members had the responsibility to operate the economic bureaucracy wisely so that the economy could be closer to the communist utopia where the distribution of resources was to be executed according to the principles of socialism (Gregory 1990, 18). Thus, some members of the Politburo had explicit additional executive responsibility for one or another sector of the economy (CIA 1970). Thus, the lethargic economic performance of the Soviet Union was a permanent nuisance for the Soviet leaders and frequently escalated into a power struggle. For example, the CIA (1970) expects that the Soviet Union's disappointing economic growth at the end of the 1960s will add tensions in its leadership in 1970. A decade later, the CIA (1979, 3) reports the same problem: "When Brezhnev criticized Gosplan and some economic managers, several members of the leadership seemed to take his cue, focusing on central management and planning," which was "an implicit criticism of Premier Kosygin." The Soviet leaders were bound to two (usually) incompatible missions, that is, improving the economic performance of their country at the expense of their political objectives, and achieving their political objectives at the expense of economic performance.

This reveals the first reason why the Soviet Union could not put an end to the second economy: the Soviet Union had to tolerate the second economy, because it complemented the dysfunctional formal economy. The Soviet economy was consistently plagued by shortages due to its unsuccessful national economic planning. Essential items such as housing and foodstuffs were not exceptions (Alexeev 1988). Prolonged shortages could cause an overt popular expression of discontent, which could threaten the Party's power and control. As it turned out that the second economy could serve the demand that the incompetent state economic apparatus failed to serve, the Party cleverly utilized it. As long as the satisfaction of the demand for consumer goods did not contradict the interests of the rulers, and the source of obtaining them was legal, the state preferred not to hinder this spontaneous process (Katsenelinboigen 1977, 72). For example, as the Kremlin realized the impracticability of forbidding certain types of private economic activity, particularly food production and consumer services, these activities were made legal, and the state control was substantially lifted (Feldbrugge 1984, 529 and Chin 2006, 52). This is another reason why this paper adopts Grossman's definition of the second economy. His definition can be employed in explaining the political aspect of the second economy since it allows room for legal private exchanges in the second economy.

The second economy's usefulness was not limited to consumer goods. The state enterprises and the ministries supervising them were also dependent upon the second economy both for their private gains and their official missions. The state enterprise managers and ministry officials were deeply involved with the second economy in the form of speculation and embezzlement, but they also needed second economy agents in order to secure supplies they needed to meet the mandatory production quota. A number of sectors of the Soviet economy would have collapsed without the operation of personal underground networks to secure supplies, materials, labor, and so on, without the activities of the *tolkachi*

(unofficial agents of state enterprises who ensure through informal negotiations whatever was required to make the enterprise fulfill its plan), and/or without the additional income state enterprises derived from unplanned and unaccounted for production (Feldbrugge 1989, 328). In an interview by Gregory (1990, 51), industrial ministry officials tell of an established informal exchange system among ministries based on the barter concept of equivalent exchange. These informal exchanges had their own structure and rules, such as what types of exchange could be approved by a deputy minister or by a main administration head (Gregory 1990, 51). It implies that the second economy should be regarded as a necessary evil that supported the Soviet system, rather than a pure parasite.

However, second economy activities were harshly punished when it infringed upon the interests of the state. The second economy resolved into a number of sectors by the state's preference and tolerance. Feldbrugge (1984, 531) divided second economy activities into five groups by their relationships with the first economy: (a) largely unconnected, (b) imbalanced competition, (c) balanced competition, (d) parasitic symbiosis, and (e) cooperative symbiosis.² Second economy activities that were largely unconnected with and, therefore, did not have much helpful impact on the official economy encountered little toleration and received severe punishment, whereas second economy activities that supported the performance of the official economy were almost fully tolerated and even occasionally encouraged (Feldbrugge 1984, 541-542). For example, teachers who took bribes for changing grades and factory workers who stole spare parts from their workplace (ruble value involved

² The five relationships between second economy and official economy proposed by Feldbrugge (1984, 531) are defined as following:

- (a) largely unconnected: second economy activities that are predominantly unrelated to the official economy and that have little impact on the latter (e.g. foreign currency speculation).
- (b) imbalanced competition: second economy activities that produce certain goods or services that are produced by the official economy (e.g. domestic repair).
- (c) balanced competition: the state has assigned some of its burden to the second economy, which in fact cooperate with the official economy. (e.g. private food production and sales)
- (d) parasitic symbiosis: second economy activities which are completely embedded in the first economy and sap its resources (e.g. private enterprise)
- (e) cooperative symbiosis: second economy activities which take place inside, and which support the official economy (e.g. state enterprise expeditors who acquired supplies to fulfill their planning obligations)

approximately 30,000) were punished with more than ten years of incarceration or even the death penalty (Feldbrugge 1984, 533), while ministers and other officials who protected officials who ran an illegal private production line in city enterprises ended up with mere official censure, Party penalty, or administrative penalty (Feldbrugge 1984, 537). Again, the Soviet leadership's interest in economics was coextensive with their interest in preserving their power.

2.2 Economic Planning and Macroeconomic Disequilibria in the Soviet Union

Shortages deserve special attention in the study of the second economy. It is already well-known that the Soviet economy was characterized by pervasive and chronic shortages in almost every sector. One enlightening research by Brada and King (1992) empirically tests whether the centrally planned economy of the Soviet Union successfully eliminated excess demands. Using the data for the period from 1963 to 1984, they investigate whether the Soviet planners accurately perceived disequilibria in individual markets and, if so, whether their responses were of any help. For this purpose, they investigate the disequilibria in three physically and financially interconnected markets: grain, meat, and foreign exchange.³ Their econometric analysis of the market disequilibria consists of seven equations in Table I in Appendix II through which one can see the linear relationships between the excess demands perceived by planners (XG , XM , and XF), and the production and import decisions on the shortage goods (H , M , NIG , and NIM). At this point, it is important to note that these latter four variables represent only non-price measures.

The results, as illustrated in Table 2, indicate that the planners did perceive the disequilibria on these markets and that they responded in such a way as to reduce them by either producing or importing more of the goods in shortages (Brada and King 1992, 8). As

³ Livestock consumed forage made out of grain. Foreign exchange was spent on importing grain and meat, but could also be gained by exporting them.

the authors, however, track down the historical movement of the three variables, XF , XG , and XM , it is revealed that the measures the economic planners took to resolve the shortages were hardly effective. Figure 2 in Appendix I illustrates that planners have been unable to eliminate long-lasting excess demands in those markets, most notably that for grain (Brada and King 1992, 12). Thus, the results lead to seemingly contradictory conclusions that Soviet economic planners did take the right measures whenever they perceived shortages, and that, despite those measures, the shortages persisted over two decades.

The results suggest that there existed a strong disequilibrating force that countered the planners' equilibrating measures. There may be multiple such forces, but one of the strongest forces behind these imbalances was certainly Soviet politics. The Soviet leadership was reluctant to raise prices to the level at which the market could be cleared, once they had experienced the violent popular outrages caused by raising prices (Goldman 1984, 8). For example, when Khrushchev raised the prices of meat and dairy products, which are essential in the Eastern European diet, a national riot ensued throughout the Soviet territory in 1962 (Siegelbaum). Especially, when several thousand workers from the Novochoerkassk Electric Locomotive Works and their supporters marched to the Communist Party's headquarters in the center of the city to protest the price raise, the riot claimed twenty-four lives and led to 114 convictions on charges of mass disorders including seven death sentences (Siegelbaum). Thus, the Soviet economy had prices fixed at a level that was largely divorced from the actual circumstances of the economy.

The persistent shortage in bread is one example that shows the Kremlin's obsessions with politics and ignorance of economics. Indeed, for a good part of the history of the Soviet Union, the role of economists was absent or very limited in economic planning. Until the initiation of economic reforms in the mid-1980s, the principal role of Soviet economists was to explain why the policies which the state had already implemented were in fact optimal

(Alexeev, Gaddy, and Leitzel 1992, 137-138). Since bread prices were held constant for almost three decades, while procurement prices paid to the farmers for their grain rose multiple times by policy, Soviet farmers learned that the best way to feed their livestock was with the heavily subsidized bread purchased at a cheap price rather than with grain from their own fields (Goldman 1984, 8). An estimated five percent of the bread sold in the Soviet Union was taken back to the farms to feed animals, and, as a result, the Soviet Union made their people compete with cattle for a limited amount of bread (Goldman 1984, 8). Indeed, it was argued that what the Soviet leaders intended by reducing prices to an irrationally low level was to create in the public the illusion that anyone could buy anything, provided he or she stood long enough in a queue (Katsenelinboigen 1977, 76). In the Soviet Union, when the logic of politics and the logic of economics conflicted, it was the logic of politics that overrode economic necessity.

The larger issue behind the disappointing performance of the socialist economic system is the epistemic foundations of socialism, which implies that the problem was structural. Socialism and capitalism stand on different epistemic foundations. In a free market economy, it is impossible to pinpoint the knowledge and intention that caused an economic event. The free market economy is based upon the epistemic principle that it is impossible for a small number of individuals to collect the knowledge dispersed across society and coordinate all different economic agents' behavior. Let us think about the pencil the reader is holding in his or her hand. A pencil is produced after millions of production processes that require an immense amount of knowledge—lumbering, mining, painting, transporting, designing, marketing, and so on—and cooperation of billions of people including those who no longer exist, and no one in the process except the reader has the intention to equip the reader with a pencil (Read 1958). Therefore, it is unavoidable that the capitalist economic system let each individual make decisions regarding his or her own scarce resources so that he

or she can pursue his or her own ends by exploiting the knowledge he or she possesses. The voluntary interactions among individuals are the way goods and services are produced and distributed in a free market economy.

The socialist economic system, in contrast, is supposed to be *constructed* in a top-down manner upon the belief that it is possible for a single authority to collect all the relevant knowledge to meet all economic agents' needs and wants. The pencil in the reader's hand might be the consequence of Comrade Brezhnev's good-willing intention to equip every student with a pencil. However, it is still impossible for the supposedly good-willing Soviet leaders to collect all the knowledge dispersed across the world. This problem cannot be solved by building a big and fast super computer. First, some knowledge, by its nature, is unquantifiable and therefore cannot be conveyed to any central authority in statistical form (Hayek 1945, 524). Secondly, some knowledge cannot be verbally expressed at all. For example, it is nonsensical to assume that one can learn how to ride a bicycle by *reading* a government report. Even if economic planners could collect and combine all the dispersed pieces of knowledge somehow, the opportunity cost of doing so would be so enormous that the success of economic plans would not look like a success at all. Accordingly, the socialist economy is inevitably run with far less knowledge compared to the capitalist economy. This is the epistemic limitations of the Soviet economy.

This leads to another question: Then how does the free market economy coordinate millions of individuals' economic decisions to the direction of economic growth? In the free market economy, economic agents interact with each other in the form of competition, which *generates* prices. Naturally generated prices convey information in a condensed form, because all economic agents participate in the formation of the prices by utilizing all their knowledge. It was the absence of competitive prices in the Soviet economy that frustrated the desired smooth functioning of the economic system. Even the Soviet leadership, as early as in the

Khrushchev period, were aware of that their economic troubles were largely attributable to the rigid price system (Grossman 1958, 22). A heated debate once took place within the Soviet leadership over whether prices should be allowed to deviate from Marxist principles in order to improve the efficiency of the Soviet economy (Grossman 1958, 26). However, most Soviet economic planners believed that there was a way to bypass the problem of prices. They thought of balances and prices independently, and Gosplan and Gossnab⁴ officials operating in branch positions typically had little or no knowledge of the prices of the goods whose limits they were setting for ministries (Gregory 1989, 9). This problem of prices leads to a deeper insight into the relationship between Soviet state and Soviet people.

⁴ Gossnab stands for the State Committee for Material Technical Supply. As the name suggests, its main duty was to allocate producer goods to state enterprises through industrial ministries.

