

King, Lawrence P.

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Does Neoliberalism Work? Comparing Economic and Sociological Explanations of Postcommunist Performance

Lawrence P. King
University of Cambridge
lk285@cam.ac.uk

At the onset of the transition from state socialism to market capitalism, Western-trained economists provided the postcommunist policy elite with the blueprint for constructing capitalism amid the ruins of communism. They created the Shock Therapy policy package which was adopted in some form by most of the postcommunist world. Shock Therapy was, above all else, a market-centered analysis: a successful transition to capitalism could be accomplished primarily by relying on the power of market forces, unleashed by the radical curtailment of the state's involvement in the economy. Whenever politically possible, "the market mechanism" would accomplish the tasks that, in the 1960s, most would have expected a developmental state to perform. Relying on the market, policy elites insisted, would unleash economic restructuring in the postcommunist world, leading to convergence with the West.

Despite this initial optimism, the postcommunist countries have fared much worse than anyone expected at the start of the transition. For most of the 1990s, economic performance outside of Central Eastern Europe and East Asian reform communist countries was disastrous: economic output has declined dramatically, and poverty skyrocketed. By the year 2000 male life expectancy in Russia was five years lower than it was 10 years ago, only 59.0 years, significantly lower than in China (68.64) and Vietnam (66.70). According to the U.N. population division, male life expectancy fell lower than the average in the "less developed regions." By 1992-1993 the death rate for working age men rose to the level found in war-torn countries of Africa like Sudan, Angola and Somalia, and by 2003 there were 170 deaths for every 100 births. A 2003 census – the first since 1989 – revealed that this demographic crisis translated into 7.4 million "missing" Russians.

Because of the prominence of fieldwork and network analysis in sociology, as well as the practical difficulties and expense of doing comparative surveys, the most prominent accounts are single-country studies. It is not surprising, therefore, that most sociologists have not developed a theory that can explain the observed variation in the postcommunist world. This void was filled by neoliberal scholars in the new field of "transition economics."

Neoliberal Theory

Neoliberals argued that free markets and rapid privatization, in a stable monetary environment, would transform the inefficient state-owned enterprises (SOEs) inherited from socialism into dynamic capitalist firms. Neoliberals advocated a policy package commonly referred to as Shock Therapy, which prioritized stabilization, liberalization, and privatization programs. As the European Bank for Reconstruction and Development (EBRD) put it, "private ownership would ensure profit-oriented corporate governance, while liberalization of trade and prices would set free the competitive market forces that reward profitable activities. Firms would have therefore both internal and external incentives to restructure" (1999: 167). It went without saying that price stability was also required to make rational calculations possible.

In addition to their economic logic, neoliberals had a political reason for supporting Shock Therapy. They believed that after the fall of Communism there was a period of "extraordinary politics" during which politicians could demand great sacrifices from the population. Leading neoliberals argued that if politicians did not seize this opportunity by implementing radical market reforms, especially the rapid privatization of SOEs, they risked the formation of an anti-reform coalition consisting of managers and workers of SOEs that would indefinitely postpone the transition to capitalism.

Neoliberals saw their blueprints enacted. "[T]he majority of countries in the former Soviet Union and in Central and Eastern Europe adopted what can best be described as shock therapy or the big bang approach ..." (UNDP 1999: 30). And to this day, there has been very little change in the World Bank's or the International Monetary Fund's (IMF) approach to development policy. Monetary stabilization along with rapid liberalization and privatization are still pieces of the standard policy advice. It is noteworthy that the U.S. invited Yegor Gaidar, the Finance Minister who oversaw Shock Therapy in Russia, to advise the economic reconstruction of Iraq, including the privatization of its oil industry.

For most neoliberals, there is no need to re-think this policy package. They argue that the worst performing postcommunist countries did not adequately implement some portion of the Shock Therapy package. The policy package was fine, they argue, it just wasn't implemented because of bad leadership. Another line of defense that has been increasingly made after 1997 was that Shock Therapy was fine, but to be successful required an adequate institutional environment. So it was not bad policy, but bad institutions. A slew of econometric analyses were produced to demonstrate these points.

