DISSERTATION

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The Unwilling State

Exploring Kazakhstan's Resistance to Economic Autonomy in the Post-Soviet Period

Patricia A. Brukoff

RAND Graduate School

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RGSD-111

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The original version of this study was prepared as a dissertation in April 1994 in partial fulfillment of the requirements of the doctoral degree in public policy analysis at the RAND Graduate School. The faculty committee that supervised and approved the dissertation consisted of C. Richard Neu (Chairman), Steven Popper, and Axel Leijonhufvud.

PREFACE

This study explores the alternatives available to Kazakhstan as it chooses between participation in an economically integrated arrangement with other former Soviet republics and charting a more autonomous path. Its economic potential, geographic size, geostrategic position, and large Russian population make Kazakhstan an important player in the debate over economic integration. By examining Kazakhstan's remaining ties to the former Soviet Union, this research shows that while some economic attributes give Kazakhstan advantages over other former republics negotiating the same economic transition, the country's success remains contingent upon outcomes in the rest of the Commonwealth of Independent States, most importantly in Russia. As a result, Kazakhstan benefits from greater economic integration so long as reform proceeds apace in Russia, while the costs of maintaining these ties increase with any rise in Russian anti-reform tendencies.

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SUMMARY

Two years after the collapse of the Soviet Union, leaders of the newly independent states still face uncertainty about how to restructure economic relations both with the other former republics as well as with the rest of the world. Weighing the choices made available by their new autonomy against the constraints remaining after seventy years of Soviet development has not yielded any easy answers. What has become apparent in the wake of continued contraction of trade flows and collapsing production is the difficulty of disentangling any single country's economy from the remains of the larger Soviet system. The associated costs and benefits of integration, which include immeasurables such as political sovereignty, have proven difficult to calculate, and the unsettled political and economic environment complicates longer-term planning.

This dissertation explores the alternatives available to Kazakhstan as it chooses between participation in an economically integrated arrangement with other former republics and charting a more autonomous path. Its economic potential, geographic size, geostrategic position, and large Russian population make Kazakhstan an important player in the debate over economic integration. Its emergence from the transitional period as a strong, stable country would make it a vital bridge between Europe and Asia, fostering regional commerce and stability. But a weak, poor Kazakhstan could erupt into interethnic strife and catalyze resurgent Russian authoritarianism and expansionist aspirations.

By examining Kazakhstan's remaining ties to the former Soviet Union, this research shows that while some economic attributes give Kazakhstan advantages over other former republics negotiating the same economic transition, the country's success remains contingent upon outcomes in the rest of the Commonwealth of Independent States, most importantly in Russia. The continuing influence of Russian political and economic decisionmaking on Kazakhstan derives from the large size and proximity of the Russian economy; extensive intra-industry, inter-enterprise, and infrastructure links; as well as enduring interstate political and security ties. As a result, Kazakhstan benefits from greater economic integration so long as reform proceeds apace in Russia, while the costs of maintaining these ties increase with any rise in Russian anti-reform tendencies.

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1. Introduction

Two years after the collapse of the Soviet Union, leaders of the newly independent states still face tremendous uncertainty about how to restructure economic relations both with the other former republics as well as with the rest of the world. The process of evaluating the choices made available by their new autonomy and the constraints remaining after seventy years of development within the centralized Soviet system has not yielded easy answers. What has become apparent in the wake of continued contraction of trade flows and collapsing production is the difficulty of disentangling any single country's economy from the remains of the larger Soviet economic system. The associated costs and benefits of continued or enhanced integration have proven difficult to calculate with any precision because they include, inter alia, immeasurables such as political sovereignty. Additionally, the current political and economic environment is uncertain and unsettled, making longer-term planning a risky enterprise.

In this dissertation, I explore the alternatives available to Kazakhstan as it decides whether to participate in an economically integrated arrangement with other former republics or to chart a more autonomous development path. The country has emerged as an important player in the debate over economic integration; in particular, Kazakhstan's president, Nursultan Nazarbaev, has consistently and vociferously supported the recreation of economic linkages between and among the former republics. Because of its economic potential, geographic size, geostrategic position, and large Russian population, Kazakhstan is taken seriously by Moscow and is poised to play an important role in the course of regional economic, political, and security affairs. Its emergence from the transitional period as a strong, stable country would make it a vital bridge between Europe and Asia, creating the conditions necessary for expanded commerce and enhanced stability in the region. But a weak, poor Kazakhstan could erupt into inter-ethnic strife and become the tripwire for the resurgence of authoritarianism and expansionist aspirations in Russia.

In the following sections, I will attempt to demonstrate that while some of Kazakhstan's economic attributes give it certain advantages over other former republics also negotiating the transition to a market-style economy, successful economic development in Kazakhstan is contingent upon the outcome of reform efforts not only within that country, but also in the other former Soviet republics, most importantly in the Russian Federation. The large size and close proximity of the Russian economy is only part of the continuing influence of Russian political and economic developments on

decisionmaking in Kazakhstan. Intra-industry, inter-enterprise, and infrastructure links as well as enduring political and security ties remain between the two countries. As a result, Kazakhstan derives benefits from greater economic integration among the former republics so long as reform proceeds apace in Russia, while the costs of maintaining these ties increase precipitously with any rise in Russian anti-reform tendencies.

Focusing on Interrepublic Trade

The continuing economic inter-relatedness of the republics is nowhere more apparent than in the structure of interrepublic trade. The Soviet internal trade structure was characterized by a high degree of integration and regional specialization. In that system, commodity flows were planned and executed by all-Union agencies to serve the economic and political interests of central authorities. The republics were developed not as distinct economies, but as different branches of one large economic system, each with its own specialization. The bulk of goods and materials produced in the republics was shipped to Moscow, where it was then redistributed within the Soviet Union according to the dictates of central planning or exported by the central authorities in charge of foreign trade. Links between different republics that circumvented this flow were strongly discouraged, and direct relations with foreign buyers or suppliers were forbidden.

During the Gorbachev era, the economic policies of perestroika accelerated the breakdown of existing structures connected with interrepublic trade. In particular, the removal of party enforcement of planned output and delivery led quickly to the breakdown of existing trading relationships among the former Soviet republics. The last two years in particular saw a significant decline in interrepublic deliveries. According to the World Bank/IMF study of the Soviet economy[1], the spread of shortages in food, consumer goods, and fuels made republican producers and authorities all over the country wary of honoring contracts for delivery to other parts of the country without assurance that their own supply needs would be met. Republics began to horde locally produced output and to engage in barter transactions. The study concludes that the contraction of trade reflects the difficulty faced by the republics under conditions of worsening shortages in securing exchanges of comparable value without barter.

The old trade system was dealt another blow with Russia's implementation of price reform in January 1992. New prices were intended to induce enterprises to economize on input utilization and to seek out lower cost suppliers. Instead, previously controlled prices rose astronomically as monopoly suppliers charged more for their products rather than expanding output. Enterprise buyers found themselves unable to

[1]International Monetary Fund, 1991, p. 195.

afford planned deliveries, nor could they turn to alternative suppliers. This result of monopolization in the Soviet economy was reinforced by limited flexibility in the country's transportation network as well as the inability of enterprise managers to identify secure alternative arrangements for maintaining input deliveries. These characteristics of interrepublic trade in the former USSR seriously constrain the Soviet successor states in their pursuit of different trade options. They must now sort out which remaining aspects of the highly interdependent trade structure to preserve, and which to abandon in favor of exploring new opportunities.

Reasons for Optimism

Many observers place Kazakhstan along with Russia and Turkmenistan in the category of newly independent states showing great promise. If the transition is managed successfully by the country's leaders, Kazakhstan possesses some strengths that may make it viable as a more autonomous economic entity than some of the smaller European and Central Asian republics.[2] This positive assessment is based primarily on the wealth of natural resources found within the borders of what was the Kazakh SSR and the demonstrated ability to generate surpluses in basic food production. During the Soviet period, massive investment allocations flowed into Kazakhstan to exploit its rich resources and agricultural potential; as a result, the republic consistently received investment and development funding at levels well above the all-union average.[3] Extensive industrial development has taken place in the areas of ferrous and nonferrous metallurgy, chemical production, food processing, machine building, building materials, as well as other types of mixed heavy and light industry. This inflow of investment resources had positive spillover effects in the areas of infrastructure development and education. In addition to the creation of road and rail networks where before there had been none, the expansion of educational opportunities was also an important component of Soviet development policies in the region. This resulted in an educated population and workforce, as well as nearly universal literacy.[4]

Impediments to Economic Autonomy

Despite these positive attributes, development under the command-administrative system confronts Kazakhstan with the problem of continued interconnectedness with the old all-Union economic structures. Under Soviet rule, the republic relied almost entirely on imported supplies of consumer goods and other finished products from Russia and

[2]*PlanEcon Report*, 1992, pp. 26-27.
[3]Nove and Newth, 1967 pp. 125-126; Belkindas and Sagers, 1990, p. 636.
[4]Olcott, 1987, pp. 194-196.

Ukraine, while no real corresponding dependency existed for these republics on goods produced in Kazakhstan. Additionally, it appears that central planners made the conscious choice to locate facilities for all but the most preliminary processing of Kazakhstan's raw material output outside of the republic, primarily in Russia. In some instances, processing facilities located within the republic did not utilize locally produced materials. Finally, Kazakhstan's landlocked status and massive, sparsely populated territory make questions of transport costs and market size particularly acute.

While Kazakhstan's resource endowment forms the basis of its economic potential, control over these resources could become a source of conflict between the country's dominant ethnic groups. Worsening inter-ethnic tensions could ultimately undermine the country's prospects for future development. Russians have long regarded Kazakhstan as their southern frontier; the region has hosted successive waves of Russian migration and settlement dating back to prerevolutionary times.[5] Two to three generations of Russians, as well as other Slavic peoples, have continuously resided in northern Kazakhstan, making up anywhere from 45 percent to 65 percent of the population in these oblasts. After the breakup of the Soviet Union, relations between the country's dominant ethnic groups have become increasingly tense as those espousing extreme, nationalistic views seek to influence government policymaking in favor of their own agendas.[6] Kazakh nationalist groups are bringing increasing pressure to bear on the government to implement social and economic policies that skew outcomes in favor of Kazakhs. This has increased concerns among non-indigenous groups who fear the erosion of their previously privileged position in the republic. Resentment among long-time Russian residents has manifested itself in a variety of ways, ranging from demands for greater regional autonomy to calls for the "return" of Kazakhstan's northern territories to the Russian Federation.

Western Assessments of Kazakhstan's Economic Viability

The discussion above shows that while the country's resource endowment and the resulting pattern of development followed during the Soviet period appear to open up options not available to most other former republics, Kazakhstan still faces stiff challenges to developing into a more autonomous economic entity. Attempts to sort out which will dominate, the advantages Kazakhstan enjoys or the impediments it faces, have

[5]For a more detailed account see Olcott, 1987.
[6]See Fuller, 1992.

been the source of some disagreement among scholars examining future economic prospects of the former Soviet Union.[7]

The dominant school of thought argued that while Kazakhstan is self-sufficient in energy, the country's ties to its old trading partners are still strong; it is a net importer of food and consumer goods in spite of its sizable grain production. Schroeder (1992, p. 552) saw development within a union with other republics and the maintenance of close relations with Russia as Kazakhstan's best chance for prosperity over the long run. Analysis presented in *PlanEcon Report* (1992, pp.26-27) offered a more upbeat assessment of economic prospects for Kazakhstan, but even this more positive prognosis was conditioned upon the continuation of existing close relations between Kazakhstan and Russia.

Noren and Watson (1992, pp. 92-93) generally agree with this assessment of Kazakhstan's longer term prospects. Like Schroeder, they emphasize the extensive mutual dependencies and economic linkages that still tie these countries together. Combined with their weak links to foreign markets, this enduring dependency is driving the republics to sustain close economic ties. According to their argument, the Russians are eager to recoup subsidies they once transferred to other republics but also want to maintain export markets for their otherwise unsalable manufactured goods. And while leaders of the non-Russian republics are anxious to wrest their societies and economies out from under Russian hegemony, they are also anxious to preserve at least some of the price concessions they enjoyed within the old Soviet economic structures. Only McAuley (1991) differs, arguing that the disintegration of old structures for directing trade makes it necessary and desirable for all of the republics to decrease their dependence on Russia and build up their links with the West.

Are the remaining trade ties between the republics too strong to break, or have they been degraded to the point where trying to patch them up would be futile? Which is more costly for Kazakhstan during the transitional period: staying with its old partners or seeking out new ones? At the crux of this is the process of rationalizing the prices received and paid for interrepublic commodity exchange. According to Noren and Watson, in the short to medium term, all former republics share an interest in maintaining existing trade flows with old partners to continue for as long as possible the subsidization of manufactured and consumer goods with underpriced raw materials and resources. In particular, this applied to the low prices the republics had grown accustomed to paying for energy products. But this argument cannot be applied easily to the case of

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[7] *PlanEcon Report*, March 27, 1992, pp. 26-27; Schroeder, 1992, p. 552; Slay, 1991, pg. 2; Noren and Watson, 1992, pp. 92-93.

Kazakhstan; as its energy production and export capacity has grown, the country appears to be taxed doubly, first by paying too much for industrial output from other former republics, and second by receiving too little in compensation for its valuable natural resources.

A Major Proponent of Integration

While Kazakhstan's leaders hoped to improve upon this situation by asserting greater control over internal economic decisionmaking, they have consistently opposed efforts to disrupt the existing structure of the Soviet economy. This has been the main thrust of arguments presented by President Nazarbaev, whose ambitions for Kazakhstan's economic autonomy have been tempered by an awareness of the breadth and depth of his country's ties to the economic structures erected during the Soviet period, ties that remain too great to consider a radical redirection of economic activity toward new partners. Nazarbaev's calls for cooperation in averting further unionwide collapse of productive activity and rise in unemployment date back to the 1991 Novo-Ogarevo negotiations which aimed at arriving at a new union treaty. He has maintained this position even as Russia has demanded the surrender of sovereignty over economic policymaking as the price for inclusion in any integrated economic system.

