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# The Unofficial Economy in Russia

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## Abstract

This paper provides the various estimates of Russia's unofficial economy during the transition period and discusses the estimation methods of the unofficial economy. It suggests that Russia's unofficial economy, which substantially increased during the early 1990s and stands still high compared to other countries, is caused by the institutional and cultural legacy from the Soviet era and problems in the transition period such as poor quality of institutions and newly available opportunities. It emphasizes the importance of understanding the evolution of the unofficial economy over time and its heterogeneity across countries.

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## I. Introduction

The transition toward a market economy in a number of Eastern European countries and former Soviet republics has been accompanied by a sharp increase in unofficial economic activities. This phenomenon has startled many observers and policy makers. A market mechanism replacing centralized planning was believed to increase the transparency and efficiency of the economic system and thus reduce incentives to work unofficially. Hence, such an unexpected increase in the unofficial economy was viewed as, at the least, a symptom of partial failure during economic transition and a cause of serious concern for the future of transition countries.

The Russian unofficial economy has attracted much attention from researchers. Majority of empirical studies on Russia's unofficial economy relied on cross-country analysis. Some of these studies estimated the size of the unofficial economy in various countries, including Russia, and others identified the determinants and likely effects on the economy. At the same time, some works focused on the Russian unofficial economy itself, and discussed why economic agents participated in the unofficial economy, what activities were conducted, and how they changed over time.

Most studies found that the Russian unofficial economy is comparatively large. Weak property rights and poor quality of public services during the transition period were often suggested as the main reasons for such a large unofficial economy. In addition, the transition generated new opportunities for firms and households to enrich themselves even by engaging in unofficial economic activities. Poor households might have used the unofficial economy as a survival mechanism. However, the Russian unofficial economy is not a new phenomenon, nor did it emerge solely from the transition process. The second economy in the Soviet Union was widely known to coexist and interact with the official socialist economy, causing the path dependency of Russia's unofficial economy during the transition period.

One of the most important obstacles of research on the unofficial economy is the lack of relevant data. In this sense, the availability of aggregate and microeconomic information on the Russian unofficial economy presents an excellent opportunity to obtain more reliable estimates on both its determinants and impacts on the economy. Moreover, the dynamics and heterogeneity of unofficial economic activities, which tend to be overlooked in existing literature, can be explored using a proper dataset.

"Unofficial economy" is not a firmly established term. Other terms are also used to refer to the economy, significantly overlapping with or similar to the unofficial one. Such terms include informal, non-observed, non-recorded, hidden, shadow, and underground economy. The Organization for Economic Co-operation and Development (OECD, 2002) uses the term "non-observed economy," which includes underground, illegal, informal, household production for self-consumption, and other productive activities missing from the basic data of the system of national accounts (SNA).<sup>1</sup> The OECD defines the non-observed economy in the context of the SNA. Thus, activities engaged in the non-observed economy should be productive. In other words, the non-

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<sup>1</sup> According to the OECD (2002), underground economy refers to one producing legal goods and services, but is concealed to evade taxes or avoid regulations. Illegal economy produces goods and services that are illegal or provided by unauthorized producers. Informal economy, which is more prevalent in developing countries than in developed ones, is one conducted mostly by households at low levels of organization.

observed economy should involve value-adding activities, not value-redistributing activities, such as bribes.<sup>2</sup>

In the present work, the unofficial economy is defined as the production of goods and services that should be included in the GDP, but are either excluded from the official estimates of the GDP because of lack of information or included only by estimating the production of such goods and services indirectly.<sup>3</sup> Using this definition, we exclude the activities of illegal organizations, such as the mafia, from the analysis of the present study because these cannot be registered in most countries and thus escape detection in the official estimates of the GDP. The covered unofficial economic activities are those conducted by enterprises and households. Thus, the definition of unofficial economy is narrower than that of the non-observed economy used by the OECD.

The present work is laid out as follows. Section II discusses the Soviet second economy, highlighting the historical and cultural roots of the Russian unofficial economy. In Section III, various existing estimates of Russia's unofficial economy are presented and discussed. Sections IV and V examine the causes and effects of the Russian unofficial economy, respectively. Section VI presents the conclusions.

## II. The Soviet Second Economy

A large unofficial economy existed during the Soviet era (Grossman, 1977, 1979, 1987; Ofer and Vinokur, 1992; Trembl and Alexeev, 1994; Kim, 2003).<sup>4</sup> According to Grossman (1977), the so-called second economy is defined as all production and exchange activities with at least one of two features: direct pursuit of one's private gain, or significant violation of the laws and regulations in the socialist economy. In addition, O'Hearn (1980) notes a third feature: the second economy operates outside of central planning. For example, cultivating on private plots can satisfy the first and third features and thus can be recognized as second economy activity. Speculation (i.e., the resale of goods and services at prices higher than the purchase price) satisfies all three features. Using *tolkach* (expeditor) or markets to procure inputs in order to achieve planned targets can also be classified as second economy activities. The latter may not have been intended directly for private gain; however, it violates laws and regulations, and operates outside central planning.

According to the above definition, the second economy includes both value-creating and value-redistributing activities. Speculation and purchasing inputs do not directly create value unless they are transferred to higher-value users; in contrast, private plot activities and *shabashniki* (private construction workers) do. Hence, the definition of the second economy during socialism is broader than the unofficial

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<sup>2</sup> Bribe can generate economic value if it increases the efficiency of government officials. Faster processing of paperwork and "getting things done" induced by bribe are some of these examples.

<sup>3</sup> Some countries, including Russia, estimate the unofficial production of goods and services indirectly and include the value of such goods and services in the official estimates of the GDP. The definition of the unofficial economy used in this paper distinguishes directly estimated official GDP from that estimated indirectly, and include the latter as part of unofficial GDP.

<sup>4</sup> Alexeev (1995) provides an excellent review of the unofficial economy in traditional Soviet Union and Perestroika.

economy defined in the present study. It is also important to stress that the second economy was large in the USSR because many value-adding activities, such as almost any private production and sale outside of agriculture, were treated as illegal in the USSR.