III. The Soviet People

Those who actually responded to the Soviet government's irrational economic policies were the Soviet people. The Soviet people, as any other human beings, sought to maximize their material welfare. They found the chance to improve their economic well-being in the second economy. The distorted incentive structure created by the Soviet economic institutions made the Soviet people the ultimate engine of the second economy. Eventually, this shows that the second reason why the Soviet second economy became institutionalized: *Soviet citizens always had incentives to engage in illicit voluntary exchanges in the face of severe shortages.*

If one is to make an economic agent to act on information, then that information must be incentivized. In an economic system where prices are set by government fiat, prices could carry neither information nor incentives. Prices play three roles in the market: (i) they transmit information; (ii) they provide an incentive to adopt the least costly methods of production and to use available resources for the most highly valued uses; and (iii) they determine the distribution of income (Friedman 1981, 7-8). Essentially, all of the problems in centrally planned economies arose from trying to separate the functions from one another (Friedman 1981, 8). Suppose an economic system separates the income determination function of prices from the other two by allowing prices to be freely formed in the market but giving wages or rewards independent of the market prices of their output. In this system, the information that prices carry bears no incentive for consumers to act on it. For example, suppose an oil shock has broken out. It is not difficult to see that leaving the oil price at the hands of the free market will automatically reduce the importation of oil, as the higher oil price will affect people's income. But a large-scale national campaign emphasizing patriotism would not be as effective. That is, in an economic system where prices are disconnected from one's income, information transmitted by prices does not affect individual economic agents'

behavior.

It means that the optimal distribution of consumer surplus hardly happens when government coercion prevents prices from being freely adjusted. Consumers can signal how much they are willing to pay by bidding higher or lower prices than their competitors. This method maximizes consumer surplus, because those who bid the highest are necessarily the ones who can generate the most utility from the goods in question. Those who value the good lower than the competitive price voluntarily retreat from the market and divert their resource to something else. When a price control is in place, however, consumer surplus is not systematically distributed, because those consumers who value the product lower than the competitive price still linger in the market. Therefore, when a price ceiling is in place, consumer surplus is distributed more or less randomly, and the consequence could be socially tragic. Schmitz (2013) illustrates this phenomenon with a model that depicts an imaginary scenario of a power-failed city inhabited by beer-lovers and insulin-takers. Beer-lovers want refrigerants for their alcoholic pleasure, and insulin-takers want refrigerants to store their insulin. Of course, the insulin-takers value them higher than the beer-lovers do. Suppose further that the municipal government has placed a price ceiling on all refrigerants for “humanitarian” reasons. Now this town resembles the Soviet Union in that prices are pegged at a level lower than the competitive level by government coercion.

When the price is capped at a level lower than that at which economic agents will naturally arrive by voluntary exchanges, a shortage arises. As a consequence, the market will suffer a deadweight loss, reducing the consumer surplus. Figure 3 in Appendix I depicts the distribution of producer surplus, consumer surplus, and deadweight loss, according to the standard microeconomics textbooks. In this model, the most desperate of the insulin-takers who have much higher reservation prices than the beer-lovers take the left hand side of the equilibrium quantity, and the remaining low-utility generating consumers including the beer-

lovers stand on the right hand side of the equilibrium quantity. Thus, the goods in need go to the most desperate of the consumers. However, the actual distribution of the surpluses is *not* as systematic as assumed by the standard neoclassical model (Schmidtz 2013, 4). It is extremely difficult, if not impossible, for producers to tell which consumer needs the refrigerants most desperately, because the only reliable indicator of each consumer's valuation of the refrigerants is the price he or she bids. In consequence, those who value the refrigerants lower than the competitive price still linger in the market, stealing surpluses from more desperate consumers. Figure 4 in Appendix I graphically represents the worst-case scenario where the consumers whose reservation prices are the lowest somehow obtain the refrigerants and, as a result, the deadweight loss is maximized and the consumer surplus minimized.

Some distribution between two extremes represented by Figure 3 and Figure 4 illustrates the incentive structure where the Soviet people were situated. The only difference is that producers did not voluntarily retreat from the market. Instead, they did not have enough goods to get around. Then, the insulin-takers will try to obtain the refrigerants behind the wall by paying a higher price than the officially imposed price, and not only the beer-lovers but also those who control the production and distribution process of the refrigerant will respond to this proposition. This underground exchange marks the beginning of the second economy. When the penalty is substantial, individual agents will compare the risk of being busted and the possible payoffs from the illegal exchange. However, unless there is a guarantee that every illegal transaction is going to be busted, at least a modest degree of voluntary exchanges will surely take place outside government surveillance.

The Schmidtz model based on surplus distribution reveals a few important truths about national economic planning besides the fact that price ceilings are morally unjustifiable. First, although it might not be difficult for any government with sufficient coercive power to modify what people pay for goods and services, it is impossible to change how much people

are *willing* to pay for those items by means of coercion. When the price coerced by government diverges far enough from people's willingness to pay, an informal exchange system with flexible prices will grow spontaneously. Second, when the official incentive structure is distorted, the government has to engage in the costly task of monitoring the people and preventing them from pursuing their self-interests. This is an extremely difficult task. All human beings have the desire to enhance their material well-being, and the desire is the origin of what Adam Smith called "the propensity to truck, barter, and exchange one thing for another." This is an axiomatic feature of human nature, and, therefore, requires no further justification. This shows a glimpse of socialism's inherent conflict with human nature.

A consequence of this analysis is that the producers, once aware of the existence of the underground exchange, will participate in it, pocketing the difference between official price and black market price. According to Vanagunas (1992, 287), by the mid 1980s, this type of corruption became so endemic to Soviet administrative life that it was estimated that about half of all consumer items never got to governmental store shelves because employees sold such items through "the back door" for those who were prepared to pay a good price. An empirical research shows that this practice only worsened, because of a mutually reinforcing relationship between shortages and the second economy. Kim and Shida (2013, 6) estimate the size of the informal economy and to reconstruct the statistical database of household incomes, expenditures, and items traded by the Soviet republics from 1965 to 1989, based on the declassified archival materials on household budget surveys from RGAE (Russian State Archive of the Economy). They conclude that the Soviet economic system based on central planning could not sustain in the long run, because eventually, informal markets engulfed the planned official sector due to the positive interactions between shortages and the informal economy.

The mutually positive relationship between shortages and the second economy is

demonstrated in Table 4 and 5 in Appendix II. The size of the second economy is expressed by the aggregated size of the household's money expenditures at the informal market divided by Net Material Products (NMP) of each republic, *sen_nmp* (Kim and Shida 2013, 6). The shortage indicator *shortage_mid* is defined as the ratio of household disposable money income to retail inventories at the state and cooperative retail networks (Kim and Shida 2013, 6). Table 4 represents the result of the linear regression when *sen_nmp* is a linear function of *shortage_mid*. Table 5, on the other hand, is the estimate of the linear function with *shortage_mid* as the dependent variable and *sen_nmp* as the independent variable. Each of Table 4 and 5 demonstrates the results of twelve models that control for various additional factors of the Soviet economy. These variables are listed in Table 3 in Appendix II. In both tables, the coefficients of the two endogenous variables are statistically significant, supported by unambiguous *t*-statistics.

Kim and Shida's (2013) research illustrates the vicious cycle that existed between the second economy and shortages, but they did not elucidate the growing trend of the second economy, which is a logical extension of their findings. In this respect, the quantitative analysis conducted by Treml and Alexeev (1993) complements the work by Kim and Shida (2013). They measure the growth of the second economy during the same time period that Kim and Shida (2013) analyze, and find the gradually weakening relationship between officially recorded income and officially recorded consumption of various consumer goods. The authors argue that the continuing deterioration of the strength of these relationships as measured by R^2 clearly suggests the growth of the second economy (Treml and Alexeev 1993, 5). The diminishing R^2 in various consumption goods markets are represented in Table 5 in Appendix II. Some results are graphically illustrated in Figure 5.1 to 5.4 in Appendix I.

The results demonstrate that the Soviet second economy rapidly grew in size and extent for over two decades. Combining the ideas presented thus far, one may conclude that

the shortages in the Soviet economy ignited a vicious cycle between the size of the second economy and the shortages in the official economy, which resulted in a gradual expansion of the second economy. This vicious cycle was the byproduct of the Soviet Union's distorted incentive structure.

IV. The Soviet Bureaucracy

There was an alliance between Soviet state and Soviet bureaucracy, since each needed the other. First, the Soviet bureaucrats were standing on a dangerous stance. With the power, authority, and assets delegated to them, they had incentives to engage in opportunistic behavior that heavily involved the second economy. But such opportunistic behavior was always accompanied by risks. Second, the Soviet state was also standing on a dangerous stance, because, if the Soviet bureaucracy started to turn against their superiors, they, obviously, would lose their power. Therefore, to the Soviet leadership, the Soviet bureaucracy was a tool at their disposal, but, at the same time, a potential threat to their power. For mutual self-preservation, the Soviet hierarchy had to invent a way to ensure the Party's inner cohesion. This leads to another internal necessity that made the second economy persist in the Soviet Union: *the Soviet Communist Party needed the second economy to ensure the Party's inner cohesion and thereby maintain the power and authority of the Soviet state.*

4.1. Historical Analysis of the Structural Defect of the Soviet Bureaucracy

After the Russian Revolution, the leaders of the incipient Soviet Union had no idea how to materialize Marx's vision of the communist ideal. Those writers who laid the theoretical foundations of planned socialism failed to come up with a formal design of the new socialist nation's bureaucracy (Gregory 1990, 14). They naively believed that the elimination of class struggle would allow socialist bureaucrats and managers to work in harmony, directing their efforts toward achieving broad social goals without being diverted by narrow self-interests (Gregory 1990, 15). Lenin was no exception.

Lenin and his colleagues based their design of the Soviet bureaucracy upon their ideology. Lenin's vision of the socialist bureaucracy was that of a simple Weberian one where bureaucrats mechanically perform crisply refined orders that leave no room for discretion

(Gregory 1990, 15). He believed that by transplanting the capitalist method of large-scale production based on the division of labor, the functions of the old state power could be reduced to such simple operations that every literate person could perform at workingmen's wages:

Capitalist culture has *created* large-scale production, factories, railways, the postal service, telephones, etc., and *on this basis* the great majority of functions of the old "state power" have become so simplified and can be reduced to such simple operations of registration, filling, and checking that they will be quite within the reach of every literate person (Lenin 1932, 37 quoted in Bendix 1955, 503).

If things had gone as Lenin had envisaged, the new socialist system would have stripped those functions of every shadow of privilege, and a fully fledged socialist bureaucracy would be completely immune from oppressing the working people and wielding arbitrary discretionary power. This vision projected the ultimate victory of socialism. Socialists perceived bureaucracy as an unsatisfactory way that the capitalist system tried to resist the inexorable trend toward its own disappearance (Mises 1944, 2). Therefore, socialism was expected to destroy one of capitalism's powerful weapons by reducing bureaucracy to simple mechanical tasks and thereby making it accessible to the public.

Lenin's idea on bureaucracy reflects his and socialists' view on human knowledge and how knowledge functions in economic cooperation. In Lenin's idea, the division of labor equals reducing one's work to simpler mechanical tasks. However, specialization, which is the merit of the division of labor, occurs when a human mind is placed in the spot where local and incommunicable knowledge is within reach. Therefore, workers with specialized skills cannot be easily replaced. Since the design of the Soviet bureaucracy did not even recognize the existence of incommunicable local knowledge, the central authority was systematically blocked from it. Inevitably, it gave a rise to the asymmetry of information, causing system-wide principal-agent problems in the relationship between Soviet bureaucracy and Soviet state. In this respect, Lenin's vision of a socialist bureaucracy was destined to fail to stop the

rise of bureaucrats as an exclusive class with incomparable superiority in specialized knowledge.