Research Plan

This project seeks to evaluate the options available to the leadership of Kazakhstan to carve out a viable national economy for itself from what used to be the Soviet economy. The analysis will focus on the short- to medium-term options available to Kazakhstan given its current structure of import requirements and export capabilities in an attempt to make more explicit the costs and benefits associated with Kazakhstan's continued support for economic reintegration of the former Soviet republics. While the focus will be on the role of Kazakhstan's trade policies in promoting economic development, I will examine both the economic and political-strategic determinants of trade to provide a clearer picture of Kazakhstan's role in the emerging regional order. I purposely avoid the necessarily speculative exercise of projecting long-term prospects and potential new directions for Kazakhstan's economy, since industries and services emerging in Kazakhstan over the longrun may have little or nothing to do with the country's comparative advantage in raw materials production.

Revaluing Trade Flows to Test the "Terms-of-Trade" Argument

Noren and Watson (1992, pp. 92-93) have asserted that the non-Russian republics are motivated to remain linked to the Russian economy by their interest in preserving the

subsidization implicit in the Soviet pricing system. In this section, I test the applicability of this argument for Kazakhstan by examining the approximate change in the terms of trade that the country would experience if it were to move more aggressively toward world market pricing for its traded goods. This would entail abandoning the practice of administrative price setting for "critical commodities," which remains in effect for interrepublic deliveries and moving to market-determined prices applicable on international markets for all traded goods. Although the approach abstracts away from the real difficulties associated with reorienting the trade flows of a former Soviet republic, it provides a measure of insight into the motivation for Kazakhstan's determined support for economic reintegration.

Using interrepublic import and export data for 1991, I will examine the effect of revaluing interrepublic flows on Kazakhstan's terms of trade under two different scenarios. First, 1990 foreign-to-domestic price ratios will be applied to the 1991 trade flows. Applying price ratios for the last year of relative price stability within the Soviet economic system provides an estimated upper bound for the terms-of-trade effect reflecting the largest deviation of internal prices from world market prices, in both level and relative terms. Next, I will attempt to improve upon the upper-bound estimate by incorporating 1991 prices for "hard" commodities (those that are homogeneous and traded at a known world market price) into the revaluation. The aim is to produce an estimated change in the terms of trade that is more reflective of internal and external price changes occurring between 1990 and 1991. By employing this approach, I derive a reasonable approximation of the direction and magnitude of the terms-of-trade effect associated with hypothetical shift to world prices for Kazakhstan's 1991 trade flows.

It should be emphasized that the results of this analytical approach provide only a partial picture of the effect of changing prices on Kazakhstan's terms of trade. It provides an estimate of the one-time shock that the country would experience as the result of an abrupt shift to world market prices. In practice, this static effect would be followed by shifts in the entire structure of trade in response to new price signals that this analysis does not capture. However, I will present some tentative assessments of the dynamic effects associated with shifting commodity trade to world market prices.

Results of the terms-of-trade calculation are consistent with both casual empiricism and the outcome of a recent World Bank study, both of which suggest that as an energy exporter, Kazakhstan will enjoy an improving interrepublic trade balance and more favorable terms of trade as prices are liberalized during transition. Estimated changes in the terms of trade are consistent in the direction of effect but larger in

magnitude than World Bank findings for 1989 and 1990.[8] This outcome demonstrates that the argument advanced by Noren and Watson does not apply to Kazakhstan. On the contrary, the country appears to have a strong incentive to escape a pricing arrangement in which it subsidizes its trading partners with low-priced energy products.

A Closer Look at Kazakhstan's Interrepublic Trade Ties

This section focuses on Kazakhstan's remaining ties to its Soviet-era trading partners, which were ignored in the previous section for the purpose of calculating hypothetical changes in the country's terms of trade. Here, I present a detailed profile of interrepublic trade flows into and out of the republic to determine the role Kazakhstan has played in interrepublic trade. This makes it possible to identify areas of economic activity in which Kazakhstan is self-sufficient as well as those in which it depends critically on inputs from other regions of the former Soviet Union. The analysis is based on data covering interrepublic deliveries of producer and consumer goods for 1991. These figures were compiled by Kazakhstan's State Committee for Statistics and cover trade in over 500 different commodities. They are reported in terms of ruble values and physical quantities, with destination and source republics provided.

This examination of Kazakhstan's interrepublic trade flows provides a number of insights into the republic's centrally determined development path and its lasting consequences. First, industrialization in Kazakhstan under Soviet central planning was not comprehensive; it was, however, rather intense in narrow, selected areas. Second, some aspects of the regional development proceeded so as to take advantage of local resource endowment; the exploitation of deposits of oil, natural gas, and metals falls into this category. In other instances, development choices were undertaken in order to accommodate the priorities of central planning and were ill advised in economic terms; here the best example would be the introduction of wheat cultivation in areas unsuited to sustaining this crop. Finally, the data support the conclusion that economic ties between Kazakhstan and the other republics are still strong; significant dependencies on interrepublic deliveries remain in most sectors, impeding the pursuit of trade opportunities with new partners in the short to medium term.

Other Factors Influencing Trade Developments in Kazakhstan

In the final section, I examine the wider set of issues contributing to Kazakhstan's long-standing support of integration in general and close alignment with Russia in

[8]Tarr, 1993, p. 13. Tarr's results indicated that Kazakhstan's interrepublic terms of trade would improve by 13.5 percent according to estimates based on 1990 data, and by 9.2 percent based on 1989 data.

particular. This policy approach made good sense in light of the other constraints faced by the country's leaders. Additional economic considerations explain this policy choice, as well as related issues of internal and external security, all of which pointed to the need for close coordination with Russia. The benefits of this approach could reasonably be expected to outweigh the costs so long as support for integration was unanimous among the parties involved.

As it turns out, Russia has displayed no such inclination toward intra-CIS coordination. The cooperative, compliant approach adopted by Kazakhstan's leaders failed to elicit a similar response. Tensions have risen sharply as Russian-imposed conditions for settlement of outstanding issues in interstate relations have become increasingly stringent. As the discussion below will demonstrate, the result has been a shift in the cost-benefit balance that previously justified Kazakhstan's support for reintegration. The benefits are not being realized, while costs associated with lost time, further economic deterioration, and eroding public support are on the rise. While Kazakhstan still cannot afford to alienate Russia, there is now a greater imperative for serious exploration and development of alternative arrangements.

The sections concludes with some observations on what this might mean in practice and the potential for U.S. policymaking to assist as Kazakhstan engages in this delicate balancing act. These observations raise two important questions that will have to be the subject of subsequent research: what prospects are there for the country's independent success in the absence of favorable developments in Russia and the CIS, and what role, if any, could be played by U.S. aid and/or technical assistance in averting the realization of worst-case scenarios?

Policy Relevance of This Study

U.S. policymaking toward the Soviet Union had consistently been focused at the macro-level with minimal attention being paid to disparate regional considerations. As a result, research on the non-Russian republics had been relegated to a small, devoted group of historians and political scientists. The body of knowledge that has been produced is of exceptional quality, but understandably narrow in terms of the breadth of issues addressed. The limited availability of analysis and information has complicated efforts to formulate policy toward these new countries. U.S. policymakers are just now beginning to gear up to understand the realities of life outside of Moscow and St. Petersburg. It is my hope that this project will contribute to knowledge in this relatively underresearched field by identifying the policy options available to the United States to promote economic growth in Kazakhstan and the other newly independent states, thereby

easing regional competition for scarce resources and enhancing stability in this critical region.

2. Revaluing Trade Flows to Test the "Terms-of-Trade" Argument

What had been a purely academic exercise in pondering the "what ifs" of enhanced economic autonomy for the Soviet regions has become an issue of vital importance for the newly independent states. Their release from centralized control has also meant the disappearance of resource flows upon which they depended for further development. Each enjoys different endowments and faces varied prospects; this has forced leaders in the former republics to look inward at the resources and productive capacity that happened to be located within their borders at the end of the Soviet period.

Kazakhstan's abundance of natural resources would seem to present an immediate replacement for centrally allocated resource infusion. This, in turn, would facilitate reorientation of Kazakhstan's economic relations away from former Soviet trading partners toward greater participation in international trade. However, policy choices made so far demonstrate the determination of Kazakhstan's leadership to preserve economic ties to Russia and promote economic integration throughout the former Soviet Union. Noren and Watson explain this behavior in terms of the prices that republics paid for commodity trade in the past and hope to continue paying for an unspecified period of time. These authors include Kazakhstan in their assertion that the non-Russian republics are motivated to remain linked to the Russian economy so as to preserve the subsidization implicit in the Soviet pricing system.[9]

In this section, I test the applicability of this argument to the case of Kazakhstan by approximating the improvement (or worsening) that Kazakhstan would experience in its terms of trade if it were to move more aggressively toward world market pricing for its traded goods. In practice, this would entail abandoning the practice of administrative price setting for "critical commodities," which remains in effect for interrepublic deliveries and moving to market-determined prices applicable on international markets for all traded goods. Clearly, effecting this kind of policy change is much simpler in an analytical setting than in practice; the approach abstracts away from the real difficulties associated with reorienting the trade flows of a former Soviet republic, such as the shortage of hard currency, the absence of fully functioning financial services, as well as the limits of existing transportation and other productive infrastructure. Still, improvement (or worsening) in Kazakhstan's terms of trade associated with a more aggressive move toward world market pricing for its traded goods provides some

[9]Noren and Watson, 1992, pp. 92-93.

indication of differential economic viability in the short to medium term, as well as a measure of insight into the motivation for Kazakhstan's determined support for economic reintegration.

As an illustration of the analytical appeal of revaluing trade flows in terms of world market prices, I begin with an overview of the distortions built into Soviet system of commodity exchange by price setting, taxation, and subsidization policies. These mechanisms were utilized by Soviet authorities to achieve centrally determined distributional and developmental goals. A thorough exploration of these mechanisms would be invaluable for pinpointing the extent of subsidization or taxation that each republic experienced within the Soviet economic system. However, the absence of comprehensive, disaggregated data for these charges and payments makes it impossible to do more than note that they are the underlying causes of the distortions that I am trying to correct through revaluation.

Using interrepublic import and export data for 1991, I will examine the effect of revaluing interrepublic flows on Kazakhstan's terms of trade under two different scenarios. First, 1990 foreign-to-domestic price ratios, constructed by statistical authorities in the Commonwealth of Independent States (CIS) and published in a recent World Bank paper, will be applied to the 1991 trade flows.[10] While a comparable series of price ratios for 1991 would be preferable, it has not yet been compiled and released for public use. In the absence of these data, it is still possible to estimate an upper bound for the terms-of-trade effect reflecting the largest deviation between internal and world market prices, in both level and in relative terms, by applying price ratios for the last year of relative price stability within the Soviet economic system.

The second revaluation of Kazakhstan's trade flows is a variation on the first that attempts to improve upon the upper-bound estimate described above. To accomplish this, I have constructed new price ratios using alternative 1991 prices for "hard" commodities (those that are homogenous and traded at a known world market price) and incorporated them into the revaluation. This generates an estimate of change in the terms of trade that is more reflective of internal and external price increases occurring between 1990 and 1991. The results provide a reasonable approximation of the direction and magnitude of the terms-of-trade effect associated with hypothetical shift to world prices for Kazakhstan's 1991 trade flows.

It should be emphasized that the results of this analytical approach provide only a partial picture of the effect of changing prices on Kazakhstan's terms of trade. It provides an estimate of the one-time shock that the country would experience as the result of an

[10]Tarr, 1993, pp. 40-41.

abrupt shift to world market prices. In practice, this static effect would be followed by shifts in the entire structure of trade in response to new price signals. Results of this analysis do not capture this dynamic effect. In order to make some tentative assessments about the second order effects on trade and production that would accompany a shift by Kazakhstan to world market prices, I look for indicators in the 1990 foreign-to-domestic price ratios published by the World Bank.

Finally, I will examine the sensitivity of the results observed above to changing oil prices. Given Kazakhstan's emerging status as a promising site for expanded oil production and export, it is important to ascertain what impact the fluctuating conditions in international oil markets could have on the country's trade position. Historical price levels will be applied to 1991 levels for exports and imports to gauge the corresponding fluctuation in net oil export revenues. This is only a rough approximation; it does not account for related changes in earnings for non-oil energy exports, nor does it reflect changing production decisions that would correspond to changing oil prices. Still, as we shall see below, these partial effects associated with even small changes in the price of a barrel of oil are rather substantial.

Distortions in Commodity Trade Data

Prices

The goal of revaluing interrepublic trade balances is to correct for the misleading outcomes that result from analyzing them in terms of the Soviet domestic price system. As described in Section 1, the State Committee on Prices was responsible for drawing up a list of independently fixed prices for a large number of commodities. The resulting price structure effectively isolated the Soviet economy from world markets.[11] Wholesale prices were set in order to achieve sectoral goals, while retail prices were set in accordance with social concerns. The difference between these two prices was made up either of a "turnover tax" or by a subsidy, both of which will be discussed in greater detail below.

More often than not, prices played little or no role in resource allocation in the Soviet economy, especially in the wholesale sector where both money and allocation certificates distributed by planning organs were necessary to acquire goods. They seldom contained accurate information on costs or scarcity, and, as such, they could not be relied upon by managers as the basis for undertaking cost-saving efforts. In those instances where prices did influence resource allocation, decisions tended to be poor

[11]Discussion based on European Economic Commission, 1990, p. 50; Brown and Belkindas, 1990; Gillula, 1979.

because prices conveyed incorrect information about relative values and scarcities. And where the allocation of resources seemed to serve social goals, the exchange occurred at prices that either under- or overestimated the true social value of commodity or service flows.[12]

This administrative approach produced major inconsistencies in the price structure. Relative prices failed to reflect price structures across different branches since costs were distorted throughout the production chain by taxes and subsidies. Outputs from light and food industries were more expensive within the Soviet Union than comparable items exchanged on international markets, while prices for raw materials, energy, and metallurgy were lower. The most notable example of this pattern of pricing can be observed in sales of crude oil: this commodity, along with other critical energy products, was exchanged among the Soviet republics at prices well below world levels. While this was at least a partial reflection of the country's comparative advantage in energy, it also reflected the political nature of price setting and resulted in misallocation and wasteful use of resources.[13]

Turnover Taxes

Turnover taxes provided another channel for income redistribution between sectors and agents in the Soviet economy. By definition, they were the residual occurring when fixed retail prices exceeded wholesale prices. According to Brown and Belkindas, differences in the branch structure of republic economies greatly affected the relative levels of turnover tax collection; because it was highest for final consumer manufactures, it disproportionately augmented income produced in republics specializing in production and export of these goods. In this way, the total value of trade for individual republics was probably under- or overstated depending on the relative shares of primary production and processing industries in their economies.[14] They illustrate this point by referring to interrepublic trade in alcoholic beverages. Turnover taxes introduced a large upward bias in the trade balances of major exporters of these products because approximately 90 percent of value added for alcoholic beverages was attributable to turnover tax. It was likewise for those regions in which alcohol or other turnover tax-inclusive products accounted for significant shares of consumption; their regional import statistics will be biased upward, apparently worsening their regional trade balances.[15]

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[12]Brown and Belkindas, 1990, p. 10.
[13]European Economic Commission, p. 50-51.
[14]Brown and Belkindas, 1990, p. 11.
[15]ibid., pp. 11-12..

