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RUSSIA'S UNCERTAIN ECONOMIC
FUTURE

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FOREWORD

By Senator Robert F. Bennett

Russia's economy has rebounded significantly since the crisis of 1998. Economic growth has resumed, unemployment has fallen, and production, consumption, and investment have all expanded. At the same time, Russia has initiated a series of promising economic reforms, including strengthening its banking system and enacting fundamental tax reform.

These improvements illustrate Russia's potential for a strong economic future. At the same time, memories of past economic difficulties demonstrate the risks that Russia faces if its reforms do not succeed.

Russia's economic future is of great importance to the United States. To assist American citizens and policymakers in thinking about that future, I asked the Congressional Research Service to commission a collection of expert reports on the Russian economy. The resulting reports review the recent history of the Russian economy, analyze current policy issues, and consider possible futures.

The reports were prepared by experts—in academia, the private sector, and government—who represent a wide diversity of professional perspectives on the Russian economy. The reports thus reflect a broad range of opinions on the challenges and opportunities before Russia. The views and conclusions in these reports are those of their authors, not those of the Joint Economic Committee or any of its individual members.

I hope that these reports will contribute to our ongoing efforts to understand the Russian economy. I thank the Congressional Research Service for its efforts and the authors for sharing their expertise.

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HISTORICAL NOTE

This study belongs to the series of committee prints for the Joint Economic Committee by the Congressional Research Service and its predecessor, the Legislative Reference Service, dating back to the 1950s, on the economies of the Soviet Union and successor states, the People's Republic of China, and Central Eastern Europe. In November 1959, the Joint Economic Committee held a week of hearings that highlighted the publication entitled *Comparisons of the United States and Soviet Economies*. These hearings were a continuation of the committee's past interest in this subject that had resulted in the publication of two studies prepared for the committee by the Legislative Reference Service of the Library of Congress—one, in 1955, entitled *Trends in Economic Growth: A Comparison of the Western Powers and the Soviet Bloc*, and the other, in 1957, entitled *Soviet Economic Growth: A Comparison with the United States*.

The first study on the People's Republic of China, *An Economic Profile of Mainland China*, was released in 1966, after the initiation of the Cultural Revolution. The first volume on Central Eastern Europe, *Economic Development in Countries of Eastern Europe*, was released in 1970, following the Soviet invasion of Czechoslovakia. Other studies followed at regular intervals.

The most recent study in this long series was *China's Economic Future: Challenges to the U.S. Policy*, released in 1996. The most recent study on Eastern Europe was *East-Central European Economies in Transition*, released in 1994, which was preceded by a two-volume study, *The Former Soviet Economies in Transition*, released in 1993.

HIGHLIGHTS

By John Hardt ¹

The authors in this volume analyze the present state of the Russian economy and its future possibilities. Vladimir Putin has committed himself to economic reform in his 2 years as Russia's president. The opportunity for a transition to a democratic market economy is more likely now than at any previous time in Russian history. This volume explores the opportunities offered by this transition and the obstacles it faces, with particular reference to Putin's reform agenda. The main findings of the volume are as follows:

- Sustained economic growth will be crucial to all reform efforts. Russia's recent performance since its financial crisis in 1998 has been positive in terms of both its annual growth of gross domestic product (GDP) and its balance of payments. Whether this recent performance represents a new trend line of sustained growth or is a part of a cyclical pattern of prosperity and crisis remains unknown.
- Putin's unfinished reform agenda features changes critical to the development of a pluralistic market system under the rule of law, such as the establishment of market-friendly administrative and judicial systems and the introduction of an effective banking system. Bureaucratic inertia and lingering corruption continue to hinder these reform efforts.
- Putin's reform policies will be decisive only if they result in redistribution of political power that controls economic decision-making along with revision of budgetary priorities. Restructuring the power of Russian financial and governmental elites and reducing populist subsidies will prove difficult, however, because that may erode Putin's power and popularity.
- Russia's economic competitiveness and growth potential would be greatly enhanced by the breakup of monopolies in three key sectors: energy, transportation and agriculture. Such reforms are underway, but they have not been completed.
- Russia's human capital has become a depreciating asset. Without appropriate legislation and budgets, Russia is facing a "demographic and health meltdown." Russia is not yet living up to Putin's commitments to the Russian people; welfare entitlements, pension funds and education needs are all underfunded.

The path of Russia's economic development will make a significant difference to the United States. U.S. policy, in turn, will play an important role in Russia's future economic development.

¹John P. Hardt, Senior Specialist in Post-Soviet Economics at the Congressional Research Service, is author of the Highlights, the Overview and coordinator of the volume.

- Russia may become a major trading and investment partner with the United States in spite of its modest bilateral trade and investment in the past.
- The United States may benefit from reduced Russian sale of arms to countries who may be a threat to U.S. security interests.
- U.S. support could facilitate Russia's integration into the global economy and its eventual accession to the World Trade Organization in spite of the noncompetitive nature of most Russian enterprises and strong protectionist sentiments.
- The United States may take an effective lead in helping Russia manage its external debt burden, even though the majority of its external debt is held by other countries.

OVERVIEW

By John Hardt¹

Russia's uncertain economic future is of special concern to U.S. as well as Russian policymakers. This was highlighted by the Bush/Putin Summit in Washington, DC, and Crawford, Texas, November 13–15, 2001, as Putin moved to align Russia more closely with the western market economies.² The range of possible economic developments in Russia is greater now than in the past.

This volume includes articles that present four approaches to the overarching question: Where is the Russian economy going?

- A discussion of Russia's past performance and insights for future growth. *Is extrapolation of Russian past economic performance useful for projecting Russia's economic future? Will current opportunities for improved growth lead instead, as in the past, to economic crises?*
- A discussion of the reform policy issues that challenge the leadership of President Vladimir Putin to make choices that may determine economic governance in Russia. *What policy decisions would best advance the reform agenda and the necessary redistribution of power and financial resources? Will Putin prove to be an effective democratic reformer or yet another promoter of strong state power?*
- A discussion of the range of possible outcomes for long-term development of Russia's political and economic system. *Is Russia likely to abandon its historical pattern of autocratic governance in favor of the western model of democracy and market economy? Is either of these antithetical outcomes inevitable or subject to change?*
- An assessment of U.S.-Russian economic issues that materially affect U.S. interests. *Does it make a significant difference to the United States how Russia develops economically? Can and should the United States influence or effectively manage the outcome?*

This volume is divided into four sections: past performance and insights for future prospects; Russia's economic challenges; long-term prospects for Russia's economic governance; and Russia's economic future and U.S. interests. What follows is a summary of the authors' responses to the above questions, supplemented by commentary provided by the volume's coordinator. The contributors to

¹John P. Hardt is a Senior Specialist in Post-Soviet Economics at the Congressional Research Service. References to authors from the volume are made in the text of the Overview. References to authors not in the volume are made in footnotes.

²Communiqués of Washington/Crawford Summit, *Washington File*, State Department.

this volume offer contrasting perspectives on these questions. They consider that Putin turning out to be an effective reformer rather than an authoritarian leader to be crucial to the development of Russia's economic future. While these contributions do not represent the views of the Congressional Research Service (which does not take positions on public issues), nor necessarily of the Joint Economic Committee of the U.S. Congress, they do reflect schools of thought in the professional community in the United States and abroad.

PAST ECONOMIC PERFORMANCE AND INSIGHTS FOR FUTURE PROSPECTS

Past performance in quantitative terms is useful but not definitive in understanding the past and in forecasting its future. While progress in reform made in the early 1990s provided some expectation of improved growth, Russia suffered a severe recession from 1992 through 1998. By 1998 gross domestic product (GDP) was 70 percent that of 1992. After the financial crisis in 1998, Russia experienced unprecedented short-term economic growth, with real GDP growth expected to reach 5 percent in 2001.

William Cooper, in his performance assessment, finds that making accurate projections of Russia's economic future is difficult: "The current economic growth could be short lived but it has generated political support and thus presents President Putin and his team with a 'window of opportunity' to promote economic reform. The current upswing in economic growth is favorable but not sufficient to assure sustained growth."

RUSSIA'S ECONOMIC CHALLENGES

Ben Slay reports: "Huge current account surpluses and unprecedented growth and reserves are welcome developments in the last 3 years. However, capital flight has not abated and foreign direct investment that would help modernize and recapitalize Russian industry is conspicuously absent in Russia." Ben Slay adds that large capital flight and minuscule foreign direct investment mirror each other as symptoms of failure of institutional reform in Russia.³ In this context it may be just as difficult to substantiate that Russia has "turned the corner" toward sustained economic growth and is now a market economy as it was earlier to document that Russia was a failing transitional economy.

Past performance shortfalls provide a road map for the difficult reform path ahead. Future reform requires development of an incentive system, a working financial system, competitive enterprises, and adequate attention to the quality of life.

Russia's current economic challenges are summarized in Putin's "unfinished agenda." Slay argues, along with many other specialists, that only the radical reforms in the Putin agenda will be sufficient to create a market-friendly system. While a turning point toward development of a market system may be more likely than at

³ European Bank for Reconstruction and Development (EBRD), "Cross-Border Capital Flows," *Transition Report Update*, April 2001; John P. Hardt, *Russia's Economic Policy Dilemma and U.S. Interests*, CRS Report RL30266, January 23, 1999; Alexander Boulatov and Mark Silveira, "Capital Flight and Foreign Direct Investment," *Working Paper*, Washington, DC, August 2001.

any time in Russian history, implementation of reform policies on the Putin agenda can be decisive only if they result in redistribution of the political power that controls economic decisionmaking, along with a revision of budgetary priorities.

Central to reform implementation, in the view of this report's contributors, will be the character of President Putin as a reformer. President Putin has used his vision of Russia's economic future as the theoretical basis for his reform agenda. Putin's vision is for "rapid and comprehensive" institutional reform, to ensure that Russia will not fall further behind the developed countries in economic performance. Putin, as an advocate of reform, has prescribed the reform medicine favored by western economic specialists, but it remains to be seen whether Putin, as President, administers this medicine. By restructuring the power of Russian financial and government elites and reducing populist subsidies, Putin may erode his own popularity and power. While many reforms may have an immediate impact, the full benefits from successful reform may accrue to Putin's successors. If Putin is unable or unwilling to be proactive on his reform agenda, then, in the view of Jonathan Winer and Phil Williams, political elites will continue to dominate the political and economic future of Russia.

Putin's difficulty in supporting reform may be characterized as a twofold dilemma arising from the necessity to bring about a redistribution of power and a change in budgetary priorities. On the redistribution of power that is a prerequisite for reform, Putin has the classic Machiavellian constraint that he must utilize the full force of his leadership against the wishes of strong, entrenched opponents because the proponents of change are weaker and less ardent.

Budgetary priorities need to promote the market system rather than cater to the state and political elites. Winer and Williams consider the political elites satisfied that the fruits of reform and their preferential share can be retained through the use of state power.

Putin, as a reformer, may have to effectively use his leadership role to maintain both the elite and popular support needed for implementing reform. For example, in restructuring Gazprom, the energy conglomerate, Putin may have to convince its administrators and stockholders that being a global enterprise, and conforming to the requirements of the world marketplace, would protect their wealth and assure their future income, more than would retaining their privileged domestic position under an autocratic model of governance. Were Gazprom to become a model of corporate governance, the likely increase in wealth and profit for its shareholders might influence other oligarchs to support infrastructure monopoly reforms.

There are some recent indications that other enterprises may be seeking profits instead of rents. Ben Slay notes that the consolidation trend in industry has recently led many cash-rich enterprises to raise the level of corporate governance in lossmaking enterprises they have acquired. Responsiveness to market forces may thus be seen as beneficial to some Russian industrial elites by assuring protection of their wealth and prospects for profitability. Profit seeking beneficial to the Russian economy as a whole may prove

more favorable economically to some industrial elites than rent seeking that only feathers their own nests.

In reducing subsidies to housing and utilities, Putin may need to design a support program that does not sink Russian urban dwellers further into poverty and generate opposition to reform but that, instead, offers prospects for future improvement in the quality of citizens' lives. By developing a new social contract supporting education and a meaningful social safety net, as suggested by Judyth Twigg, Putin might generate more reform support from the developing middle class and the populace. Some need-based income maintenance programs may be both economically and politically more successful than traditional subsidies.