This problem was further compounded by the fact that there were no clear and comprehensive criteria by which to assess bureaucratic performance. An organization can be managed by either the principle of profit management or that of bureaucratic management. In profit management, performance is assessed by profit, which can be relatively easily ascertained by accounting (Mises 1944, 31). On the other hand, since the goal of bureaucratic management is not profit, it requires an alternative criterion by which to assess the performance of the organization. However, any alternative criterion cannot be as clear and objective as profit. For instance, it is possible to measure the time administrators take to perform a certain task, but it is nonsensical to assess, say, the performance of a judge of the judiciary department according to the time he needs to adjudicate one case (Mises 1944, 51). The problem remains unsolved even if the criterion is changed to something else such as costs, manpower needed, etc. Soviet planners constantly struggled to invent and update indicators by which to assess industrial ministries' performance, and the bureaucrats tirelessly searched for loopholes for discretion and opportunistic behavior (Gregory 1990, 17n13). For example, since the weight of the truckload of meat was more important than the quality of the cuts, a director of a meat factory could fill his production quota with fatty, bony products while setting aside choice cuts for his personal use (McFaul 1995, 221). If the enterprise had been operating in a capitalist society, its profit would have dropped, and, as a result, the managers would have been quickly dismissed from the position. The socialist system incorporated the tasks that should have been left to profit management into the domain of bureaucratic management, but it had no real solution to the problems of bureaucratic management.

Since the Soviet Union equipped itself with an extensive and gigantic bureaucratic apparatus to replace the capitalist method of production, it was hardly possible for those in the

upper echelon of the Soviet hierarchy to monitor all their subordinate ministries and enterprises. It forced the Soviet leaders to choose between two options. They could either exercise severe coercion and monitoring to crack down on any deviation as Stalin did, or give their subordinates incentives large enough to make deviation unattractive. However, coercion and monitoring are unaffordable in the long run, because they require resource investments, bringing only diminishing returns, and diverting resources that could have been used more productively (Harrison 2002, 4-5). In addition, the debate over reward or punishment was useless in the first place, because the principal (the Soviet state) could reward or penalize only a limited number of measurable tasks, allowing agents (subordinate bureaucrats) to engage in opportunistic behavior when performing other undetectable tasks (Gregory 1990, 17). It was inevitable that the Soviet Union eventually turned to providing positive incentives to its bureaucrats in order to keep them from deviating.

The easiest and least costly way to win the subordinate bureaucrats' cooperation and loyalty was to give them positions that had second-economy implications. In the Soviet Union, expected future streams of graft were capitalized, and the sales of lucrative bureaucratic positions were widespread (Grossman 1977, 32). It signified the profound institutionalization of a whole structure of bribery and graft in Soviet society (Grossman 1977, 32). It further means that the Soviet bureaucracy already degenerated into a kleptocracy with a close organic connection between political-administrative authority, on the one hand, and a highly developed world of illegal economic activity on the other (Grossman 1977, 32-33). That is, the true ingenuity of the Soviet Union is that it turned the principal-agent problem into a device to boost the Party's internal cohesion. It also means that the Party extracted the resources to maintain the system from the second economy. Thus, it was irrational for the top leadership to clamp down on the second economy, because it would undermine the very foundation of their own power (Feldbrugge 1984, 333). It is natural that rampant corruption

became a characteristic feature of the Soviet bureaucracy.

4. 2. Corruption and Bureaucratic Entanglement with the Second Economy

The collusion between second economy and Soviet bureaucracy deserves a separate paper because of their complexity and pervasiveness. As written in the introduction of this paper, this paper concerns the *dynamics* that solidified the second economy. Therefore, this paper is not going to describe in detail how second economy agents and Soviet bureaucrats cooperated, and what forms of cooperation existed.

The bureaucrats had strong incentives to participate in the second economy. As seen in Chapter III, the behind-the-wall exchanges took place between producers and consumers. In an economy with pervasive shortages, the fact that some consumers were willing to pay higher prices and take risks of being caught gave the opportunity for economic gains to the individuals, usually bureaucrats, who had physical or administrative control over goods in shortages (Grossman 1977, 30). This is an example of what was termed the “black-market bureaucracy,” a form of corruption resulting from the fact that the Soviet government was unable to satisfy popular demand for goods and services (Staats 1972, 43). This problem was compounded by the meager salaries for officers. Public officials were strongly attracted to bribes because they could not subsist on their wages (Grossman 1977, 29). Eventually, Party officials ceased to be interested in their jobs, and they increasingly devoted talents and energy to the identification and exploitation of every opportunity for gain, laying aside their official duties (Vanagunas 1992, 287). The Soviet system had ceased to live up to its ideological slogans decades before it disintegrated in the 1991.

One consequence of this systemic failure was the decay of the fabric of Soviet society. The dysfunctional institutions of the Soviet Union distorted the incentive structure of Soviet society in a way that was incompatible with the socialist ideal, and the Soviet citizens had no

other choices but to routinely violate the state ideology. This apathetic atmosphere was the dominant mood of the Soviet Union that informed all individual behavior. The state was regarded with suspicion by practically everybody, and lying and cheating remained a popularly approved mode of behavior (Service 2009, 416). For instance, a job, whatever it was, was a link in patronage networks and a source of trading favors (Brovkin 2003, 213). When hiring employees, among other capabilities, an involvement in second economy activities for a long time without being caught was highly valued by employers (Duhamel 2004, 206). The second economy was not only an economic phenomenon but also a social phenomenon.

The Soviet leadership did attempt to combat corruption. For example, decrees of May 1961 and February 1962 established the death penalty for repeated or serious bribery, embezzlement, black-market operations, pilfering, etc (Staats 1972, 43n12). However, despite far-reaching and rigorous prohibitions, and despite the often severe penalties threatening transgressors, the breaking of economic laws and regulations and the passing of bribes were everyday phenomena in which virtually all Soviets citizens were continuously enmeshed (Grossman 1977, 27-28). Some of them were involved in illicit economic activities on a large scale. According to a 1981 *Newsweek* article about Soviet underground millionaires, it was estimated that illicit economic activities generated profits of up to five billion US dollars from at least 1000 factory chains, with centers located in many of the Soviet Union's major cities (Gelber, Ma, and Nargoski 1981). Of course, no such millionaires could have existed without an extensive protection by and collusion with public officials.

In fact, all counter-corruption measures were supposed to be ineffective, because the Party was already corrupt. Originally, the Soviet Union attempted to prevent the corruption of Party and government officials by maintaining close control over key personnel appointment through the *nomenklatura* system, with *nomenklatura* meaning a list, whose incumbents are

approved by a higher Party, governmental, or professional organization (Staats 1972, 45). It was one of the principal instruments through which the Party machine maintained a firm grip on the country's political socioeconomic system (Feldbrugge 1989, 331). Administrative posts carrying a significant measure of responsibility were reserved for *nomenklatura*-qualified personnel vetted by the Party. But once the power to appoint key local officials has been diverted to promote private ends, the *nomenklatura* system actually operated to protect corrupt officials (Staats 1972, 45). Vicious penalties for corrupt high officials, therefore, did not indicate intolerance of corruption, but rather served as a signal that the informal rules to be honored in the hierarchy had not been observed, such as too high bribes extracted, too much ostentation, and so on (Feldbrugge 1984, 542). Throughout the seven decades of the Soviet Union, Party loyalty meant gaining a membership to a protective clique.

The benefits that came along with the Party membership made the Party a helpful and tangible organization worthy of support. Involvement engendered a sense of belonging, and a sense of comradely solidarity based on friendship replaced the rigid and elaborate rules of personnel selection by the Party (Staats 1972, 47). Chains of corruption formed the backbone of the Party, extending from top to bottom. Grossman (1998, 34), therefore, labels the wealth flowing-up channels through the Party pyramid "loot chains." The proceeds were transferred to the next higher level in the formal hierarchy or laterally distributed to outside auditors and inspectors, law enforcement officials, suppliers and transporters, bankers, and Party officials, all of whom shared the distributed proceeds with the higher levels in the respective hierarchies to which they belonged (Grossman 1998, 34). It seems that loot chains reached far enough to the highest level. When officials of the Central Committee entered General Secretary Konstantin Chernenko's office following his death in March 1985, they found desk drawers and personal secret safe filled with banknotes (Grachev 1994, 92 quoted in Grossman 1998, 34). The fact that corruption persisted within the very institution that was supposed to

monitor and control all aspects of Soviet society suggests the existence of a common interest impelling Party members as well as other social groups to collude in the perpetration and/or concealment of corrupt acts (Staats 1972, 44). The second economy and the personal gains bureaucrats generated by participating in the second economy successfully acted as a cohesive force within the Party.

V. Conflict of Interests between State and Bureaucracy

Oppression is not the only way to put an end to a criminal activity. Decriminalization also eliminates a criminal activity by stripping it of its criminality. In this sense, one may think that the Soviet Communist Party could have eliminated the second economy by restructuring the Soviet economic system in a way that would have liberalized private economic activity, without risking its power, as did China. In China, the Communist Party launched a similar restructuring process of its economy since the late 1970s, but its power is largely intact to these days. *Why did the Soviet Communist Party not do the same?* As discussed in Chapter II, there was no reason for the Soviet leadership to refrain from legalizing the second economy, so long as they could stay in power.

The answer lies in the fact that such reform measures would have had to necessarily entail relegating decision-making powers to lower units of the Soviet hierarchy such as state enterprises and individuals. Indeed, in Soviet history, there were multiple major attempts to restructure the economic system in such a way. Nevertheless, these programs that more or less decriminalized the second economy were eventually overthrown mostly by the Soviet bureaucracy. The bureaucrats had strong incentives to resist such reforms and pursue their own interests at the expense of the national economic performance. In the Soviet system, the Party and economic bureaucrats generated personal gains by intervening in wealth-generating processes (Yang 2004, 50). Therefore, many in the Party-state machine wanted to retain their function of allocating resources, which was a vital source of both power and privilege (Nove 1992, 398). *The Soviet Union could not legalize the second economy, because it could not overcome the bureaucracy's resistance against economic liberalization, and, consequently, the second economy had no chance to become part of the official economy.*⁵

⁵ In the case of *perestroika*, we may say that the formal economy was torn apart before its coexistence with the

This chapter discusses Andropov's unsuccessful attempt to overhaul the Soviet economic system, and Gorbachev's *perestroika* in the last few years of the Soviet Union, as they reveal the conflict of interests between two stakeholders, Soviet state and Soviet bureaucracy.

5.1. Bureaucratic Resistance against Andropov's Reform

The short-lived Andropov regime wanted to bring a fundamental change in the Soviet economy so that the Soviet Union could escape from the economically disastrous Brezhnev period, but Andropov's early death and the bureaucratic resistance frustrated his ambition. The most striking incident that revealed this power struggle within the Party was the famous leak of the Novosibirsk paper. In an effort to find the roadmap for economic reform, one of the study commissions set up by Andropov requested Professor Tatyana Zaslavskaya of the Siberian division of the Soviet Academy of Sciences to find a solution to reinvigorate the declining Soviet economy (Goldman 1984, 9). In response to the Party's call, Zaslavskaya, in her paper later called the Novosibirsk paper, called for a complete overhaul of the existing economic system. According to this paper, the underlying problem of the dysfunctional Soviet economy lied in the outdated nature of the system of industrial organization and economic management or simply the inability of the system to insure complete and efficient utilization of the working and intellectual potential of society (New York Times 1983). By the "outdated nature" was meant the dominance of "administrative methods of management" over "economic methods," and of centralized methods over decentralized ones (New York Times 1983). Therefore, Soviet society had a pressing need to shape economic behavior by adapting the subjective attitudes of working people to social and economic undertakings instead of purely administrative methods (New York Times 1983). In Mises' terms, she was arguing that

second economy could start.

profit management should supplant the conventional bureaucratic management of the Soviet Union.

The paper was an outright challenge to the Soviet bureaucracy that controlled virtually all major economic-decision making processes. When this paper was leaked to Western media, appearing in the *Washington Post* on August 2, 1983 and in the *New York Times* on August 5, it revealed the internal conflict within the Party. As Zaslavskaja and her colleagues had expected, the Soviet bureaucracy ferociously resisted Andropov's ambition. Among the forces of resistance against economic reform, the strongest and most prominent was, of course, the economic bureaucrats. On August 17, 1983, in response to the Novosibirsk paper, the Chairman of Gosplan, Nikolai Baibakov, openly revolted against the top leadership. He held a press conference to defend the existing system of central planning, arguing that the Soviet economy was perfectly fine and nothing should be done (Goldman 1984, 9-10). He further said he had not seen Zaslavskaja's report, but if the report had been of any importance, he would have been shown a copy (Goldman 1984, 10). This event showed to the world that the relationship between Soviet state and bureaucracy was not a simple command-and-comply relationship that Lenin had envisioned.