In the Soviet Union, second economy activities were rooted firmly in the workings of the centrally planned economy (CPE). The CPE consisted of complex balance mechanisms between demand and supply (e.g., material balancing deals with 30,000 commodities and 70 volumes of compiled documents with 12,000 pages) (Gregory and Stuart, 1998). The sheer magnitude of the task often led to inconsistencies in the plans. For example, output targets were imposed even without the delivery of the necessary inputs. Managers were required to fulfill the output target while also needing inputs to be used for production. Thus, inputs were purchased from *tolkachi* or secondary markets. Such costs were financed by selling goods at prices higher than the official ones, or by illegally converting passive money to active one (Harrison and Kim, 2006). This planning system was the basis on which the second economy grew and intertwined with the first economy in a complex way (Davis, 1988).

Chronic shortages were also an important cause of second economy activities. Rural and many urban households relied on cultivating private plots in response to chronic shortages of food. Some of them sold potatoes and vegetables produced from private plots at *kolkhoz* markets. Buying goods at lower official prices and selling them in secondary markets at higher prices was prohibited, but was nevertheless widespread. Several foreign goods with existing demand but not domestically produced, such as blue jeans, were smuggled into the Soviet Union and sold at secondary markets. Bribery became prevalent, partially due to shortages. Households and firms had incentives to pay bribes to officials and shop workers who were influential in deciding to whom the goods in short supply would be sold.

The weak monitoring of state assets facilitated second economy activities. State ownership was viewed by the Soviets as “nobody’s ownership,” encouraging the theft of state assets. Truck drivers used fuel supplied for official jobs for their private businesses or errands. Construction material stolen from workplaces was used to build or repair houses or *dacha*. According to Trembl (1990), the estimated value of theft of materials from workplaces was about 70.4 billion rubles in 1980, or between 3% and 5% of the Soviet’s gross social product.<sup>5</sup> The prohibition of private activities also contributed to the second economy. For example, doctors treated paid patients after their working hours, and teachers privately taught pupils (Grossman, 1977).

Local researchers have attempted to estimate the size of the Soviet second economy before its collapse. Estimates range from 50 to 300–350 billion rubles (Koriagina, 1990; Golovin and Shohkin, 1990, Goskomstat SSSR, 1990). However, these Soviet sources failed to provide a clear explanation on how such figures were derived.

Other researchers outside Russia have attempted to estimate the size of the second economy. Grossmann (1979) estimated the size of several illegal private activities, whereas O’Hearn (1980) provided estimates of a few specific consumer goods and services that were unofficially traded. Using surveys of Soviet émigrés, Ofer and Vinokur (1992) and Grossman (1987) estimated that the share of private income in the

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<sup>5</sup> Gross social product consists of all goods created by all enterprises and production associations, including output of inputs, intermediate, and final goods.

total income of urban households was 11.5% in the early 1970s and 33% in the late 1970s, respectively. However, these results should be considered as a first approximation because they were based on unrepresentative samples of Soviet émigrés living either in the United States or in Israel. Trembl and Alexeev (1994) used Russian and Ukraine regional data to analyze the dynamics of the Soviet second economy. They estimated the relationship between the population's official money incomes and various dependent variables such as bank savings and expenditures on certain consumer goods. In general, this relationship became weaker over time, indicating that the Soviet second economy substantially increased. Kim (2003) provided annual estimates of the second economy from 1969 to 1990 using the data from unpublished Soviet family budget surveys. The average share of Soviet households' expenditure in secondary markets in the total expenditure was 23% from 1969 to 1990, amounting to about 6.8% of the official Soviet GNP. However, according to estimates, this share did not increase over time until the mid-1980s when it began to rise during the Perestroika period.

In summary, the Soviet second economy was undoubtedly large and prevalent in various sectors. A bulk of second economy activities was caused by problems arising from the central planning system itself. Soviet firms and households were familiar with such activities, through which they learned how to survive and possibly prosper in the presence of institutional rigidities and failures caused by the distorted system. This experience was transferred to new economic conditions, that is, a market economy.

### **III. Measuring the Unofficial Economy During Russia's Transition**

A good number of studies attempted to estimate the magnitude of the Russian unofficial economy during the transition period and found that it has increased substantially during the early 1990s. Table 1 shows the various estimates of Russia's unofficial economy. One of the most cited works is that of Kaufmann and Kaliberda (1996) who used the so-called total electricity consumption (TEC) method. This method is based on the assumption that the elasticity of electricity consumption with respect to the total (official and unofficial) GDP is close to 1. Thus, the difference between the growth rates of the official GDP and that of electricity consumption can be ascribed to the change in the unofficial GDP. For example, when electricity consumption rises by 8% while the official GDP grows by only 3% in a certain year, the unofficial economy must have increased by 5%.<sup>6</sup> Clearly, in order to estimate the size of the unofficial economy in a given year, this method requires an estimate of the unofficial GDP in a reference year which should be inferred from other sources. Based on the assumption that Russia's unofficial economy was at 12% of the total GDP in 1989, Kaufmann and Kaliberda estimated the unofficial economy at 32.8% in 1992 and 40.3% in 1994. Johnson et al. (1997) extended the estimate of the unofficial economy for 1995, which is 41.6% of the total GDP. Their findings imply that Russia's transitional recession had not been nearly as deep as suggested by the official GDP. While the Russian official GDP declined by 50.9% from 1989 to 1995, the total GDP including production in the unofficial economy decreased only by 26% over the same period.

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<sup>6</sup> Kaufman and Kaliberda (1996) applied a different elasticity of electricity consumption with respect to GDP, depending on current economic conditions such as rising or decreasing GDP.

The electricity consumption approach to estimate the unofficial economy is intuitive, simple, and consistently applicable to a number of countries where data on electricity consumption and official GDP exist. Nevertheless, the approach has at least two serious problems. First, the assumption of near unit elasticity of the GDP with respect to electricity consumption is difficult to justify for countries experiencing deep structural transformations and rapid changes in energy prices (Schneider and Enste, 2000; Acaravci and Ozturk, 2010). In particular, using the panel cointegration approach, Acaravci and Ozturk (2010) found that there is no long-run equilibrium relationship between electricity consumption per capita and GDP per capita for 15 transition countries including Russia. Second, the accuracy of the estimate of the unofficial economy relies critically on the initial size of the unofficial economy, which cannot be obtained from this method and must be taken from a different source. As a result, estimates could vary greatly depending on the initial estimate (Alexeev and Pyle, 2003; Kim, 2003).