Without a proactive policy, the benefits of market transition toward sustained economic growth are unlikely to be forthcoming. There is uncertainty about implementation of reform in Russia because Putin must face difficult decisions that will involve political risks and economic costs. Reform would reduce the direct political and economic power of the financial and governmental elites, including the Putin presidency. The marketplace, foreign investors and government regulators would take over important economic decisionmaking functions and change the basis for wealth accumulation from political to economic criteria.

Even with more revenue in a growing economy, relative shares of the budget would need to shift away from national security, politically popular or populist subsidies, and debt servicing. A market-friendly budget would need to fund necessary reforms: a new civil service, a working financial system, infrastructure improvement, and social welfare. These are both very costly and inimical to the interests of the entrenched elites. Budget priorities that favor the interests of the middle class and the populace as a whole may gain broad support for reform over time, but reduction of populist subsidies and uncertainty of future growth may lead to short-term popular sentiments against reform.

REMOVING BARRIERS AND PROVIDING AN INCENTIVE SYSTEM

The authors in this section stress the importance of removing barriers inherited from the previous Soviet system in order to assure development of a market-based incentive system. In the in-depth studies of Russian economic performance in the 1990s, Vincent Palmeda and Bill Lewis conclude that the productivity potential of key sectors and the economy as a whole have been constrained by the lack of an incentive system.⁴ Palmeda and Lewis, in updating their assessment to 2001, conclude that with market-oriented changes in economic institutions, Russia's economy might expect to sustain a GDP growth rate of 8 percent per annum.

In their essay, Paul Gregory and Wolfram Schrettl note that the Russian economy denies itself the benefits of its full productive potential by the lack of a market-friendly administrative system that incorporates rule-of-law concepts, establishes property rights, and enforces laws through a competent judicial system. Such an administrative reform would require a professional civil service. Gregory and Schrettl opine that economic rationality should lead Putin to

⁴McKinsey Global Institute, *Unlocking Economic Growth in Russia*, October 1999.

give priority to administrative restructuring and adequately rewarding a new civil service in Russia as a condition for effective reform. However, they are not optimistic that Putin will overcome the political barriers to implementing these administrative reforms. Winer and Williams are even more doubtful that the current administrative system based on cronyism, crime and corruption will change. The necessary reforms, they argue, “require Russia to undertake steps that threaten those whose power depends on discouraging rule-of-law, including criminals, exploitative business persons and corrupt bureaucrats.”

FINANCIAL REFORM: TAXES, BUDGETS AND BANKS

An efficient monetized economy is essential for operation of a market economy. To promote these objectives, a variety of financial reforms are required:

- Generation of sufficient tax revenue that may be used to fund reform programs;
- A shift of budget priorities sufficient to promote market reform initiatives; and
- Creation of banks that are attractive to savers and banks that efficiently convert savings to investment.

According to Z. Blake Marshall, tax reform currently under way will remove the onerous taxes of the past authoritarian command economy and replace them with taxes that do not place undue burdens on domestic and foreign enterprises. The new tax code, if fully implemented, will go far toward encouraging a market-friendly system.

Budgets have recently become important instruments of Putin’s policymaking, according to James Duran. The current priority budgetary outlays, however, do not support effective reform. Three appropriations are scheduled to absorb the major share of the 2002 budget: external debt servicing, subsidies for holding down apartment rents and utility fees, and defense spending. Duran says reform may not be implemented effectively without a radical change in these budget priorities. Even if adequate expenditures for reform are mandated, there may continue to be unfunded mandates because of the likely over-commitment of future budgets and the continuing pressures toward funding traditional claimants.

On the issue of debt servicing, Putin accepted in 2001 the foreign creditors’ requirement that debt be fully serviced. External debt servicing will peak in 2003 and continue at a high level thereafter unless Russia receives major debt relief.

Closing down popular subsidies for holding down rents and utility fees is proving to be politically difficult, as indicated by current parliamentary debates. Putin’s civilian budget policy may be doomed to a robbing Peter to pay Paul policy of partially funding reform-related programs.

In the area of defense spending, Russia continues to allocate a higher percentage of GDP than any NATO countries, and spends more in absolute terms than all NATO countries except the United States, according to Christopher Hill. Under current defense plans, maintaining and developing some new weapon systems and downscaling military manpower will require additional spending.

Hill states that in order to re-emerge as a modern and powerful presence on the world scene by 2010, total defense spending needs to increase by about 3.5 percent per annum in terms of real increase in GDP. Other Russian defense economic specialists say that fulfilling Putin's defense policy requirements for the decade will require defense spending increases that exceed the rate of GDP growth.⁵ Still other analysts do not see that increasing defense spending necessarily reduces civilian allocations to meet reform needs. They believe that Russia can establish market conditions in its civilian economy that would attract foreign investment and generate increased growth that could permit increased defense spending and also generate funds for necessary reform.⁶

On the issue of financial reform, David Kemme considers development of a functioning banking system the key to Putin's plan to generate increased investment in order to promote sustained growth. "While the number of financial institutions has increased dramatically, the state structure still dominates the financial sector," reports Kemme. Because of a lack of legal and regulatory development in banks, savers do not trust banks, banks do not convert savings to investment, and conflicts of interest are rampant throughout the banking system. At this stage of Russian development, banks are far more critical than stock and bond markets for assuring economic growth, according to Kemme. The best indicator for success in banking reform, according to Slay, would be purchase and control of some major Russian banks by large western banks, such as Deutsche Bank or Citibank. Only multinational banks possess the resources and the size needed to resist political pressures to lend, Slay asserts.

BREAKUP OF MONOPOLIES: ENERGY, TRANSPORTATION AND AGRICULTURE

There are three major monopolistic sectors Putin's reform policies seek to break up: energy, transportation and agriculture. Enhanced competitiveness in these sectors would facilitate increased economic growth.

Opening the energy industry by restructuring Gazprom and the Unified Energy System (UES) would provide the benefits of globalization, larger markets, more foreign direct investment and better corporate governance. The energy sector accounted for about 16 percent of GDP, 48 percent of federal budget revenue and 54 percent of foreign exchange earnings in 2000, according to Matthew Sagers. Energy, especially gas and oil, may be the primary engine of future Russian growth. Long-term investment necessary for growth in the energy sector is largely dependent on comprehensive reform, according to Sagers. A major increase in foreign direct investment (FDI) may be channeled early on to the oil and gas sectors if current reforms lead to one or more foreign investment success stories, e.g., joint oil and gas developments in Sakhalin, expansion of the Caspian pipeline consortia, or increased foreign investment in a reformed Gazprom and UES.

⁵ Christopher Davis, "Defense Sector in the Economy of a Declining Superpower: Soviet Union and Russia, 1965-2001." *Defense and Peace Economics*, Overseas Publishers Association, 2001.

⁶ Steven Rosefelde, "Back To The Future: Prospects for Russia's Military Industrial Revival," *Conference on Eurasia's Future Landpower Environment*, Washington, DC, July 10-11, 2001.

Overall, the saying “As Gazprom goes, so goes the economic reform of Russia” has some merit. If domestic and foreign shareholders have a larger say in decisionmaking and corporate governance improves, Gazprom may become a global enterprise and a major spur to overall reform. Gazprom, as a competitive global enterprise, might be the largest industry or sector contributor to future Russian GDP, revenue, and export earnings.⁷ Increased revenue from gas and oil sales might then serve to loosen budget constraints that limit funding for reform programs.

Putin wants the railroad system to follow the same reform pattern projected for Gazprom and UES. The current partially privatized rail transport system is inefficient and a burden on the Russian economy as a whole.

Although not directly bracketed in Putin’s reform agenda with energy and transportation monopolies, Russian agriculture is another key monopolistic system from farm to market. Agriculture is ticketed for restructuring and clarification of property rights through a new Land Code for agricultural land. Only 5 percent of agriculture is privatized. While the Russian Parliament has passed a Land Code providing for property rights for urban centers, legislation has not yet extended the Land Code to include agricultural land. Providing for secure land ownership for Russian farmers would permit equity financing in the agriculture sector. Some vertical consolidation, “joint stock companies,” may hold promise for more efficient farm-to-market agriculture, according to William Liefert.

Overall, demonopolization in the Russian economy may serve to shift the structure of the Russian economy toward value-added manufacturing and processing enterprises, according to Palmeda and Lewis. Oil, gas and other commodity output might substantially increase in *absolute* terms. Sectors such as general merchandising, food processing and distribution would then likely increase their *relative* share of GDP, moving Russia over time toward a developed economy structure and away from the commodity-based pattern of a developing economy.

HUMAN CAPITAL AND THE SOCIAL CONTRACT

Russia’s large, literate and skilled labor force has traditionally been considered a strong asset for improving productivity. As Murray Feshbach and Judyth Twigg graphically demonstrated, Russia’s human capital has become a seriously depreciating asset. Population decreases caused by the “burden of decades of destructive practices that have had a direct, harmful impact on public health” make addressing demographic and health concerns a national priority, according to Feshbach. With a projected escalation of HIV/AIDS and tuberculosis, infectious diseases may reach calamitous proportions in Russia. However, there has been no appropriate legislation addressing what Feshbach calls the “demographic and health meltdown.”

The quality of human capital, such as skilled workers and scientists, also has been sharply deteriorating due to lack of social security measures. In the Soviet era, workers had some degree of sta-

⁷ Boris Fyodorov, *Interviews and Correspondence*.

bility through a social safety net that provided minimal but predictable benefits. This represented an implicit social contract between the state and the citizenry. In post-Soviet Russia, this minimal commitment of the state to the citizens has not been fulfilled. Twigg notes the deleterious effect this has had on the development of human capital: “Sudden withdrawal of meager but comprehensive programs covering health care, pensions, employment, housing and other services has resulted in widespread poverty and disillusion.”

Putin has introduced ambitious and, if funded, expensive programs for social welfare entitlements, pension funds, and education to meet human capital needs. Duran notes that Putin also supports expensive legal reform that would stimulate enterprise efficiency and protect workers’ rights. Unless there is more revenue and a change in budgetary priorities, these mandates will be underfunded.

LONG-TERM PROSPECTS FOR RUSSIA’S ECONOMIC GOVERNANCE

Many Russian specialists subscribe to one of two differing schools of thought on Russia’s future beyond 2010. One envisions a market economy, the other foresees rule by a predatory elite. James Millar sees an “inexorable trend” toward a complete market economy and away from the past autocratic economic governance model, especially the Soviet development pattern. This judgment is based on Russia’s commitment to attain sustained economic growth that can only come from transition to a market system. Peter Stavrakis, on the other hand, projects a predatory model for Russia that rejects liberal democracy and postulates retention of only a patina of a democratic market system. “Free markets and civil society,” Stavrakis claims, “are thus hostage to political elites who are free to intervene whenever and wherever this appears financially profitable and politically useful.” In his view, Russian state leadership would continue to support the powerful predatory elites.

Russia’s predatory elites favor a continued state role in governing the economy. The “directive economy” plan supported by Viktor Ishayev, governor of Khabarovsk, calls for continued state control of economic decisionmaking in investment and allocation of resources.⁸ Through state control of economic decisions on investment and production, Ishayev’s group promises results comparable to those projected for Putin’s unfinished reform agenda without reducing the direct economic power of the state and the political elites. The Ishayev program also promises to increase the size and influence of the middle class. Some members of Putin’s state apparatus appear to be inclined toward supporting the Ishayev plan. There is concern that adoption of the Ishayev plan would support the views of Stavrakis that Russia’s future governance will be based on a predatory, political elite system.

The authors in this volume consider it necessary that Putin take a strong leadership role in reform and make the necessary decisions reducing the role of the state in economic decisionmaking.

⁸Strategy for the Development of the State to the Year 2010, Moscow, 2000. Cf. John Hardt, CRS Report RL30266, op. cit.

Whether Putin is able to fulfil this strategic role is still to be demonstrated.

Proponents of these contrasting views expect Russia's future to be determined by long-term historical processes without major policy changes in the short run up to 2010. Both Millar and Stavrakis consider that the choices of Russia's future economic governance are at this point largely pre-ordained. Millar cites "reform fatigue" as a reason for not expecting effective reform soon. Moreover, a functioning market system would require across-the-board comprehensive reform that would not come quickly even if Russia adhered to the accession process of the European Union (EU). Effective compliance with the transition requirements of the EU would be a lengthy process for Russia.