In this series of events, there are two noteworthy idiosyncrasies, which strongly suggest that even the top Soviet leadership could not control the colossal bureaucracy as they willed. First, Soviet internal documents had hardly been leaked to Western media. In particular, considering the secretive nature of this project, anyone may well entertain his suspicion on insiders. Though it is still unclear who really leaked the document to this day, William Safire (1983) of the *New York Times* avers that the Andropov faction leaked the document to Western newsmen in order to embarrass and isolate the Soviet economic bureaucracy. In other words, the Soviet leadership could not simply dismiss the economic bureaucrats or send them to Siberia, as Stalin did. Second, considering that press conferences

were a rare event in the Soviet Union until the downing of the Korean Airline's Flight 007 on September 1, 1983, Baibakov's response was an unprecedentedly aggressive action (Goldman 1984, 10). Baibakov's response reflected the views of the Soviet economic bureaucracy, which after 55 years of central planning had become deeply entrenched in the system (Goldman and Goldman 1987/88, 555). It implies that the Soviet economic bureaucracy was strong enough to face the Andropov regime backed up by the KGB and military-industrial complexes. Thus, it is likely there was a united assault against the Andropov regime, causing a great convulsion within the Party.

Indeed, the economic bureaucracy was a large organization that controlled an enormous amount of manpower and resources. The economic bureaucracy took 14 percent of the entire Soviet labor force (Gregory 1989, 1). It means that there existed about 18 million economic bureaucrats in the 1980s, according to the present author's calculation based on www.country-data.com ("Soviet Union—Labor"). It is not difficult to see that any measure that could have caused them to lose their jobs or threatened their interests was a political suicide, unless a very strong power base had been already established. The fall of Khrushchev was a historical example that the leaders' possibility of antagonizing the higher and middle echelons of the Party with impunity was strictly circumscribed (Feldbrugge 1989, 333). In the history of the Soviet Union, only Stalin had complete control over the Soviet bureaucracy.

It explains why, unlike his earlier statements that stressed the urgency of a total economic reform, Andropov's reform was much weaker than what had been expected. The reform proposals he introduced on July 26 (when probably a violent internal struggle were already raging within the Party) had hardly anything that was novel, much less revolutionary (Goldman 1984, 9). For example, factory managers were urged to take more local initiatives but were given little or nothing over which to exercise those initiatives (Goldman 1984, 9). This also explains why, when he met with those who were described as Party Veterans of the

Central Committee of the Communist Party to ask their support for far-reaching economic reforms on August 15, Andropov was unusually deferential and even timid toward the economic bureaucrats (Goldman 1984, 9). One can easily guess the reason behind his fearful attitude, which was hardly expected from someone with his power and professed determination to improve the economy. A day after the meeting, Andropov's kidney conditions deteriorated to the level that he could not make any more public appearance. He died on February 9, 1984, and the Soviet bureaucracy successfully defended their interests.

5.2. *Perestroika* and Bureaucratic Mass Defection

Gorbachev's desperate and ambitious *perestroika* was doomed with a similar fate. In 1985, Gorbachev became General Secretary, and, as Andropov had, gradually realized that the existing system of the Soviet economy was no longer working. Gorbachev's own summary of the reform proposal that he and his advisors submitted to the June 1987 Plenary Meeting of the Soviet Union Communist Party shows what he had in mind:

[The reform program] provides changes in every area, including *the transfer of enterprise to complete cost accounting, a radical transformation of the centralized management of the economy, fundamental changes in planning, a reform of the price formation system and of the financial and crediting mechanism, and the restructuring of foreign economic ties* (Gorbachev 1988, 85).⁶

What Gorbachev had in mind, therefore, was not far apart from what Professor Zaslavskaya had in mind. But Gorbachev, Andropov's former protégé, knew by experience that a drastic economic reform was bound to elicit resistance from the bureaucracy and conservative high-ranking Party members. Gorbachev, therefore, had to be as politically shrewd as economically radical. His project started with *glasnost*. *Glasnost*, or openness, was a package of programs that allowed competitive nomination for delegates to the nineteenth Party Conference and created greater freedom of expression, in order to undermine the stranglehold of the old Party

⁶ Emphasis is mine.

leaders who were reluctant to radical economic reform (North 2005, 153). Thanks to *glasnost*, the Soviet citizens were given a chance to openly voice their complaints on the pathetic Soviet economy. This popular sense of crisis, formed by *glasnost*, was a precondition for economic reform (Åslund 1989, 189). Since September 1986, Gorbachev began to call for democratization, an even stronger agenda than *glasnost*. Eventually, democratization came to mean, in principle, not only election but multiple candidate and secret ballots (Goldman 1988, 332-333). It elicited a sense that bureaucrats could no longer expect lifetime tenure in office, which had been taken for granted since the Brezhnev era (Goldman 1988, 333). With these political campaigns, Gorbachev expelled the conservatives and anti-reform bureaucrats including Baibakov, and filled the vacant positions with his men including Boris Yeltsin. Within two years, he made 64 of the 104 remnants of the Brezhnev era resign from the core Party and military positions (Kim Hak-Jun). The Soviet state led by Gorbachev had to start political programs to start economic restructuring so as to sedate the resistance of those who had a stake in the old system.

On the other hand, Gorbachev also started the restructuring process of the Soviet economic system *from below* to create a counterweight against the resistance from above. He took past experiences into consideration, in which repeated attempts to reform the upper management levels without support from below were unsuccessful because of the stubborn resistance of the management apparatus, which did not want to lose its numerous rights and prerogatives (Gorbachev 1988, 85). Thus, he began to move to curb central decision-making and to transfer day-to-day production decisions to the country's factories (Goldman 1988, 333). In this context, the Law on Cooperatives enacted in May 1988 was particularly important in two respects. First, by allowing ordinary Soviet citizens to establish and join private ventures, the Soviet Union curbed the power of local economic and Party bureaucrats, and, second, it legalized a large portion of the second economy, especially those benign

markets that Feldbrugge (1984) argues were traditionally tolerated. Gorbachev was challenging the established structure of the Soviet system by shaking the traditional symbiotic relationship between Soviet state and Soviet bureaucracy.

Gorbachev, however, could not exercise complete control over the colossal Soviet bureaucracy. First, Gorbachev's reform was met by local officials' resistance. The resistance of the local bureaucrats was so widespread that the CIA (1988, 7) made a separate report:

Local officials are reluctant to support the regime's campaign to expand private business because of the threat it poses to their ability to control the economies of their regions. In an environment of perpetual scarcity that characterizes the Soviet economy, officials understandably give priority in allocating premises, supplies, and other resources to state enterprises for whose success they are more directly responsible and whose operations they have considerable ability to influence. Moreover, if relatively independent private businesses succeed on a large scale, it would undermine the rationale for maintaining the role officials have traditionally played as allocators, controllers, and facilitators.

This report shows that business activities that had previously been possible only in the second economy encountered severe interference from local bureaucrats. For instance, the Kabluchok cooperative in Novolakskiy generated a large profit by manufacturing women's beach shoes, but the local government promptly shut it down, despite the local prosecutor found no illegalities (CIA 1988, 7). This was a direct assault against the Kremlin that hoped that the expansion of private business would generate quick improvements in the supply of consumer goods and services and thereby help sustain public enthusiasm for *perestroika* (CIA 1988, 8). It means that when the reform measures made the second economy no longer dependent upon the protection and guidance by local bureaucrats, the traditional link between Soviet state and local bureaucrats collapsed.

However, the resistance of the local bureaucrats alone cannot fully explain the disintegration of the Soviet hierarchy in the wake of *perestroika*. Ironically, it was the Soviet bureaucrats who exploited *perestroika*, and they consequently pulled apart the Soviet system by mass defection. Under Gorbachev, a series of reforms that allowed small enterprises and

cooperatives enhanced state enterprise managers' opportunities to derive profits from state assets (McFaul 1995, 222). The 1987 Law on State Enterprise and the subsequent legislations provided for the establishment of cooperatives or "small firms" that operated under larger state enterprises but were organizationally and legally distinct (Solnick 1996, 223). It allowed state enterprise managers to remobilize assets of state enterprises into organization units less clearly owned by state ministries (Solnick 1996, 223). Moreover, in 1989, the Soviet government began a restricted initiative to devolve certain administrative functions from Moscow to regional levels, and promote regional governments' fiscal independence by reducing transfers from the central government and giving them new taxing authority over local enterprises (Solnick 1996, 224). Since it was impossible for Moscow to measure the scope of these extrabudgetary revenue flows accurately, the activity of regional officials became even more difficult to monitor than before (Solnick 1996, 225). It was inevitable that the lower parts of the Soviet hierarchy diverted the state assets in their control for their own survival and benefit. Since the end of the 1980s, the regional Party bureaucrats and state enterprise managers assumed the control of the state farms and production plants that the state delegated to them, transforming themselves into owners from appointees (Lankov 2010). These bureaucrats became the core economic class of today's Russia (Lankov 2010). These assets, and the power and privileges from these assets were the reason why they were loyal to the Party, and once they stole them, they no longer had to submit to the authority of the Party. Naturally, the Soviet Union's bureaucratic apparatus rapidly lost its functions.

Why did the Soviet state, the principal, not simply remove its agents from their positions and replace them with more loyal ones? Two characteristics of the Soviet economic system rendered the principal impotent in exercising its power over the agents. First, the possibility of dismissal was no longer threatening to the insubordinate agents (Solnick 1996, 215). In fact, well before *perestroika*, the Soviet state's ability to monitor the performance and

control the behavior of directors gradually weakened as the economy became more complex, and the Soviet institutional arrangements governing property rights allowed state enterprise directors to expropriate many of the rights associated with ownership (McFaul 1995, 221-222). In particular, an extensive second economy offered irresistible opportunities for bureaucrats (McFaul 1995, 222). Second economy entrepreneurs processed their large-scale production operations commonly behind the protective façade of a state-owned factory or a collective farm (Grossman 1977, 31). Therefore, dismissal became an empty threat when the assets removed from these organizations were sufficient to underwrite more lucrative future employment (Solnick 1996, 222). Second, the socialist economic system lacked a well-developed court system that could clearly declare that the assets that the bureaucrats tried to steal belonged to the state. In the absence of such a system, the principle of ownership could only be demonstrated by the fact of control, and the authority of the principal to command the agent can be confirmed only by the agent's willingness to accept that authority (Solnick 1996, 214-215). Therefore, as soon as the state started to lose its grip on those assets, nothing could stop the Soviet bureaucratic apparatus from rapidly precipitating into paralysis. In short, the institutional settings of the Soviet Union were not ready to face the reform.

Gorbachev's reform disrupted the cohesive force that bound the Soviet state and the Soviet bureaucracy together, disintegrating the governing hierarchy of the Soviet Union. Gorbachev and his reform proponents did not know that the Soviet system was not strong enough to sustain the shock from a reform program intense enough to take the second economy away from the hands of the Soviet bureaucracy. In other words, they were unaware that organizational integrity is an endogenous variable that is affected by the intensity of reform. The destruction of the Soviet system happened exactly as George Kennan (1947, 572) had prophesized two years after World War II: "If... anything is ever to occur to disrupt the unity and efficacy of the Party as a political instrument, Soviet Russia might be changed

overnight from one of the strongest to one of the weakest and most pitiable of national societies.”⁷

⁷ X is George Kennan’s pseudonym for the article he contributed to the *Foreign Affairs*.

VI. Conclusion

With all these analyses thus far, what lesson does its existence and expansion point to?

There are at least four forces that created and solidified the second economy:

1. The Soviet state could not put an end to the second economy, because the second economy was necessary to stabilize the power of the Party by serving the demands that the official economy failed to serve.
2. The Soviet people participated in the second economy, because of the pervasive shortages.
 - 3.1 The Soviet bureaucrats earned personal gains from the second economy and, in return, cooperated to preserve the inner cohesion of the Communist Party.
 - 3.2 The Soviet state could not overcome the bureaucracy's resistance against economic liberalization that would have decriminalized the second economy.