Beyond the influence of economic branch structure on the amount of turnover tax accruing to a republic, there was a further distributional consideration. Although these taxes were collected within the union republics, central authorities ultimately decided what share of tax revenues would be retained in the republic budget and what share would be allocated to the all-union budget. Planners would draw up an expenditure plan for the republic, while republic officials would submit padded requests for expenditures expecting planners to grant only a percentage of their request. Sometimes allocations would fall short of requests; other times additional revenue would be provided beyond that collected from the republic's own production.

Kazakhstan's turnover tax collection and retention illustrates the interplay between the two distributional considerations described above. Published data on values of turnover tax collected by and retained within the republic budget show that Kazakhstan retained virtually all turnover taxes collected there for each five year period from 1961-1979.[16] This level of tax revenue retention appeared high relative to other republics over this period. However, the branch structure of the republic economy dictated that the level of allocated turnover tax was less than that for most other republics. First, Kazakhstan's main exports were agricultural and industrial raw materials for which turnover tax was not collected. Second, when measured in per capita terms, levels of retained turnover taxes are not out of line with levels in other republics.[17]

Subsidies

Certain types of production were subsidized in the Soviet economy in order to serve two main purposes: to benefit the country's industrialization goals or to meet the goals of Soviet social policy. A key element of Soviet industrialization strategy involved selling primary inputs at low prices to the industrial branches that processed them to ensure their profitability and development. This meant that coal, fuel, electricity, and mineral inputs were always sold at very low prices to heavy industry. Subsidies also served Soviet social policies aimed at ensuring low, stable prices for basic consumption goods, particularly food; this protected the purchasing power of workers, especially urban dwellers with only limited ability to augment their consumption with food raised on private plots. For example, meat was exported from producing regions to the rest of the union at subsidized prices far below the actual cost of production.[18]

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[16]Gillula, p. 623. For Kazakhstan, relevant figures are found in Table 1: 1961-1965: 100 percent; 1966-1970: 100 percent; 1971-1975: 98 percent; 1967-1979: 100 percent.
[17]ibid., p. 626.
[18]European Economic Commission, 1990, .p. 77

Methods used in accounting for subsidies in the Soviet economy also contribute to the misleading image of actual cross-republic transfers provided by recorded trade flows.[19] Subsidies were applied at the point of production and were included in the reported value of exports to the rest of the union. They were recorded either in the Union budget or in the budget of the exporting republic, although they actually benefited consumers in the importing republic. In those republics that were large producers of subsidized output, the percentage of subsidies contained in retail prices for designated products introduced a downward bias in the value of their exports.

Via this channel of interrepublic revenue redistribution, the cost of subsidizing final customers accrued to regions producing raw materials and agricultural output. Consequently, the product specialization in a given republic determined the size and direction of these transfers. In the case of Kazakhstan, its specialization as a producer of raw materials and industrial inputs meant that the republic was subsidizing a large share of its output sold to procurement organizations for distribution elsewhere in the Soviet Union. Thus, Kazakhstan was expending resources for the benefit of consumers in other republics as a result of the pattern of subsidization within the Soviet economy.

Other Problems with Commodity Exchange Data

In previous analyses, authors have observed that Soviet interrepublic trade statistics do not include comprehensive data on the exchange of services across republic borders. The effect of failing to include services in an accounting of interrepublic exchange varies by republic. Recording income from utilization of transit infrastructure does become an issue for Ukraine and the Baltic states, but banking and insurance services were negligible throughout the union. Tourism and the related phenomenon of "money migration," which will be discussed below, also had some effect, but in general, most services were consumed by local residents.[20] Thus, even if data for these flows were available, their inclusion would not dramatically alter the picture of interrepublic trade balances derived from commodity exchange alone.

Soviet statistics also fail to provide an accounting of "money migration"; these are cross-border purchases recorded in consumption data for the republic that was the site of the purchase without discriminating between residents and non-residents. Money migration refers not only to tourism, but also to other phenomena specific to the Soviet context. It would arise in connection with business trips for the purpose of acquiring scarce inputs that were more readily available in major urban centers. Additionally,

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[19]ibid, p. 77. Also Brown and Belkindas, 1990, p. 12.
[20]Brown and Belkindas, 1990, p. 9.

demand for food products and other consumer goods resulted in migration into regions where supplies were more plentiful (typically Moscow, Leningrad, and the Baltic republics).[21] Soviet economists have offered approximate adjustments to interrepublic trade balances intended to capture the effect of money migration,[22] but they provide little explanation about the data sources or methodology underlying their calculations.

Revaluing Trade Flows Using World Market Prices

As described above, commodity trade data reported in Soviet internal prices provide a distorted view of interrepublic exchange. Wholesale and retail prices, separated by turnover taxes and subsidies in order to achieve central developmental and distributional goals, do not convey relevant information on relative value and scarcities, while data on services and money migration are not available to create a data series on interrepublic trade flows that satisfies the accepted international understanding of this concept. In an effort to arrive at a more meaningful measure of economic interdependence among the Soviet republics, authors have attempted to adjust specifically for the distortions built into the Soviet price system by revaluing trade flows using world market prices.

It was not until the end of the Soviet period that data necessary for performing this transformation became available to interested western researchers. Some of the relevant data, along with the results of attempts by Soviet statistical authorities to revalue interrepublic trade flows, were published in 1990.[23] These statistics, which covered the period 1987-88, consisted of total interrepublic imports and exports aggregated into 15 sectors and expressed in terms of domestic as well as "world market" prices.

At least two companion pieces to the original Goskomstat articles were published in more widely read Soviet periodicals.[24] Aside from additional comments on the effect of turnover taxes, subsidies, and money migration in line with those described above, the Soviet authors provided minimal detail about how the revaluation of trade flows had been performed. Data for 1987 indicated that a shift to world prices would worsen the trade balances of all republics except Russia. The results for 1988 were similar; although Kazakhstan, Kyrgyzstan, and Tajikistan all showed some improvement in their trade balances, the difference was not enough to change the first two republics from net importers to exporters. The authors took great pains to downplay the value of such an analytical exercise and the significance of these revaluation results but nevertheless

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[21]ibid, p. 14.
[22]Gol'denberg, 1990, Mikhailov, 1990, pp. 7-8.
[23]Goskomstat SSSR, 1990, pp. 36-53; Goskomstat SSSR, no. 4, 1990, pp. 49-60.
[24]see Gol'denberg, Mikhailov.

concluded that, by aspiring to greater economic autonomy, republics would make themselves, along with the rest of the Soviet Union, worse and not better off.

Western researchers had more to say about the data and methodology underlying these estimates. According to Brown and Belkindas (1990), the "conversion coefficients" (ratios of domestic to foreign prices) with which Goskomstat revalued interrepublic flows provided only an imperfect reflection of recent movements in world market prices. They argued that Soviet statistical authorities actually applied a set of proposed new domestic prices that would have changed wholesale but not retail prices. Planned to come into effect during the 13th five-year plan (1986-1991), the proposed changes would have adjusted prices primarily for heavy industrial goods, leaving agricultural and light industrial products largely unaffected.[25]

In another study, Belkindas and Sagers (1990) further noted that the "conversion coefficients" referred to highly aggregated commodity groups; this made them a rather blunt instrument for revaluing trade flows for republics producing a specific subset of the output included in the aggregated group.[26] Finally, a report by the European Economic Commission warned that any Soviet foreign trade prices employed in the conversion were, like domestic prices, somewhat distorted with respect to world prices.[27] But aside from these further qualifications, these studies, like several others produced by western researchers, reported the same data and outcomes as the Soviet sources.[28]

Following the collapse of the Soviet Union, this exercise has taken on new significance. The former republics are gradually ending their previous insulation from international economic interaction. This increased openness to external trade will eventually drive prices for interrepublic transactions toward world levels. Researchers are now attempting to estimate the effect that these price changes will ultimately have on the terms of trade faced by each republic.

In their 1992 study, Senik-Leygonie and Hughes were still working with interrepublic trade data for 1987 but had updated their estimated terms-of-trade effect by applying foreign-to-domestic price ratios for 1989. It was unclear from their description what level of aggregation was available to them; they reported results in terms of outcomes aggregated into 15 sectors. According to their calculations, all republics would experience large changes in their terms of trade by abandoning the common system of

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[25]Brown and Belkindas, 1990, p. 20.
[26]Belkindas and Sagers, 1990, p. 650.
[27]European Economic Commission, p. 77.
[28]In addition to Belkindas and Sagers, 1990, pp. 648-653 and Brown and Belkindas, 1990, see McAuley, pp. 190-198; Noren and Watson, pp. 91-97; and European Economic Commission, pp. 70-78 for further discussion of these issues.

free internal trade and a common external tariff that existed until the end of 1991. Based on their calculations, the authors anticipated that the switch to world market prices (especially higher prices for intra-union imports of fuels and raw materials) would lead to an overall deterioration in relative trade prices for all republics except Russia, Kazakhstan, and Ukraine.[29]

With the opening of these economies now nearly a reality, Senik-Leygonie and Hughes took the additional step of examining foreign trade activities conducted at the republic level. Their analysis indicated that Russia, which accounted for 79 percent of foreign exports and 64 percent of foreign imports for the entire Soviet Union in 1987, will benefit greatly once it no longer bears responsibility for financing the aggregated external balance of the former Soviet Union; meanwhile, most other republics will encounter considerable difficulties in taking over the management and financing of responsibilities.[30]

Most recently, the issue of changing terms of trade for both interrepublic and extrarepublic trade has been examined in three studies (Brown, Belkindas, 1993; Michalopoulos, Tarr, 1992; Tarr, 1993). Since Soviet enterprises did not receive or pay world market prices for trade conducted with countries external to the former Soviet Union, these authors chose to separate the total effect of changing terms of trade into interrepublic and extrarepublic components. In these most recent treatments of the question, the authors observed that many existing domestic prices continue to diverge widely from international prices, indicating that there are still significant terms-of-trade gains and losses ahead for the newly independent states.

Using trade data and foreign-to-domestic price ratios for 1989-90, Tarr's revaluation showed that the major energy exporters, Russia, Turkmenistan, and Kazakhstan, stand to gain from a shift to international prices. Meanwhile, the terms-of-trade effect will be strongly adverse for Moldova, Belarus, and the Baltic republics which will find demand for their machinery and other manufactured goods falling as prices for required energy imports rise dramatically.[31] In conclusion, he emphasized that the terms-of-trade change approximated in this study are ultimately inevitable; only the pace at which this adjustment will occur remains at issue.

Methodology

In order to produce a meaningful analysis of regional balances within the Soviet economic system, researchers were obliged to sort out the government-directed financial

[29]Senik-Leygonie and Hughes, 1992, p. 372.
[30]ibid., p. 371.
[31]Michalopoulos and Tarr, 1992; Tarr, 1993.

redistribution that both mirrored and augmented commodity exchange. Revaluation went along with reassignment of subsidies and turnover taxes in an effort to approximate actual trade levels and balances. Frequently, the data necessary to extend the analysis by assessing changes in interrepublic terms of trade were simply unavailable. Although there are still many blank spots, data availability has improved considerably. Consequently, post-Soviet studies are able to focus more specifically on the price structure and the likely effect of its eventual disappearance on the economies of the newly independent states.

The Tarr study is the most recent one to examine the effect of moving to world prices on the terms of trade for the newly independent states. He employs data and methods that improve upon earlier revaluations in a number of ways. The trade data and price ratios are more current, referring to the period 1989-90, and are reported for 105 different sectors rather than the 15 sectors employed in earlier studies. But these data still have some of the old problems. The foreign-to-domestic price ratios provided by Goskomstat, also for 1989-90, are constructed on the basis of Soviet foreign trade prices which often diverged from world market prices, as described above. Additionally, the available trade data has been reported in value terms but not physical quantities, making it impossible to determine approximate unit values.

The revaluation in this study does not depart radically from Tarr's work. Rather, it attempts to build and improve upon it to the extent possible. Some of the problems described above will be addressed, others will not, and in the process, some new ones will be introduced. 1991 interrepublic commodity trade data obtained by the author from Kazakhstan's statistical authorities will form the basis for this calculation. They are more disaggregated than Tarr's data and are reported in both value terms and physical quantities. This will facilitate calculation of unit values and testing the sensitivity of results to changing assumptions about commodity prices. Finally, while the data series refers to 1991 trade flows, price ratios for this year have not yet been published. In their place, I use the 1990 price ratios published by Tarr. This is not unlike the methodology employed by Senik-Leygonie and Hughes, who applied 1989 price ratios to 1987 interrepublic trade data in their revaluation.

The notation and definitions employed in this study are the same as those used by Tarr and are as follows:

PX_i = price of interrepublic exports of commodity "i" in domestic rubles.
PX_i^* = price of interrepublic exports of commodity "i" in world prices.
X_i = quantity of interrepublic exports of commodity "i".
Import prices and quantities are defined as above.

ER = the official exchange rate in effect in the former Soviet Union, equal to 0.6 rubles to one U.S. dollar.

The following data are available for a given commodity "i":

1. PX_i , PM_i : these are the implicit unit values calculated for goods reported in terms of physical quantities and total ruble value.

2. X_i, M_i: physical quantities are not available for all commodities; none were reported for most types of machinery, industrial equipment, and manufactures.

3. PX_i*, PM_i*: these data are available for homogeneous commodities, the prices for which were reported in 1993 Commodities Research Board Yearbook and in the International Monetery Fund International Financial Statistics.

4. PX_i* ER X_i; PM_i* ER M_i: for those commodities for which physical quantities were unavailable, these are implicit in the price ratios constructed by Goskomstat, which are defined as follows:

PX_i* ER X_i / PX_i X_i = PX_i* ER / PX_i.