Stavrakis finds the autocratic trend resistant to reform. He sees the entrenched "financial oligarchy now competing with the state elites using standard Russia-style methods: corruption and cronyism dominate and society has withdrawn from the political and economic arena." Moreover, he argues that the autocratic model is more consonant with Russia's imperial legacy. Stavrakis sees a pattern of historical crises, "times of trouble," characterized by recurring resistance of Russia to western democratic market models accompanied by increasingly authoritarian, inward-directed governance.

RUSSIA'S ECONOMIC FUTURE AND U.S. INTERESTS

In considering Russia's economic future, U.S. policymakers may recognize not only the diverse possible outcomes for Russia, but also the varying effects those outcomes may have on U.S. interests. Russian success and U.S. interests may not converge, but they are not necessarily opposed. Curt Tarnoff notes that "three overarching interests are involved: security, stability and humanitarian concerns." Successful reforms may provide considerable reduction in the threats to U.S. security if reform leads to decreased defense spending, reduced weapons inventories, non-proliferation of weapons of mass destruction, and reduced arm sales. However, a stronger economy may also permit re-establishment of military forces in Russia that might be considered a threat to U.S. security. Market reform may lead to a stable and profitable commercial relationship with Russia. However, a reformed Russia may be a stronger competitor in the world market and an increased threat to U.S. national security interests. The rule of law needed for effective market reform may contribute to development of a more civil, humane Russian society. However, the absence of effective reform may have negative effects on the human rights interests of the United States.

SECURITY ISSUES

The United States has tried to discourage Russia from making foreign arms sales, especially to states that are perceived to be threats to U.S. security. The current expansion of Russian arms sales appears troublesome to the United States, as Kevin O'Prey notes, because "more sophisticated weapon systems have been supplied to countries that may be a threat to U.S. interests."

U.S. policymakers may also be concerned that the income from arms sales might be used to revive and expand Russia's military industrial base. While 1,600 defense enterprises continue to operate at minimum production levels, only 6 to 10 of these enterprises benefit from cash sale of arms. Moreover, even with more arms sales and increased defense spending, O'Prey doubts that Moscow could resume the cold war arms race with the United States. Russia's military complex does not have the capability to compete in high-technology weapons, especially because of backwardness in electronics. Even in the worst-case scenario, Russia could return only to manufacturing large quantities of older generation weapons, according to O'Prey. Others consider it possible for Russia to fund reform and increase defense spending, thereby having the resources to rebuild its war mobilization base sufficient to compete with the United States.⁹

Promotion of nuclear and chemical non-proliferation has also been a centerpiece of U.S. security relations with Russia. If the United States felt assured that Russian budget priorities would shift to funding reform, some mutually beneficial debt swaps might be in order.¹⁰ Security and stability interests of the United States and Russia may be linked by debt for non-proliferation swaps that might dampen the proliferation threat and reduce the heavy debt service burden from Soviet-era debt. U.S. leadership in debt management negotiations might influence other creditors to follow suit.¹¹ Germany has been considering debt for assets swaps in negotiating some inherited Russian Paris Club debt since the Schroeder-Putin summit in April 2000. The European Bank for Reconstruction and Development (EBRD) has offered to support debt swaps that might encourage nuclear power plant safety and discourage weapons proliferation in the former states of the Soviet Union.¹²

STABILITY ISSUES

Programs favoring development of a democratic market system may support domestic stability in Russia and its integration into the global marketplace and international institutions. In the Department of Commerce paper in this volume, Inga Litvinsky and Matt London note, "The U.S. administration would like to see business become the bedrock of U.S.-Russian relations . . . Thus, U.S. and Russian interests are in alignment to commence a new bilateral commercial era." Bilateral trade and investment ties in the past have been small and concentrated in a limited number of sectors, according to Tanya Shuster. Were Russia to reform and enter the process of accession to the World Trade Organization (WTO), U.S. commercial relations with Russia might substantially expand

⁹ Steven Rosefielde, op. cit.; and Vitaly Shlykov in *Voennyi Vestnik* (Military Herald) #8, Moscow, April 2001.

¹⁰ John P. Hardt, *Russia's Paris Club Debt and U.S. Interests*, CRS Report RL30617, updated June 6, 2001; John P. Hardt, *Putin's Economic Strategy and U.S. Interests*, CRS Report RL31023, June 19, 2001.

¹¹ The Biden-Lugar-Helms S-1803, *Russian Federation Debt Reduction for Nonproliferation Act of 2001*. James Fuller, *Debt-for-Nonproliferation*, Pacific Northwest Center for Global Security and Defense Nonproliferation Programs. Paper delivered in Moscow, Russia, December 10, 2001.

¹² EBRD, *Transition Report Update*, April 2001.

in volume and scope. The Economic Dialogue, with its private sector initiative, undertaken after the Bush/Putin June 2001 Summit may encourage favorable trade and investment developments. Successful energy investments might top the bilateral commercial agenda. Litvinsky and London further note, "As Russia moves closer to WTO membership, the United States will need to re-examine our domestic trade laws." Permanent normal trade relations (PNTR), more access of Russian steel and other commodities to the U.S. market, and greater Export/Import Bank financing might then be placed on the U.S. legislative agenda.

Favorable developments in the bilateral commercial environment are contingent on Russia completing Putin's unfinished agenda. Thus, reform may have to be the horse leading the bilateral commercial cart.

HUMANITARIAN ISSUES

Human and civil rights in Russia have been of continuing concern to the United States. The conduct of the war in Chechnya violates many of the humanitarian principles of the United States. Threats to freedom of religion in Russia have drawn continuous U.S. monitoring and concern. Freedom of speech, imperiled by state intervention and control over television, radio and print media, has troubled U.S. policymakers. Human and civil rights and stability interests have been adversely affected by persistent crime and corruption in Russia.

Russian crime, corruption and money laundering have all plagued U.S.-Russian relations and deterred market reform. Capital flight and money laundering have had a disruptive effect on the U.S. banking system and encouraged international crime and terrorism, in the view of Winer and Williams. A peaceful, prosperous, market-oriented Russia might become more democratic and more sensitive to civil and human rights, but the record to date is mixed.

Thus, in summary, policymakers in Russia and the United States face prospective benefits and costs as well as the uncertainty inherent in Russian policy options. The current policy of renewed dialogue and engagement adopted by both sides at the Bush-Putin Summits of 2001 may generate a forum within which prospective Russian economic reform measures may be influenced by the interaction of Russian and U.S. policymakers. The analyses in this volume do not provide definitive answers to the questions posed at the outset of this overview or to the overarching question, where is the Russian economy going, but they may offer a carefully reasoned range of U.S. policy choices.

The United States, in concert with other western countries, may influence the direction that Putin pursues in economic reform. Policies needed for the reform process pose difficult decisions for the Russian leadership, some of which could lead to a different distribution of power and resources in Russia, contrary to the vested interests of powerful elites. These decisions may be influenced by U.S. policymakers and western allies of the United States. The United States and Germany may encourage or discourage Russian reform measures by use of leverage from debt management policy. By engaging in debt restructuring the United States may be able

to use its leverage to push Russia toward more effective non-proliferation measures. Germany, as Russia's leading western trading partner and creditor, may play a leading role in economic policy with Russia, if it chooses to take the initiative. An economic dialog between the Bush and Putin Administrations could be an important stimulus for broader agreements that would enhance our mutual national interests. Similarly, WTO accession discussions might benefit both countries. However, caution may be required to assure that the Russian economic reform process leads to concrete developments rather than promises that remain unfulfilled.

The IMF, World Bank, EBRD and other international institutions may play a continuing but less critical role in Russian economic development. If debt rescheduling is put on the policy agenda, the IMF would need to be involved. Jonathan Sanford notes that after a decade of programs from international financial institutions (IFIs) treating Russia as a special case for aid and advice, the IFIs now plan to treat Russia as a normal country.

AGRICULTURAL REFORM: MAJOR COMMODITY RESTRUCTURING BUT LITTLE INSTITUTIONAL CHANGE

By William Liefert ¹

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SUMMARY

Economic reform in Russia has substantially changed the volume and commodity mix of agricultural production, consumption, and trade. The main development has been the large drop in output, with the livestock sector being particularly hard hit. During the 1990s livestock output and animal inventories both fell by about half. However, the production decline has been an inevitable part of market reform, as the hefty Soviet-era subsidies to agriculture dropped severely. The contraction of the livestock sector has ended the large imports of grain and soybeans needed during the Soviet period as animal feed. On the other hand, imports of meat and other high value products have increased. These changes have affected U.S. agriculture, as Russia has become the top foreign market for U.S. poultry, in some years taking nearly half of all poultry exports.

¹William Liefert is a Senior Economist with the Economic Research Service (ERS), U.S. Department of Agriculture (USDA). The author thanks Stefan Osborne, Bryan Lohmar, Zvi Lerman, and Mary Anne Normile for helpful comments, though he bears full responsibility for any remaining shortcomings. The opinions expressed in this paper are the author's alone and do not in any way represent official USDA views or policies.

Institutional change, which involves farm restructuring and creation of the commercial and public infrastructure that a market-oriented agricultural economy needs, has been disappointingly slow. Private farms account for only 2 to 3 percent of agricultural output, while the former state and collective farms continue to dominate the organizational structure of agriculture. Although officially reorganized, with many becoming "joint stock companies," these farms have not substantially changed their systems of management and internal incentives inherited from the Soviet period. No federal legislation exists that allows genuine private ownership of agricultural land, which precludes development of a land market. In the absence of major institutional reform in agriculture, productivity growth in the sector during the transition period has been negligible at best.

INTRODUCTION

This paper surveys developments within the Russian agricultural economy since reform began in the early 1990s.² The paper focuses on two main questions: how has reform changed the commodity volumes and structure of Russian agriculture (production, consumption, and trade), and how has the institutional reform of Russian agriculture progressed? Institutional reform involves such matters as farm level restructuring and creation of the commercial and public infrastructure that a market-oriented agricultural economy needs.

The major commodity-related development during transition has been the large fall in production, especially in the livestock sector. Total agricultural output has declined by 40 percent compared to the pre-reform period, and production of livestock goods about 50 percent. The drop in output is important for U.S. policymakers and agricultural interests, for three main reasons. The first is that it has strongly affected U.S. agricultural exports. During the Soviet period, the U.S.S.R. was a major importer of U.S. grain, soybeans, and soybean meal, used primarily as animal feed for the country's growing livestock herds. The severe downsizing of the livestock sector in Russia (as well as in the rest of the former U.S.S.R.) during transition has largely terminated these imports. Russia is now importing substantial amounts of meat and other livestock products, especially poultry. Consequently, Russia has become the largest foreign market for U.S. poultry, in some years taking nearly half of all poultry exports.

Another reason commodity developments are important for the United States concerns policy advising and technical assistance. The Russian agricultural establishment argues that the contraction of agriculture, especially that of the livestock sector, is a catastrophe for the country, and that state policy toward agriculture should focus on returning output to pre-reform levels. To accomplish this goal, agricultural interests lobby for a substantial in-

²The paper draws heavily on a forthcoming ERS study (Liefert and Swinnen) that examines how reform has changed agricultural production, consumption, and trade in the transition economies of the former Soviet bloc. Another forthcoming ERS study (Cochrane et al.) focuses on how reform in the transition economies has specifically restructured the livestock sector. Sources on Russian agricultural developments during transition include ERS (annual to 1996, 1997, and 1998), OECD (annual), and OECD (1998). Much of the data presented in the paper are from ERS and Organization for Economic Cooperation and Development (OECD) databases.

crease in subsidies and trade protection for the sector, as well as other policy interventions into agricultural markets that would be to the sector's advantage, such as raising prices for agricultural output relative to input prices. The United States, as well as the European Union (EU) and international organizations such as the World Bank and European Bank for Reconstruction and Development (EBRD), have been heavily involved in policy advising and technical assistance with Russian agriculture. Therefore, it is important that the Russian agricultural establishment and advising Western bodies generally agree on the explanations as to why the main reform-related developments within the sector have occurred, the drop in output being at the top of the list.