A Sociological Alternative

In the sociological tradition, unlike the neoliberal view, the state and the market are not seen as mutually exclusive. In the Weberian school, the "modern rational capitalism" requires not only market-dependent producers and free wage-laborers but also a well functioning bureaucratic state. By establishing strong property rights and enforcing contracts the state reinforces the market-dependent behavior of private actors by allowing them to make long-term economic calculation. The existence of a functioning bureaucracy precludes the resort to the process that Weber called "political capitalism" – corrupting officials obtaining opportunities for profitable activity.

In addition, as we know from theorists of late development, states can greatly facilitate both investment and innovation in the private sector. They provide investment funds for enterprises not available from the private sector to capture economies of scale. They stimulate domestic accumulation by shielding the home market from more advanced foreign producers. And they promote

industrial upgrading by providing an educated workforce and support for research and development that is too expensive for any particular firm to undertake via industrial policy. As Peter Evans' (1995) claimed, the state needs "embedded autonomy" to facilitate the development of productive forces by the private sector. Often, the state promotes various types of "open industrial policy" that combines state support with trade liberalization.

From this perspective, Shock Therapy does more harm than good, precisely because it weakens the state, creating conditions under which corruption flourishes and a developmental state is bound to degenerate into rent-seeking. Shock Therapy creates supply-and-demand shocks that devastate the financial position of postcommunist firms. These firms are subsequently unable to restructure their production to be competitive on international markets or the liberalized domestic market. This leads to a decline in output, the lowering of the technological profile of production, and the retreat to non-market integrating mechanisms like barter. These processes drastically lower tax revenue, creating a severe fiscal crisis of the state, which in turn leads to the weakening of its bureaucratic character and the erosion of its support for the institutions that are necessary for modern capitalist development. The result is a system of predominantly capitalist property relations (albeit with a significant non-capitalist sphere) without a bureaucratic state. The neoliberal policy package, therefore, facilitates the rise of a type of capitalism incapable of generating dynamic growth or ensuring the welfare of the population, and instead produces what Michael Burawoy calls an "involutionary" outcome (see King 2002, 3003; King/Szelenyi 2005; King/Sznajder 2006).

The Consequences of Shock Therapy

The negative shocks to the domestic economy, which follow rapid liberalization of prices and foreign trade, as well as the shock associated with the austerity of "stabilization" programs, have been extensively discussed by critics of the Washington Consensus. Given the often monopolistic structure of Soviet-style economies, rapid price deregulation will lead to a rapid increase in the prices of inputs, creating a serious supply shock as producers are unable to afford adequate levels of necessary inputs. The wholesale liberalization of imports created a large drop in aggregate demand for domestic producers,

since they now faced global competitors – some more technologically advanced, and others with cheaper labor.

The shock produced by the fiscal and monetary austerity of stabilization packages is also well documented. With low monetary emissions, the radical curtailment of government subsidies, and the price of credit sharply increased, most firms run into severe cash-flow problems and a shortage of capital for investments and even day-to-day operations.

The third component of Shock Therapy, the implementation of “mass privatization” programs, has not often been directly criticized. In these programs, the government sold at a heavy discount, or simply transferred for free, a portion of the shares of SOEs to firm insiders. The remaining shares were purchased with “vouchers” or “coupons” the government had distributed for free or a nominal price to the population. Alternative types of privatization were seen as far too slow to work. Foreign owners could not be counted on to come in large enough numbers because of the uncertainty in the transition countries. At any rate, neoliberals worried about populist/nationalist opposition to such moves. Neoliberals also argued that hoping to restructure SOEs prior to privatization would take far too much time, and was bound to fail in its own terms. Moreover, a large SOE sector was seen as dangerous to stabilization efforts by creating demands for subsidies, and as fertile ground for a feared “anti-reform” coalition. Thus, Mass Privatization programs allowed large SOEs to be quickly privatized even though no class of domestic capitalists existed.