Lacko (2000), Eilat and Zinnes (2002), and Feige and Urban (2003, 2008) attempted to address the first criticism as above. Lacko (2000) argued that household electricity consumption (HEC) better captures the unofficial economy in transition countries because it is less likely to suffer from biases due to structural changes in the economy than one using TEC. However, her estimates of Russia's unofficial economy are not so different from Johnson, Kaufmann, and Kaliberda's, which are presented in the second column of Table 1. The following criticism can be made on HEC: using household electricity consumption excludes activities conducted by firms and organizations, which may account for a substantial part of the total unofficial economic activities in transition economies. This leads to inaccurate estimates, unless a high positive correlation exists between the unofficial economy in the non-household sector and that in the household sector.

Both Eilat and Zinnes (2002) and Feige and Urban (2003, 2008) used the modified total electricity consumption (MTEC) method to estimate the unofficial economy in transition countries. They tried to eliminate part of the increase in the TEC estimates of the unofficial economy due to changes in energy prices, industrial structure, and the share of the private sector in the economy. As columns (3) and (4) of Table 1 show, their estimates are substantially lower than those using TEC or HEC. Eilat and Zinnes (2002) assessed that the Russian unofficial economy was about 34–35% of the total GDP from 1995 to 1997, whereas Feige and Urban (2003) estimated that the average of the unofficial economy for 1993–2000 was 31.6%.

Alexeev and Pyle (2003), Kim (2003), and Kim and Kang (2009) looked at the effect of the initial estimate of the unofficial economy on subsequent estimates. While Kaufmann and Kaliberda (1996) and Johnson et al. (1997) assumed that the size of the unofficial economy in 1989 was the same at 12% of the total GDP across all Soviet republics, substantial heterogeneity was actually observed within the Soviet Union. For example, Georgia, Armenia, and Azerbaijan were known to have relatively large unofficial economies, whereas Russia had a considerably smaller informal sector compared to these countries.

Inaccurate estimates of the pre-transition unofficial economy result in erroneous estimates during the transition period. Alexeev and Pyle (2003) used Treml's (1992) estimate of the unofficial economy in 1979 based on time allocation survey (11.8% of all working time of Soviet households were spent on private economic activities in

1979) and applied the TEC method for 1980 and 1989. They obtained 22% as the estimate of the Soviet unofficial economy of the total GDP in 1989, and estimated Russia's unofficial economy in the same year using the Berkeley-Duke survey of Soviet émigrés. As a result, Russia's unofficial economy in 1989 was estimated to be 18% of the total GDP, which is higher than Kaufmann and Kaliberda's.

In contrast, Kim (2003) and Kim and Kang's (2009) estimates of the unofficial economy as a share of the total GDP in 1989 and 1990, respectively, are substantially lower than Kaufmann and Kaliberda's. Kim (2003) found that the official data on GDP during the socialist period included part of the value-added production of the unofficial economy. Using the data derived from the Soviet family budget surveys, he estimated that the production of the unofficial economy, not including the officially counted GDP, amounted only to 5% of Russia's total GDP in 1989.<sup>7</sup> Kim and Kang (2009) used a time budget survey of Soviet households conducted in March 1990 to estimate the unofficial economy in the same year. Using the time spent on private plot activities in total available time as a proxy for the share of the unofficial economy in the total GDP, the Soviet unofficial economy was thought to account for 8.5% of the total Russian GDP in 1990. The application of the above 1990 estimate to the discrepancy between the growth rate of electricity production and that of gross regional product suggests that the share of the unofficial economy in 1995 was 29%, rather than the 41.6% claimed by Johnson, Kaufmann, and Shleifer (1997).<sup>8</sup> These studies illustrate how large differences in the estimates of the unofficial economy can arise for subsequent years due to disparity in the estimates in the reference year.<sup>9</sup>

The most recent estimates of Russia's unofficial economy were provided by Schneider et al. (2010a) who used the multiple indicators and multiple causes (MIMIC) approach to estimate unofficial economies for 162 countries. The MIMIC approach is based on estimation of structural equations consisting of those for the various causes and effects of the unofficial economy. The size of the unofficial economy, which is an unobserved variable, is calculated following the estimation of the parameters of these equations. According to Schneider et al. (2010a), the average of the share of the unofficial economy as a percentage of the total GDP from 1999 to 2007 in Russia was 43.8%. This suggests that the Russian unofficial economy as a share of the total GDP during 1999–2007 was still very high, and this somewhat increased from Johnson et al.'s (1997) estimate of 41.6% in 1995. However, the annual trend of the share of the unofficial economy has been decreasing from 47% in 1999 to 40.6% in 2007. Although this method improved estimations of the unofficial economy using a more comprehensive set of variables and an established statistical model, the reliability of the estimates can still be questioned. For example, the stability of the parameters estimated

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<sup>7</sup> According to Kim, the household production of Russia's unofficial economy unaccounted by the official GDP was estimated to be 3.5% in 1989. He added additional 1.5% to account for enterprise production in the unofficial economy. This estimate of Russia's unofficial economy in 1989 was substantially lower than those in other Soviet republics such as Georgia where the share of value-added by household production in the total GDP was 12.7% in the same year.

<sup>8</sup> They used the official GRP instead of the official GDP because, unlike the latter, the former excludes some part of the unofficial economy. Russia's official GDP includes its estimate of the unofficial economy and a main adjustment to take the unofficial economy into account since the official GDP is made at federal level (Granberg et al., 1998).

in the model cannot be guaranteed. Furthermore it still requires an initial *a priori* estimate of the unofficial economy as in TEC.