The Goskomstat price ratios, as well as those constructed in this study, are ratios of unit values. In his study, Tarr points out that they are inferior to true price indices for measuring price changes over time, where changes in the product mix will be attributed to changes in price.[32] Lacking the relevant price data, import and export price indices could not be defined directly by Tarr nor by this author. Fortunately, this does not pose a major problem for this study since the change we are observing refers to different prices applied to the same product mix in a given year.

The Model

The terms of trade are defined as the ratio of the price of exports to the price of imports, PX/PM, where PX and PM are indices of export and import prices. In Tarr's study, the change in the terms of trade is defined as the ratio of the terms of trade in two different periods:

$$(PX^*/PM^*)/(PX^0/PM^0).$$

In this study, the initial period (0) refers to commodity trade flows in 1991 valued in terms of Soviet domestic prices. In the second period (*), the hypothetical shift to world market prices has occurred for the same 1991 commodity trade flows observed in the first period. Rearranging the terms, we can also think of this expression as the ratio of the change in export prices to the change in import prices in the two periods being compared:

[32]Tarr, p. 9.

$$(PX^*/PX^0)/(PM^*/PM^0)$$

The goal is to answer the question, "How much would the terms of trade change if a shift from Soviet internal prices to world prices occurred?"

The following equation is employed for estimating the change in the terms of trade:

$$\hat{TOT} = \frac{\sum \alpha_i \frac{PX_i^* * ER}{PX_i}}{\sum \beta_i \frac{PM_i^* * ER}{PM_i}} = \frac{\sum \alpha_i \frac{PX_i^*}{PX_i}}{\sum \beta_i \frac{PM_i^*}{PM_i}} \qquad (1)$$

where

$$\alpha_i = \frac{\mathbf{PX_i^* X_i ER}}{\sum \mathbf{PX_i^* X_i ER}} = \frac{\mathbf{PX_i^* X_i}}{\sum \mathbf{PX_i^* X_i}} \quad \textbf{and} \quad \beta_i = \frac{\mathbf{PM_i^* M_i ER}}{\sum \mathbf{PM_i^* M_i ER}} = \frac{\mathbf{PM_i^* M_i}}{\sum \mathbf{PM_i^* M_i}}$$

are the shares of imports or exports of commodity "i" in total interrepublic imports and exports valued at world prices. Although the arbitrarily determined official Soviet exchange rate is employed in the calculation of both import and export price ratios, the resulting distortion cancels out of the formula above.

The Model in Practice

Table 1 takes a real example from the data set in order to illustrate how the equations reported above were employed in practice. It demonstrates how Kazakhstan's exports for one sector, oil and gas, are revalued from domestic prices to world market prices. These are then used to evaluate the change in the terms of trade that would result from such a shift. Only exports are reported here, but the procedure is identical for imports. First, the ruble value of exports of a given commodity in domestic prices (column 2) is multiplied by the appropriate foreign-to-domestic price ratio (column 3) to arrive at the world market value of that flow, also expressed in rubles (Column 4). Once this operation is performed for all the commodities exported, the share of each commodity in the total world market value of exports (quantity weight) is calculated (column 5).

Table 1
Revaluation in Practice: Results for Kazakhstan's Oil and Gas Exports

1	2	3	4	5	6
Commodity	In domestic prices: (billion rubles)	Foreign-to-domestic price ratio	In world prices: (billion rubles)	Quantity weight	Quantity weight x price ratio
Total exports:	20.7		28.0	1.00	2.18
Total for oil and gas sector:	3.76		12.54	0.45	
Auto benzene	0.22	2.227	0.50	0.02	0.04
Diesel oil	0.25	3.54	0.89	0.03	0.11
Jet kerosene	0.001	2.227	0.002	0.0001	0.000
Heating oil	0.49	3.54	1.74	0.06	0.22
Neftebitum	0.001	3.54	0.002	0.0001	0.0003
Liquefied gas	0.03	2.462	0.07	0.002	0.01
Natural gas	0.42	2.462	1.03	0.04	0.09
Oil, gas condensate	2.35	3.54	8.31	0.30	1.05

This provides the "α_i", the quantity weight employed in the numerator expression "$\alpha_i \frac{PX_i^* * ER}{PX_i}$" of equation (1) above. According to this expression, the quantity weight calculated for every commodity "i" is then multiplied by the corresponding price ratio in Column 3, producing the values shown in Column 6. The total shown at the top of that same column is the sum of all these elements, $\sum \alpha_i \frac{PX_i^* * ER}{PX_i}$. This is a ratio expressing the change in the price of exports that Kazakhstan would face if it shifted from domestic prices to world market prices for its traded goods. Repeating the same steps for the country's imports generates the denominator ratio for equation (1), which expresses the change in the price of Kazakhstan's imports resulting from such a shift. Introducing these two elements into the equation above yields the estimated change in Kazakhstan's terms of trade presented below.

Revaluation 1: 1991 Trade Flows, 1990 Price Ratios

Because 1991 foreign-to-domestic price ratios for Kazakhstan are not yet available, those reported by Tarr for 1990 were applied to 1991 trade data. This method is problematic for a number of reasons. First, we know that both domestic and foreign trade prices changed, probably in both level and in relative terms, between 1990 and 1991; this calculation does not account for these changes. Second, Goskomstat's 1990 price ratios were uniform for all republics; this was a fairly accurate portrayal of the uniformity of prices in effect throughout the Soviet Union until the end of 1990.

However, preliminary analyses show that in 1991, prices for similar commodities produced and exchanged by different republics began to diverge.[33] But 1990 was the last year of effective stability for Soviet internal prices and isolation from the influence of international markets; as such, these ratios reflect the largest deviation of Soviet internal prices, both in level and relative terms, from world market prices. Thus, the application of 1990 price ratios to 1991 trade data provides an estimated upper bound for the largest possible change in Kazakhstan's terms of trade resulting from a shift to international prices.

It is with this understanding that we interpret the results of the first revaluation, reported above. According to these calculations, it is estimated that Kazakhstan's interrepublic terms of trade would improve by approximately 29 percent if it had shifted from internal prices to world prices in 1990 . This outcome is consistent with the findings of Tarr's study, which show that those republics which, like Kazakhstan, are non-food raw material and energy exporters, can be expected to gain from a shift to world prices.[34]

Table 2
Results, Revaluation 1

	Total Deliveries in Domestic prices: (billion rubles)	Total Deliveries in World market prices:[35] (billion rubles)	Change in the terms of trade (%)
Exports	20.7	28.0	29.2%
Imports	21.3	20.5	

The interrepublic terms-of-trade effect observed here is larger than the 13.5 percent gain recorded by Tarr using 1990 trade and price data. Comparing the results of both studies directly requires data on changes in both foreign and domestic trade prices between 1990 and 1991 that are not yet available for public use. Without this information, it is not possible to determine precisely whether this discrepancy arises from changes in price or output in 1991 over 1990.

However, an educated guess can be made by referring to broad developments in prices during 1991. With lax union financial policies fueling inflation, the stable, centrally determined Soviet price system began to give way in 1991. For the first time in many years, average retail prices rose dramatically: by December, they were 134.9

[33]Dmitri Steinberg, personal communication, September, 1993. Steinberg reported that this divergence is apparent in new data that he has obtained and is currently preparing to market.
[34]Tarr, p. 11.
[35]In this table and those that follow, world market prices refer to the ruble equivalent of exports and imports originally calculated in terms of dollar prices.

percent higher than they had been in January.[36] The union-wide price reform of April 1991 also contributed by calling for two- to three-fold increases in most prices remaining under central control, with retail prices rising only about half as fast as wholesale prices. This reform also introduced free or negotiated price setting for approximately 15 percent of non-agricultural consumer goods, 30 percent of industrial goods, and 20 percent of agricultural goods.

Based on this account, we see that internal prices increased sharply in 1991 for the first time in many years. Thus, the gap between world prices and Soviet internal prices began to narrow in 1991, at least for those goods which were underpriced on interrepublic markets relative to international ones. And while foreign trade prices may have increased, it is improbable that the change was as dramatic as it was for internal prices. This means that while the application of 1990 price ratios to the 1991 trade data exaggerates the difference between internal and international prices, the result can be viewed as an upper-bound estimate for the terms-of-trade effect that would have resulted from this shift.

Revaluation 2: 1991 Trade Flows, 1990 Price Ratios, 1991 Commodity Prices

In an effort to improve on the estimate produced in Revaluation 1, different foreign-to-domestic price ratios were used to revalue deliveries of those commodities for which there are both interrepublic and international markets. This includes strategic raw materials such as oil, other natural resources, and certain types of agricultural output. The World Bank price ratios employed above were replaced with ones constructed from available 1991 international commodity prices and observed unit values for interrepublic deliveries.[37] Oblath and Tarr (1992) employed a similar approach in their analysis of the effect of switching to world prices on Soviet-Hungarian terms of trade. In this study, objective data in the form of known world market prices as quoted on international commodity markets, were applied to homogeneous products.

The goods for which these ratios could be constructed accounted for a sizable share of the total value of Kazakhstan's interrepublic trade. On the export side, new ratios were constructed and applied to 30 types of commodities. These were equal to 55 percent of the total value of the country's interrepublic exports expressed in domestic prices, and, according to the results of revaluation 1, represented 58 percent of the total value of

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[36]World Bank, 1993, p. 13.

[37]1991 world market prices for natural resources, raw materials, and agricultural commodities were reported in the Commodities Yearbook 1993 published by the Commodity Research Bureau and International Financial Statistics Yearbook for 1993, published by the International Monetary Fund. For a more extensive discussion of this part of the analysis see the statistical appendix.

interrepublic exports expressed in world market prices. On the import side, deliveries of 34 different commodities were revalued using these constructed ratios. They represented approximately 13 percent of the total value of interrepublic imports expressed in domestic prices and 26 percent when expressed in world market prices. That raw materials and primary commodities make up such a significant share of Kazakhstan's total trade is indicative of the country's economic specialization within the larger Soviet system.

Unfortunately, the reliability and appropriateness of data necessary to determine the component parts of these constructed ratios have proven questionable. In some instances, reported commodity trade data yield unreasonable observed unit values. More importantly, the calculation is quite sensitive to the choice of exchange rate. Potentially applicable exchange rates range from the 1991 official exchange rate of R0.6/$US to the commercial exchange rate of R55/$US, which was in effect for the first half of 1991, to R170/$US registered on the Moscow Interbank Currency Exchange at the end of December 1991. Calculations using these different exchange rates were carried out and yielded wildly varied outcomes. Ultimately, the R0.6/$US rate was chosen to maintain consistency with the rate utilized in the ratios reported by the World Bank.

The same formula was used to estimate the change in the terms of trade in this iteration as in the first one above.

Table 3
Results, Revaluation 2

	Total Deliveries in Domestic prices (billion rubles)	Total Deliveries in World market prices (billion rubles)	Change in the terms of trade (%)
Exports	20.7	15.5	27.7%
Imports	21.3	16.9	

As the results reported in table 3 demonstrate, this revaluation method produced somewhat different results from those of the first iteration. Ratios constructed using 1991 unit values and world prices replaced the 1990 World Bank ratios for 30 exported commodities, and 34 imported goods. The foreign-to-domestic price ratios decreased for 28 out of the 30 exported commodities and switched from being greater than one to less than one for 12 of these including those for crude oil, gasoline, and most nonferrous metals. Ratios for 31 out of 34 imported commodities decreased, switching from greater than one to less than one for 9 of those applied to deliveries of refined petroleum products and nonferrous metals. As a result, the value of these 30 exported commodities dropped from 59 percent of total value of exports in the first revaluation to 26 percent in this second iteration (from R16.5 billion to R4.1 billion), while the value of the 34 imported commodities had been 26 percent of total in first revaluation (R5.4 billion) but now made up only 10.3 percent (R1.7 billion). This explains the observed switch in

Kazakhstan's trade balance, from surplus to deficit, from the first revaluation to the second; the effect of substituting constructed 1991 price ratios led to a greater decrease in the value of interrepublic exports than of imports.

The estimated change in the terms of trade decreases slightly in comparison with the outcome of the first revaluation, but does still indicate that Kazakhstan would benefit from a move to world market prices. The difference is too small to determine whether the adjustment represents a narrowing in the gap between world and Soviet internal prices from 1990 to 1991. Decreases in world oil and energy prices over this period and the increases in internal prices for these same commodities support the direction of this shift. However, it remains unclear whether the absence of updated information about changing prices for manufactured goods biases the outcome for 1991 upward (i.e. by providing too large an estimate for the terms-of-trade effect) or downward.

Sources of Change in the Revaluations by Sector

The two tables below provide a comparison of sectoral outcomes for the two revaluations with the value of Kazakhstan's trade flows expressed in 1991 domestic prices. They clearly demonstrate that the greatly increased value of Kazakhstan's oil and gas exports would drive the improvement in the country's terms of trade resulting from a shift to world market prices. As the results in table 4 show, the value of exports of nonferrous metals could also be expected to increase markedly, but this change would be offset almost completely by the potential decrease that would take place in the value of agricultural exports. In viewing these outcomes, it should be remembered that the more extreme differences between results of the first and second revaluations should not be taken too seriously given the problems described above concerning the calculations underlying the second revaluation.

Table 4
Export Values in Domestic and World Market Prices (in billions of rubles)

Sector	Domestic prices	World prices Revaluation 1	World prices Revaluation 2
Oil and gas	3.76	12.54	5.47
Coal	1.00	0.94	1.12
Ferrous metallurgy	1.33	1.58	1.56
Nonferrous metallurgy	3.01	5.01	1.70
Chemicals	1.74	1.70	1.04
Wood, paper	0.08	0.06	0.06
Construction materials	0.37	0.37	0.34
Machinery	2.26	2.63	2.63
Food industry	1.32	0.62	0.50
Light industry	0.95	0.28	0.28
Other industry	0.06	0.04	0.04
Agriculture	4.57	1.87	0.43

Import values in domestic and world market prices are reported in table 5 below. The comparison reinforces the observation above that the expected improvement in Kazakhstan's terms of trade would largely result from the increased value of oil and gas exports. The largest expected changes in import costs associated with a shift to world prices are concentrated in three sectors: The anticipated cost of light industrial and agricultural imports decreases by an amount that would roughly offset the projected increase in the cost of oil and gas products imported by Kazakhstan.