The most immediate consequence of this strategy is that *firms privatized though such programs will not have owners with sufficient resources to restructure them*. Without any capital to carry out desperately needed restructuring, and without the injection of any new managerial talent, many firms found themselves in untenable positions. Owners, managers, and workers, unable to work cooperatively to better their common cause, pursued short-term, self-serving strategies to accumulate wealth and survive the transition. Mass privatization also created minority owners with no capacity to monitor firm insiders or other owners. This was inevitable because the institutions that protect shareholder rights and help “make markets” in advanced capitalist systems did not exist. This combination led to large amounts of asset stripping, wreaking havoc on the functioning of many firms.

There was also the devastating shock resulting from the dismantling of the old COMECON trading system (the economic equivalent of the Warsaw Pact). Neoliberals insisted on this, since COMECON was the international extension of the communist plan, and thus did not reflect “real” prices. For many states, however, a vast majority of exports and imports were from former COMECON members, accounting for a large portion of economic activity. The breakdown of this trading system therefore disrupted supply chains and created a loss of markets.

These four shocks – the swift and extensive liberalization, stabilization, mass privatization and the loss of the COMECON trading system – all weaken firms. When these shocks overwhelm upstream producers of crucial industrial inputs, an additional supply shock occurs for downstream industries. Many industrial-supply firms had asset specific knowledge, producing goods with the knowledge of the specific, and often unique, needs of their purchaser. These types of suppliers will be very difficult or impossible to replace in the short term. Even if a firm finds a replacement industrial input, it will probably be produced by a foreign company, and the price will probably be too high.

As a result of the multiple supply and demand shocks produced by Shock Therapy, most firms suffered severe financial crises. Firms responded in a number of ways. There was a huge decrease in paid wages, made primarily through arrears but also through payment in kind. For example, in 1999 almost 37% of Russian firms still had wage arrears. Firms also reduced their demand for inputs, especially investment goods. As Table 1 indicates, there was a huge decline in gross capital formation throughout Eastern Europe and the Former Soviet Union. By the end of Russia’s mass privatization program in 1994, investment was only 30% of its 1990 level. By 2000, it was only 18% of its 1990 level, the same level of decline as in Ukraine.

As economic activity declined, tax payments shrank. In Russia, for example, receipts of the consolidated state budget declined from 41% of GDP in 1990 to only 26.8% in 1997, even as real GDP was halved (Vorobyov/Zhukov 2000: 5; EBRD 1999: 73). As a result, both state orders and state payments (for the remaining orders) collapsed, producing another major demand shock for firms. As Table 1 indicates, the decline in total government consumption is generalized throughout the

Postcommunist world outside of Central Europe and East Asia.

This loss of revenues, combined with the neoliberals' hostility to industrial policy, resulted in a lack of support for the institutions that enable firms to restructure in order to compete on the liberalized domestic or world market in high value-added goods. An important in-

Table 1 contains a measure of the decline of scientists during the 1990s. Russia's level fell by 19% from 1994 to 1999, which was after the biggest decline probably had already occurred.

These multiple shocks did not drive firms completely out of business, thereby freeing up resources to re-allocate to more efficient uses as neoliberal theory predicted.

Table 1: Firm Behavior and Restructuring

	% of Firms Using Barter In 1999	Change in Gross Cap Formation 1990-2000 constant 1995 US\$	Change in Final Gov. Consumption 1990-2000 constant 1995 US\$	Change in Scientists and Engineers in R. & D. per mill. 1992-99 ¹
Russia	69.3%	-82%	-25.5%	-29%
Belarus	68.21%	-82%	-19.3%	-30%
Ukraine	67.9%	-46%	-27.2%	-26%
Kazakhstan	57.8%	-83%	-39.0%	NA
Uzbekistan	31.7%	NA	NA	NA
Romania	27.2%	-46%	+16.2%	NA
Bulgaria	33.8%	-34%	-56.4%	-71%
Czech Republic	25.9%	+24%	-23.0%	-32%
Slovakia	40.6%	+39%	-2.7%	-15%
Poland	33.6%	+92%	+16.7%	+19%
Hungary	10.3%	+83%	+16.7%	+5%
Slovenia	86.4%	+121%	+33.8%	-25%
China	NA	+184%	+166.1%	+30%
Vietnam	NA	+455%	+78.0%	NA