The third reason the United States should be concerned about Russian agricultural commodity developments is that the drop in production and consumption during transition has raised questions about Russia's food security. Both the United States and EU have responded by providing Russia with food aid (most recently in 1999–2000).

The paper is organized as follows. The first section examines the main elements of Russian agricultural reform. The next section examines how reform has changed Russian agricultural production, consumption, and trade, highlighting the role that price and trade liberalization played in commodity restructuring. Subsections discuss how the restructuring has affected U.S. agricultural trade, the current status of Russian support and trade protection for agriculture, and the consequences of commodity restructuring for food consumption and food security.

The next section examines institutional developments, in particular farm restructuring and creation of market infrastructure for agriculture during transition. The focus concerning farm restructuring is on the three major types of agricultural producers—private farms, household plots, and the former state and collective farms. The section concludes by looking at new types of agricultural producers—large vertically integrated agri-food enterprises—which some Russian agricultural specialists believe could be a progressive force in Russian agriculture, perhaps raising productivity and injecting a stronger entrepreneurial spirit into the sector. The paper's last section examines the possibility that effective reform could turn Russia into a major exporter of grain, as some Western specialists forecasted at the beginning of transition.

MAIN ELEMENTS OF AGRICULTURAL REFORM

Agricultural reform in Russia has involved four main elements: (1) market liberalization; (2) farm restructuring; (3) reform of upstream and downstream operations; and (4) creation of supporting market infrastructure. *Market liberalization* involves removing government controls over the allocation of resources and output, thereby allowing the market to become the main means of allocation. It includes the key reform policies of liberalizing prices and trade and eliminating subsidies to agricultural producers and consumers. By changing prices, incomes, and other key monetary values that influence the market decisions of producers and consumers, market liberalization has resulted in major changes in the commodity volume and mix of countries' agricultural production, consumption,

and trade. Liberalization and its effects thereby mainly address the question of *what* goods are produced and consumed in the agricultural economy. Market liberalization also links the macro-economy to agriculture. Macro-developments such as inflation and movement in the exchange rate affect the key variables (prices, consumer income) that drive agricultural markets.

Farm restructuring changes the nature or system of production at the level of the actual producer. It involves how farms are owned, organized, and managed, that is, *how* goods are produced. Key policies are privatization and land reform, which directly affect incentives for using labor and other resource inputs.

Market liberalization and farm restructuring affect output and consumption in different ways. Market liberalization changes the mix of goods produced and consumed in a way that better satisfies consumers' desires for goods, but without any necessary improvement in the system or technology of production. Farm restructuring entails changes by producers in the nature of production that could increase productivity. This would allow more output to be produced from a given amount of input, which would increase the total quantity of goods available for consumption.³

Market liberalization and farm restructuring are nonetheless interrelated. The main way is that market liberalization can help motivate farm restructuring. The desire to increase profit, or the fight just to stay in business, can spur producers to reduce costs by changing their system of production. The pressures from market competition are the key to the relationship. However, market liberalization by itself will not inevitably lead to farm restructuring—producers must still make the actual changes in how they produce.

The third element of agricultural reform is transforming *upstream and downstream operations*. Upstream activities concern the supplying of agricultural inputs, while downstream activities cover storage, transportation, processing, and distribution. The transformation of these previously state-run operations that were well-integrated into the planned economy into privatized, market-oriented, and competitive enterprises not only would improve their productivity and performance, but also help farms improve theirs.

The fourth element of agricultural reform is the creation of *supporting market infrastructure*. This involves establishing the institutions and services, whether commercially or publicly provided, that a well-functioning market-oriented agricultural economy needs. These include systems of agricultural banking and finance, market information, and commercial law that can clarify and protect property, enforce contracts, and resolve disputes. Development of market infrastructure and the transformation of upstream and downstream operations are closely related, and in some respects

³Another way of explaining how market liberalization and farm restructuring differently affect the economy is with the concepts of (1) allocative efficiency and (2) technical efficiency and technological change. By changing the mix and distribution of output in a way that better satisfies consumers' desires, market liberalization increases *allocative efficiency*. The gains to consumers occur without any necessary improvement in the economy's overall (or any sectoral) production function. Conceptually, market liberalization results in movement along the economy's existing production possibilities frontier. By allowing more output to be produced from a given amount of input, farm restructuring increases *technical efficiency*. The move by underachieving farms to the best domestically available production practices results in movement from within an economy's production possibilities frontier to the frontier. If the improvement occurs because farms move to a new superior system or technology of production, the farm restructuring spawns *technological change*. This shifts the production possibilities frontier out.

might be hard to separate from each other. For example, in many isolated regions within Russia, the collapse of the planned economy has deprived farms (especially small ones) of any channels for obtaining inputs, or for selling, storing, or processing their output. In other words, upstream and downstream linkages, as well as the market infrastructure (such as market information) that could allow farms to find new linkages, are completely lacking.

The four elements of agricultural reform identified in this paper are roughly comparable to the taxonomy of reform elements developed by the World Bank (Csaki and Nash, 2000) for agriculture in all transition economies of the former Soviet bloc. The World Bank reform elements are (1) price and market liberalization; (2) land reform and privatization; (3) privatization and reform of agro-processing and input supply enterprises; (4) rural finance; and (5) institutional reforms (largely involving public services). Market liberalization corresponds to World Bank element No. 1, farm level restructuring to World Bank element No. 2, reform of upstream and downstream operations to World Bank element No. 3, and market infrastructure to World Bank elements Nos. 4 and 5.

HOW REFORM HAS CHANGED AGRICULTURAL PRODUCTION, CONSUMPTION, AND TRADE

Since reform began in the early 1990s, Russian agriculture has experienced major commodity restructuring—that is, major changes in the commodity volume and mix of agricultural production, consumption, and trade. The main feature of the restructuring has been a substantial drop in agricultural production, especially in the livestock sector (Table 1).⁴ During the 1990s meat production, as well as livestock inventories, fell by about half.

The data in the table are based on countries' official production numbers, which exaggerate the decline in output. In the pre-reform period farms had an incentive to overstate their production in order to look better with respect to output performance, while in the transition period farms have an incentive to understate production, in order to avoid taxes and buttress their argument that they need more state support. Also, the difficulty of measuring output by private and household producers adds to the undercounting of transition production. Yet, even if not wholly accurate, the official numbers clearly show a large decline in output. The downsizing of the sector has also coincided with a major drop in consumption of livestock products (Table 2).

Table 1 shows that the drop in agricultural production has been part of an economywide decline in output. Given that Soviet planners favored production of capital goods over consumer products, one should not be surprised that the elimination of central planning strongly hit industrial production (especially heavy industry such as metallurgy and chemicals). However, since foodstuffs are the most fundamental of consumer purchases, a major decline in agricultural production might seem counterintuitive. Yet, the main reason agricultural output has fallen in Russia during the transi-

⁴For data on Russian agricultural production and trade, as well as analysis of issues involving Russian agriculture, see the briefing rooms on Russia at the ERS Web site www.ers.usda.gov. ERS briefing rooms also exist for agriculture in the other transition economies of Ukraine, Hungary, and Poland.

tion period is the same as why industrial output and gross domestic product (GDP) have declined—consumers' desires for goods have replaced planners' preferences as the dominant force in determining what goods are produced, consumed, and traded. As with heavy industry, the contraction and commodity restructuring of agriculture in Russia has been an inevitable part of market reform.

TABLE 1.—CHANGES IN PRODUCTION

Commodity	Production index
Aggregate:	
Total agriculture	60
Total crops	69
Total livestock products	52
Total industry	50
Gross domestic product (GDP)	61
Crops:	
Grain	61
Sunflowerseed	106
Sugar beets	40
Potatoes	93
Vegetables	101
Livestock products:	
Meat	48
Milk	61
Eggs	68
Livestock inventories:	
Cattle	53
Pigs	45
Poultry	56

Note: The production index gives average annual production (or inventories) over 1997–1999 relative to average annual production (or inventories) over 1986–1990, with 1986–1990 = 100.

Source: USDA.

Agricultural production has dropped severely in almost all the transition economies of the former Soviet bloc, though particularly in the countries of the former U.S.S.R. In most transition economies, total agricultural output fell during the 1990s by 25 to 50 percent. The ensuing explanation for the sector's downsizing applies to a fair degree to all these countries. To examine the downsizing of Russian agriculture, one must first explore certain features of the pre-reform Soviet agricultural economy.

THE PRE-REFORM SOVIET AGRICULTURE AND FOOD ECONOMY

In the late 1960s the leadership of the Soviet Union decided to increase production of livestock goods, a policy the East European countries of the Soviet bloc generally followed. Consequently, from 1970 to 1990 livestock herds and output in these countries grew by 40 to 60 percent. For example, in the former U.S.S.R., Poland, and Hungary, meat production in 1990 was higher than in 1970 by 63, 43, and 57 percent (Economic Research Service (ERS) databases). The rise in feed requirements caused by the growing herds stimu-

lated the crop sector. In the late 1980s the average annual output of feed grain in the former U.S.S.R. was up by about half compared to the late 1960s. The feed requirements of the former U.S.S.R. were so great that the country also became a substantial importer of grain, soybeans, and soybean meal, much from the United States (Table 3).

TABLE 2.—PER CAPITA CONSUMPTION OF FOODSTUFFS BY COUNTRY

[In kilograms]

Foodstuff	Po-land	Hun-gary	Ro-mania	Russia	Ukraine	U.S.A.	Ger-many	Great Brit-ain	Japan
1990:									
Meat	73	101	74	75	68	113	96	72	38
Milk (excluding butter)	230	178	99	¹ 184	¹ 184	256	224	227	65
Cereals	144	58	59	106	131	55	81	105	25
Potatoes									
1997:									
Meat	66	84	50	48	32	117	83	73	42
Milk (excluding butter)	204	156	179	145	156	254	236	234	68
Cereals	157	113	205	156	160	116	83	95	118
Potatoes	136	66	82	125	126	62	79	113	26

¹ Figure for entire U.S.S.R.

Source: United Nations Food and Agriculture Organization.

TABLE 3.—AGRICULTURAL IMPORTS BY THE FORMER U.S.S.R. AND RUSSIA

[In thousands of tons]

Commodity	Former U.S.S.R.		Russia
	1986–1990	1995–1998	1995–1998
Total imports:			
Grain	35,720	2,150	2,860
Soybeans and soybean meal ¹	4,500	850	190
Meat	810	1,970	1,670
Imports from the United States:			
Grain	13,700	660	190
Soybeans and soybean meal ¹	1,720	160	20
Meat	2	1,200	990

¹ In soybean equivalent.

Note: Figures give average annual values over the period. Imports by the former U.S.S.R. in 1995–1998 are from beyond the region, while imports by Russia for 1995–1998 are from both beyond and within the former U.S.S.R.

Source: USDA.

By 1990 per capita consumption of livestock products and foodstuffs in general in the pre-reform transition economies compared favorably to levels in many Organization for Economic Cooperation and Development (OECD) nations (Table 2). Since per capita GDP in the U.S.S.R. and Eastern Europe was at most only half the OECD average, these countries were producing and consuming high-cost livestock products at a much higher volume than one would expect based on the countries' real income. This "achievement" came at a price, as large state subsidies, to both producers and consumers, were necessary to maintain the high levels of production and consumption. For example, by 1990 direct budget subsidies to the agriculture and food economy in the U.S.S.R. equaled about 10 percent of GDP, with the bulk going to the livestock sector. The subsidies created price gaps, whereby the prices paid to producers exceeded those charged to consumers. In the late 1980s agricultural producer prices in the aggregate exceeded consumer prices by about 75 percent (Liefert and Swinnen).

A major feature of the pre-reform Soviet food economy was that consumer prices for foodstuffs were set so low that output could not satisfy all the demand generated by the prices. In the pre-reform period long lines of shoppers and bought-out food stores were commonly interpreted in both the Soviet Union and the West as signs of major food shortages. However, low state-set consumer prices that overly stimulated demand were the main cause of these "market shortages," rather than inadequate supplies of foodstuffs in volume terms (as the inter-country comparison of consumption in Table 2 shows).