Table 5
Import Values in Domestic and World Market Prices

Sector:	Domestic prices (billion rubles)	World prices Revaluation 1 (billion rubles)	World prices Revaluation 2 (billion rubles)
Oil, gas	2.28	6.83	3.66
Coal	0.13	0.12	4.77
Ferrous metallurgy	2.29	2.40	2.36
Nonferrous metallurgy	0.09	0.15	0.11
Chemicals	1.50	1.29	1.18
Wood, paper	0.85	0.60	0.60
Construction materials	0.15	0.13	0.13
Machinery	4.31	4.99	4.99
Food industry	2.27	0.75	2.56
Light industry	5.65	1.98	1.98
Other industry	0.12	0.09	0.04
Agriculture	1.23	0.59	0.54

A Preliminary Consideration of Second-Order Effects

In this section, we utilize the 1990 foreign-to-domestic price ratios published by the World Bank to make some assessments about the second-order effects on trade and production that would accompany a shift by Kazakhstan to world market prices. It should be emphasized, however, that only the most tentative conclusions can be drawn from these indicators. On the export side, moving to world market prices should provide producers in Kazakhstan with an incentive to increase production and expand exports of commodities for which the foreign-to-domestic price ratio is greater than one. As anticipated, this group includes oil and gas products, nonferrous metals and ores, as well as ferrous metals.

More surprising is the report of ratios greater than one for tractors and agricultural equipment. This is clearly a quite heterogeneous category, and Kazakhstan is also a major importer of goods falling under this heading; a more detailed consideration of the range of products involved will be necessary to determine the country's prospects for becoming more self-sufficient in this area, in addition to emerging as a supplier for

agricultural producers elsewhere in the region.[38] Pumps are another commodity for which the ratio is greater than one; this could indicate an area of domestic production that will expand to meet growing demand for these goods associated with increased oil extraction and transport activity in Kazakhstan.

Other examples demonstrate that more caution must be used in making assessments on this basis. For example, the price ratio applicable to shipbuilding activity in Kazakhstan is also reported as being greater than one. However, it is doubtful that increased production and export of sea vessels will prove to be a promising area for future development in the country; these activities are not likely to be sustainable in the face of international competition, regardless of whether this output would actually sell for a higher price on world markets than within the former Soviet Union. Kazakhstan has no access to an ocean, and demand for ships to sail on inland seas is not likely to be sufficient to sustain efficient levels of production.

For commodities with foreign-to-domestic price ratios less than one, moving to world market prices should prompt reduced production. Examples include a wide range of manufactured goods for which there is no demand outside of the former Soviet Union. It is more interesting, but not surprising, that reported price ratios for agricultural goods such as wheat, meat, wool, and dairy products are less than one. These should be areas of comparative advantage for Kazakhstan. However, intensive livestock production has been aggressively promoted during the Soviet period; this was largely the result of the 1954-1960 Virgin Lands campaigns, which put huge areas of traditional grazing lands under wheat cultivation. This has increased the dependence of livestock industries on irrigated fodder production.[39] Indeed, one Soviet economist has even argued that prices charged for meat and dairy products, already higher than those charged on international markets, are still not high enough to cover the actual cost of production and should be raised further, not lowered.[40]

Other areas of production like cotton, wheat, and other cereals were probably poor choices for Kazakhstan at the outset. Many of the areas designated for cereals production (including 20-60 percent of the areas opened to agriculture under the Virgin Lands program) lack the soil resources and precipitation necessary to make these crops cost-effective. Under local conditions, they require large-scale irrigation (involving diversion of water from natural basins) and high chemical use; the high economic costs and ecological degradation associated with these practices make it unlikely that large-

[38]A more detailed examination of these flows follows in Chapter 2.
[39]World Bank, 1993, p. 130.
[40]Mikhailov, 1990, p. 7.

scale production of these commodities will be sustainable.[41] These examples demonstrate the problems associated with past political decisions that will have to be addressed in the course of restructuring the country's economy.

Effect of Changing Oil Prices on Export Earnings

Finally, we examine the change in net oil export earnings resulting from changes in the international price for oil. The analysis is based on Kazakhstan's net interrepublic oil exports of 55 million barrels observed in 1991. Although economic transition has adversely affected development and maintenance in all industrial sectors, including energy, these levels can be thought of as a lower bound for future exports and an upper bound for future imports due to the intensive interest in Kazakhstan demonstrated by international oil producers. Their activities in the country promise to bring the country's largely unexploited oil fields into production and to increase its domestic refining capacity.

With net exports of 55 million barrels of oil in 1991, a $1 per barrel change in the price of oil will change oil export earnings in Kazakhstan by $55 million (or 33 million rubles valued at the official exchange rate of 0.6 rubles = $1 in effect for the first part of 1991). This is equal to 0.2 percent of the value of total exports and 0.04 percent of the country's gros domestic product in 1991. The estimated effect, which in itself is substantial, understates the actual effect of this price change: it does not account for its related effects on prices for non-oil energy commodities, nor does it take into account the elasticity of supply relative to these price changes.

Larger questions also remain unanswered concerning the future role of Kazakhstan in international oil markets. Will the country's emergence as a new oil source depress prices? What impact will price-setting efforts by other petroleum-exporting states or the international oil producers responsible for bringing its production on line have on Kazakhstan's production and export decisions? Answers to these questions will become clearer as the struggle for influence over these matters continues.

Conclusions

The results above demonstrate that the argument advanced by Noren and Watson does not apply to Kazakhstan. The country appears to have a strong incentive to escape a pricing arrangement in which it subsidizes its trading partners with low-priced energy products while paying high prices for imported manufactured goods. Revaluation provides us with a reasonable approximation of the direction and magnitude of the terms-

[41]World Bank, 1993, p. 130.

of-trade effect associated with a one-time shift to world market prices for Kazakhstan's 1991 trade flows. These findings should be interpreted as in Tarr's study: they estimate the initial shock to which Kazakhstan's economy would have to adjust and suggest that, as an energy exporter, Kazakhstan will enjoy improving interrepublic trade balances and more favorable terms of trade as prices are liberalized during transition. Estimated changes in the terms of trade are consistent in the direction of effect but larger in magnitude than World Bank findings for 1989 and 1990.[42]

But this represents only a partial picture of the impact of changing prices on Kazakhstan's terms of trade; in practice, this static effect would be followed by shifts in the entire structure of trade in response to new price signals. Consequently, this estimate cannot be considered a welfare measure; it accounts for static changes in the value of trade flows that would result from a shift to world prices, but does not address the dynamic changes in the structure of trade that would result from the drastic changes in relative prices associated with this shift. I have attempted to compensate for this shortcoming by making a preliminary assessment of the second order effects that would accompany a shift to world market prices. Kazakhstan's producers can be expected to respond to this shift in prices by increasing production and expanding exports of oil and related equipment, as well as tractors and agricultural equipment. This analysis also highlighted problems in Kazakhstan's agricultural sector that will require further attention.

Another worthwhile direction for analysis would involve an examination of how shifts in internal prices that have occurred in the two years since this data set was compiled may have altered the terms-of-trade effect observed above. We know that prices for many commodities exchanged by the former republics have been freed, and that prices for strategic commodities, while still controlled administratively, have moved closer to world market levels since 1991. Comparing the upper-bound effect estimated in revaluations 1 and 2 with an approximation of the current terms of trade would provide an approximation of this gradual adjustment on Kazakhstan's trade position and indicate whether a more abrupt move in this direction has become more or less a moot point.

However, recent developments in the system of interrepublic commodity exchange make this very difficult to accomplish. These transactions have become increasingly complex and undocumented. Determination of the exchange rate applicable to interrepublic trade has become particularly complicated; whether the transaction takes place in terms of rubles or some newly introduced sovereign currency, the effective

[42]Tarr's results indicated that Kazakhstan's interrepublic terms of trade would improve by 13.5 percent according to estimates based on 1990 data, and by 9.2 percent based on 1989 data. Tarr, p. 13.

exchange rate often varies from transaction to transaction. Furthermore, an increasing number of transactions are completed in barter terms, and consequently do not lend themselves easily to the pricing analysis described above. Because data for the multitude of individual transactions are not available, this next step is not possible for the time being.

While the question of internal price setting remains an open one, it is also important to consider the influence that changing world market prices will have on these economies as they gradually open up to international markets. In the case of Kazakhstan, developments in international oil markets will figure prominently; this is because energy is almost certain to dominate the country's exports for the foreseeable future. As the analysis above indicated, volatility in world oil prices will strongly affect the export revenues that the country can expect to earn. This makes Kazakhstan's oil fields both a boon and a burden. While oil export revenues are the most promising source for funding the country's ambitious development goals, price fluctuations promise to complicate efforts to anticipate the level of those earnings from year to year.

Although this analysis has provided useful insights into the alternatives available to Kazakhstan as it decides how to restructure its trading relations with the other former republics, the approach is conducted at a high level of abstraction. As such, it does not take into account important structural factors that constrain the country from moving immediately to conduct its trade at world market prices. In the following chapters, we will attempt to flesh out this schematic portrait of trade incentives and preferences, first by analyzing the structure of interrepublic trade in greater detail, then by examining the larger context of policy prospects facing Kazakhstan's leaders.

3. A Closer Look at Kazakhstan's Interrepublic Trade Ties

This chapter deals with the realities of Kazakhstan's remaining ties to its Soviet-era trading partners which were assumed away for the purpose of calculating hypothetical changes in the country's terms of trade. The chapter begins with an overview of previous institutional actors which were responsible for managing interrepublic commodity exchange during the Soviet period. This is followed by a review of earlier work aimed at assessing the degree of economic interdependence among the republics. Finally, I will present a detailed profile of trade flows into and out of the republic in an effort to define the role Kazakhstan has played in interrepublic trade. This makes it possible to identify areas of economic activity in which Kazakhstan is self-sufficient as well as those in which it depends critically on inputs from other regions of the former Soviet Union.

The Old System of Interrepublic Exchange and Its Legacy

The physical flows and prices for traded goods throughout the Soviet Union until its collapse in December 1991 were determined administratively; three powerful government entities were responsible for allocating resources among producers and wholesale purchasers. They were responsible for guiding the allocative processes accomplished in market-based economies by the response of actors to price signals determined by the forces of supply and demand.[43]

USSR Gosplan (State Planning Committee, USSR) coordinated and constructed plans, in addition to supervising actual distribution and monitoring plan fulfillment. Its considerable authority over all other ministries involved in economic management derived from its control over all major investment decisions and the allocation of critical commodities. Each republic also had its own Gosplan, subordinated to the central agency and responsible for planning distribution of products of significance to the individual republics. These structures were also replicated at the level of regional units within each republic. At successively lower levels, these agencies organized distribution of lower priority consumer goods and services.

While the release of Gosplan's five-year plan was always attended with great clamor and fanfare, the agency's annual plans were actually the operational blueprints according to which the state directed economic activities. These plans attempted to achieve balance in aggregate categories (consumption, investment, foreign trade) and in the allocation of critical commodities. Approximately 2,000 commodities judged to be of

[43]This discussion of the Soviet planning and distribution system derived largely from Hewett, 1988, pp.111-113, 124-128. For more details, see this source, as well as Berliner, 1976, pp. 66-69.

the greatest importance fell under this heading. Of these, 400 were designated as "funded commodities" whose distribution had to be approved by the USSR Council of Ministers. These included key primary and energy products, important intermediate goods, and a small amount of machinery and equipment.

Gosplan's decisions were translated into actual distribution and delivery by Gossnab (State Committee for Material and Technical Supply). This agency managed distribution among competing claimants of the approximately 2,000 products planned by Gosplan. Its responsibilities also included planning and distribution for another 14,000-25,000 specific products. The organization consisted of stratified all-union and territorial administrative units, supply offices, depots, warehouses, and stores tasked with the physical distribution of products. Separate administrative entities within Gossnab were responsible for providing materials and equipment to construction projects.

Gossnab handed down precise allocative decisions through the levels of the planning and distribution network to the enterprises themselves; suppliers were informed of shipping orders specifying the distribution of their output to potential customers, who in turn received authorization for specific suppliers and levels of inputs. Having on hand the financial resources with which to purchase inputs was generally less important than having the allocation certificates allowing the enterprise to procure inputs from the supplier holding the corresponding shipping order.

Goskomtsen (State Price Committee) determined the prices at which products were exchanged within the Soviet system. The agency controlled the pace, magnitude, and direction of changing production costs through three basic mechanisms: infrequent, extensive price reforms that rearranged virtually all prices in the system; more limited sector-specific price revisions; and price-setting for new products. But as the discussion above emphasizes, the role of prices set by this system differed substantially from their signaling function in a market economy. As with other commodities in the Soviet economy, financial resources were allocated administratively to meet centrally determined priorities. Goskomtsen monitored and adjusted the internal price system in order to achieve these goals.

In addition to these official institutions, there was also an informal component to the Soviet system of material distribution. These alternative mechanisms either replaced or supplemented unworkable or poorly working parts of the formal system. Given the monumental dimensions of the task before them, it comes as no surprise that Gosplan, Gossnab, and Goskomtsen could not consistently obtain the accurate and timely information necessary to avoid serious bottlenecks during the year. It was not unusual for

an enterprise with authorization to procure inputs and rubles on hand to find that the desired products were not available from the designated supplier.

But procurement difficulties did not release an enterprise from fulfilling its own plan targets; managers had to find other ways to overcome the frequent bottlenecks in the official system of distribution. They accomplished this by accessing an extensive system of unofficial agents (tolkachi); these expediters worked on their behalf to sell surplus inputs and purchase officially unavailable required goods. Technically part of the black market, this secondary supply system was nevertheless a vital component of the country's overall resource allocation mechanism, compensating for shortcomings in the formal system.

The Republics in the Soviet Resource Allocation System

Western and Soviet researchers have scrutinized available data on interrepublic economic relations in an effort to determine the degree to which republics depended on and benefited from inclusion in the Soviet economic system. Their goal was alternately to answer (in the case of Western researchers) or deflect (in the case of Soviet researchers) the somewhat inflammatory question, "Who is feeding whom?" These efforts have consistently been hampered by problems with data quality and quantity. Statistics reflecting various aspects of interrepublic economic exchange were either unavailable, indecipherable, or at a level of aggregation too high to use as the basis for making meaningful inferences. Still, these efforts did yield some insights into the status of the different republics as either net donors or recipients within the system of resource allocation.