Note: Change in scientists and engineers in Slovenia is for 1992-1998, Russia 1995-1999, Ukraine 1995-1999, Belarus 1992-1996, China 1994-1996. Policy data comes from historical summaries presented below. Barter and wages come from the World Bank's BEEPS survey. Capital formation, government consumption, and scientist and engineer data come from World Bank 2002 (CD-ROM).

stance of this occurs when the state stops supporting the institutions that turn out skilled manpower (especially young experts) and support R & D (King 2003). In only two years (from 1993 to 1995), the number of technicians in R&D per million of the Russian population fell almost 24%, from 905 to 688. While some of this is brain drain, case-study data indicates that much is also the result of a shortage of new technicians (King 2002).

Instead, managers reactivated old network ties to managers at other firms. These ties were created through formal integration in the old economy, or were informal ones created to engage in barter to compensate for the scarcity of inputs in the shortage economy. These networks allowed the firms to withdraw from the market through inter-enterprise arrears, debt-swaps, and barter. This activity decreased the efficiency of transactions

(because typically a middleman must be used), shielded firms from market pressures (because business partners are based on network ties, not price considerations), and made taxation very expensive and highly problematic (in-kind taxes are difficult to collect and easy to overvalue). Table 1 lists the extent of barter in 1999, based on a firm-level survey conducted by the World Bank and the EBRD.

The loss of tax revenue from enterprise failure, exacerbated by the rise of non-monetary transactions, inevitably weakened the state. As the state was increasingly unable to meet its formal obligations, it began to break down. Poorly paid (or unpaid) state officials are easily corrupted. The bureaucratic nature of the state decomposed as it became riddled by patron-client ties between government officials and businessmen. Private market success came to depend to a great extent on arbitrary political decisions and the exercise of private force.

The Evidence

When assessing economic policy we must keep in mind other determinants of performance. One important factor is the initial level of development. Switching resources from traditional agriculture to industry provides enormous one-time gains in labor productivity, since human muscle is greatly multiplied when put to work behind machines. Conversely, once industrialization has been achieved, more developed countries should have a greater stock of human capital and a more developed infrastructure, and therefore should have an advantage in global markets relative to the less developed societies. Countries with higher levels of foreign debt and greater integration into the COMECON system at the start of the transition will have a more difficult transition.

Measuring State Performance

It is notoriously difficult to provide a reliable and valid measure of the bureaucratic nature of the state or of

state capacity. Table 2 provides several attempts at such measures. The EBRD Governance Indicator is a composite score ranging from 1 to 3, based on a survey that averages firms' perceived hindrance resulting from microeconomic factors, macroeconomic factors, physical infrastructure, and law and order (EBRD 1999: 116). Another indicator is tax revenue as a percentage of GDP; a strong state can extract more resources from society than a weak one. Strong bureaucratic states also protect property rights and contracts. The scores in Table 2 are the combined answers of "Strongly disagree" and "Disagree" to the question "To what degree do you agree that the legal system will uphold contracts and property rights?" Finally, the change in state capacity is captured by the increase in registered total crimes, since a state with greater capacity can prevent or deter more crime than a state with less capacity. However, in weaker states, fewer crimes will be recorded, and they are likely to be more serious and violent (UNDP 1999: 23). These indicators, while very far from perfect, give us some purchase on relative state capacity or strength of bureaucracy.

It is clear that in every region of the postcommunist world the countries that came the closest to the neoliberal blueprint (often because they carried out mass privatization schemes) had worse growth performance, less state capacity, and weaker property rights. This is so despite the generally advantageous starting position of the more radical neoliberal reformers, as can be seen from Table 3.