Goskomstat began to disclose statistics on the unofficial economy from the late 1990s, which are available from 1993. It explains that the unofficial economy was estimated using indirect information. These include the balancing method, method of commodity flows, special surveys, and expert estimates (Masakova, 2000; United Nations, 2000, 2004).<sup>10</sup> Goskomstat's estimates of the unofficial economy grew rapidly from 1993 to 1997, at 13% and 23% of the total GDP, respectively. These figures are much lower than those estimated by Kaufmann and Kaliberda (1996) and Johnson et al. (1997). Furthermore, Khomenko (2007) claimed that the unofficial economy shrank substantially between 1997 and 2005. In detail, she presented Goskomstat's estimate of the unofficial economy in 2005 as 18% of the total GDP. A similar estimate is found in Kim (2003) who used the income-based sectoral approach, which sums the income components such as wages, operating surplus, and taxes estimated from various surveys to provide an estimate of the unofficial economy. According to Kim, the share of Russia's unofficial economy from 1997 to 1998 was approximately 27% of the total Russian GDP.

Goskomstat statistics include hidden wages for the employed as part of the GDP produced in the unofficial economy since 1993. Table 2 presents the share of hidden wages as a percentage of the official GDP and total wages. It shows a notable trend: it stabilized from 1997 to 2004 at a range of 10.3–11.7% of the GDP following a rapid increase from 5.31% of the GDP in 1993 to 11.7% of the GDP in 1996; however, it tended to increase gradually from 2005 to 2010 and stood at 14.3% of the GDP in 2010. In terms of the share of hidden wages of the total wages, more than a quarter of wages paid to the employed was hidden in 2010. Kevesh, Deputy Chairman of Goskomstat in 2004, provided some figures on the unofficial unemployment based on population census data. According to him, 10.6 million people or approximately 15% of the total employed personnel were involved in unofficial economic activities in 2003. Approximately 83% of the main work lies in the official sector, but the remaining personnel of 17% were employed in the unofficial sector, which provided an additional source of income (United Nations, 2004).

A notable approach to understand the size of the unofficial economy was made by Braguinsky et al. (2010) who focused on a certain type of unofficial economic activities using micro-level data. They used a panel of individuals and households living in Moscow and matched car registries to employers' records of paid earnings. They found that the size of hidden earnings is striking: hidden earnings accounted for more than 75% of the total income for the period of five years from 1999 to 2003. The share of hidden earnings of the total income was highest among employees in the public secondary education, which amounted to 87%. The respective 55.5% and 62.7% of the

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<sup>10</sup> This suggests that Goskomstat's estimates of official GDP includes value-added production in the unofficial economy (United Nations, 1995), thus the electricity method applied to Russia by Johnson, Kaufmann, and Shleifer (1997) and others would lead to gross overestimation of the contribution of the unofficial economy to the total GDP if such an inclusion was made before 1996. However, it is not certain from when the unofficial economy was included as part of the official GDP. United Nations (2000) suggests that it began to be included from 1995, but hidden wages as part of the unofficial economy were estimated from 1993 and appeared to have been included from such year.

total earnings of federal government employees and law enforcement officials were not reported as well.

The estimates of the share of the Russian unofficial economy in the total GDP differ substantially depending on the methods employed. In particular, the estimates by TEC, MTEC, and MIMIC vary widely, particularly because of the differences in the estimate of the unofficial economy in a reference or an initial year. Nevertheless, most studies appear to agree on three issues. First, Russia's unofficial economy is larger than the average of those of other transition countries. Johnson, Kaufmann, and Shleifer (1997) stated that in 1995, among the 18 transition economies in former Soviet republics and Eastern Europe, Russia belonged to the top four countries in terms of the unofficial economy share in the total GDP, following Azerbaijan, Georgia, and Ukraine. Lacko (2000) ranked Russia as 8th out of the 20 transition countries in 1995, although her estimates of the unofficial economy of Russia were similar to that of Johnson, Kaufmann, and Shleifer. However, no country has a higher income per capita and a larger unofficial economy than Russia. According to Schneider et al. (2010a, 2010b), the size of Russia's unofficial economy as a percentage of the total GDP was 34th out of the 158 countries in 2006 and 4th out of the 21 transition countries in the same year.

Second, Russia's unofficial economy rapidly increased during the first half of the 1990s. All the available estimates, including the Russian official statistics, suggested that the Russian unofficial economy as a share of the total GDP dramatically increased during the early years of transition. Goskomstat estimated that its share nearly doubled during 1993–1997, whereas according to Johnson, Kaufmann, and Shleifer (1997), the share increased more than three times between 1990 and 1995.

Third, although it is less obvious than the previous findings, available estimates suggest that the unofficial economy stabilized during the second half of the 1990s and decreased to some extent in the 2000s. According to Eilat and Zinnes (2002), Russia's unofficial economy as a share of the total GDP has not increased from 1995 to 1997. Both estimates of Schneider (2010) and Goskomstat suggest that it even shrank during 2000s.

#### **IV. Causes of the Increases in the Unofficial Economy During Russia's Transition**

The substantial increase in Russia's unofficial economic activities during the early 1990s, as suggested by Table 1, may be attributed to multiple causes. Social, political, and economic environments likely affected unofficial economic activities that emerged during the transition period. At the same time, factors inherited from the socialist period also played an important role.

Some causes of the second economy activities disappeared during the transition period. Central planning was abolished with the introduction of market mechanism and private ownership. In addition, price liberalization eliminated chronic shortages. The pursuit of private interests was no longer prohibited, allowing economic agents to open businesses and to freely engage in private trading. That is, the legalization of most private economic activities during the transition period changed the nature of the unofficial economy substantially. Such changes meant not only challenges, but also new opportunities for economic prosperity.

The transition toward a market economy has been turbulent in Russia. The rapid disintegration of the Soviet Union led to significant weakening of political control over the society. Subsequent political struggles between Eltsin and his opponents resulted in further destabilization. Institutional capacity to monitor, coordinate, and control the economy was substantially undermined. Economic agents were often prompted to pursue their own interests illegally in the belief that detection would not be easy. If detected, penalties could also be avoided with bribes. The fear factor of being detected and penalized, which limited illegal activities in the Soviet Union to some extent, significantly decreased. The liberalization of economic activities without sufficient institutional development to regulate economic agents led to rampant increases in private activities with illegal components.