These four propositions show that the second economy was a system that satisfied all of the three stakeholders' interests. It may not be an exaggeration to say that the Soviet Union could have not preserved its system without the second economy, because, as the destructive development after *perestroika* testifies, a conflict between any two of the stakeholders could have disintegrated the system. The second economy was a pillar that upheld the integrity of the Soviet system rather than a parasite that disturbed its functioning. Figure 6 in Appendix I and Table 7 in Appendix II summarize the relationship between the three stakeholders.

The source of the cohesive power of the second economy was the fact that it could utilize the knowledge the state economic planning body missed and turn it into economic incentives. Socialism rests on the assumption that a wise central authority should and can collect all the relevant knowledge of society to harmoniously coordinate economic activities. Socialist states, therefore, invariably had gigantic bureaucracies to run their national economies. However, it was an impossible dream, because, as discussed in the previous chapters, there are different forms of knowledge, some of which are incommunicable, and processing knowledge inevitably incurs (sometimes enormous) costs. The resultant comprehensive economic plans were bound to be incomplete as they reflected only a small

fraction of the knowledge that constitutes the economy. But in this inefficient and distorted economic environment, the Soviet people exploited the knowledge that the central authority left out. The other economy they spontaneously organized had to be more or less capitalistic, because the ideology of capitalism embodies the epistemology that it is impossible for a small number of people to penetrate the complexity and dynamicity of the world. Therefore, in the free market economy, each individual exercises decision-making power over the scarce resources he or she owns, utilizing all his or her local knowledge in order to most effectively pursue his or her ends.

In order for decision-making powers to be dispersed, it is essential that property rights be securely protected. Otherwise, individual economic agents have no incentive to exploit the local knowledge they have. In the Soviet official economy where voluntary exchanges that were not allowed to take place outside the domain of the comprehensive national economic plans, the individual was not allowed to have any rights over resources. It means that this type of economy, with its almost exclusive control of production and trade by the state, can only be kept in operation if it is backed up by criminal sanctions forbidding all activities that would encroach upon the state's monopoly positions (Feldbrugge 1989, 336). This characteristic of the Soviet economy raised another problem: the plans that were distorted by incomplete knowledge were distorted once again by politically motivated or ignorance-motivated policies. The fact that individuals had no property rights meant that economic decision-making powers were completely vested in those who had political power.

This is the reason why the second economy must be understood not only in an economic context but also in a political context. The deprivation of one's private property equals the deprivation of one's freedom to pursue his or her ends, because the most effective way to oppress ends is to oppress means. One of the defining characteristics of socialism is that all the members of a socialist commonwealth, which is conceived as a deliberate

organization, must be guided in their actions by a unitary hierarchy of ends (Hayek 1978, 14). Of course, it was the infallible Party that decided the set of goals to be socially pursued. In a capitalist society, however, the state's power cannot be as pervasive, because the ultimate decision-making power lies in the consumer. It makes the free market economy an economic democracy in which "every penny gives a right to vote" (Mises 1944, 21). Thus follows Faustino Ballve's (1963, 16) analysis of democracy and the free market:

[F]ree trade or the free market means *the sovereignty of the consumer*. And so effective, so necessary, so ineluctable is this sovereignty that... not even the communist economy can suppress it completely. And as the consumer is the public in general, without distinction of rank or fortune, the free market is the most obvious expression of the sovereignty of the people and the best guarantee of democracy. Individual guarantees stated in writing in the constitution are of no use to a nation if it is not the people, but a third party, whether government or trade-union, that fixes prices and wages and determines what is to be produced and what is to be sold; for in that case the people, in being deprived of their right... to assign everything the rank and the value it suits them to give it, from being sovereign are reduced to the status of slaves. Control of the market by the governmental authorities is the instrument of the modern dictatorships, much less cruel in appearance... but far more effective than the police and resort to naked force.

In a socialist system, therefore, the rights of citizens shrink to virtually nothing, and those who run the state monopolize all powers.

In this sense, the second economy in a socialist system is a silent but inevitable revolt against the system that deprived freedom to pursue self-interest, i.e. individual liberty. Especially, in the Soviet Union, the economic domain of the individual has remained very little, and the domain was strictly circumscribed and definitely subordinated to the state (Goldman and Goldman 1987/88, 569). However, no one in Soviet society was willing to quell this resistance. The Soviet people depended on the second economy for their daily lives; the Soviet state depended upon the second economy to maintain the social hierarchy and their power; and the bureaucrats fed on the personal gains they derived and/or stole from the second economy. In other words, the system could not exist without the very revolt against it. The revolt swallowed the individuals in the system and thereby the entire system, because it

could satisfy their individual interests. Therefore, the second economy may be regarded as the evidence that socialism has a built-in mechanism of self-destruction.

Before closing the discussion, the reader should be aware of the weaknesses and limitations of this paper. First, dividing social actors into a small number of categories always has room for ambiguity and misunderstanding, and this paper is no exception. The three aggregates do not necessarily reflect all interests of all the individuals in society. For example, though the paper put all the Soviet bureaucrats in a single category due to the substantial homogeneity of their interests, the Soviet bureaucracy deserves a more careful classification. The Soviet economic bureaucracy consisted of two types of officers, *apparatchik* and *khoziaistvennik*. The *apparatchik* were not responsible for the final outcome of their job. Gosplan is an example of the *apparatchik*. In contrast, the *khoziaistvennik* were actually responsible for the final outcomes of their work. They included industrial ministry officers and state enterprise managers. The interests of the *apparatchik*, who made plans and allocated resources, and *khoziaistvennik*, who needed the resources to do their job, often conflicted (Gregory 1990). If the paper had carefully described the different interests within the Soviet economic bureaucracy, the interest of the bureaucrats in relation to their participation in the second economy could have been more clearly explained. However, due to constraints in time and resources, this paper had to settle for the unsatisfactory but roughly correct aggregation.

Second, the discussion of the second economy should be accompanied by an extensive discussion on the history of the Soviet economy from the era of the Revolution, which this paper lacks. Since this paper adopts a holistic approach to the Soviet second economy, the historical experiences that shaped the Soviet economic system and its influence on the second economy could have been helpful in explaining the dynamics that created and expanded the second economy. For instance, the New Economic Policy mentioned in Chapter I and the extremely regimented economy of the Stalinist era, were likely to have influenced

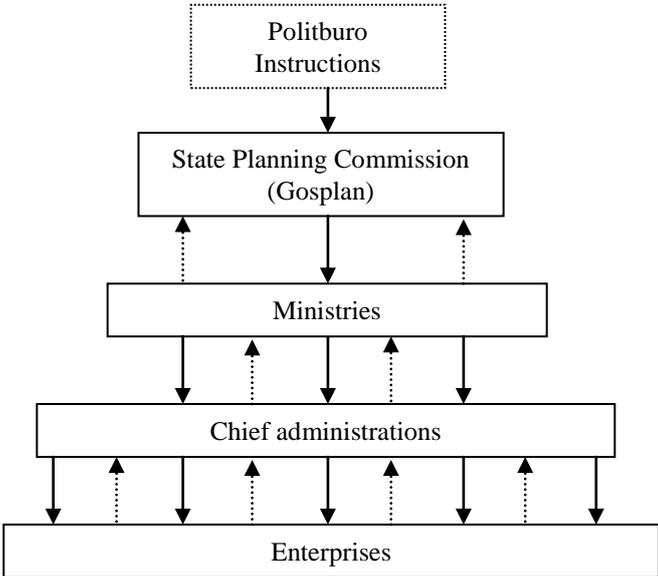
the perceptions regarding economic activities in later periods. In addition, the international oil price was one of the most important determinants of the Soviet Union's reserves of hard currency, and the Reagan administration actively utilized it as a strategic weapon against the Soviet Union (Critchlow 2014). It is reasonable to think that when the Soviet Union was running out of foreign currency reserves, its crackdown on some second economy activities such as illegal international trade might have been more severe. That is, with historical analysis, it would have been easier to show how the state's interest at the time formed its attitude toward the second economy. However, in order to avoid dwelling too long on a topic that is only ancillary to the main subject of the paper, I dropped the discussion on the economic history of the Soviet Union.

Third, this paper does not contain an original econometric analysis. Though the present author has been skeptical about the validity of statistical methods in social sciences, at least in this paper, econometric analysis provides the reader insights into the pathetic economic performance of the Soviet Union and the necessity that gave a rise to the underground economic activities. If the author had been able to overcome the language barrier and conducted an econometric analysis on major policy variables, the paper may have become richer in contents and more rigorous in logic, showing the underlying structural defect of the Soviet economy.

These weaknesses suggest the future direction of this study. Further undertakings on this topic should employ more refined stakeholder categories so that a more accurate portrayal of the members of the Soviet society is possible, and should explain how the interaction between official economy and second economy changed in the historical context, reflecting the interests of all the stakeholders. Lastly, those new insights should be backed up by an original econometric analysis.

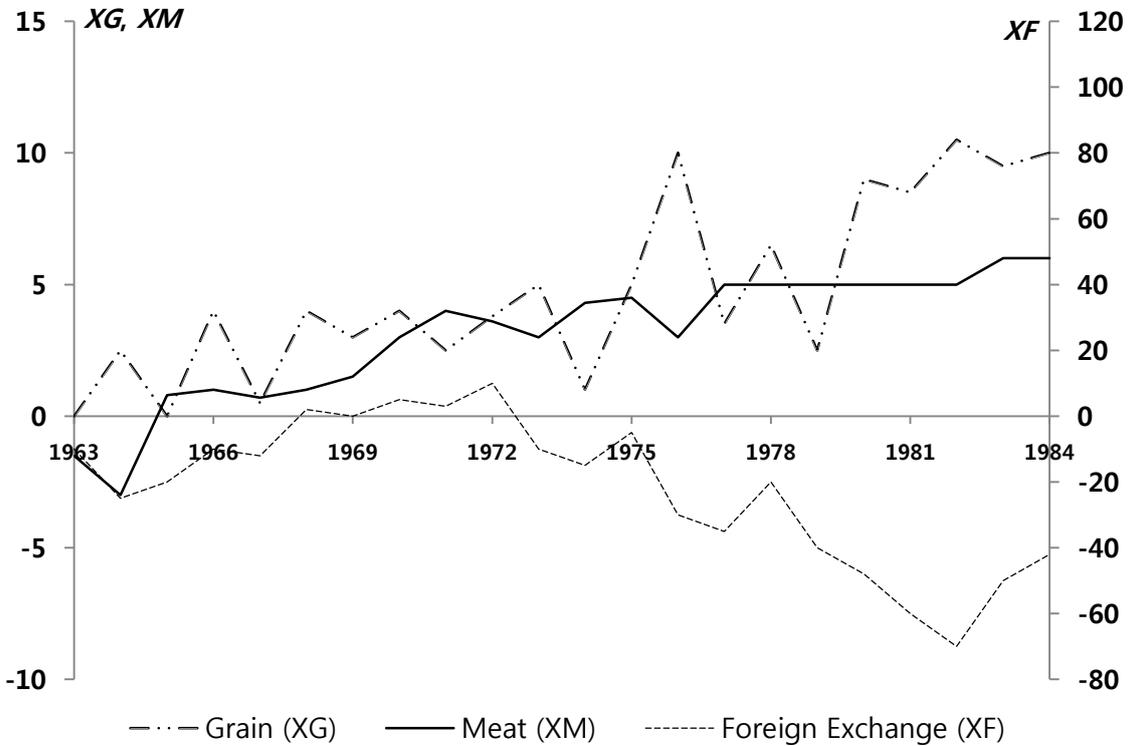
Appendix I: Figures

Figure 1. The Economic Hierarchy of the Soviet Union



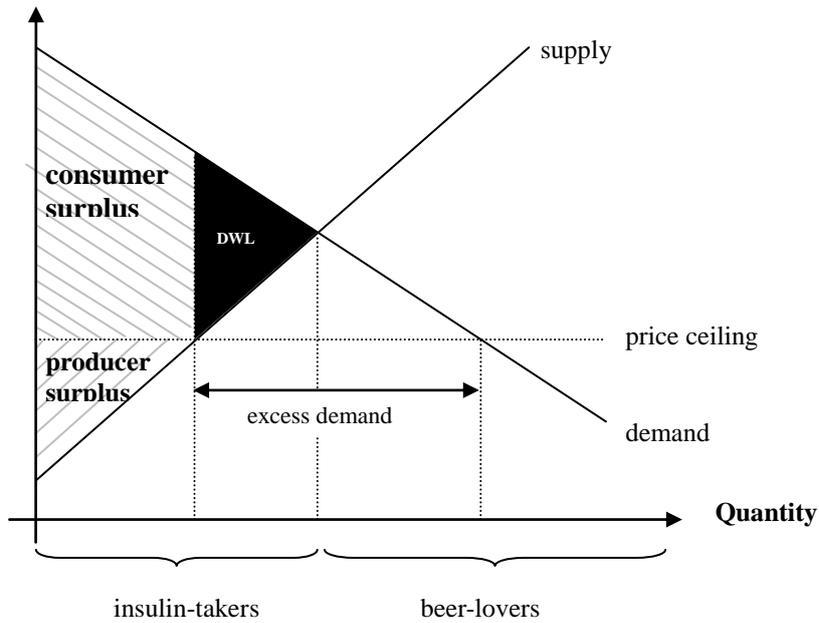
Source: Ian Jeffries, *Socialist Economies and the Transition to the Market: A Guide* (New York: Routledge, 1993), 11.