Research efforts in the 1970s made use of published Soviet input-output tables prepared for economic activities at both the all-union and the republican-regional level. According to Treml et al., the tables were published in a form that made them virtually meaningless for the purpose of analysis.[44] Efforts to glean useful information from these tables involved "reconstructing" them by combining published fragments of input-output data along with relevant statistics found in other sources. Approximately 20 percent of all the entries shown in their published report were estimated according to these methods. Gillula also made use of input-output analysis to study the interrepublic redistribution of national income through the all-Union state budget.[45] His analysis of interregional input-output models for 11 republics showed that since the mid-1960s, the interrepublic redistribution of national income primarily benefited the republics of Central Asia and (to a lesser extent) Transcaucasia.

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[44]Treml, et al., 1976, p. 332.
[45]Gillula, 1979, p. 619.

More researchers began to focus on these questions after Goskomstat published 1987-88 interrepublic trade flows in a 1990 issue of *Vestnik statistiki*. A number of subsequent studies by western and Soviet researchers made use of these statistics, as was described in Section 1. In all of them, the authors drew attention to problems with the data that made it impossible to gain more than a superficial understanding of the complex economic ties between republics.[46] Soviet statistical authorities did not publish any comparable or more current series on interrepublic trade after this, forcing later western treatments of the same subject to rely on these same data.[47]

Specific Observations on Kazakhstan

With so little data available to illuminate interrepublic economic relations, observation of the role of individual republics in the larger Soviet economy has been nearly impossible. Consequently, tracking down earlier examinations of Kazakhstan's economy was a relatively easy task, in that there were so few studies that had addressed this issue. Comprehensive data series suitable for precisely gauging changes in the structure of Kazakhstan's economy over time do not exist. This has forced researchers to piece together the picture from fragmentary data and anecdotal accounts. It is important to note that all the statistics that follow were reported in current terms, and that price indices necessary to make data for different years comparable are not currently available. Even with these weaknesses, they provide a sense of Kazakhstan's dependence on interrepublic trade.

Gillula's input-output analysis provided the earliest picture of Kazakhstan's economic position. His data on net interregional shipments in 1966 showed that Kazakhstan was a net exporter of output from metallurgy and agriculture, but was a net importer of commodities from all other sectors, and that the republic's export-import balance stood at R-1.6 million.[48] 1987 interrepublic trade flows were reported in a Soviet newspaper in 1989; these showed Kazakhstan's trade balance at R-7.5 billion, a deficit representing 29.9 percent of total interrepublic trade turnover.[49] The 1988 trade data released in 1990 by Goskomstat offered increased detail. Kazakhstan's interrepublic trade balance improved slightly, standing at R-7.3 billion, equal to 28.6 percent of total trade turnover. Data on deliveries by sector were also provided; however, they were reported in terms of foreign and interrepublic deliveries combined. These figures showed

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[46]These cautions applied to distortions introduced by Soviet internal pricing, as well as other financial practices such as the distribution of subsidies and turnover taxes. Belkindas and Sagers, 1990, pp. 648-649.
[47]McAuley, 1991, pp. 189-214; Noren and Watson, 1992; Schroeder, 1992.
[48]Gillula, p. 626, 641.
[49]Argumenty i fakty, 1989, pp. 6-7.

that the republic was a net exporter of coal, non-ferrous metals, and agricultural products, and a net importer of commodities in all other sectors.[50]

Since the collapse of the Soviet Union, it has become more important to improve upon our understanding of future economic prospects for the newly independent states. In order to decide whether to encourage the republics to remain closely aligned economically or to pursue more independent development paths, U.S. policymakers need much more information than has been made available to date. In the case of Kazakhstan, they are dealing with a nuclear state of strategic significance for preserving regional stability. The country's economic viability must to be weighed along with these considerations.

In an effort to clarify this last issue, I examine a new data set obtained directly from Kazakhstan's State Committee for Statistics. All of the statistical information presented below is derived from these series. According to the head of the Material Balances Section, these data cover approximately 70 percent of the country's interrepublic deliveries of producer and consumer goods for 1991. Although they are incomplete in this regard, these figures are more detailed than the statistical material for earlier years described above, in that they show how much was delivered and to whom on a product-by-product basis. As such, the data provide a more detailed illustration of the nature and extent of Kazakhstan's specialized role in the Soviet economy. We will examine its role in the overall scheme of Soviet regional trade and development and what it has to offer current and future trading partners. The questions that this phase of the research attempts to answer are the following: what role has Kazakhstan played in interrepublic trade, and what role has trade played in Kazakhstan's economy?

It should also be remembered that these data reflect the influence of the prevailing Soviet price structure on interrepublic imports and exports. Because these flows were valued according to the established pricing system for commodities, the branch structure of each republic strongly influenced the magnitude of trade flows (in value terms). Kazakhstan specializes mainly in the production of raw and semi-finished inputs to manufacturing and processing; because these are products that have low established prices relative to the value of similar goods on world markets, their dominance in the country's export profile causes the total value of the republic's exports to be understated. At the same time, the republic depends heavily on imports of consumer goods; because internal prices for these goods tend to be high relative to the actual cost of producing them, (associated with turnover taxes and distribution mark-ups) they tend to inflate the

[50]Goskomstat, No. 3, 1990, pp. 39-53.

reported value of imports.[51] An estimation of the magnitude of distortions introduced by Soviet pricing practices was presented in the previous section.

The importance of trade in Kazakhstan's economy is demonstrated by the relatively high level of imports and exports as a percentage of the country's total production of goods. In 1991, the export share of gross domestic product[52] amounted to 27 percent and the import share equaled 27.8 percent. This level of openness corresponds to that of the largest European Community member states.[53] In contrast to this high degree of openness to internal trade, Kazakhstan remained substantially closed to trade with the rest of the world. External imports stood at 1.3 percent of GDP and exports equaled 2.1 percent in 1991, up from earlier levels, but still low relative to levels of internal trade.

The summary statistics in Table 6 differ somewhat from those reported by other sources for the same period. For example, authors of a recent World Bank country study published data provided by Kazakhstan's State Economic Committee (formerly Gosplan). These put total interrepublic exports at R27.9 billion and imports of R21.7 billion, giving the country a trade surplus of R6.2 billion. The various differences between these data sets are discussed in greater detail in the Appendix, where it is concluded that inconsistencies are present in both. Consequently, neither can be regarded as necessarily superior to the other.

Table 6
1991 Interrepublic Commodity Trade Balance, Kazakhstan

(billion rubles)	Interrepublic	Foreign	Total
Exports	20.69	1.62	22.31
Imports	21.29	1.02	22.31
Balance	-0.599	0.601	0.002

Distribution of observed totals across republics is reported in Table 7 below. These figures bear out the importance of trade with Russia in Kazakhstan's overall commodity flows that observers have assumed for some time: 62.9 percent of the country's reported exports go to Russia, while 54.3 percent of all reported imports are received from there. These percentages testify to the enormous size of the Russian economy and its importance as a producer of exports and consumer of imports for Kazakhstan as well as for the rest of the republics. Next in importance as trading partners are Ukraine, receiving 8.2 percent of Kazakhstan's exports and sending 12.9

[51]Sagers and Belkindas, p. 648.
[52]As estimated by the World Bank, 1991 GDP for Kazakhstan was 76,678 million rubles. World Bank, 1993, p. 170.
[53]European Economic Commission, 1990, p. 75.

percent of its imports, and Uzbekistan, which received 8.9 percent of exports and delivered 6.1 percent of imports.

Figures for GDP of republics are included for the purpose of comparing the magnitude of trade with the size of the economies in question. Much is made of Russia's dominance of interrepublic trade in literature; as Table 7 illustrates, the shares of imports and exports exchanged between Russia and Kazakhstan are roughly proportional to the extremely large size of the Russian economy relative to the rest of the republics. Thus its dominance of interrepublic trade flows is a logical consequence of the higher level of economic activity generated within its borders.

Table 7
Republic Shares in Kazakhstan's Total Trade, 1991

	% Kazakh Exports	% Kazakh Imports	% GDP*
TOTAL	100.0	100.0	100.0
Russia	62.9	54.3	67.5
Ukraine	8.2	12.9	14.0
Belarus	4.0	4.2	4.3
Moldova	0.9	0.8	1.3
Lithuania	1.2	1.1	0.8
Latvia	1.3	1.0	1.3
Estonia	0.7	0.5	1.0
Georgia	0.5	2.7	1.4
Azerbaijan	2.1	6.9	1.3
Armenia	0.5	1.2	0.9
Uzbekistan	8.9	6.1	3.4
Kyrgyzstan	3.1	3.0	0.9
Turkmenistan	2.2	1.6	1.1
Tajikistan	2.3	2.1	0.8

*Total GDP of former republics, not including Kazakhstan

As described in the table above, trade volumes with other republics were generally in line with their overall economic contribution to the Soviet economy. By grouping republics according to regions (Table 8), we obtain a slightly different view of these commodity flows, shown below and on the map on the following page.

Observed Regional Commodity Trade Flows To and From Kazakhstan

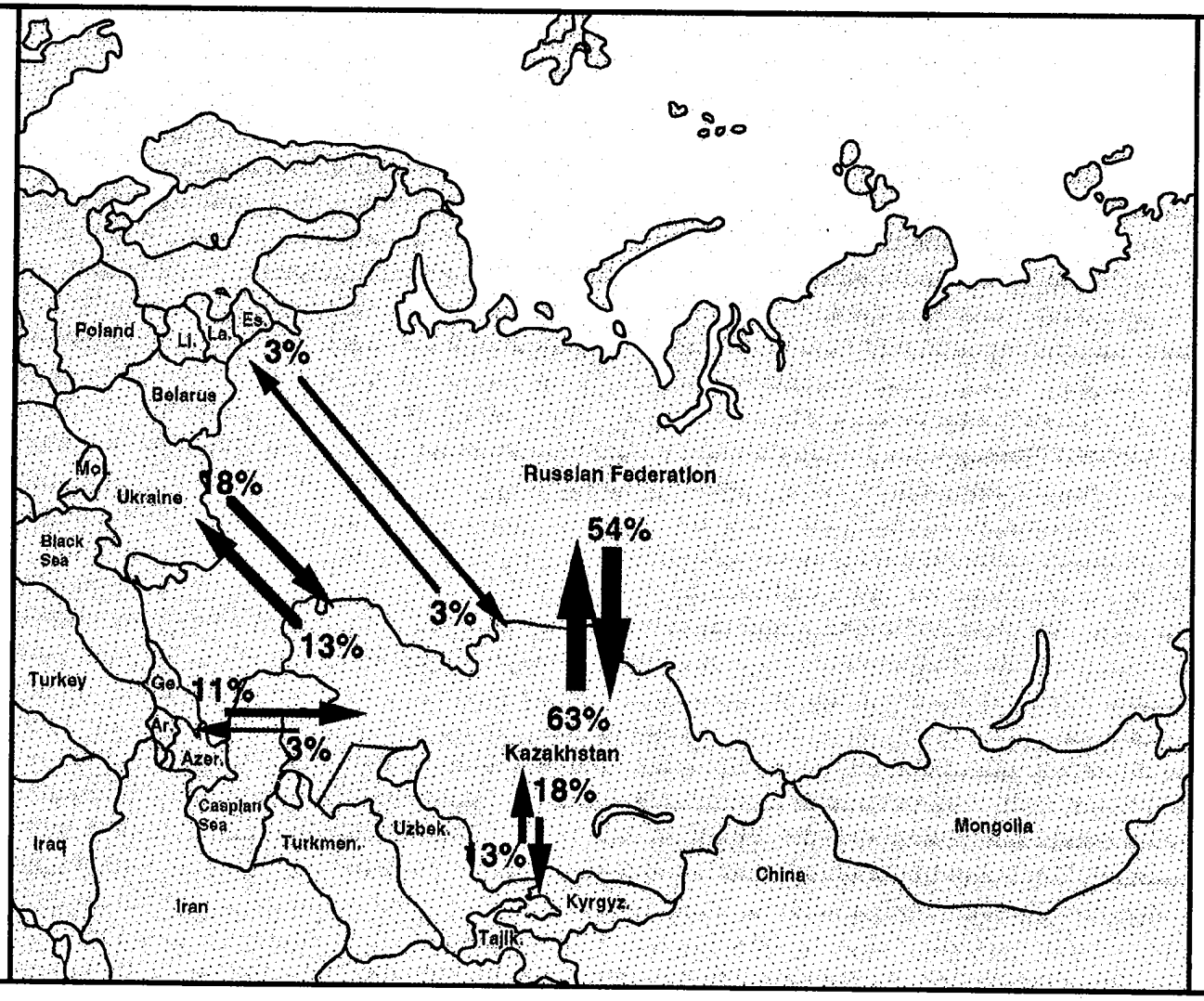

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Table 8
Regional Shares in Kazakhstan's Total Trade, 1991

Region	% Kazakh Exports	% Kazakh Imports	% GDP
	100.0	100.0	100.0
Russia	62.9	54.3	67.5
European republics	13.1	17.9	19.6
Baltic republics	3.2	2.6	3.1
Transcaucasia	3.1	10.8	3.7
Central Asia	16.5	12.7	6.2

Here, imports from the republics of Transcaucasia and total trade with the rest of Central Asia are somewhat greater than would be expected based on the sizes of the economies involved. At this point, we observe that higher imports from the Transcaucasian region are largely supplied by Azerbaijan, which is an important producer of energy and energy-related products. Commodity exchange with the rest of Central Asia is dominated by Uzbekistan, which generates the single largest share for all trade with the region. Based on accounts of the structure of that republic's economy, we can speculate that light industrial and food products flowed into Kazakhstan in exchange for energy and certain agricultural products. The specific characteristics of these flows will be examined in more detail below.

Kazakhstan's Trade Balances with Former Soviet Republics, 1991

Russia

Proximity, size, and the lasting legacy of Soviet distributional patterns contributed to Russia's position as Kazakhstan's largest interrepublic trading partner in 1991. As shown in Table 9 below, oil and gas, nonferrous metals, and agriculture, taken together represent 57.2 percent of Kazakhstan's total exports. Unrefined oil products made up 71.3 percent of oil and gas exports; these were sent to refining facilities in Russia for processing, then re-exported to other parts of the Soviet Union and abroad. Other important exports were raw or semi-processed industrial inputs. Zinc, copper, and lead were the main nonferrous metal exports, making up 67.5 percent of the total for that sector.