PRICE LIBERALIZATION

The lead policy of economic reform in Russia was price liberalization. This involved the corollary policy of reducing or eliminating state budget subsidies needed to maintain the gaps between prices paid to producers and prices charged to consumers. The result was that the market became the dominant force in determining prices and the quantities of goods produced and sold. The fall in producer prices from ending the price gap lowered production.

Price liberalization had two other more indirect but nonetheless significant effects on markets for agricultural products. These came from the drop in consumer income and the deterioration in the terms of trade for agriculture that accompanied the liberalizing of prices. The freeing of prices led to high economywide inflation, in the early reform years in the hundreds of percent annually. The massive inflation substantially reduced consumers' real income, and correspondingly purchasing power, as prices economywide rose by a greater percent than wages and salaries. By the late 1990s real per capita income in Russia was only about half the level of 1990 (PlanEcon). The income decline reflects not only the drop in pay for workers who kept their jobs, but also the rise in unemployment during the transition period.

The degree to which changes in real income affect the market for a specific foodstuff depends on how sensitive demand is to income variations (*income elasticity of demand*). Among foodstuffs, demand for livestock products is relatively sensitive to changes in income (*income elastic*). This means that declining income particularly hurt

the livestock sector. The fall in demand cut production further. The downsizing of the livestock sector also lowered demand for animal feed (feed grains and oilseeds), and thereby upset those markets. Since the bulk of grain output in Russia is used as animal feed (as in most countries), the contraction of the livestock sector largely drove the decrease in grain production, rather than a decline in human demand for grain products.

In fact, for certain foods, such as bread and potatoes, demand can rise rather than fall when income decreases (*inferior goods*). Table 2 shows that during the transition, consumption of cereals in Russia has remained generally steady while potato consumption has increased, suggesting that in Russia potatoes might be inferior goods.

The second way price liberalization affected agricultural markets was on the supply side, by raising the real prices for agricultural inputs. In the inflation following price liberalization, prices for agricultural inputs rose by a much greater percentage than prices for agricultural output. This increased the real prices producers had to pay for inputs, or in other words, worsened *producers' terms of trade*. In Russia, agriculture's terms of trade declined during the 1990s by about 75 percent. For example, in Russia in 1992, wheat producers on average had to sell 0.3 tons of output to purchase one ton of nitrogen fertilizer. In 1997 they had to sell 1.4 tons of wheat (Russian Federation, 1998). Higher input prices decreased the amount of inputs used in production, which reduced output further. For example, in Russia from 1990 to 1997, fertilizer use per hectare fell 80 percent, from 88 to 16 kilograms (Russian Federation, 2000).

Price liberalization could result in input prices rising relative to output prices for two reasons. The first is that in the pre-reform period prices for inputs were set lower relative to their production cost than were prices for output. When prices were then freed, prices for inputs had to rise more than prices for output to reach the value of the real cost of production. Such price-setting behavior means that in the pre-reform period producers were subsidized not only through direct budget subsidies, but also indirectly through the price system.

The second possible reason input prices could rise relative to output prices involves not just market liberalization but also the market structure for suppliers of agricultural inputs. In the pre-reform period farms were typically dependent for the supply of any particular input on just a few, and perhaps only one, large state distributor(s). During the early reform years, markets were liberalized and the input distributors privatized without the latter being broken up into smaller competing units. During the transition period farms have accused the large suppliers of using their monopoly-type market power inherited from the Soviet period to charge higher prices than would be possible if a number of smaller competitive suppliers existed, prices that exceed the input producers' costs of production.

Although this problem has probably existed to some degree, gauging the degree of the problem is difficult. In Russia, local authorities continue to help the large former state and collective farms obtain inputs, often at below market prices, in return for the farms' willingness to sell them a certain amount of output at

agreed-upon prices. Since the prices of both inputs and output exchanged in these deals often deviate from existing market prices, it is difficult to determine whether farms are on net gaining or losing from the arrangement. Given that Russian regional governments have been paternalistic toward their local agriculture, fearing that defunct farms would create unemployment and food security problems, they have probably not used this relationship much to farms' disadvantage.

TRADE LIBERALIZATION

The second major reform policy that affected commodity restructuring in agriculture was trade liberalization. When Russia liberalized trade, domestic producer prices for most agricultural goods lay above world market prices (OECD, 1998). This was yet another way that the pre-reform system subsidized Russian agriculture—setting domestic producer prices above world prices. The fall in prices to world levels during the transition period further reduced agricultural production.

The Soviet Union was a major agricultural importer of products from outside the Soviet bloc (with most of the imports going to Russia). The main imports included feed grain, soybeans, and soybean meal, needed to feed the growing livestock herds. The reform-driven contraction of the livestock sector has severely reduced these imports (Table 3).⁵ Instead of importing feed to maintain their expensive livestock herds, Russia and the other countries of the former U.S.S.R. are now importing meat and other livestock products directly. From the second half of the 1980s to the period 1995–1998, average annual meat imports by the countries of the former U.S.S.R. rose by about 125 percent (Table 3), with Russia taking the bulk.⁶

The switch by Russia during transition from being a major importer of animal feed to a major importer of meat and other livestock products suggests that the country has a *comparative disadvantage* in the production of livestock products relative to animal feed; that is, it produces meat and other livestock products at a higher cost than it produces animal feed, relative to world market prices. Liefert (1994) supports this conclusion. He finds that at the end of the Soviet period, the U.S.S.R. had a general comparative disadvantage in agricultural goods vis-à-vis industry, and within agriculture a comparative disadvantage in meat production compared to grain. That agricultural trade during the Soviet period appears to have been inconsistent with comparative advantage shows the extent to which trade was driven by policy rather than economic rationality. Liefert (forthcoming) finds that in the late 1990s, despite the major production and trade adjustments that had occurred during almost a decade of transition, Russia continued to have a comparative disadvantage in meat production vis-à-vis grain.

⁵This point takes issue with the criticism commonly made of the Soviet Union that it could not even feed itself. Rather than allaying food shortages, the imports of animal feed were used to maintain artificially high levels of livestock production and consumption.

⁶The reason the data in Table 3 stop at 1998 is that in 1999 and 2000 the United States and EU gave Russia substantial food aid. The official Russian foreign trade data do not distinguish between commercial imports and food aid, and separating out the two categories of inflows would be overly difficult.

In addition to meat, Russia's main agriculture and food imports include other high-value products such as fruit, processed foods, beverages, and confectionary products, as well as the bulk crop sugar (mainly from Ukraine). A negligible agricultural exporter, Russia has maintained a large trade deficit in agriculture (Table 4).

TABLE 4.—AGRICULTURAL TRADE BALANCE

[In billions of U.S. dollars]

	1992	1993	1994	1995	1996	1997	1998
Total trade							
Imports	\$9.62	\$5.95	\$10.7	\$13.18	\$11.56	\$13.36	\$10.27
Exports	1.65	1.67	2.78	2.67	3.2	2.48	2.2
Net imports ..	7.97	4.28	7.92	10.51	8.36	10.88	8.07
Trade with the United States							
Imports	1.13	1.22	0.65	1.03	1.33	2	0.83
Exports	0.02	0.02	0.02	0.02	0.04	0.03	0.03
Net imports ..	1.11	1.2	0.63	1.01	1.29	1.97	0.8

Source: USDA and OECD.

FALL IN OUTPUT WAS INEVITABLE PART OF MARKET REFORM

The analysis shows that commodity restructuring in Russia has been an inherent part of market liberalizing reforms. Price and trade liberalization substantially changed prices and incomes—the two main factors on which producers and consumers base their decisions to produce, buy, and sell goods. Changes in these variables in turn induced major changes in agricultural production, consumption, and trade. The decline in output, particularly in the livestock sector, was inevitable. Price liberalization caused output for a typical good to fall for three reasons—elimination of the gap between producer and consumer prices, the drop in consumer income, and the rise in inputs' real prices, with the last two effects occurring from economywide price liberalization. Trade liberalization added a fourth reason production could drop, since world prices lay below domestic producer prices for most agricultural goods.

A parallel way of explaining why reform has reduced output is by identifying how the pre-reform system directly and indirectly subsidized agriculture, and how price and trade liberalization caused production to drop by eliminating these subsidies. The three main types of subsidies were direct budget subsidies from the government (which maintained the gap between producer and consumer prices), the domestic price system which kept prices for agricultural inputs low relative to producer output prices and the real costs of production, and the price and trade system which kept domestic producer prices above world trade prices.

That the decline in agricultural output has been a necessary consequence of market liberalization means that the change in output is an unsuitable indicator of the success of agricultural reform. The degree to which output has fallen in individual countries is largely a measure of the extent to which agriculture in the pre-reform pe-

riod was subsidized, planners' preferences for goods deviated from consumers' preferences, and the structure of countries' production and foreign trade differed from that based on comparative advantage.⁷

CURRENT SUPPORT AND TRADE POLICIES

Although the various types of direct and indirect subsidies to Russian agriculture steadily diminished during the 1990s, state support to agriculture has not been wholly eliminated. Relative to agriculture's share in GDP of 7 percent, budget subsidies by the federal government are low, comprising less than 2 percent of the federal budget, and just a fraction of 1 percent of GDP. However, as federal subsidies to agriculture diminished during the decade, subsidies by regional and local governments increased, such that in the aggregate they currently exceed total federal budget support. Regional governments are concerned about both the local food security and employment consequences of falling output and unprofitable farms within their jurisdictions. With their growing support to agriculture, local governments have gained influence over farms. As mentioned earlier, they typically help their farms obtain inputs, often at low or subsidized prices, in return for the farms' willingness to sell them output at agreed-upon prices.

Farms are also subsidized indirectly by the recurring policy of writing off of debt. Farms habitually receive "soft credits," either from state or quasi-state lenders, which are usually written off. During the 1990s most Russian former state and collective farms were unprofitable (currently about 50 percent are), and yet virtually none have gone bankrupt and closed down. That unprofitable farms can keep functioning means that their creditors (both input suppliers and lenders) indirectly subsidize them by either not calling in debt or eventually abolishing it.

Foreign trade policy in agriculture currently is not overly protectionist. Import quotas do not exist, with the exception of sugar (directed mainly at Ukraine). Import tariffs for most agricultural goods range between 10 and 20 percent, with 30 percent being the maximum. Some exports are also restricted, in particular sunflowerseed. Sunflowerseed exports are taxed, mainly to keep domestic output within the country to help national processors (crushers) suffering from excess capacity.

The dismantling of the state monopoly over foreign trade, and the array of prices and trade controls that were part of the monopoly, has substantially narrowed the gap between world and domestic producer prices for agricultural goods. As a result, the indirect subsidy to Russian agricultural producers during the Soviet period from receiving prices above world trade prices has declined significantly.⁸

⁷ Although examining why industrial output has also fallen during the transition period is beyond the scope of this report, the general reasons are the same as those given for agriculture. Planners' desires for goods dominated over those of consumers, industrial production was subsidized (especially in heavy industry), and production and trade were not driven by countries' comparative advantage vis-à-vis the world market. Thus, industry also was an overexpanded sector of the economy.

⁸ For detailed discussion and data concerning support to Russian agriculture during the transition period, see OECD 1998.

However, agricultural trade restrictions have been stronger at the regional rather than federal level. Regional and local governments commonly restrict outflows of agricultural output from their jurisdiction. This hinders not only export beyond the borders of Russia, but also agricultural trade within the country. The most benign-possible reason for the flow restrictions is that regional authorities wish to protect their own consumers by ensuring that local supplies are adequate. The most malign-possible reason is corruption, as officials might exploit the regional price differences created by these restrictions to earn easy profits. Such controls work to segment regional markets from each other, as well as cut regional markets off from the world market. Without these restrictions Russian agricultural exports probably would not be much higher, but imports would be lower. The controls prevent regional output from reaching the large cities, such as Moscow and St. Petersburg, where domestic output competes with imports.

Russia began its negotiations for accession to the World Trade Organization (WTO) in 1994, and could finally gain admission within the next few years. The two main areas of negotiation concern market access (involving import restrictions such as tariffs and quotas) and domestic support. Compared to most other countries (whether in the WTO or not), the levels of Russia's current tariffs and domestic support to agriculture are neither particularly high nor low. Although Russia's negotiated terms of entry could reduce these amounts a bit, the effect on import volumes might not be substantial, at least in the near term. However, WTO accession would bind the country to maximum allowable levels of tariffs and domestic support, which would prevent Russia from raising the levels in the future.