The path dependence of institutional problems suggests that the unofficial economy in transitional Russia is affected by similar factors which existed in the Soviet Union. Corrupt bureaucrats demand bribes in return for letting economic agents violate laws and regulations. Firms are less likely to pay taxes when they feel that the government fails to provide public services to protect their property rights. Businesses may also want to hide sales, make unlawful connections with bureaucrats, or even hire mafia to provide protection services. In summary, new opportunities, combined with decreased fear of the authorities and poor quality of institutions, are likely the causes of the rapid growth of the unofficial economy in the enterprise sector. In this environment, firms attempt to conceal sales and profit to avoid taxes, and employ unregistered workers to avoid social security payments (Schneider and Enste, 2000; Johnson, et al., 2000). Barter was partially used to avoid restructuring and hide the true amount of sales (Kim and Pirtilla, 2004).

Conventional causes of the unofficial economy found in other countries must have contributed to the unofficial economy. Tax evasion has been regarded as the most common cause of unofficial activities by firms violating laws and regulations (Feige, 1989; Thomas, 1992). There is some empirical evidence that tax evasion increases with tax rates (Schneider, 2000; Fisman and Wei, 2004). However, some studies suggested that marginal tax rates are negatively correlated with the unofficial economy (Johnson et al., 1997; Friedman et al., 2000). For example, using data from 69 countries, the study by Friedman et al. (2000) claimed that high tax rates may strengthen institutions and thus reduce unofficial economic activities.

Studies on the causes of the unofficial economy concluded that excessive bureaucracy, corruption, and poor enforcement are the main contributors to the unofficial economy (Eilat and Zinnes, 2002; Johnson et al., 1997; Friedman et al., 2000). In this vein, Johnson et al. (1997) classified former Soviet republics and East European countries in three groups. The first group of countries has good-quality institutions, relatively fair taxes and regulations, and a more liberal economy. This group, to which most East European economies belong, tends to have smaller unofficial economies. The second group of countries consists of less-liberal countries, such as Uzbekistan and Belarus. These countries also have relatively small unofficial economies. Migration constraints and political repression reduce the unofficial economy in spite of distortive tax systems and poor provision of public goods. Large unofficial economies are observed in the third group of countries, where political liberalism is more advanced than in the second group. However, these countries suffer from weak institutions, massive tax distortions, and onerous regulations. Russia is said to belong to the third

group at least until the mid-1990s, although its tax system has improved, especially after the 2002 tax reform.

The estimates of Russia's unofficial economy as a share of the total GDP presented in Table 1 show that it appeared to stabilize from the mid-1990s following a rampant increase from 1990 to 1995 and start shrinking after around 2000. This trend can be understood from the perspective of institutional and policy changes. The quality of institutions measured by governance indicators of the World Bank Institute suggested that it declined until 2000 before a significant increase in the early 2000s (Guriev and Zhuravskaya, 2010). A substantial increase in the unofficial economy from 1990 to 1991 must have been associated with the substantial deterioration of the quality of the institutions, although the measures of institutional quality are not available for such years. A decrease in institutional quality continued even during the immediate years following the collapse of the Soviet Union; according to the simple average of three separate indices of political risk from the PRS group, that is, Corruption, Law and Order, and Political Stability, Russia's institutional quality decreased from 3.47 to 3.30 from 1992 to 1993.<sup>11</sup> Hence, a dramatic increase in the unofficial economy during the first half of the 1990s is likely to have been caused by such deterioration in the quality of institutions. Stabilization in the size of the unofficial economy during the second half of the 1990s might have been helped by improved political stability but still hindered by poorer quality of government services in terms of government effectiveness and regulatory quality (Guriev and Zhuravskaya, 2010).

A shrinkage of the unofficial economy as a share of the total GDP from the early 2000s might have been caused by two important factors. First, institutional quality has improved during the early 2000s measured by the aforementioned governance indicators. Second, the tax reform implemented in 2001 has a positive impact on tax compliance. The new tax law, which became effective from the beginning of 2001, changed not only tax rates but also the administration of taxes. A flat rate of 13% applied to personal income replaced a progressive taxation with marginal rates of 12%, 20%, and 30%. Furthermore, a new system of tax administration was introduced: a common taxpayer ID was introduced; tax authorities were allowed to assess tax liabilities; and tax audits became possible by the law when there was sufficient evidence on a tax evasion. Studies investigating the impact of these changes on tax evasion concluded that tax compliance accounted for most of the increase in tax revenue after this reform, whereas the introduction of flat tax rates itself had little or limited effects on tax revenue (Ivanova et al., 2005; Gaddy and Gale, 2005; Gorodnichenko et al., 2009). For instance, Gorodnichenko et al. (2009) used the gap between the reported income and consumption expenditure available from Russian Longitudinal Monitoring Surveys (RLMS), and compared the tax payment between the pre-reform and post-reform periods. They claimed that the introduction of flat income taxes failed to increase productivity but led to substantial rise in tax revenue through increases in tax compliance.

Both firms and households can participate in the unofficial economy for similar reasons. However, some causes of such activities can differ between these two types of economic agents. Table 3 shows the types and causes of unofficial economic activities for different economic agents. In the enterprise sector, unofficial economic activities

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<sup>11</sup> An increase in this measure refers to an improvement in the quality of the relevant institutional element.

can be conducted by both registered and unregistered firms. The types of unofficial activities by registered firms include hiding sales and profits or employing workers without registration. Firms that are not registered with relevant authorities evade tax payments and social security contributions. The main types of household unofficial activities include employment in the main and secondary workplaces, where income taxes and social security contributions levied on employees are not paid.<sup>12</sup> Unincorporated and unregistered self-employment is part of household unofficial economy. Sales of agricultural products produced by cultivating private plots belong to the unofficial economy as long as households fail to abide by tax laws.

Bribes paid to government officials are likely to be correlated with the hidden sales of firms (Levin and Saratov, 2011). Johnson et al. (2000) compared the extent of bribes in five transition countries: Russia, Ukraine, Poland, Slovakia, and Romania. The incidence of bribes was much higher in Russia and Ukraine than in the other three countries. For example, approximately 90% of Russian and Ukraine firms claimed that typical businesses in the same industry make extralegal payments for licenses and services.<sup>13</sup> In contrast, such figures dropped to 20–40% in the other countries.