Table 9
Commodity Trade with Russia, 1991

	Kazakh Exports (billion rubles)	% Total	Kazakh Imports (billion rubles)	% Total
Total:	13.02	100.0	11.56	100.0
Oil and gas sector	2.99	23.0	1.98	17.2
Coal sector	0.71	5.5	0.13	1.1
Ferrous metals	1.13	8.7	1.73	15.0
Nonferrous metals	2.28	17.5	0.01	0.1
Chemicals, petrochemicals	1.08	8.3	0.97	8.4
Wood, paper, pulp	0.02	0.2	0.74	6.4
Construction materials	0.13	1.0	0.09	0.8
Machinery	1.63	12.5	2.65	22.9
Food industry	0.41	3.2	0.35	3.1
Light industry	0.41	3.1	2.79	24.1
Other industry	0.05	0.3	0.11	1.0
Agriculture	2.17	16.7	0.01	0.1

Meanwhile, agricultural exports to Russia were concentrated in two commodities, wheat and wool products. As Table 10 below illustrates, these two commodities represent fully 91.2 percent of total agricultural exports.

Table 10
Kazakhstan: Nonferrous Metal, Agricultural Exports to Russia, 1991

	Nonferrous Exports			Agricultural Exports	
	Billion rubles	Percent of total		Billion rubles	Percent of total
Total:	2.28	100.0	Total:	2.17	100.0
Zinc	0.56	24.7	Wheat	0.70	32.1
Refined copper	0.50	21.9	Wool	1.28	59.1
Lead	0.48	20.9	Other	0.19	8.8
Other	0.74	32.5			

On the import side, light industry, machinery, and oil and gas made up 64.2 percent of total imports from Russia. Kazakhstan received a wide range of different light industrial and machinery imports from Russia, with no one commodity or type of commodity dominating in these sectors. The same cannot be said for oil and gas imports. The three commodities listed in Table 11 below make up 86.9 percent of Russia's deliveries to Kazakhstan.

Table 11
Kazakhstan: Oil and Gas Imports from Russia, 1991

	Billion rubles	Percent of total
Total:	1.98	100.0
Oil, gas condensate	0.92	46.5
Diesel fuel	0.49	24.6
Automobile benzene	0.31	15.4
Other	0.27	13.5

Interestingly, unrefined oil products represented the largest single share of imports for this sector, just as they did for exports. These opposite flows reflect the outcome of central decisions regarding the location and supply sources of pipelines and refining facilities. A pipeline from fields in southwestern Siberia carries oil to refining facilities located in northeastern Kazakhstan, while another pipeline connects oil fields located in western Kazakhstan with refineries in southern Russia.

Ukraine

Ukraine was Kazakhstan's second largest interrepublic trade partner in 1991. As shown in Table 12 below, commodity exchange between these two republics differed somewhat from trade flows to and from Russia, with nonferrous metals, agriculture, and machinery making up the top three exporting sectors. The most significant differences were the lower shares for coal, which made up only 7.9 percent of exports, and for oil and gas, which accounted for 0.03 percent of imports. Low levels of coal exchanged by

Table 12
Commodity Trade with Ukraine, 1991

	Kazakh Exports (billion rubles)	% Total	Kazakh Imports (billion rubles)	% Total
Total:	1.70	100.0	2.74	100.0
Oil and gas sector	0.001	0.1	0.01	0.2
Coal sector	0.13	7.9	0.001	0.03
Ferrous metals	0.03	1.7	0.49	17.9
Nonferrous metals	0.48	28.0	0.01	0.4
Chemicals and petrochemicals	0.22	12.8	0.13	4.7
Wood, paper, pulp	0.01	0.9	0.04	1.4
Construction materials	0.01	0.7	0.01	0.5
Machinery	0.27	15.9	0.90	32.9
Food industry	0.05	2.9	0.50	18.3
Light industry	0.11	6.3	0.52	18.8
Other industry	0.0004	0.02	0.01	0.2
Agriculture	0.39	22.9	0.12	4.6

these republics are explained by the presence of important coal producing regions in both countries. Low levels of oil exports to Ukraine are more curious given the presence of substantial refining capacity in that country. In all likelihood, minimal exports of unrefined oil products to Ukraine reflected the large distances involved as well as other aspects of Soviet location and supply decisions.

A more detailed look at Kazakhstan's nonferrous metal exports to Ukraine (Table 13) reveals a pattern similar to that observed for these deliveries to Russia: here, zinc, copper and tin represented 81.8 percent of the total for this sector.

Table 13
Kazakhstan: Non-ferrous Metal Exports to Ukraine, 1991

	Billion rubles	Percent of total
Total:	0.48	100.0
Zinc	0.19	40.7
Refined copper	0.11	23.9
Tin	0.08	17.1
Other	0.09	18.2

The high percentage of agricultural exports to Ukraine is surprising at first glance given that country's reputation as the "breadbasket" of the Soviet Union. The table below shows that while wheat did represent a significant share of these deliveries, wool products made up the overwhelming majority. This is a reflection of the emphasis on animal husbandry characteristic of traditional Kazakh society as well as Soviet-era agricultural development in the region.

Table 14
Kazakhstan: Agricultural, Machinery Exports to Ukraine, 1991

	Agricultral Exports			Machinery Exports	
	Billion rubles	Percent of total		Billion rubles	Percent of total
Total:	0.39	100.0	Total:	0.27	100.0
Natural wool	0.32	82.4	Tractors	0.040	14.8
Wheat	0.06	15.2	Other agric. machines	0.06	22.9
Other	0.01	2.4	Tractor spare parts	0.03	10.8
			Bearings	0.039	14.5
			Other	0.10	37.0

The large share of machinery exports to Ukraine demonstrates the somewhat specialized nature of Kazakhstan's exports of industrial manufactured goods. As Table 14 shows, tractors, related spare parts, and other large agricultural equipment made up 37.7 percent of these exports.

Machinery, light industry, other industry, and ferrous metals were the most important sectors for imports from Ukraine to Kazakhstan. The list of goods falling under these first two categories was quite diverse; no single commodity or type of commodity made up a significant share. This reflects the narrow range of manufacturing capabilities developed within Kazakhstan and its reliance on the rest of the Soviet economy for imports of these goods. Deliveries of feed protein for the country's extensive livestock herds made up 60.0 percent of imports from Ukraine in the last major import category, "other industry".

Uzbekistan

A total of 70.1 percent of Kazakhstan's exports to Uzbekistan fell into the following four sectors: food industry, agriculture, light industry, oil and gas. Meat and meat products made up 89 percent of food industry exports, while wheat exports equaled 87.2 percent of the country's total agricultural deliveries to Uzbekistan; once again, these

Table 15
Commodity Trade with Uzbekistan, 1991

	Kazakh Exports (billion rubles)	% Total	Kazakh Imports (billion rubles)	% Total
Total:	1.84	100.0	1.29	100.0
Oil and gas sector:	0.26	14.1	0.05	3.7
Coal sector:	0.04	1.9	0.0004	0.03
Ferrous metals:	0.09	4.7	0.03	2.3
Nonferrous metals:	0.08	4.3	0.02	1.8
Chemicals and petrochemicals:	0.18	9.8	0.19	14.8
Wood, paper, pulp:	0.02	1.0	0.01	0.5
Construction materials:	0.06	3.0	0.01	1.0
Machinery:	0.09	5.0	0.24	18.2
Food industry:	0.45	24.7	0.31	24.3
Light industry:	0.25	13.7	0.30	23.3
Other industry:	0.001	0.1	0.001	0.1
Agriculture:	0.33	17.7	0.13	10.0

are indicative of Kazakhstan's agricultural specialization in livestock production and wheat cultivation. Meanwhile, as Table 16 below indicates, wool, cotton, and silk fabrics, as well as other related materials made up 81.9 percent of light industrial exports.

Table 16
Kazakhstan: Light Industrial Exports to Uzbekistan, 1991

	Billion rubles	Percent of total
Total:	0.25	100.0
Wool fabric	0.07	27.1
Wool yarn	0.06	24.1
Cotton fabric	0.04	16.6
Silk fabric	0.04	14.1
Other	0.05	18.1

Turning to the statistics for oil and gas exports reported in Table 17 below, we see that Kazakhstan was an important supplier of refined oil and gas products for Uzbekistan. In contrast with shipments to Russia, which consisted almost entirely of unrefined products, refined materials represented 96.2 percent of goods from this sector delivered to Uzbekistan.

Table 17
Kazakhstan: Oil and Gas Exports to Uzbekistan, 1991

	Billion rubles	Percent of total
Total:	0.26	100.0
Diesel oil	0.15	57.2
Gasoline	0.11	40.7
Other	0.01	2.1

Interrepublic imports from Uzbekistan under the headings of food industry, light industry, machinery, and chemicals totaled 80.6 percent. Food industry imports were concentrated in fruits and vegetables, in both fresh and various processed forms, as shown in Table 18.

Table 18
Kazakhstan: Food Industry, Machinery Imports from Uzbekistan, 1991

	Food Industry Imports			Machinery Imports	
	Billion rubles	Percent of total		Billion rubles	Percent of total
Total:	0.31	100.0	Total:	0.24	100.0
Champagne	0.062	19.8	Agricultural equipment	0.04	16.4
Groceries	0.053	16.9	Large household appliances	0.027	11.4
Wine	0.049	15.6	Cables	0.025	10.7
Fruit conserves	0.032	10.2	Other	0.15	61.6
Tomato products	0.032	10.2			
Fresh, processed vegetables	0.028	9.1			
Other	0.057	18.3			

Machinery imports were numerous and quite varied (see Table 18). Still, there were certain types of products that were more substantially represented in the sectoral total. Relatively large shares for these goods might indicate that Uzbekistan specialized to a degree in the manufacture of agricultural equipment, certain types of large appliances, and wire and cable products. Uzbekistan also supplied many different light industrial products; concentration in any one kind of commodity was minimal, reflecting the republic's role as producer of these kinds of products for the rest of the Soviet economy.

Kazakhstan also imported a variety of chemical products from Uzbekistan. While these deliveries were not concentrated in any one commodity or group, nitrogen fertilizer did make up 30.2 percent of total deliveries for this sector. And while agricultural imports did not make up as substantial a share of total imports as the other sectors described above, it should be noted that they did include a significant amount of cotton fiber (29.5 percent of total agricultural imports). These materials were used to produce fabrics that were then shipped back to Uzbekistan and elsewhere in the former Soviet Union.

Baltic and Other European Republics

Commodity exchange between Kazakhstan and these republics fell into a consistent pattern. Agricultural exports dominated deliveries to Belarus, Moldova, and the Baltic republics; in all cases, the largest share of these shipments was made up of wool. This ranged from of 56.7 percent of total agricultural deliveries to Moldova up to 92 percent of these deliveries to Lithuania. Wheat deliveries to Belarus and Moldova were also substantial, at 36.2 percent, and 38.4 percent, respectively. Kazakhstan's imports from this region were largely made up of light industrial products. A wide variety of these goods was delivered, including fabrics, clothing, household items, personal care items, home appliances, leather goods, and jewelry.

Caucasian Republics

The make-up of 1991 commodity exchange with republics in this region showed much more variation than we observed above. With Georgia, no single export sector constituted a large share of the total. Machinery exports accounted for 22.1 percent, the largest share: within this sector, 70.1 percent of shipments from Kazakhstan were described as "automating equipment". Although no more is known about the details of this shipment, it could point to a specific intra-branch relationship linking specialized industrial activity in both republics. On the import side of the ledger, food industry products such as tea, tobacco, citrus, wine, and cognac constituted 93.8 percent of Georgia's deliveries to Kazakhstan.

Trade with Azerbaijan mirrored widely held conceptions of economic specialization in both republics. Oil and gas exports made up the single largest share of deliveries received from Kazakhstan, 100 percent of which were unrefined oil and gas products sent there for refining. For purposes of comparison, the total quantity of crude oil shipped to Azerbaijan was approximately 2.2 million metric tons, while 17.4 million metric tons were delivered by Kazakhstan to Russia. Agricultural exports were divided between wheat and wool, which made up 73.9 percent and 26.1 percent of total deliveries for this sector, respectively. Of Kazakhstan's agricultural imports from Azerbaijan, 94.4 percent were wine materials.

Essentially the same profile applies to trade with Armenia. Dominant export sectors were agriculture, with 86.8 percent of deliveries consisting of wheat, and non-ferrous metals, with 67.9 percent of deliveries consisting of refined copper. Kazakhstan imported light industrial products in large quantities from Armenia; a variety of goods, including sewing goods, leather shoes, and knitted clothing items, made up the largest share of these imports.

Other Central Asian Republics

The profile of Kazakhstan's trade with its other regional neighbors in 1991 was also varied. Exports to Kyrgyzstan fell predominantly into the category of oil and gas; these deliveries consisted almost exclusively of refined products. For its part, Kyrgyzstan shipped light industrial goods such as yarn, fabric, and household items, along with a wide variety of machinery. Within this diverse category, it should be noted that a 13.1 percent share of machinery deliveries was described as "computing equipment"; one observer has remarked that this may refer to abacuses still used by many in the former Soviet Union in lieu of electronic calculating equipment.[54]

The largest share of deliveries to Tajikistan consisted of Kazakhstan's main agricultural commodities; wheat made up 72.6 percent and wool made up 26.1 percent of exports to this republic. Deliveries from this republic were more narrowly distributed along the lines of its own areas of economic specialization. Light industrial imports were dominated by rugs, silk, and cotton fabric which together represented 87.9 percent of the total for this sector. Tajikistan also delivered a substantial quantity of food industry output, most of which consisted of tobacco, plus vegetables and fruits in both fresh and processed forms. Trade with Turkmenistan also appears to have had some distinctive characteristics. Deliveries from Kazakhstan in 1991 were dominated by meat, meat products, and soft roofing materials, which flowed opposite shipments of natural gas and refined products which made up the largest share of Kazakhstan's imports from this republic.

[54]Thanks go to Steven Popper for this insightful observation.

The Role of Trade in Kazakhstan's Economy

The overall sectoral distribution of deliveries to and from Kazakhstan provides an initial indication of the country's export capabilities and import dependence. Taken together, oil and gas, coal, metals, and agricultural goods represented 66.1 percent of all exports (see Table 19 below). Light industry, machinery, food, ferrous metals, along with oil and gas dominated Kazakhstan's imports, making up 78.8 percent.