Figure 2. Soviet Excess Demands for Foreign Exchange, Grain, and Meat from 1963 to 1984



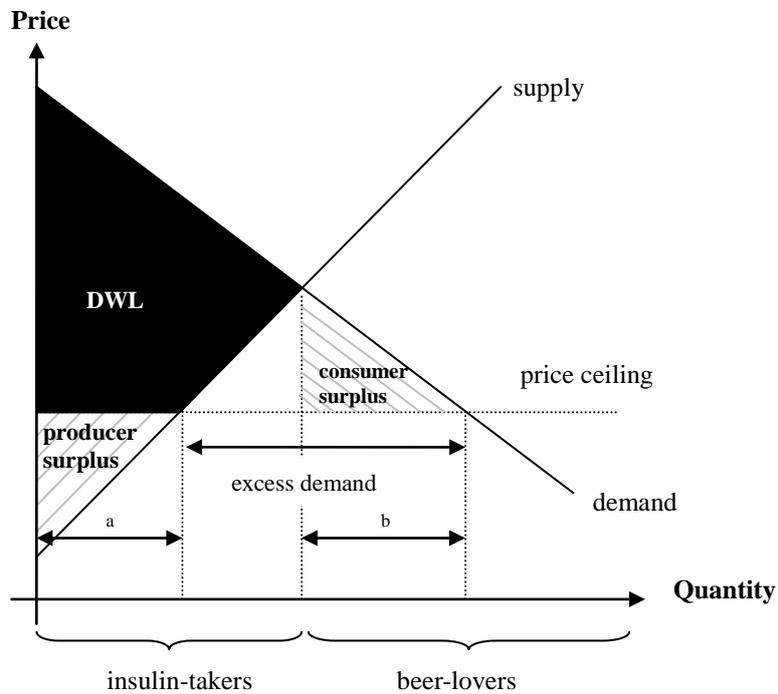
Source: Josef C. Brada and Arthur E. King, "Central Planners as Market Stabilizers: Evidence from Poland and the Soviet Union," *Review of Economics and Statistics* 74, no.1 (1992): 11.

Figure 3. Standard Price-Ceiling Model



Source: Schmitz, David. 2013. "Are Price Controls Unfair?" Paper presented at the Asan Cold War Liberalism Project Conference "Friedrich Hayek's Cold War Liberalism," Seoul, Korea February 1-2.

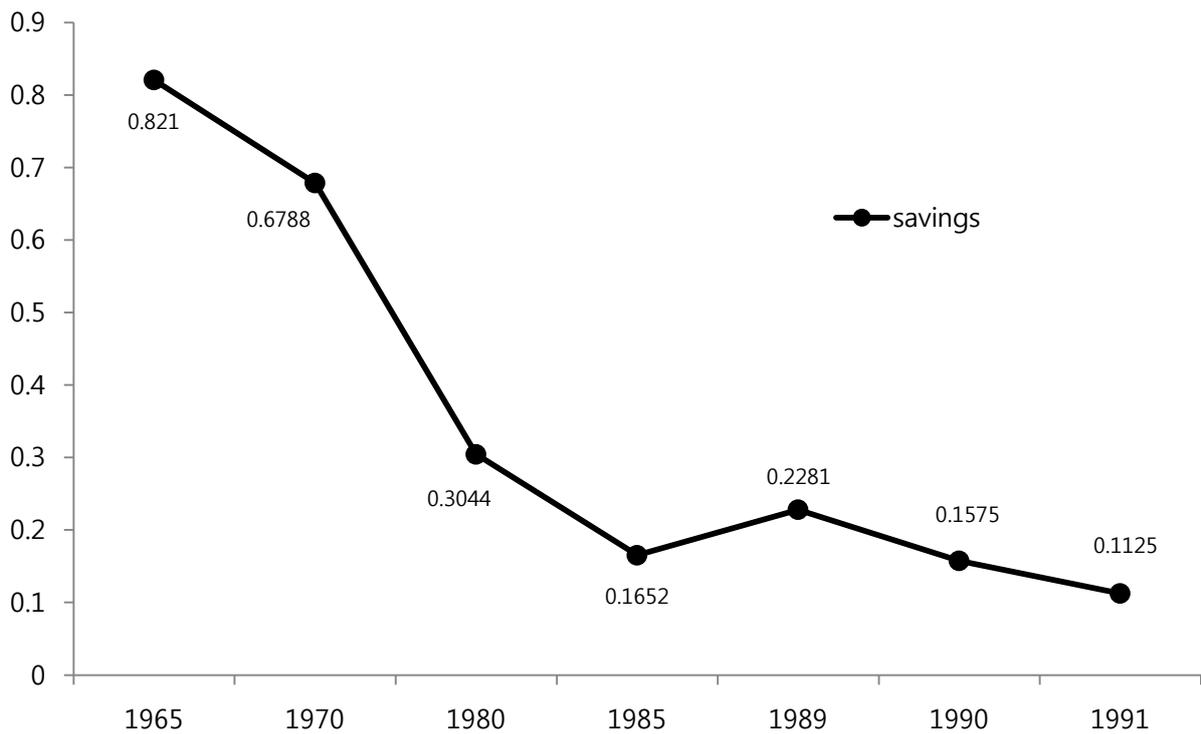
Figure 4. The Worst-Case Scenario of the Consequence of a Price Ceiling



Source: Schmitz, David. 2013. "Are Price Controls Unfair?" Paper presented at the Asan Cold War Liberalism Project Conference "Friedrich Hayek's Cold War Liberalism," Seoul, Korea February 1-2.

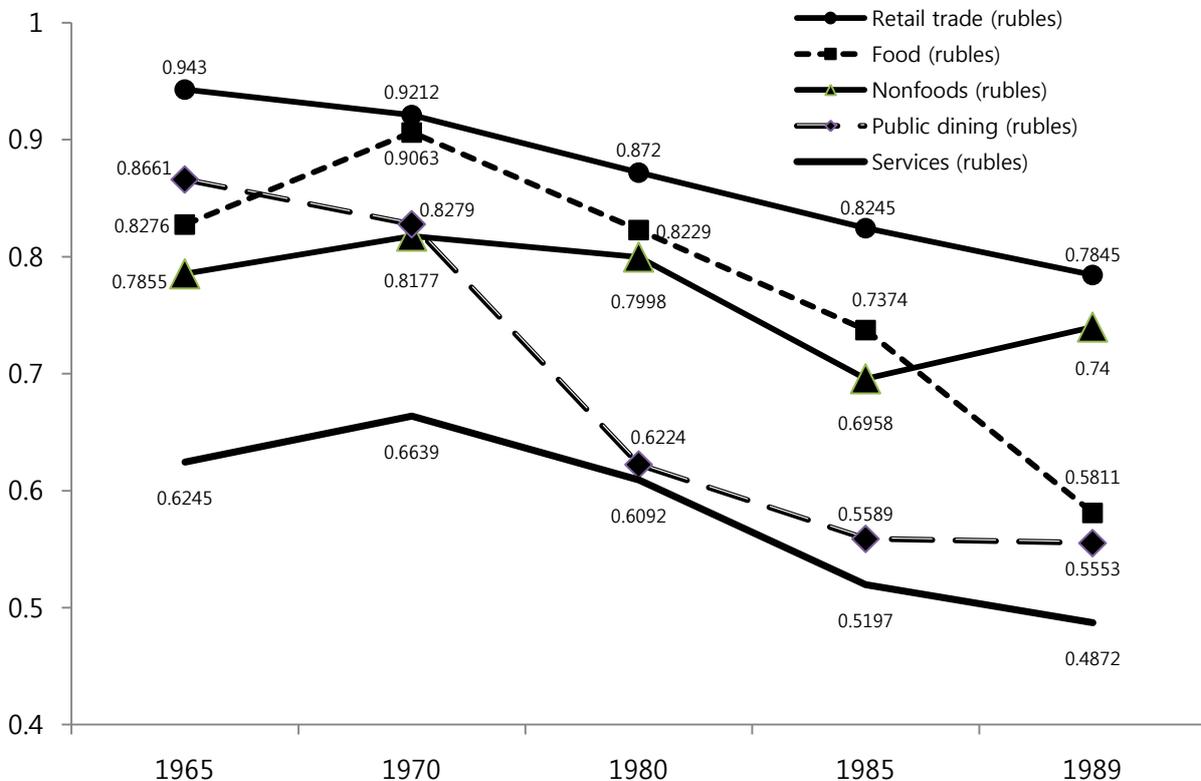
*Let us assume $a = b$, for the sake of argument.

Figure 5.1 Savings over Income



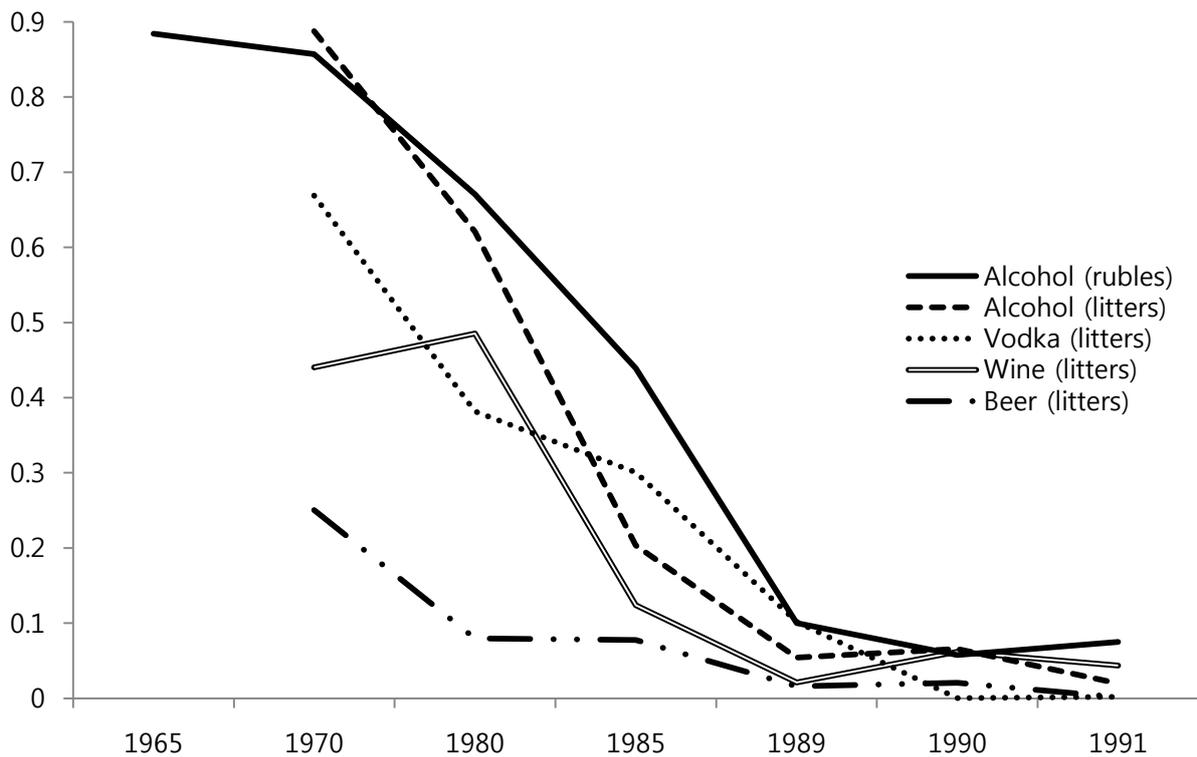
Source: Treml, Valdimir D. and Michael Alexeev. 1993. "The Second Economy and the Destabilizing Effect of Its Growth on the State Economy in the Soviet Union: 1965-1989." Working Paper, Duke University and Indiana University-Bloomington, Department of Economics. <http://dukespace.lib.duke.edu/dspace/handle/10161/2007>.