Households engage in unofficial economic activities for diverse and complex reasons. It is believed that the poor and the needy are more likely to participate in the unofficial economy for survival (Desai and Idson, 2000; Rose 1994). In particular, the severe recession experienced by the Russian economy in the first few years of the transition might have forced many households to find a way for survival. However, existing literature suggests that the relationship between low income as a proxy for household survival needs and involvement in the unofficial economy is not significant (Kolev, 1998; Kim, 2002).<sup>14</sup> Conversely, educated and skilled individuals are more likely to participate in moonlighting as a main domain of unofficial economic activities conducted by households (Guariglia and Kim, 2006).

Transition has exposed households not only to opportunities but also to uncertainty. Faced with high uncertainty, households use the unofficial economy as insurance. For instance, having a secondary unofficial job, in addition to a main job, reduces the risk of financial instability, which may be caused by a loss of their main job (Skoufias, 2003). Guariglia and Kim (2006) focused on moonlighting to investigate whether it was used as a way to change jobs.<sup>15</sup> They found that Russian workers who desire a job change were more likely to hold a secondary job without quitting their main job.

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<sup>12</sup> A main job in Russia is the workplace where a person keeps his labor book. This traces the “official” work history and salaries. Benefits such as medical and pension rights are provided based on this job record.

<sup>13</sup> Using Ukrainian household data on wage gaps between the public and the private sectors, Gorodnichenko and Sabirianova (2007) estimated that bribe paid to government officials amounted to 0.9–1.2% of Ukraine’s GDP and 3.8–4.8% of the official wage bill in 2003.

<sup>14</sup> Among transition countries, there are differences in the characteristics of participants in the unofficial economy. For example, unofficial economy participation in Romania is negatively correlated with income level, suggesting unofficial economy as a survival mechanism (Kim, 2005). In contrast, Rosser and Rosser (2000) found a negative correlation between income equality and the size of the unofficial economy in transition countries including Russia.

<sup>15</sup> According to Kim (2002), the share of the unofficial secondary job in total secondary jobs ranged from 64% to 78% from July 1997 to January 1999. This suggests that secondary jobs in Russia are predominantly unofficial.

Lumping these diverse unofficial economic activities together as one category and then ascribing the reasons for participation to a single cause (e.g., tax evasion) is grossly inadequate. The causes of unofficial economic activities differ substantially in terms of the types of economic agents and the activities they conduct. Given this heterogeneity, a better research strategy is to unbundle the unofficial economic activities. Each activity may then be analyzed in a more systematic way.

The second economy in the Soviet Union has been transformed into an unofficial economy during the transition toward a market economy. Therefore, Russia's unofficial economy has some characteristics unlike those during the socialism period. Nevertheless, the path dependence of Soviet firms and households familiar with second economy activities might have played an important role in increasing and shaping the unofficial economic activities during the transition. Old skills and networks acquired from their past were applied to new settings. Institutional legacy, corruption, bribery, and the culture of beating the system of excessive regulation in the Soviet period would continue to exist in the transition period. Firms and households also carry on exploiting opportunities that have opened and become more available during this period.

## **V. Effects of the Unofficial Economy During the Transition of Russia**

Controversies remain in areas as to how the unofficial economy affects the formal economy, and to what extent it is harmful or beneficial for the economy as a whole. Several studies suggest that the unofficial economy has various negative effects on the economy. The most obvious effect lies in the area of public finance. Participants in the unofficial economy fail to contribute to government revenue, which is the most important resource for the provision of public goods (Johnson et al., 1997). Institutional quality may deteriorate due to lack of financial resources. This may induce a vicious cycle in which less tax revenue causes the low quality of institutions, leading to more instances of tax evasion of economic players (Friedman et al., 2000). The tax burden of legitimate firms increases due to tax evasion of others. Consequently, some firms in the official sector may decide to evade taxes at least in part. Weak institutions might be more detrimental to private firms rather than state-owned enterprises that are more likely to have the existing network of firms, banks, and organizations supporting one another.

The less obvious and contestable effects of the unofficial economy on the economy as a whole include those on growth and income inequality. One group of economists argued that unregistered firms are typically small and thus are likely to suffer from low productivity. Furthermore, unofficial activities may involve higher transaction costs (Tokman, 1978). It is also possible that the unofficial economy hurts the economy by eroding social norms and decreasing trust in institutions, and by interacting with corruption (Wallace and Latcheva, 2006; Friedmann, 2000; Dreher and Schneider, 2010).<sup>16</sup> These suggest that an economy with a larger unofficial sector grows more slowly compared to one with a smaller unofficial sector (Loayza, et al, 2010). However,

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<sup>16</sup> However, corruption may not always be positively associated with the unofficial economy; it may be substituted or complemented depending on conditions. See Choi and Thum (2005) and Dreher and Schneider (2010) for more detailed discussions.

counter-arguments are easily available. The unofficial economy emerges as a rational reaction to the poor quality of institutions and economic policies. Transaction costs in the official economy might be greater than in the unofficial one in the case where regulations are particularly excessive (Choi and Thum, 2005). As a result, unofficial activities, which can be viewed as those that help economic agents circumvent inefficiencies in the existing system, may benefit the economy as a whole. For example, a non-compliant activity in the presence of onerous regulations may facilitate efficiency in the economy (de Soto, 1989). However, despite the importance of the issue, the effect of the unofficial economy on growth still remains largely unexplored.

Some studies based on cross-country datasets claimed that unofficial economic activities in transition economies including Russia increased income inequality (Rosser et al., 2000, 2003).<sup>17</sup> This finding suggests that those who are relatively rich than the poor in terms of official income are engaged in unofficial economic activities more actively. It is in line with the findings of those who used Russian household datasets (Kolev, 1998; Kim, 2002; Clarke, 2002). Nonetheless, the Romanian case was different. In Romania, the poor and the needy participate in unofficial economic activities more frequently and thus income inequality measured in terms of total income (official income plus unofficial income) was reduced because of such activities (Kim, 2005). These contrasting results indicate large heterogeneity in the nature of the unofficial economy even across transition countries.

It is difficult to obtain reliable results on the relationship between the unofficial economy and other macroeconomic variables using cross-country data. One of the main reasons is that the characteristics of the unofficial economy are so diverse across countries and thus are difficult to control them fully. In addition, causality may run in both directions between the unofficial economy and other macroeconomic variables. Income distribution can be a cause of the unofficial economy as well as its effect. The same applies to the relationship between growth and the unofficial economy. Arguably, a better approach to understand the effects of the unofficial economy on economic performance is to use microeconomic data focusing on a certain country or a region instead of using cross-country data.