Accession would also facilitate the development of a transparent, rules-based, and predictable trading system, the lack of which is probably the biggest current impediment to trade. For example, Russia has used arguments concerning health and safety to restrict imports of poultry from the United States. By binding Russia to the WTO's Agreement on the Application of Sanitary and Phytosanitary Measures, accession would require that any Russian complaints raised on this issue comply with WTO rules and procedures. A potential problem concerning WTO rules' enforcement for Russia, though, is the proliferation of support and controls by regional and local governments (such as the bans on outflows). Although these measures might conflict with WTO rules and commitments (just as they often violate Russian federal law), enforcing WTO disciplines at such decentralized levels of government could be difficult.⁹

EFFECTS ON U.S. AGRICULTURAL TRADE

The Soviet Union was a major market for U.S. grain, soybeans, and soybean meal (Table 3). The reform-driven changes in agricultural production and trade in Russia and the other countries of the former U.S.S.R. have strongly affected U.S. agricultural trade. U.S. exports of the above commodities to the region have fallen substantially (Table 3). However, the United States has moved from exporting almost no meat to the region in the pre-reform period to

⁹For further discussion of Russia's WTO accession involving agriculture, see Liefert (1997).

being a major meat exporter. The bulk of the exports are poultry, with most going to Russia. Since the changes in Russian agricultural trade are being driven by the economic fundamentals of comparative advantage, rather than any short-run “disruptions of transition,” the changes in the volume and structure of U.S. agricultural exports to Russia and the rest of the former U.S.S.R. region are not likely to be reversed in the foreseeable future.

During the second half of the 1990s, Russia took nearly half of all U.S. poultry exports. Poultry accounted for about three-fourths of all U.S. agriculture and food exports to Russia in value terms, and imported poultry (mainly from the United States) provided over half of all poultry consumed in Russia. Other U.S. agricultural exports include red meat and processed foods. As the United States imports virtually no agricultural products from Russia, during the 1990s it ran an agricultural trade surplus with the country annually averaging about \$1 billion (Table 4).

Russia’s financial crisis that hit in August 1998 severely cut the country’s agricultural imports, seriously hurting U.S. exports. One of the main consequences of the crisis was depreciation of the ruble vis-à-vis the U.S. dollar and other major Western currencies by about 75 percent, as the exchange rate quickly fell from about 6 rubles to the dollar to 25 rubles. In the fourth quarter of 1998, total Russian agricultural imports were down by about 80 percent compared to the previous year, and by 2000 had recovered to only half the pre-crisis level. U.S. agricultural exports (again especially poultry) to Russia crashed in late 1998, though have since steadily rebounded. By early 2001 U.S. poultry sales to Russia were close to pre-crisis levels (230,000 metric tons in the first quarter of 2001).

In 2001 and 2002 U.S. meat exports to Russia might also benefit from the outbreak of both mad cow disease (Bovine Spongiform Encephalopathy, or BSE) and foot-and-mouth disease in the EU. The EU has been Russia’s main source of imported beef and pork. In early 2001 Russia, along with other countries such as the United States and Canada, banned the import of all EU meat (though poultry was later allowed). In 1999 and 2001 Russia also forbade imports of pork from China, because of foot-and-mouth disease outbreaks there. Although it is unclear how long the meat import embargoes imposed by Russia will last, the bans, as well as lingering Russian suspicion concerning imported meat from the EU and China, could provide U.S. beef and pork producers with at least a short- to medium-term opportunity to expand exports.

CONSUMPTION AND FOOD SECURITY CONCERNS

The drop in agricultural production during reform has coincided with a fall in consumption of livestock products (Table 2). In discussing food security in Russia, the Western media commonly give the decline in agricultural output and consumption as evidence that transition has seriously worsened food security. Although transition has created a food security problem, the cause of the problem is not the drop in agricultural output, nor is it more generally insufficient food supplies. As mentioned earlier, before reform, Russia had high per capita levels of consumption of most foodstuffs, including meat and other high-value livestock products, compared with even rich OECD nations. The best evidence of the

adequate availability of foodstuffs during transition is that, even with food supplies and consumption being relatively high in the pre-reform period, consumption of staple foods such as cereals and potatoes has remained steady or even risen (Table 2). Consumption of high-value livestock products has fallen during transition. As mentioned before, however, per capita GDP in Russia and the rest of the U.S.S.R. before reform was at most only half the OECD average. Consumption of “luxury” livestock products has therefore declined during transition to levels more consistent with the country’s real income.

Reform has threatened food security in Russia not because of inadequate overall supplies of foodstuffs, but because of problems involving *access* to food for segments of the population and certain regions within the country. The inflation and rising unemployment of the transition period increased poverty, such that food became less affordable to a growing share of the population. The groups most vulnerable to poverty are those dependent on the state welfare system for their income (such as pensioners), which has declined in real terms because of inflation, and workers who have lost their jobs or suffered a decline in their real wages, largely because they are (were) employed by industries producing goods for which demand has dropped during reform. Reports suggest that as much as 30 percent of the Russian population might be living below the poverty level.

In addition, as discussed earlier, agricultural surplus-producing regions commonly restrict the outflow of foodstuffs. Whether the authorities’ motive is to protect their consumers by strengthening local supplies or to benefit corruptly from the price arbitrage opportunities created by the restrictions, the controls can prevent food-deficit regions from obtaining needed supplies.

In 1999–2000, Russia received substantial food aid from the United States and EU. U.S. aid for the 2 years totaled over 3 million metric tons (mmt) of commodities worth about \$1.1 billion, while the EU gave 1.8 mmt, worth almost \$0.5 billion. Most of the U.S. and EU aid was targeted to food deficit regions, while some of the U.S. aid was distributed by private voluntary organizations to the poor and elderly.¹⁰

These distribution policies reflect the wisdom of targeting food aid to needy social groups and regions. Such distribution will not only have the strongest possible humanitarian effect, but also limit any potential harm to agricultural producers. Funneling food aid to the poor who have reduced purchasing power and to food deficit regions where food prices are high will minimize the injury that food aid can cause agricultural producers by depressing prices.

¹⁰One of the motivating factors in the large aid to Russia was worry about the effects on food availability of Russia’s economic crisis of 1998. As discussed earlier in the report, the crisis substantially depreciated the Russian ruble vis-a-vis Western currencies. By raising the price of imported foodstuffs, the depreciation cut food imports in half. It has been a commonly held belief during the transition that Russia imports over half of its food. If true, the large drop in imports following ruble depreciation could by itself threaten food security. However, the Economic Research Service of USDA has calculated that even before Russia’s crisis, imports accounted for only about a fifth of the country’s total food consumption. Poultry (mainly from the United States) was the only major foodstuff for which imports have been providing over half of domestic consumption. Imports do account, though, for over half of the food consumed in major cities such as Moscow and St. Petersburg. Extrapolating the experience of the big cities to the entire country might explain how the misconception developed concerning the importance of imports to total national food supplies (see Liefert and Liefert, 1999).

The reform-driven drop in agricultural production and consumption in Russia is part of the economywide reallocation of resources away from producing and consuming goods favored by planners and the political elite to goods favored by consumers. It might seem surprising to describe foodstuffs as goods more favored by planners than consumers. Yet, as previously discussed, the high levels of agricultural production and consumption of foodstuffs during the pre-reform period required large direct and indirect subsidies to both producers and consumers. Once market liberalization and the decline in subsidies resulted in foodstuffs reflecting the full cost of their production, consumers switched from buying high value livestock products to other goods and services. Reform has in fact created entirely new goods, and in particular services, which consumers were starved of under the old regime and to which demand has turned during reform. Some of the worry in both Russia and the West about declining food production and consumption during reform has been based on the misconception that by their very nature, foodstuffs must be more favored by consumers than planners, such that the general public must on net inevitably suffer if reform reduces consumption.

FARM RESTRUCTURING AND INSTITUTIONAL MARKET INFRASTRUCTURE

This paper argued earlier that because the contraction of agricultural output has been an inherent part of market reform, output is a misleading indicator of reform progress within the sector. A more appropriate indicator is growth in productivity, that is, farms' ability to produce more output from a given amount of inputs. Productivity growth would increase farm output and profitability, improve the cost-price competitiveness of Russian production vis-à-vis the world market (which in the Russian context mainly means competing better against imported foodstuffs in the country's large urban markets), and save resources that could move out of agriculture to produce goods in other sectors of the economy.

The changes in Russian agriculture that could raise productivity must come in the major areas of agricultural reform (other than market liberalization) identified at the start of the paper—farm restructuring, changes in upstream and downstream operations, and development of institutional infrastructure. However, progress in these areas to date has been disappointing, from the point of view of both the actual changes made and improved productivity performance. Developments will be examined from the point of view of the three main types of agricultural producers during the transition period: private farms, household plots, and the former state and collective farms.

PRIVATE FARMS

At the start of reform many Russian agricultural reformers hoped that private farms would be the vanguard of successful market-driven reform of agriculture. By 1995 about 280,000 private farms existed in Russia, comprising 5 percent of all farmland, and producing 2 percent of total agricultural output (Table 5). The average size of the farms in 1995 was 43 hectares (106 acres).

TABLE 5.—SHARE IN AGRICULTURAL OUTPUT OF DIFFERENT PRODUCERS

[In percent]

Commodity	Private farms					Household plots ¹					Former state and collective farms				
	1995	1996	1997	1998	1999	1995	1996	1997	1998	1999	1995	1996	1997	1998	1999
Total output	1.9	1.9	2.4	2.1	2.5	47.9	49.1	51.1	59.2	57.2	50.2	49.0	46.5	38.7	40.3
Grain	4.7	4.6	6.2	6.8	7.1	0.9	0.8	0.8	0.9	0.9	94.4	94.6	93.0	92.3	92.0
Sunflowerseed	12.3	11.4	10.8	10.9	12.6	1.4	1.6	1.4	1.5	1.3	86.3	87.0	87.8	87.6	86.1
Sugar beets	3.5	3.3	3.5	4.0	5.4	0.6	0.7	0.8	0.8	0.8	95.9	96.0	95.7	95.2	93.8
Potatoes	0.9	0.9	1.0	1.0	1.0	89.9	90.2	91.3	91.2	92.0	9.2	8.9	7.7	7.8	7.0
Vegetables	1.3	1.1	1.5	1.8	2.1	73.4	76.8	76.3	79.6	77.0	25.3	22.1	22.2	18.6	20.9
Meat ²	1.5	1.7	1.6	1.6	1.7	48.6	51.6	55.9	56.9	59.4	49.9	46.7	42.5	41.5	38.9
Milk	1.5	1.5	1.5	1.6	1.7	41.4	45.4	47.2	48.3	49.7	57.1	53.1	51.3	50.1	48.6
Eggs	0.4	0.4	0.4	0.4	0.4	30.2	31.2	30.4	30.1	29.4	69.4	68.4	69.2	69.5	70.2

¹ Includes garden plots.

² Liveweight (before slaughter).

Source: Russian State Committee for Statistics.

Since 1995 private farming has not grown by much, in terms of either number of farms or the farms' share in total output (though average farm size has increased to 58 hectares). A number of serious impediments exist to their growth and prosperity. Although these obstacles hurt all types of agricultural producers to some degree, they are the most vexing for private farms. One impediment is the absence of full private ownership rights in agricultural land. A 1993 Presidential Decree sanctioned private property in farmland. This has allowed individual farmers to obtain and use farmland for private gain, as well as de facto pass the land on to their heirs. Most private farmers acquired their land in two ways. The first was the reorganization of former state and collective farms in 1993, whereby farm members were given shares of land which they could choose to farm individually. The second way was purchasing land from the state land reserve, which was created at the beginning of reform from land taken from former collective farms.

However, private farmers do not fully own their land, and can only sell it back to the state land reserve. Also, foreigners cannot purchase farmland. What is most lacking is federal legislation passed by the Duma which gives individuals full legal title to farmland, which they could sell to others. The Yeltsin Administration pushed for legislation that would allow full private property in farmland, and it appears that some in the Putin Administration also support such a position. However, the Duma, in which conservative agrarian interests have been strong throughout the transition period, has consistently opposed such legislation. In June 2001 a law in the Duma passed its first reading (three "readings" are necessary to become law) that would allow private ownership of land. However, the law sidesteps the issue of ownership of *agricultural land*, by stating that agricultural land will be handled in future legislation. If no federal legislation is passed in the near to medium term that specifically addresses the question of farmland, regional (oblast) legislation would probably determine the specific conditions of its ownership and use. Although some regions have passed liberal legislation concerning agricultural land, others have enacted very conservative laws that deny private ownership.