Figure 5.2 Trade and Services over Income



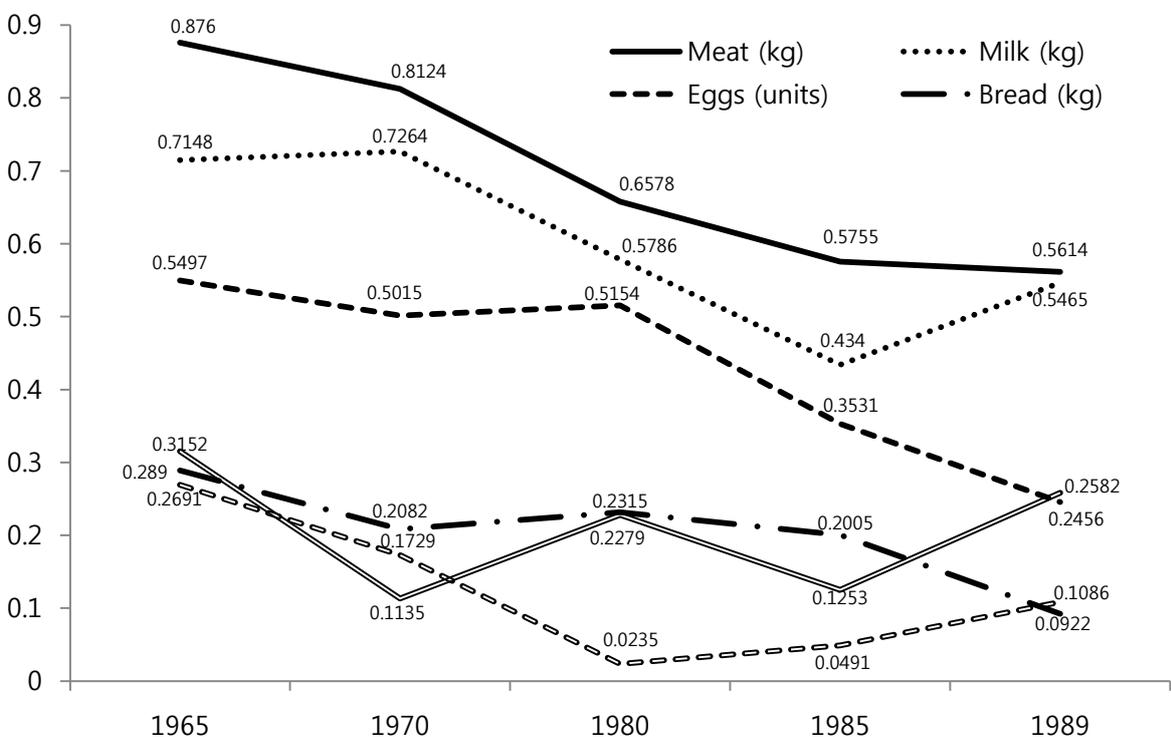
Source: Treml, Valdimir D. and Michael Alexeev. 1993. "The Second Economy and the Destabilizing Effect of Its Growth on the State Economy in the Soviet Union: 1965-1989." Working Paper, Duke University and Indiana University-Bloomington, Department of Economics. <http://dukespace.lib.duke.edu/dspace/handle/10161/2007>.

Figure 5.3 Alcohol over Income



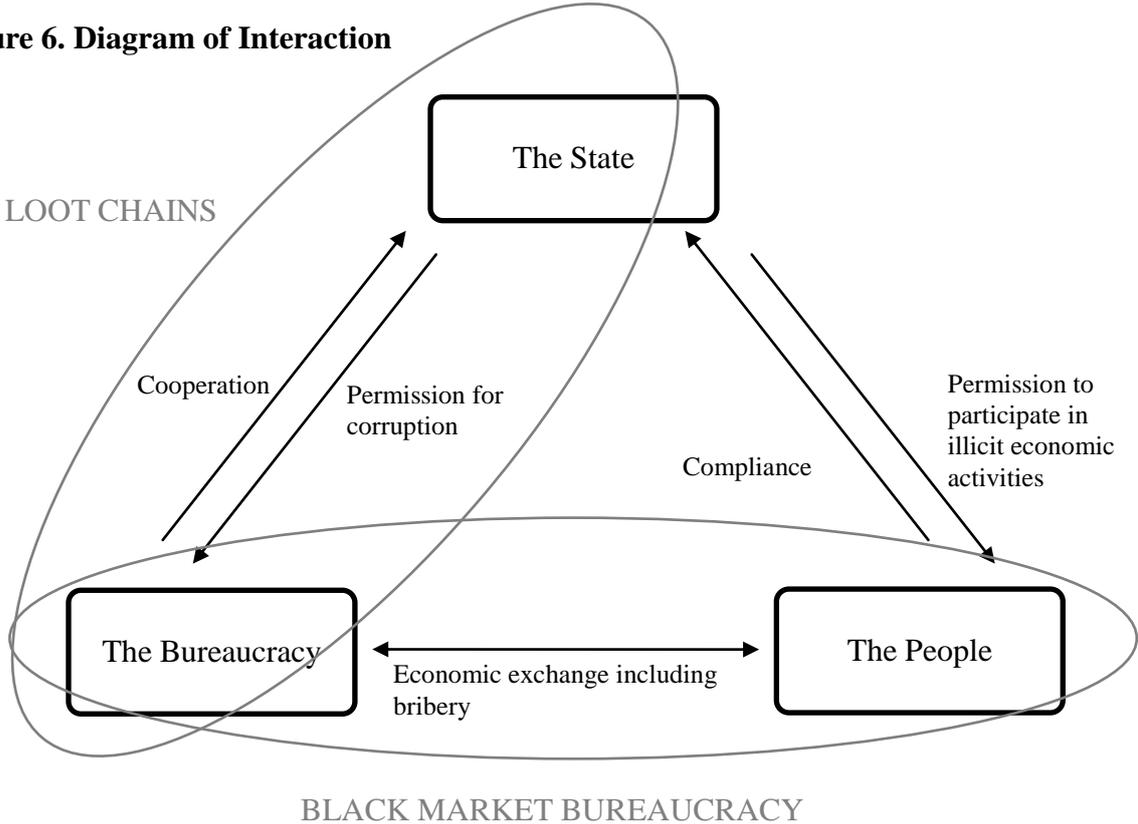
Source: Treml, Valdimir D. and Michael Alexeev. 1993. "The Second Economy and the Destabilizing Effect of Its Growth on the State Economy in the Soviet Union: 1965-1989." Working Paper, Duke University and Indiana University-Bloomington, Department of Economics. <http://dukespace.lib.duke.edu/dspace/handle/10161/2007>.

Figure 5.4 Food Products over Income



Source: Treml, Valdimir D. and Michael Alexeev. 1993. "The Second Economy and the Destabilizing Effect of Its Growth on the State Economy in the Soviet Union: 1965-1989." Working Paper, Duke University and Indiana University-Bloomington, Department of Economics. <http://dukespace.lib.duke.edu/dspace/handle/10161/2007>.

Figure 6. Diagram of Interaction



Appendix II: Tables

Table 1. The Model Constructed by Brada and King

	Linear Function	Variables	Expected Linear Relationship*
1	$H = h(H_{-1}, GTOT)$	H : size of the animal herd measured in the animal units on the last day of the year H_{-1} : size of the animal herd last year $GTOT$: sum of last year's grain harvest	
2	$M = m(H_{-1}, XG, XM)$	M : annual production of meat H_{-1} : the size of the animal herd last year XG : excess demand for grain perceived by planners XM : excess demand for meat perceived by planners	$\frac{\partial m}{\partial XG} < 0$ $\frac{\partial m}{\partial XM} > 0$
3	$NIG = g(XG, XF, NPW)$	NIG : net imports of grain XG : excess demand for grain perceived by planners XF : planners' perception of the balance between the availability of and the demands for hard currency NPW : opportunity cost of grain imports, measured by the price of grain at US Gulf ports divided by an index of Soviet export prices	$\frac{\partial g}{\partial XG} > 0$ $\frac{\partial g}{\partial XF} < 0$
4	$NIM = i(XM, XF, NPM)$	NIM : net imports of meat XM : excess demand for meat perceived by planners XF : planners' perception of the balance between the availability of and the demands for hard currency NPM : opportunity cost of meat imports as measured by the ratio of beef prices at United States ports divided by an index of Soviet export prices	$\frac{\partial i}{\partial XM} > 0$ $\frac{\partial i}{\partial XF} < 0$
5	$XF = x_1(I_{-1}, D, ETOT)$	XF : planners' perception of the balance between the availability of and the demands for hard currency I_{-1} : lagged domestic investment D : gross hard currency debt $ETOT$: expected terms of trade with the West	
6	$XG = x_2(YPC, H_{-1}, GTOT)$	XG : excess demand for grain perceived by planners YPC : annual per capital incomes H_{-1} : size of the animal herd last year $GTOT$: the sum of G_{-1} , last year's grain harvest and NIG , the current year's imports of grain.	
7	$XM = x_3(YPC, MTOT)$	XM : excess demand for meat perceived by planners YPC : annual per capital incomes $MTOT$: sum of the last crop year's meat production, M_{-1} , plus net imports of meat, NIM	

Source: Josef C. Brada and Arthur E. King. "Central Planners as Market Stabilizers: Evidence from Poland and the Soviet Union." *Review of Economics and Statistics* 74, no.1 (1992): 1-13.

* The expected magnitude of the coefficient if planners rationally responded to the shortages they perceived.

Table 2. Parameter Estimates for Equations (1)-(7) for the Soviet Union

Dependent Variable	Parameter Estimates			
H	17.5731 (1.88)	+0.7280 H_{-1} (7.18)	+0.1100 $GTOT$ (3.19)	
M	0.0500 (1.69)	+0.0897 H_{-1} (6.69)	+0.5462XM (16.11)	-0.00801XG (1.95)
NIG	-21.6498 (16.94)	+0.2730XG (16.01)	-4.1915XF (21.49)	+1025.1259 NPW (12.12)
NIM	0.1246 (0.72)	+0.0732XM (6.65)	-0.0723XF (5.61)	-24.9159 NPM (1.60)
XF		0.0882 I_{-1} (6.29)	-0.5027 D (10.08)	-0.0763 $ETOT$ (6.38)
XG		1.99.6106 YPC (27.19)	+0.3536 H_{-1} (7.01)	-1.0000 $GTOT$ (20.65)
XM		18.6955 YPC (7.93)	-1.0000 $MTOT$ (6.26)	

Source: Josef C. Brada and Arthur E. King, "Central Planners as Market Stabilizers: Evidence from Poland and the Soviet Union," *Review of Economics and Statistics* 74, no.1 (1992): 6.