Guariglia and Kim (2006) used household panel data, namely the RLMS, to investigate whether unofficial moonlighting jobs evolve into formal self-employment. Households were found to use moonlighting as a job-change mechanism. A desire to switch jobs expressed in the past is positively related to moonlighting in the present, and even to actual job changes in the future, particularly self-employment. The share of workers who moonlighted as self-employed in the past was found to represent 26.5% of the newly self-employed. Thus, moonlighting acted as an instrument that helped job changers to shift jobs into self-employment more smoothly with lower risk of being unemployed.

The above findings are reinforced by Kim and Kang (2009) who examined the effect of the unofficial economy in the past on the growth of small enterprises in the present using the data on the Russian regions from 1992 to 1999. It was found that

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<sup>17</sup> Rosser et al. (2000) provided a simple correlation between the unofficial economy and the extent of income inequality in 16 transition countries including Russia; the correlation between the Gini coefficient and the unofficial economy share during 1993–1994 was found to be 0.76. Using multiple regressions of data from 18 transition economies, Rosser et al. (2003) found that income inequality is significantly correlated with the size of the unofficial economy.

Russia's unofficial economy was partially caused by a delay in reform and the low quality of institutions. Nevertheless, entrepreneurial activities in the face of government failure used the unofficial economy as an incubator. The unofficial economy becomes official over time, when structural reform quickens its pace and institutional quality improves.<sup>18</sup>

Some characteristics of the unofficial economy in transition countries might be different from those of other countries. This is because the path dependence is intertwined by new opportunities and challenges caused by the transition process. This suggests that countries may differ in terms of inherited history, culture, and economic and social environments regarding unofficial economic activities. Policies will be less effective or even harmful if such diversity of unofficial economic activities across countries is ignored. In addition, an understanding of the effects of the unofficial economy will be facilitated by looking at the dynamics of the unofficial economy, that is, whether unofficial economic activities evolve into official ones over time (Asea, 1996; Levenson and Maloney, 1998). A static snapshot picture cannot possibly reveal such dynamism.

## **VI. Conclusions**

The Russian unofficial economy is large and has grown substantially during the early years of the transition period toward a market economy. According to various estimates, the share of the unofficial economy of the total GDP increased from 8–12% in 1989–1990 to 20–42% in the mid-1990s. Available estimates suggest that the unofficial economy stabilized during the second half of the 1990s and decreased to some extent in the 2000s. Some estimates suggest that Russia's unofficial economy ranged between 34% and 35% from 1995 to 1997, and other estimates show that it decreased somewhat from the early 2000s.

A substantial increase in the unofficial economy during the early 1990s was affected by several newly emerged factors during the transition. These include weakened control of the state on society, and opportunities to enrich themselves. In addition, the path dependence of the Russian culture and institutions inherited from the Soviet era is likely to have influenced the large unofficial economy. Soviet economic agents developed a series of unofficial ways to avoid excessive regulations, causing the prevalence of second economy activities. Some sources of the second economy, such as chronic shortages, disappeared when transition began. However, old habits and culture that regards violations of laws and regulations as, at most, necessary evils would continue to determine the behavior of a large number of individuals and firms in

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<sup>18</sup> La Porta and Shleifer (2008) presented three views on the relationships between official firms and unofficial businesses. The romantic view suggests that the unofficial sector, which emerges because of improper protection of property rights, is an engine of growth that can be formalized when institutional quality improves. The parasitic view regards the unofficial sector as a collection of small firms that exist to avoid taxes and regulations. Finally, the dual economy view indicates the lack of interaction between the official and the unofficial sectors because the latter is dominated by less-skilled and less-educated agents. Using firm-level data mostly from African and Asian countries, they found little evidence on this evolution of firm from being unofficial to formal. Kim and Kang (2009)'s finding contradicted that of La Porta and Shleifer (2008), indicating that the Russian unofficial economy has different characteristics from those in the developing countries of Africa and Asia.

transitional Russia. Hence, the significant expansion of unofficial economic activities in Russia during the early 1990s can be viewed as the result of partially unsuccessful institutional transformation compounded by historical variables. An increased political stability might have helped the stabilization in the size of the unofficial economy during the second half of the 1990s, but poor institutional quality prevented the unofficial economy from decreasing. It appears that a decrease in the unofficial economy as a share of the total GDP from the early 2000s might have been caused by an improvement in institutional quality and tax reforms in 2001.

The effects of the unofficial economy on the economy as a whole are a complex issue. The unofficial economy decreases tax revenue. Its untaxed nature may undermine economic growth by leading the authorities to levy excessively high taxes on official businesses, and by constraining the development of institutions and social infrastructure. Furthermore, social capital based on mutual trust may be eroded. The possible complementarity between corruption and the unofficial economy means that Russia's corruption, which is one of the most significant obstacles in its development, would be difficult to reduce unless the unofficial economy is dealt with. However, the dynamic nature of Russia's unofficial economy must not be forgotten. Some evidence suggests that, in both the household and the business sectors, some parts of unofficial economic activities are temporary. Households use moonlighting to change jobs toward self-employment and entrepreneurship. Hence, unofficial secondary employment can be viewed as a risk-reduction mechanism facilitating job changes. In addition, the positive correlation between previous unofficial sector and the number of current small firms suggests the evolution of unofficial firms toward official ones. That is, small firms that operated in the unofficial sector in the past became official due to progress in structural reforms and institutional development.

There is substantial heterogeneity in the characteristics of the unofficial economy across countries. Income inequality worsens in some countries because the main participants in the unofficial economy are relatively rich compared to non-participants. In contrast, household unofficial economic activities are driven by survival motive in other countries, suggesting that they reduce income inequality. In addition, the reasons for household involvement in the unofficial economy are different from those for firms. Various types of unofficial economic activities by households and firms exist. Disregarding such heterogeneity in the unofficial economy would lead to grossly inadequate and hasty generalizations. Russia is an interesting case that shows the effects of path dependency, challenges, and opportunities on the unofficial economy, and illustrates the heterogeneity and dynamics of unofficial economic activities.