The mass of conflicting federal and regional laws and rules concerning farmland has had the collective effect of preventing the development of an agricultural land market. One negative consequence of the absence of private ownership of farmland and a land market is that farmers cannot use their land as collateral for debt. Current law in fact prohibits farms from mortgaging their land. This makes it virtually impossible for them to obtain commercial loans. A second negative effect is that without the security of full ownership, farmers have reduced incentive to invest in developing their land.

Other major impediments to the development of private farming concern the third and fourth major elements of Russian agricultural reform identified at the start of the paper—upstream and downstream linkages and supporting market infrastructure. Upstream and downstream linkages and market infrastructure have all been weak during the transition period. During the Soviet era farms received inputs directly from the state and also gave their output directly to the state distribution system. Private farmers,

however, must secure inputs for themselves and also market their output. The commercial channels for doing so were non-existent at the start of reform, and grew only slowly during the 1990s.

Private farmers not only need to establish these key linkages, but they also need supporting commercial and public institutions and infrastructure that a market-oriented agricultural economy requires. They in particular need a financial system that allows fast, affordable access to capital, a system for quick and inexpensive dissemination of market information (where can one buy and sell, and at what price?), and a strong system of commercial law that protects property and enforces contracts. Infrastructure and services in all these areas are weak. Virtually no system of private commercial finance exists for agriculture. A recent publication on Russia's agro-food economy (Wehrheim et al., 2000) argues that undeveloped institutions and infrastructure are the main problem facing the sector. The absence of this infrastructure increases the risks and transaction costs of doing business.

Another endemic problem in Russia that raises transaction costs is extortion and bribery, a consequence largely of the dysfunctional legal system. The problem is particularly serious for sellers of agricultural products. The easily identifiable and perishable nature of their output makes them vulnerable to vandalism by extortionists or corrupt officials who want to punish those who thwart them. In addition to poor institutional infrastructure, private farmers (like the entire sector) are plagued by deficient physical infrastructure. Although storage is inadequate, the main weakness is transportation, particularly the poor road system.

Yet another major impediment to the development of private farming is resistance by the farmers' parent farms. The managers of the former state and collective farms do not support, and often actively oppose, having their workers spin off private farms. Weak institutional infrastructure and upstream and downstream linkages increase private farmers' vulnerability vis-à-vis their parent farms, for it makes them dependent on the farms for obtaining inputs and marketing their output.

HOUSEHOLD PLOTS

As during the Soviet period, households on the former state and collective farms have small plots that they can independently cultivate. The plots average no more than half a hectare in size (about one acre). Yet, as during the Soviet period, they produce a disproportionate share of the country's agricultural output. The share has steadily risen during the transition period (mainly because output by the former state and collective farms has dropped), such that they now account for more than half of all production (Table 5). The plots produce mainly livestock products, potatoes, and vegetables, and virtually no bulk crops, such as grain and oilseeds. The households typically consume part of their output themselves and sell the rest, usually directly to consumers at local farmers' markets. During the reform period there has also been growth in output by garden plots tended by the general population.

The household plots' disproportionate share in output raises the question of whether they could serve as the foundation for developing a market-oriented agricultural system based on privately

owned household farms. The plots' achievement, however, is deceiving. A major reason for their "success" is their strongly symbiotic (parasitic?) relationship with their parent farms, through which the plottolders obtain inputs (such as animal feed) inexpensively or for free. Despite the official statistics which identify the share of these plots in total farmland as only 3 percent, the plottolders also use some of their parent farms' land for their own purposes. The amount of land they actually utilize could be as high as 10 to 15 percent of the total (OECD, 2001). If the plots were wholly privatized, they would face the same challenges as the struggling private farms described earlier, in particular the problem of obtaining inputs through commercial means.

The plottolders would face these hurdles with the additional handicap of being much smaller than existing private farms. Even if the plots increased in area tenfold, they would still be very small. Russia could end up with a situation similar to Poland, the only country of the Soviet bloc that had small peasant-run farms, where farms currently average about 8 hectares in size (20 acres). The unproductivity of such a scenario is shown by the fact that agriculture in Poland accounts for only 5 percent of the country's GDP, but has 25 percent of the labor force. Small plots in Russia would in particular suffer from diseconomies of scale in producing bulk crops, which require heavy machinery for planting and harvesting. Although the productivity of Russia's household plots demonstrates the beneficial effect on incentives from giving farmers the freedom to farm for their own gain, such a system of small non-capitalized plots would be technologically and organizationally pre-modern in nature.

FORMER STATE AND COLLECTIVE FARMS

The dominant agricultural producers in Russia (if not in terms of total output, then in institutional structure and influence) continue to be the former state and collective farms. They hold about 85 percent of all farmland and produce about 40 to 45 percent of total agricultural output (Table 5).¹¹ They account for most bulk crop production. In 1993 the state and collective farms of the Soviet era were forced officially to reorganize. Many became "joint stock companies," while others became some sort of cooperative or collective association. As joint stock companies, the farms issued vouchers to all workers and managers, which gave them a claim to a share in the farms' land and other assets. Individuals could use these vouchers to obtain land to work as private farmers.

With the collapse of central planning, farm managers were given the freedom and responsibility to make their own production decisions, obtain inputs, and market their output. As a result, their position within the farms strengthened considerably. Farm management has been conservative during the reform period, such that little real change has occurred concerning farm organization, administration, and the system of internal work incentives. Farm produc-

¹¹Because the former state and collective farms produce most of the country's bulk crops, their output volumes are sensitive to the weather. A major reason these farms' share in total agricultural output slips in 1998–1999 to only about 40 percent is because poor weather caused low harvests, especially of grain. The statement that these farms currently account for about 40 to 45 percent of total output assumes average weather conditions.

tivity has increased only negligibly, if at all. Lerman et al. (2001) calculate that during 1992–1997, total factor productivity in Russian agriculture rose only 7 percent (in total over the period, not annually). Voigt and Uvarovsky (2001) compute that during 1993–1998, total factor productivity on the former state and collective farms fell 15 percent (in total). Both Sedik et al. (1999) and Voigt and Uvarovsky (2001) find that technical efficiency on the former state and collective farms, which measures the productivity performance of farms *relative to the most productive farms* in the country, has fallen during the transition period. This means that farms in general have moved further away from, rather than closer to, the best possible production practices within the country.

Because of the unlikelihood that private farming as previously described will flourish in the near to medium term, the “reorganized” former state and collective farms will probably continue to dominate agriculture in the foreseeable future (say the next 10 years). What are the chances that these farms will evolve into more dynamic and productive enterprises?

The farms face some major handicaps inherited from the Soviet period in changing their nature and behavior. One is that during the Soviet era farms did not specialize in production. Although very large (state farms averaged about 38,000 acres and collective farms 15,000 acres), they usually produced dozens of commodities. If a farm had the capability to produce a certain agricultural good, it usually did. Such non-specialization contrasted sharply with industrial policy during the Soviet period, whereby a huge enterprise might be the country’s sole producer of a major product. The growing influence of local government over farms during the reform period has reinforced the tendency to diversify rather than specialize in production, as local governments worry about food security. Greater specialization would reduce farms’ production costs by allowing them to capture economies of scale.

Another handicap is the farms’ tradition of providing social welfare services for their workers, which includes health, education, housing, and entertainment. Although the quality of these services has declined during the reform period, the general obligation remains. According to a farm survey, these services increase farms’ total costs by 10 to 30 percent (Uzun, 2001). Yet another handicap is the relationship household plottolders have vis-à-vis their parent farms, by which the former obtain inputs at the latter’s expense. According to the same farm survey, this relationship raises farms’ costs by another 20 percent (Uzun, 2001). Non-specialization in production, provision of welfare benefits, and service as a conduit for free inputs to plottolders all impede farms’ ability to become market-oriented profit-maximizing and cost-minimizing producers.

In addition to reducing the burdens just identified, there are two general ways farms could become more efficient and productive. The first would simply be to shed existing unproductive inputs, especially labor. The relative unproductivity of agricultural labor is shown by the fact that agriculture currently accounts for about 7 percent of GDP, but has 14 percent of the country’s total labor force. (In comparison, agriculture’s share in the labor force in the United States is only about 2 percent—which is also primary agriculture’s share in U.S. GDP—and in the EU 5 percent.) Poor labor

productivity in Russia keeps production costs high and farm wages and income low.

An advantage of raising productivity by shedding labor is that it does not require a change in the existing system or technology of agricultural production. The drawback is that it requires economic developments outside of agriculture. The rest of the economy must grow in order to generate new jobs for agricultural workers.¹² Local governments resist attempts by farms to pressure workers to leave, out of fear it will add to unemployment. The collapse of the national social welfare system during the transition period also discourages workers from leaving the farm. Workers are understandably reluctant to face the prospects of both unemployment and a social welfare system inferior to that they currently enjoy.

The second way farms could increase productivity would be from genuine farm restructuring—that is, a major improvement in how farms are managed and internally motivated, which would increase the incentives to use resources more productively. Throughout the transition period, farm management has opposed such major changes, while the agricultural establishment in general has defended the existing system.

Rather than advocating major systemic reform of agriculture, managers and agricultural policymakers argue that improvement should come in two different ways. The first way is by restoring the various types of support that existed during the Soviet period, such as direct government subsidies to agriculture and high output prices relative to input prices. The main complaint of agriculture during the reform period is that the deterioration in its terms of trade has made inputs unaffordable. The second way is by acquiring superior Western technology. Yet, unless major improvements are made in the systemic nature of agriculture (effective farm level restructuring supported by the necessary institutional infrastructure), Russian agriculture might not effectively use the superior material technology and therefore fail to raise productivity.

The reason the Russian agricultural establishment has resisted major reform is probably some combination of a genuine belief that the main problems in agriculture are not systemic in nature, and that major systemic changes would threaten their power and privileges. This writer is in fact sympathetic to the argument that Russian agriculture lacks the mentality necessary to implement major reform. The Russian agricultural establishment appears to be stunned by the huge contraction of the sector, particularly the halving of livestock operations. Adding to the shock is the mindset inherited from the Soviet period whereby the main goal and performance indicator of economic activity was rising output (rather than growing productivity or consumer satisfaction).

NEW AGRICULTURAL OPERATORS AND A NEW SPIRIT OF ENTERPRISE?

There is evidence that some new forms of farm organization and “agricultural operators” are emerging in the country (Rylko, 2001). A feature of these new producers is that they are very large

¹² More generally, Lerman (1999, 2000) finds a correlation between GDP growth in transition economies and growth in agricultural output. GDP growth not only increases the quantity of agricultural inputs available to farms, but also helps develop the agricultural services and commercial infrastructure that farms need to function and reduce operational and transaction costs.

(around 36,000 hectares, or 85,000 acres, on average), and often are vertically integrated enterprises, combining primary production, processing, and distribution. Most of these new operations have not evolved from the former state and collective farms, but rather have been created by entities outside of primary agriculture, such as banks, input suppliers, agro-processors, or industrial enterprises. The apparent motive for the move into primary agriculture is that they think it will profitably complement their existing business (such as input supply or processing). Uzun (2001) finds that the most successful of the former state and collective farms are also very large, the hypothesis (backed by some evidence) being that they have lower per unit costs of production from economies of scale. Uzun argues that one reason these farms are successful is that they specialize in production much more than most former state and collective farms.

Nonetheless, the evidence is too new and slight to argue that these new operators and large former state and collective farms are the wave of the future. Yet, it is telling that the most dynamic new types of farm organization in Russia involve large and integrated enterprises, rather than smaller family-type farms.

Is there any recent evidence that Russian agricultural performance in the aggregate is improving, perhaps because of the benign influence of these new types of producers? The economic crisis of 1998 provided a good test of Russian agriculture's ability to respond to opportunities to expand output. The extreme depreciation of the ruble following the crisis severely cut imports and raised agricultural producer prices expressed in domestic currency. A large Russian production response would show that market incentives and mechanisms were working reasonably well.