Table 3. Parameters in the Kim-Shida Model

Exogenous Variables	Definition
income_ln	Average income level in real terms in the log form
density_ln	Population density in the log form
family	Family size
gnmp_pp	Official growth rate of the NMP
ind_share	Industrial structure: industry NMP divided by agriculture NMP
agr_share	Agriculture NMP share
const_share	Construction NMP share
trade_share	Trade NMP share
foreign_share	Income from foreign trade (NMP) share
taxrate	Tax rates for household: income tax, family-related tax, agriculture tax, etc.
wage_gap	Monthly average wage gap between workers and farmers
dostavka_shop	The amount of goods transported by road divided by the number of the retail shop
runiv	Number of universities per 1000 persons
grad	Number of graduates per population
slav	The extent to which Slavic languages are used in usual life
clark_pop	Crime per population

Source: Kim, Byung Yeon and Yoshisada Shida . 2013. "Shortages and the Informal Economy in the Soviet Republic: 1965-1989." Paper presented at the Pacific Rim Economics: Institutions, Transition and Development, Seoul, Korea, April. <http://regconf.hse.ru/uploads/3d8964f78ff8f75249b482ce0b287646b4437379.pdf>.

Table 4. Informal Economy Equations: Fixed Effect Model (1)

Dependent variable: sen_nmp												
Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
shortage_mid	0.527*** (5.150)	0.540*** (5.080)	0.571*** (5.430)	0.494*** (4.840)	0.561*** (5.260)	0.422*** (4.480)	0.598*** (5.570)	0.459*** (4.770)	0.415*** (4.160)	0.414*** (4.120)	0.496*** (4.940)	0.497*** (4.950)
income_ln	-2.066*** (-7.380)	-3.901*** (-6.220)	-4.330*** (-6.800)	-5.208*** (-8.340)	-4.438*** (-6.780)	-6.112*** (-10.450)	-4.473*** (7.030)	-6.502*** (-9.670)	-1.888 (-1.840)	-2.004* (-1.790)	-2.450** (-2.200)	-2.480** (-2.230)
density_ln		4.613*** (3.050)	4.005*** (2.670)	5.853*** (3.940)	4.014*** (2.670)	5.007*** (3.770)	4.389*** (2.930)	6.158*** (4.390)	0.926 (0.540)	0.869 (0.510)	0.111 (0.060)	0.192 (0.110)
Family		-3.211*** (-3.350)	-2.983*** (-3.160)	-3.860*** (-4.170)	-3.069*** (-3.170)	-4.059*** (-4.800)	-3.259*** (-3.420)	-4.419*** (-5.090)	-1.554 (-1.480)	-1.538 (-1.460)	-1.875* (-1.750)	-1.871* (-1.750)
gnmp_pp			-0.109*** (-4.850)	-0.093*** (-4.290)	-0.109*** (-4.900)	-0.074*** (-3.660)	-0.112*** (-5.060)	-0.070*** (-3.390)	-0.089*** (-4.240)	-0.088*** (-4.200)	-0.089*** (-4.310)	-0.088*** (-4.260)
ind_share			0.010 (0.350)					-0.002 (-0.060)				
agr_share				0.654*** (5.080)				0.381*** (2.690)	0.468*** (3.380)	0.478*** (3.320)	0.275* (1.720)	0.274* (1.710)
const_share					0.022*** (0.330)			-0.051 (-0.690)				
trade_share						1.697*** (9.570)		1.535*** (8.050)				
foreign_share							-0.010 (-0.300)	0.023 (0.590)				
Taxrate									0.953 (2.130)	0.950** (2.120)	0.264 (0.530)	0.254 (0.510)
wage_gap									3.548*** (4.360)	3.533*** (4.320)	3.136*** (3.880)	3.086*** (3.800)
dostavka_shop									25.690*** (3.900)	0.006 (0.260)	-0.025 (-1.040)	-0.025 (-1.040)
Runiv											-1.285*** (-2.780)	-1.255*** (-2.690)
Grad											0.046*** (3.500)	0.047*** (3.540)
Slav											0.062 (1.390)	0.061 (1.380)
clark_pop												-0.085 (-0.570)
Constant	26.611*** (13.630)	36.190*** (8.850)	51.102*** (8.420)	50.332*** (10.160)	52.443*** (10.170)	53.745*** (11.790)	52.545*** (10.300)	52.684*** (9.610)	25.690*** (3.900)	26.377*** (3.710)	38.499*** (4.670)	38.352*** (4.640)
R ²	0.182	0.208	0.261	0.312	0.261	0.415	0.269	0.437	0.369	0.369	0.403	0.403
number of obs	370	370	369	369	369	369	368	368	369	369	369	369
F-test	234.720***	168.770***	167.180***	193.460***	175.240***	228.730***	180.570***	219.410***	137.800***	135.560***	124.170***	122.000***

Source: Kim, Byung Yeon and Yoshisada Shida. 2013. "Shortages and the Informal Economy in the Soviet Republic: 1965-1989." Paper presented at the Pacific Rim Economics: Institutions, Transition and Development, Seoul, Korea, April. <http://regconf.hse.ru/uploads/3d8964f78ff8f75249b482ce0b287646b4437379.pdf>.

Significance level: ***: 1%; **: 5%; *: 10%

Table 5. Informal Economy Equations: Fixed Effect Model (2)

Dependent variable: shortage_mid												
model	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
sen_nmp	0.133^{***} (5.150)	0.127^{***} (5.080)	0.137^{***} (5.430)	0.128^{***} (4.840)	0.132^{***} (5.260)	0.129^{**} (4.480)	0.137^{***} (5.570)	0.136^{***} (4.770)	0.132^{***} (5.030)	0.134^{***} (5.150)	0.150^{***} (5.720)	0.151^{***} (5.730)
income_ln	-2.066 ^{***} (-7.380)	-3.901 ^{***} (-6.220)	1.109 ^{**} (3.400)	1.070 ^{**} (3.120)	0.862 ^{***} (2.580)	1.118 ^{**} (3.060)	1.478 ^{**} (4.680)	1.324 ^{**} (3.260)	1.053 [*] (2.310)	0.430 (0.860)	1.037 ^{**} (1.990)	1.051 [*] (2.020)
density_ln		4.613 ^{***} (3.050)	-2.570 ^{**} (-3.520)	-2.119 ^{**} (-2.780)	-1.957 ^{**} (-2.680)	-2.339 ^{**} (-3.170)	-2.452 ^{**} (-3.430)	-2.489 ^{**} (-3.220)	-3.298 ^{**} (-4.000)	-3.688 ^{**} (-4.460)	-3.278 ^{**} (-3.890)	-3.318 ^{**} (-3.920)
family		-3.211 ^{***} (-3.350)	-0.129 (-0.280)	-0.239 (-0.500)	-0.453 (-0.950)	-0.167 (-0.350)	-0.092 (-0.200)	-0.171 (-0.350)	0.628 (1.180)	0.715 (1.350)	0.922 [*] (1.720)	0.919 [*] (1.710)
gnmp_pp			0.026 ^{**} (2.320)	0.030 ^{**} (2.690)	0.031 ^{**} (2.810)	0.030 ^{**} (2.630)	0.027 ^{**} (2.510)	0.027 ^{**} (2.360)	0.025 ^{**} (2.310)	0.025 ^{**} (2.290)	0.024 ^{**} (2.300)	0.024 ^{**} (2.260)
ind_share			-0.025 [*] (-1.780)					-0.010 (-0.650)				
agr_share				0.085 (1.260)				-0.047 (-0.610)				
const_share					0.105 ^{***} (3.380)			0.032 (0.790)				
trade_share						0.067 (0.610)		0.039 (0.340)				
foreign_share							-0.052 ^{***} (-3.310)	-0.046 ^{**} (-2.210)	-0.061 ^{***} (-3.790)	-0.090 ^{***} (-4.780)	-0.082 ^{***} (-4.280)	-0.082 ^{***} (-4.290)
taxrate									0.634 ^{***} (2.830)	0.641 ^{***} (2.900)	0.698 ^{***} (2.840)	0.703 ^{***} (2.850)
wage_gap									-0.370 (-0.900)	-0.517 (-1.260)	-0.221 (-0.530)	-0.198 (-0.470)
dostavka_shop										0.038 ^{**} (2.880)	0.039 ^{***} (2.940)	0.039 ^{***} (2.950)
runiv											0.670 (3.100)	0.654 (3.000)
grad											-0.015 (-2.190)	-0.015 (-2.230)
slav											0.021 (0.930)	0.021 (0.940)
clark_pop												0.043 (0.580)
constant	1.443 (1.200)	5.268 ^{**} (2.420)	4.079 (1.250)	1.512 (0.530)	2.308 (0.810)	1.784 (0.600)	0.180 (0.060)	1.832 (0.550)	-0.267 (-0.080)	4.140 (1.130)	-5.370 (-1.210)	-5.288 (-1.190)
R ²	0.071	0.161	0.178	0.174	0.197	0.171	0.206	0.210	0.225	0.243	0.274	0.274
obs	370	370	369	369	369	369	368	368	368	368	368	368
F-test	20.580	14.110	14.500 ^{***}	11.400 ^{***}	13.520 ^{***}	14.400 ^{***}	15.530 ^{***}	11.840 ^{***}	14.970 ^{***}	15.120 ^{***}	16.270 ^{***}	15.820 ^{***}

Source: Kim, Byung Yeon and Yoshisada Shida. 2013. "Shortages and the Informal Economy in the Soviet Republic: 1965-1989." Paper presented at the Pacific Rim Economics: Institutions, Transition and Development, Seoul, Korea, April. <http://regconf.hse.ru/uploads/3d8964f78ff8f75249b482ce0b287646b4437379.pdf>.

Significance level: ***: 1%; **: 5%; *: 10%

Table 6. R² for Selected Dependent Variables Regressed on Income

RUSSIA	1965	1970	1980	1985	1989	1990	1991
Savings (rubles)	.8210	.6788	.3044	.1652	.2281	.1575	.1125
Alcohol (rubles)	.8841	.8570	.6705	.4392	.1000	.0578	.0752
Alcohol (litters pure)		.8878	.6209	.2032	.0543	.0659	<u>.0198</u>
Vodka (litters)		.6687	.3817	.3005	.1017	<u>.0002</u>	<u>.0020</u>
Wine (litters)		.4405	.4854	.1237	<u>.0211</u>	.0617	<u>.0435</u>
Beer (litters)		.2506	.0796	.0774	<u>.0158</u>	<u>.0208</u>	<u>.0015</u>
Retail trade (rubles)	.9430	.9212	.8720	.8245	.7845		
Food (rubles)	.8276	.9063	.8229	.7374	.5811		
Nonfoods (rubles)	.7855	.8177	.7998	.6958	.7400		
Public dining (rubles)	.8661	.8279	.6224	.5589	.5553		
Services (rubles)	.6245	.6639	.6092	.5197	.4872		
Bread (kg)	.2890	.2082	.2315	.2005	.0922		
Fish (kg)	.3152	.1135	.2279	.1253	.2582		
Eggs (units)	.5497	.5015	.5154	.3531	.2456		
Sugar (kg)	.2691	.1729	<u>.0235</u>	<u>.0491</u>	.1086		
Meat (kg)	.8760	.8124	.6578	.5755	.5614		
Milk (kg)	.7148	.7264	.5786	.4340	.5465		

Source: Treml, Valdimir D. and Michael Alexeev. 1993. "The Second Economy and the Destabilizing Effect of Its Growth on the State Economy in the Soviet Union: 1965-1989." Working Paper, Duke University and Indiana University-Bloomington, Department of Economics.

Note: R² values which are not statistically significant at 0 .05 probability level are underlined.

Table 7. Objectives, Constraints, and Solutions of the Three Stakeholders

Stakeholders	Objectives	Constraints	Solutions
The Soviet people	Material wellbeing	State ideology and dysfunctional national economic planning	Engage in illicit economic activities
Bureaucracy	Job security, more influence, bribes, grafts, perquisites	Party surveillance	Collude with the State and extract resources from the second economy by exercising their powers
The Soviet State	Stay in power	Potential popular resistance against poor economic performance	Utilize the second economy

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