In the European parts of the former Soviet Union, who would have predicted that Belarus would outperform Russia and Ukraine in economic growth? Or that Uzbekistan would outperform the much more modernized and Westernized Kazakhstan in the protection of property rights? Or that the Czech Republic would perform worse than any other country in Central Eastern Europe, despite its history as the industrial heartland of the Austro-Hungarian empire?

In another analysis (King/Hamm 2005), we show that this finding holds for growth, and the Governance Index and Property rights variables for 25 postcommunist countries. We used a simple OLS regression focusing on the neoliberal policy which varied the most, i.e. the Mass Privatization programs, as the independent variable (there was not enough variation in the other policies to get statistically significant results). We include a number of additional control variables (war, oil wealth, democ-

racy, other transition policies, population, prior level of development, and a dummy for Central Eastern Europe and the Baltics). We use change in GDP per capita and our two measures of state capacity as the dependent variables. We find that countries that implemented the neoliberal's Mass Privatization programs, everything else equal, grew about 49% less, and had a large deficit in state capacity and the protection of property rights and contracts.

Table 2: Measures of State Capacity, Security of Property Rights, and Transition Policies

	Neoliberal Reforms SP/SL/SS	Tax Rev. as % GDP 1994	% Above Regional Avg. Increase in Registered Total Crime 1989-1996	EBRD Go-vernance Index (1-3) 1999	Insecure Pro-erty Rights 1999
Russia	SP/SL/SS	19	-17	1.16	41.6
Belarus		33	3.2	1.57	30.4
Ukraine	SP/SL/SS	22 (1999)	9.2	1.24	44.0
Kazakhstan	SP/SL/SS	14 (1997)	158	1.27	31.0
Uzbekistan		NA	-60	1.83	9.6
Romania	SP/SL/SS	26	32	1.07	21.6
Bulgaria	SL/SS	30	-32	1.38	20.0
Czech R.	SP/SL/SS	33	78	1.59	23.3
Slovakia	SL/SS	35 (1996)	17	1.65	14.0
Poland	SL/SS	35	-11	1.69	10.3
Hungary	SL/SS	38	18	1.98	12.0
Slovenia	SL/SS	39	-4.2	1.95	11.4
China	NA	8	NA	NA	11.0
Vietnam	SL/SS	19	NA	NA	NA

Note: SP (Shock Privatization) = Privatized at least 25% of large SOEs under a mass privatization program within two years. SL (Shock Liberalization) = Liberalized at least 75% of imports and domestic prices within two years. SS (Shock Stabilization) = Implemented an IMF approved stabilization package. Insecure property rights is the percentage in the World Bank's World Business Environment survey that reported that they disagreed in most cases or strongly disagreed that the legal system will uphold contract and property rights. Governance Index is from World Bank 1999; revenue data from World Bank 2002 (CD-ROM). Crime rates from UNDP (1999: 24). Transition policies from historical narratives.

Table 3: Economic Policy, Initial Conditions, and Performance in Post-Communist and Reform-Communist Countries

	Neoliberal Reforms SP/SL/SS	GDP Per Capita 1990 in constant 1995 US\$	Trade with CMEA as % GDP 1990	External Debt 1989 Per Capita current US\$	Avg. GDP Per Capita Change 1991-2000 (in 1995 US\$)	EBRD Governance Index (1-3) 1999	Insecure Property Rights 1999
Russia	SP/SL/SS	\$3,666	11.1%	\$364	-3.5	1.16	41.6
Belarus		\$3,057	41.0%	NA	-0.5	1.57	30.4
Ukraine	SP/SL/SS	\$1,969	23.8%	\$11	-7.1	1.24	44.0
Kazakhstan	SP/SL/SS	\$1,995	20.8%	\$2	-2.5	1.27	31.0
Uzbekistan		\$611	25.5%	\$3	-2.0	1.83	9.6
Romania	SP/SL/SS	\$1,702	16.8%	\$473	-1.8	1.07	21.6
Bulgaria	SL/SS	\$1,716	16.1%	\$1,126	-1.4	1.38	20.0
Czech	SP/SL/SS	\$5,270	6.0%	\$636	0.1	1.59	23.3
Slovakia	SL/SS	\$4,048	6.0%	\$365	0.4	1.65	14.0
Poland	SL/SS	\$2,990	8.4%	\$1,134	3.7	1.69	10.3
Hungary	SL/SS	\$4,857	13.7%	\$2,040	1.3	1.98	12.0
Slovenia	SL/SS	\$9,659	4.0%	NA	1.9	1.95	11.4
China	NA	\$349	2.3%	\$40	9.0	NA	11.0
Vietnam	SL/SS	\$206	15.0%	\$319	5.5	NA	NA