However, it appears that agricultural output has responded to this opportunity only mildly. Although total agricultural output increased in 1999 and 2000 by 3 and 5 percent, this was mainly because weather improved in those years over the terrible weather year of 1998 (which produced Russia's lowest grain harvest in decades). In 2000 total agricultural production was still 4 percent lower than in 1997 (admittedly a very good weather year).

The change in production of livestock products is a better indicator of response than the change in crops, given that Russia is a larger importer of livestock products compared to crops and that livestock output is not so vulnerable to the weather. In 1999 livestock production declined 4 percent, while aggregate output in 2000 was roughly unchanged. The 2000 performance in fact represents some progress, since it was the first year since reform began that livestock output did not fall. Other positive indicators in 2000 were that farm profitability improved (the number of unprofitable farms fell from 54 percent to 48 percent), and output of agricultural inputs rose (Serova, 2001).

All this evidence supports the conclusion that the isolated effect of major ruble depreciation on agricultural output has been positive, though not robust. Some Russian agricultural specialists believe more generally that in the last couple years an improvement has occurred in the attitude and behavior of agricultural enterprises (farms and processors). Enterprises better understand and accept the challenges (and opportunities) of producing for a market-

driven economy, and thereby are becoming more concerned about productivity, cost minimization, marketing, and the need to be self-financing.¹³ Such opinion provides some basis for optimism, though it is unclear how prevalent and deep the changed behavior is. In its most recent review of Russian agriculture, the OECD (2001) argues that any current upturn in the sector might be a response more to short-run and reversible favorable developments, such as good weather and ruble depreciation, rather than to any major improvement in business mentality or behavior.

This writer believes that it is still too early to conclude that a definite improvement has taken place in the attitude and performance of Russian agricultural producers. Although productivity growth is needed to make Russian agriculture profitable and competitive, the motivation within the sector to make the necessary systemic changes to raise productivity still appears rather weak. Motivation could be imposed on the sector from outside by the state enforcing a genuine "hard budget constraint." This would involve ending soft credits and requiring farms punctually to pay all debts, that is, to become genuinely self-financing. However, the agricultural establishment and local governments resist this, and no other force pushes for it. As a result, although most farms have been unprofitable during the 1990s, hardly any have gone bankrupt, as they muddle on with de facto subsidies from soft credits. Almost all farms continue to function despite a huge sectorwide drop in production, and with agriculture still employing almost as much labor as in the pre-reform period.

COULD REFORM TURN RUSSIA INTO A MAJOR GRAIN EXPORTER?

When Russia began economic reform in the early 1990s, U.S. agricultural interests worried that reform might not only eliminate the large U.S. exports of grain and soybeans to the country, but also turn Russia into a major grain exporter. Using forecasting models, Liefert et al. (1993) and Tyers (1994) predicted that if reform succeeded in significantly raising agricultural productivity in Russia, the country would become a major grain exporter, perhaps up to 20 million tons a year.¹⁴ Johnson (1993) argued that by simply reducing waste and thereby raising utilizable output of grain, which is one form of productivity growth, Russia could have exportable surpluses.

The reason Russia has not become a grain exporter is that the farm level restructuring and creation of supporting infrastructure that would raise productivity have not occurred. This means that the forecasters were not necessarily wrong in their predictions, since their forecasts were based on the general premise (fleshed out with specific assumptions) that ambitious and effective reform would be pursued.

However, even if reform succeeded in raising productivity in grain production, this might be insufficient to move Russia toward grain exports. The forecasting studies just identified examined the effect of reform within the agricultural economy alone. The studies

¹³This information is based mainly on the author's recent conversations with agricultural specialists in Russia.

¹⁴The forecast by Liefert et al. was for the former U.S.S.R. in the aggregate, though it would be unlikely that the region could become a major grain exporter if Russia were not exporting.

correctly forecast that the *isolated effect* of productivity growth in grain would be to improve the trade balance in the product. Productivity growth would stimulate exports by reducing per unit costs of production, thereby making domestic output more price competitive vis-à-vis imports and the world market—in other words, the productivity growth would improve Russia's comparative advantage in the product.

Assume, though, that reform raises productivity uniformly throughout the economy (for all inputs used to produce all goods), say by 50 percent. Because of the inverse relationship between productivity growth and costs of production, production costs for all goods would fall also by a uniform percentage. (Under standard assumptions, the per unit costs would drop by one-third.) Since comparative advantage depends on relative costs and prices, Russia's structure of comparative advantage would not change. If Russia were a relatively high cost producer of grain before the uniform productivity increase, it would remain a relatively high cost producer, because per unit costs for all goods would change by the same percentage. This means that if Russia were a net importer of grain or any other good before the productivity growth, it would be economically profitable for the country to continue importing the good.¹⁵

An example of this general point is that ever since Great Britain repealed the Corn Laws in the middle of the 19th century which opened the country up to free trade, it has been a major importer of agricultural goods. Over the past 150 years Britain has had significant productivity growth in agriculture in absolute terms. However, because productivity growth has occurred throughout the economy, Britain remains a high cost producer of agricultural goods relative to other goods it produces, and thereby has continued as a large agricultural importer.

If Russia currently does not have a comparative advantage in grain, as appears to be the case, it can develop a comparative advantage and thereby become a major exporter only if productivity growth in grain production exceeds that in most other areas of the economy. The southern half of the European part of the former U.S.S.R. has highly favorable natural conditions for agriculture, particularly grain production—excellent soil and climate and generally adequate (though inconsistent) precipitation. Once that region, which covers Ukraine and southern European Russia, adopts world-standard production technology, creates reasonably efficient systems of farm organization and management, and builds institutional infrastructure to service agriculture properly, it will most likely have a comparative advantage in production of grain and various other crops, such that it should be a major exporter. This would be consistent with the region's history of being a large grain exporter. However, during the transition period, agriculture has

¹⁵Conceptually, productivity growth would shift the domestic supply curve for grain to the right, thereby increasing output. However, by lowering the production cost of all goods by a uniform percentage, the productivity rise should appreciate the country's currency (under standard assumptions by an amount equal to the productivity growth). The appreciation would lower the good's world price expressed in domestic currency. The drop in price would increase domestic consumption and reduce domestic production. Thus, the country's trade deficit in the good might change little. Liefert (1994) examines the relationship between productivity growth and comparative advantage, particularly as applied to transition economies.

been one of the most conservative and anti-reform sectors in Russia (as well as Ukraine), and there is no firm evidence that it will become significantly more progressive during the next 10 to 15 years (the new farm operators notwithstanding). Thus, during at least this time frame, the likelihood that agriculture will outperform the rest of the economy in productivity growth to become a major exporting sector appears dim.¹⁶

CONCLUSION

During the transition period, Russian agricultural output has fallen in volume terms by 40 percent. The livestock sector has been hit the hardest, with production and animal inventories both down by about half. The decline in agricultural production, however, has been an inevitable consequence of market reform. The main reason for the output drop is that consumers' desires for goods have replaced those of planners and the political leadership as the dominant force in determining what goods are produced and consumed. The policies that engineered the switch from planners' to consumers' preferences as the driving force of production and consumption were price and trade liberalization. These policies reduced or eliminated the array of Soviet-era subsidies to agriculture that maintained artificially high levels of production and consumption. Agriculture was subsidized three general ways: (1) through direct budget subsidies from the government; (2) through the domestic price system whereby the prices farms had to pay for inputs were set low relative to output prices and to the real costs of production; and (3) through a price support system whereby the prices agricultural producers received for their output were kept above world trade prices.

The restructuring of agricultural production and consumption has strongly affected U.S. agricultural exports. The Soviet Union was a large importer of grain, soybeans, and soybean meal, needed to feed growing livestock herds, with the United States being a major supplier. The contraction of the livestock sector has pretty much ended these imports. In their place, Russia has been importing substantial amounts of meat. These changes have strongly affected U.S. agriculture, as Russia has become the largest foreign market for U.S. poultry. Research at the Economic Research Service of the U.S. Department of Agriculture (USDA) shows that the switch from importing animal feed to maintain a large livestock sector to importing meat and other livestock products is consistent with Russia's comparative advantage in agriculture—that is, the country produces livestock goods at a relatively higher cost than it produces animal feed.

The production decline has been accompanied by a fall in consumption of many foodstuffs, particularly livestock products such as meat and milk. This has raised concerns about food security. Although transition has created a food security problem for Russia, the cause of the problem is not the drop in agricultural output, nor is it more generally insufficient food supplies. Before reform Russia

¹⁶Using a forecasting model for Russian agriculture, the Economic Research Service of the USDA predicts that during the next 10 years Russia remains a net grain importer (though of only a couple million tons a year). The forecasts are based on assumptions that productivity growth in the grain sector, as well as throughout agriculture, is slight (ERS, 2001).

had high per capita levels of consumption of most foodstuffs, compared even to rich OECD countries. Although consumption of expensive livestock products has dropped, consumption of staple foods such as bread and potatoes has remained steady or even increased.

Reform has threatened food security because of problems involving access to food. Reform has increased the number of poor who lack the purchasing power to sustain adequate diets. Also, impediments to the flow of foodstuffs within the country have prevented food-deficit regions from obtaining supplies from surplus-producing areas.

That the fall in agricultural production has been a necessary part of market reform shows that output is an inappropriate indicator of reform progress. Better performance indicators for Russian agriculture are productivity growth (getting more output from a given amount of inputs) and cost reduction. In addition to increasing output, productivity growth would make domestic production more price competitive vis-à-vis the world market, and free up resources that could be used to produce goods in other sectors of the economy (such as the fast-growing service sector).

Productivity growth and cost reduction could be achieved two main ways. The first is through effective farm restructuring, which involves changing farms' internal systems of organization, management, and incentives for workers. The second is by reducing transaction costs for farms and enterprises by creating the institutional infrastructure that a market-oriented agricultural system needs. Necessary institutional infrastructure includes systems of rural banking and finance, market information, and commercial law that can clarify and protect property, enforce contracts, and resolve disputes. This infrastructure would also strengthen the upstream and downstream linkages that connect agricultural producers to their input suppliers and output processors and distributors.

To date, progress in farm restructuring and growth of institutional infrastructure has been disappointingly slow. Private farming has not taken off, and currently accounts for only 2 percent of agricultural output. A major reason is that the mass of conflicting laws concerning the use of agricultural land does not allow for full private ownership of land, which prevents development of an agricultural land market. This hurts private farmers' incentives to invest in their land, as well as their ability to get loans, since they cannot use land as collateral. Russian agricultural producers in general, but in particular private farmers, have also suffered from the fact that commercial and public institutional infrastructure for agriculture remains very undeveloped.

The household plots maintained by workers on the former state and collective farms now produce over half of the country's total agricultural output (mainly livestock goods, potatoes, and vegetables). A major reason for the plots' "success," however, is their symbiotic relationship with their parent farms, which allows plotters to obtain inputs inexpensively or for free. Without this crutch, the plots would face all the challenges of private farms, with the added handicap of being only a fraction of their size.

The former state and collective farms continue to dominate the organizational structure of Russian agriculture. Although forced in 1993 officially to reorganize, with many becoming "joint stock com-

panies” owned by their workers, the farms have done little to change how they internally operate. Farm managers and the agricultural establishment generally oppose systemic changes in agriculture, probably from some combination of a genuine belief that the main problems in Russian agriculture are not systemic in nature, and fear that major changes would threaten their power and privileges. Most farms have been unprofitable throughout the transition period, and get by largely from continued soft loans from either state or quasi-state lenders that are eventually written off.

Some new types of producers are appearing in Russian agriculture, in particular large vertically-integrated enterprises, often created by input suppliers or processors. Some Russian agricultural specialists argue that farms and processors in general are becoming more reconciled to the challenges and opportunities of producing for a market economy, and thereby are growing more concerned about productivity, cost reduction, and marketing. However, the evidence is still too slight to conclude that these new producers, and attitudes, represent the future of Russian agriculture, and that they will lead to a substantial improvement in agricultural performance. If such improvement is not forthcoming, the main consequence for U.S. agriculture is that Russia will not become a major agricultural exporter, and will likely continue as a big meat importer.

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