Table 1: Various Estimates of Russia's Unofficial Economy

|        | Kaufman and Kaliberda <sup>a</sup> /Johnson et al. <sup>b</sup> | Lacko <sup>c</sup> | Eilat and Zinnes <sup>d</sup> | Feige and Urban <sup>e</sup> | Alexeev and Pyle <sup>f</sup> | Kim <sup>g</sup> | Kim and Kang <sup>h</sup> | Schneider et al. <sup>i</sup> | Goskom <sup>j</sup> | Kim <sup>k</sup> |
|--------|-----------------------------------------------------------------|--------------------|-------------------------------|------------------------------|-------------------------------|------------------|---------------------------|-------------------------------|---------------------|------------------|
| Method | TEC                                                             | HEC                | MTEC                          | MTEC                         | Surveys/TEC                   | Surveys/TEC      | Surveys/TEC               | MIMIC                         | VA                  | ISA              |
| 1989   | 12.0                                                            | 12.0               |                               |                              | 18.0                          | 5.0              |                           |                               |                     |                  |
| 1990   | 14.7                                                            |                    |                               |                              |                               |                  | 9.0                       |                               |                     |                  |
| 1991   | 23.5                                                            |                    |                               |                              |                               |                  |                           |                               |                     |                  |
| 1992   | 32.8                                                            | 38.0               |                               |                              |                               |                  |                           |                               |                     |                  |
| 1993   | 36.7                                                            | 36.0               |                               | 31.6                         |                               |                  |                           |                               | 13.0                |                  |
| 1994   | 40.3                                                            | 39.0               |                               |                              |                               |                  |                           |                               |                     |                  |
| 1995   | 41.6                                                            | 39.0               | 34.6                          |                              | 45.6                          | 17.0             | 29.0                      |                               |                     |                  |
| 1996   |                                                                 |                    | 35.1                          |                              |                               |                  |                           |                               |                     | 27.0             |
| 1997   |                                                                 |                    | 34.2                          |                              |                               |                  |                           |                               | 23.0                |                  |
| 1998   |                                                                 |                    |                               |                              |                               |                  |                           |                               | 22.0                |                  |
| 1999   |                                                                 |                    |                               |                              |                               |                  |                           | 47.0                          |                     |                  |
| 2000   |                                                                 |                    |                               |                              |                               |                  |                           | 46.1                          |                     |                  |
| 2001   |                                                                 |                    |                               |                              |                               |                  |                           | 45.3                          |                     |                  |
| 2002   |                                                                 |                    |                               |                              |                               |                  |                           | 44.5                          |                     |                  |
| 2003   |                                                                 |                    |                               |                              |                               |                  |                           | 43.6                          |                     |                  |
| 2004   |                                                                 |                    |                               |                              |                               |                  |                           | 43.0                          |                     |                  |
| 2005   |                                                                 |                    |                               |                              |                               |                  |                           | 42.4                          | 18.0                |                  |
| 2006   |                                                                 |                    |                               |                              |                               |                  |                           | 41.7                          |                     |                  |
| 2007   |                                                                 |                    |                               |                              |                               |                  |                           | 40.6                          |                     |                  |

#### Notes

TEC: Total electricity consumption

HEC: Household electricity consumption

Surveys: Various surveys of household economic activities

MTEC: Modified total electricity consumption

MIMIC: Multiple indicators multiple causes

VA: Various methods

ISA: Income-based sectoral approach

#### Sources

a: Kaufmann and Kaliberda (1996)

b: Johnson, Kaufmann and Schleifer (1998)

c: Lacko (2000)

d: Eilat and Zinnes (2002)

e: Feige and Urban (2008)

f: Alexeev and Pyle (2003)

g: Kim (2002)

h: Kim and Kang (2009)

i: Schneider, Buehn, and Montenegro (2010a)

j: Masakova (2000); United Nations (2000, 2004); Khomenko (2007)

k: Kim (2003)

Table 2: Russia's Official Estimates of the Share of Hidden Wages

| Year                                 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|--------------------------------------|------|------|------|------|------|------|------|------|------|
| Share of hidden wages of GDP         | 5.31 | 8.51 | 10.4 | 11.7 | 11.7 | 10.3 | 10.9 | 11.1 | 11.1 |
| Share of hidden wages of total wages | 11.9 | 17.3 | 23.0 | 23.5 | 23.4 | 21.4 | 27.2 | 27.6 | 25.8 |
| Year                                 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Share of hidden wages of GDP         | 11.5 | 11.3 | 11.7 | 11.8 | 12.8 | 13.4 | 12.6 | 14.9 | 14.3 |
| Share of hidden wages of total wages | 24.7 | 24.0 | 25.4 | 26.9 | 28.8 | 28.7 | 26.6 | 28.3 | 28.4 |

*Sources:* Russian Statistical Yearbook (2001) (1993–1994); Russian Statistical Yearbook (2005) (1995–1999); Russian Statistical Yearbook (2010) (2000–2009); Russian Statistical Yearbook (2011) (2010)

Table 3: Types and Causes of Unofficial Economic Activities in the Enterprises and the Household Sectors

| Agents      | Types                                                                                                                                                                                           | Causes                                                                                                                                                                                                                                           |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enterprises | <ul style="list-style-type: none"> <li>• Hiding profits and sales</li> <li>• Unregistered workers (avoiding payroll taxes)</li> <li>• Unregistered firms</li> </ul>                             | <ul style="list-style-type: none"> <li>• Tax evasion</li> <li>• Too heavy regulations</li> <li>• Weak property rights</li> <li>• Poor qualities of institutions (e.g., corruption and unfair court system)</li> </ul>                            |
| Households  | <ul style="list-style-type: none"> <li>• Self-employment activities (unincorporated and unregistered)</li> <li>• Private plot development</li> <li>• Moonlighting (dual job holding)</li> </ul> | <ul style="list-style-type: none"> <li>• Tax evasion</li> <li>• Survival</li> <li>• Exploiting opportunities</li> <li>• Smoothing job transition</li> <li>• Poor qualities of institutions (e.g., corruption and unfair court system)</li> </ul> |

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