Note: SP (Shock Privatization) = Privatized at least 25% of large SOEs under a mass privatization program within two years.

SL (Shock Liberalization) = Liberalized at least 75% of imports and domestic prices within two years.

SS (Shock Stabilization) = Implemented an IMF approved stabilization package.

Source: Historical summaries and previous tables.

Conclusion

Neoliberals invoke two arguments to explain the post-communist variation, while still preserving their advocacy of the neoliberal reform package (i.e. as much liberalization as quickly as possible). The first is that some countries had bad leaders who didn't faithfully implement the shock therapy package. The second, which began to be made in the late 1990s, is that "institutions matter" – what was required was not only good policies, but the proper institutional setting. We show that the comparative record invalidates both these defenses. Policies do matter, but the causality is reversed. The more neoliberal the policy, the worse the economic outcome. Institutions do matter, but the evidence shows that the more neoliberal the policy package, the more damage done to the institutional order.

Lawrence P. King is a Reader in Sociology in the Faculty of Social and Political Sciences at the University of Cambridge and a fellow of Emmanuel College. Most of his published work has focused on foreign direct investment, privatization, and industrial restructuring in Central Eastern Europe and Russia. Some recent publications include "The State Led Transition to Liberal Capitalism" American Journal of Sociology (with Aleksandra Szna-jder, 2006) and "Postcommunist Economic Systems" (with Ivan Szelenyi) in The Handbook of Economic Sociology, Second Edition, edited by Neil Smelser and Richard Swedberg (Princeton University Press, 2005). His books include Theories of the New Class: Intellectuals and Power (with Ivan Szelenyi, University of Minnesota Press, 2004) and The Basic Features of Post-Communist Capitalism: Firms in Hungary, the Czech Republic, and Slovakia (Praeger Press, 2001). He is currently writing Postcommunist Capitalisms, an account of political and

economic change in postcommunist and Asian reform communist countries.

References

- European Bank for Reconstruction and Development, 1999: *Transition Report 1999*. EBRD: Washington D.C.
- Evans, Peter, 1995: *Embedded Autonomy*. Princeton: Princeton University Press.
- King, Lawrence P., 2002: Postcommunist Divergence: A Comparative Analysis of Russian and Polish Capitalism. *Studies in Comparative International Development* 37(3): 3-34.
- King, Lawrence P., 2003: Shock Privatization: The Effects of Rapid Large Scale Privatization on Enterprise Restructuring. *Politics and Society* (March): 3-34.
- King, Lawrence P./Ivan Szelenyi, 2005: Postcommunist Economic Systems. In: Neil Smelser and Richard Swedberg (eds), *The Handbook of Economic Sociology*, Second Edition. Princeton: Princeton University Press, 205-229.
- King, Lawrence P./Aleksandra Sznajder, 2006: The State Led Transition to Liberal Capitalism: Neoclassical, Organizational, World Systems, and Social Structural Explanations of Poland's Economic Success. *American Journal of Sociology* 12(3): 751-801.
- King, Lawrence P./Patrick Hamm, 2005: *Privatization & State Capacity in Postcommunist Society*. William Davidson Institute. Working Paper No. 806.
- United Nations Development Program, 1999: *Human Development Report for Europe and the CIS*. New York: UNDP.
- Vorobyov, Alexander/Stanslav Zhukov, 2000: Russia: Globalization, Structural Shifts and Inequality. *CEPA Working Paper Series* 19: 2-35.