Table 19
Kazakhstan, 1991 Interrepublic Exports, Imports by Sector

	Kazakh Exports (billion rubles)	Percent	Kazakh Imports (billion rubles)	Percent	Balance
Total:	20.69	100.0	21.29	100.0	-0.60
Electric power	0.23	1.1	0.42	2.0	-0.19
Oil and gas sector	3.76	18.2	2.28	10.7	1.48
Coal sector	1.00	4.9	0.13	0.6	0.87
Ferrous metals	1.33	6.4	2.29	10.7	-0.95
Nonferrous metals	3.01	14.6	0.09	0.4	2.93
Chemicals and petrochemicals	1.74	8.4	1.50	7.1	0.24
Machinery	2.26	10.9	4.31	20.2	-2.05
Wood, paper, pulp	0.08	0.4	0.09	4.0	-0.01
Construction materials	0.37	1.8	0.15	0.7	0.21
Light industry	0.95	4.6	5.65	26.5	-4.69
Food industry	1.32	6.4	2.27	10.7	-0.95
Other industry	0.06	0.3	0.12	0.6	-0.06
Agriculture	4.57	22.1	1.23	5.8	3.34

While some aspects of Kazakhstan's trade patterns are observable in the sectoral balances and deliveries of selected commodities, they do not fully reveal specific interdependencies between republics. Toward this end, it is necessary to examine different sectors in terms of the commodities involved. Who were the major suppliers and consumers of these deliveries? What were the shares of raw materials and processed goods in imports and exports? To what extent was domestic consumption supplied by other republics as opposed to internal deliveries? The goal here is to demonstrate the degree to which industrial activity in Kazakhstan depends on inputs and spare parts from other former republics.

We begin with a closer look at the apparent strengths of Kazakhstan's economy: those sectors where the country was a net exporter of materials to the other republics. In 1991, these were energy, metals, chemicals, construction materials, and agriculture.

Energy

Energy deliveries made up 24.1 percent of Kazakhstan's total exports to other republics and 13.3 percent of total imports from other republics in 1991. Russia was both

the largest consumer and supplier of these products. The percentages in Table 20 are also indicative of the relative intensity of energy trade flows among the Central Asian republics. The share of energy deliveries sent to these republics exceeded that for the European, Baltic, and Caucasian regions combined, as does Turkmenistan's share in Kazakhstan's total energy imports. It should be remembered, however, that these percentages may understate the significance of Kazakhstan's energy resources in the economies of the other republics in that they do not reflect the extent to which resources originating in Kazakhstan were then re-exported to other republics by Russia after processing.

Table 20
Kazakhstan: Energy Balance, 1991

	Kazakh Exports (billion rubles)	% Total	Kazakh Imports (billion rubles)	% Total	Balance (billion rubles)
Total:	5.00	100.0	2.84	100.0	2.16
Russia	3.70	74.1	2.11	74.5	1.59
Ukraine	0.13	2.7	0.01	0.2	0.13
Belarus	0.001	0.01	0.00003	0.001	0.001
Moldova	0.004	0.1			0.004
Lithuania	0.004	0.1	0.0002	0.008	0.004
Latvia	0.004	0.1	0.001	0.02	0.004
Estonia	0.005	0.1	0.000001	0.00005	0.005
Georgia	0.01	0.2			0.01
Azerbaijan	0.21	4.2	0.004	0.1	0.21
Armenia	0.002	0.05			0.002
Uzbekistan	0.29	5.9	0.05	1.7	0.25
Kyrgyzstan	0.30	6.0	0.11	3.7	0.19
Tajikistan	0.06	1.3			0.06
Turkmenistan	0.03	0.5	0.21	7.5	-0.19
Not accounted for	0.23	4.7	0.35	12.2	-0.11

Looking at the specific commodities involved (shown in Table 21 below) indicates the sometimes arbitrary nature of distribution decisions within the Soviet economy. Unprocessed materials (oil and gas condensate, natural gas) made up 73.5 percent of total energy exports while on the import side, deliveries were divided almost equally between unprocessed (49.9 percent) and processed (50.1 percent) materials. As discussed above, the bulk of unprocessed materials produced in Kazakhstan were shipped outside the republic for refining, while almost all refined oil exports went to other republics in Central Asia. The table below shows that in several instances, domestic energy needs were satisfied by imports from other republics while Kazakhstan exported portions of domestic production of these same commodities. Diesel oil appears to be the most extreme case of this; in 1991, it appears that the country exported an amount equal

to the total amount produced domestically while importing additional amounts for internal use.

Table 21
Kazakhstan: Consumption and Production Shares of Energy Deliveries, 1991

	% Total consumption imported	% Total production exported		% Total consumption imported	% Total production exported
Oil, gas condensate	64.7	74.7	Jet fuel	93.7	0.0
Natural gas	70.2	65.5	Diesel fuel	44.3	0.0
Gasoline	38.0	24.5	Sea engine fuel	100.0	- *
Diesel oil	100.0	100.0	Petroleum tar	100.0	-
Jet kerosene	5.5	1.6	Lubricating oil	100.0	-
Heating oil	26.2	23.0	Tractor kerosene	100.0	-
Oil shale	11.4	0.5	Lighting oil	100.0	-
Liquefied gas	18.3	53.7	Motor oil	100.0	-
Coke	4.7	43.7	Auto oil	100.0	-
Hard coal	6.1	39.7			

* "-" denotes commodities for which no exports or internal deliveries were reported.

The data above also reveal that Kazakhstan was largely, if not entirely reliant on imports of several refined energy products.

Interrepublic exchange of electric power is not included in the table above. Unfortunately, these data came from a different source which provided only aggregate statistics for Kazakhstan's deliveries to and from all republics. Although they did not provide the same level of detail available for other energy trade, they did indicate that Kazakhstan was a net importer of electrical power in 1991.[55] A recent World Bank report provided more details on the characteristics of Kazakhstan's power grid, revealing an even more complicated picture of the republic's electricity dependency. It described the country as "fully electrified with two transmission and distribution networks in the northern and southern regions."[56] However, the report adds that the two networks, connected to the Russian and Ssouthern/Central Asian grids respectively, are completely separate from one another and have no possibility of energy exchange.

Taking a closer look at the suppliers and consumers of Kazakhstan's energy deliveries, we see that these goods were exchanged almost exclusively with Russia and the other Central Asian republics. In the case of oil and gas condensate deliveries, this is illustrative of the peculiarities arising from the integration of Kazakhstan's industrial sector with the rest of the former Soviet Union and the lack of integration of industry and

[55]World Bank, 1994 p. 179. Data on interrepublic deliveries are in current prices. Figures for electrical power deliveries actually refer to 1990 and are included as an estimate for 1991 shipments.
[56]World Bank, 1992, p. 59.

infrastructure within Kazakhstan itself. The consequences of these arrangements will be discussed in greater detail in the next chapter. As a result of them, Kazakhstan sent 17.4 million tons of oil and gas condensate, 88 percent of total deliveries of this commodity, to Russia (the rest going to Azerbaijan and Turkmenistan), while receiving 12.1 million tons, representing 99 percent of the country's total oil and gas condensate imports, from Russia.

Trade flows for other related goods provide further evidence of the dominance of Russia and the Central Asian states in Kazakhstan's energy trade. Natural gas deliveries also fit this pattern; Russia received 100 percent of the country's exports and sent 23 percent of its imports, with Turkmenistan providing the rest. Kazakhstan sent 97.3 percent of its diesel oil exports to Uzbekistan and Kyrgyzstan, while 95.1 percent of its imports came from Russia and Turkmenistan. Central Asian republics were the dominant consumers of Kazakhstan's gasoline exports; 94.6 percent went to Uzbekistan, Kyrgyzstan, and Tajikistan. Russia was the dominant supplier, sending 97.9 percent of the republic's total gasoline imports. Although Kazakhstan supplied several refined products such as auto benzene and diesel oil to Uzbekistan, it does not appear to have directly provided any of the unprocessed inputs to the refined products for which Uzbekistan was its dominant or sole supplier. These included lubricating oil, tractor kerosene, lighting oil, motor oil, and auto oil.

This profile of Kazakhstan's energy trade must be further qualified by the republic's near total dependence on imports of the manufactured inputs necessary to sustain observed levels of production. As Table 22 below demonstrates, the republic provided only a small share of its own needs for a narrow range of inputs to energy production. The remaining amounts necessary to support current energy output were supplied by the other republics.

Table 22
Kazakhstan: Consumption, Production Shares of Energy-Related Deliveries, 1991

	% Total consumption imported	% Total production exported		% Total consumption imported	% Total production exported
Centrifugal pumps	98.0	91.5	High pressure pipes	100.0	-
Compressors	89.3	70.4	Boring pipes	100.0	-
Oil-drilling equipment	86.7	47.6	Coal combines	100.0	-
Gas cleaning equipment	97.7	5.5	Other mining equipment	100.0	-
Electric-welded oil pipes	95.5	0.0	Coal scraping conveyers	100.0	-
Water, gas-conducting pipes	100.0	-	Drilling machines	100.0	-
Large-diameter pipes	100.0	-	Vacuum pumps	100.0	-
Oil pipes besnovnye	100.0	-	Oil, gas processing equip.	100.0	-
Rolled pipes	100.0	-	Other related indust. prod.	100.0	-
Cut oil pipes	100.0	-			

Supplies of steel pipes were provided largely by Russia and Ukraine, with a small amount coming from Georgia and Azerbaijan. Machinery deliveries were slightly more diversified; Russia and Ukraine were still the dominant suppliers for most of these commodities, with some coming from Moldova, Latvia, Estonia, Armenia, Uzbekistan, Kyrgyzstan, and Turkmenistan as well. There were some exceptions to this pattern: Azerbaijan supplied 82 percent of the vacuum pumps delivered in 1991, while Lithuania was the dominant supplier of compressors, providing 80 percent of the total amount imported by Kazakhstan.

Metallurgy

Metals exports (shown in Table 23 below) represented 21 percent of Kazakhstan's total exports and 11.1 percent of total imports in 1991. As was the case with energy commodities, Russia was both the dominant consumer and supplier for these materials. Ukraine was the republic's second most important partner for trade in ferrous and nonferrous metals. Taken together, Russia and Ukraine received 90.2 percent of Kazakhstan's exports and sent 94.4 percent of its imports.

Table 23
Kazakhstan, Metals Balance, 1991

	Kazakh Exports		Kazakh Imports		Balance
	(billion rubles)	% Total	(billion rubles)	% Total	(billion rubles)
Total:	4.35	100.0	2.37	100.0	1.97
Russia	3.42	78.6	1.74	73.3	1.68
Ukraine	0.50	11.6	0.50	21.1	0.003
Belarus	0.04	0.9	0.001	0.04	0.04
Moldova	0.03	0.7			0.03
Lithuania	0.02	0.4	0.002	0.1	0.02
Latvia	0.03	0.7	0.0004	0.02	0.03
Estonia	0.007	0.2			0.01
Georgia	0.012	0.3	0.002	0.1	0.01
Azerbaijan	0.02	0.4	0.02	0.8	-0.001
Armenia	0.034	0.8	0.0002	0.01	0.03
Uzbekistan	0.16	3.8	0.05	2.2	0.11
Kyrgyzstan	0.05	1.1	0.02	1.0	0.02
Tajikistan	0.02	0.4	0.03	1.3	-0.01
Turkmenistan	0.01	0.3			0.01

Another similarity between energy and metallurgy trade flows is the large share of raw and semi-processed goods in exports. These materials made up 72.7 percent of Kazakhstan's metals exports. Metallurgy imports were the mirror image of this, with processed goods making up 74.6 percent of total metals imports.

When viewed at the level of individual commodities (Table 24 below), this pattern of unprocessed vs. processed materials becomes even more pronounced. In 1991, Kazakhstan supplied 100 percent of its domestic consumption and exported a sizable surplus of raw and semi-processed non-ferrous metals and flat steel products. It also imported nearly 100 percent of the finished ferrous and non-ferrous products used internally. This included non-flat steel products such as pipes, fittings, castings, cable, and wire, as well as finished nonferrous metal goods such as nails, mesh, and fittings.

Table 24
Kazakhstan: Consumption, Production Shares of Selected Metal Deliveries, 1991

	% Total consumption imported	% Total production exported		% Total consumption imported	% Total production exported
Iron ore	36.5	38.5	Steel cable	100.0	-
Chromite ore	0.0	62.7	Rolled aluminum	100.0	-
Zinc	0.0	72.9	Rolled copper	100.0	-
Refined copper	0.0	81.2	Stainless steel sheets	100.0	-
Titanium	0.0	99.9			
Cold-rolled steel sheets	0.0	70.8			
Thin steel sheets	0.0	59.7			

Some of the relevant figures for steel pipe imports were already shown earlier. Other cases highlighted here in the table above demonstrate how industries within Kazakhstan were not always developed to exploit the available natural resources. The country exported a large amount of refined copper, but satisfied local demand with rolled copper imported from Azerbaijan and Uzbekistan. Similarly, with no aluminum smelting capacity on its territory, Kazakhstan imported 100 percent of the rolled aluminum required despite the fact that the country is actually rich in bauxite.[57]

Data reporting conventions for machinery deliveries make it difficult to determine the extent to which Kazakhstan does or does not rely on imports of the products necessary to maintain metals production; as the data in Table 25 below indicate, with the exception of metal-cutting and pressing machines, deliveries are reported in terms of ruble values for undifferentiated kinds of "equipment" without any reference to the number or kind of units delivered. Still, the figures presented below do point to somewhat greater balance between internal and external supplies of the machinery supporting production of materials for export.

[57]ibid., p. 59.

Table 25
Kazakhstan, Metal-Related Deliveries, 1991

	Kazakh Exports Quantity	Thous. rubles	Kazakh Imports Quantity	Thous. rubles	Internal Delivery Quantity	Thous. rubles
Metal-cutting machines (units)	1960	47363	2646	70168	419	4910
Pressing machines (units)	962	58201	1033	27560	73	4417
Rolling equipment		30590	9975	24018		2859
Nonferrous metallurg. equip.		12441		1593		1815
Enriching equipment		9852		7783		2922
Pouring equipment				4119		215
Blast furnace equipment				5857		
Agglomerating equipment				4924		
Coking equipment				573		
Other metal-working equip.				22726		

The figures above indicate that in value terms, Kazakhstan imported the majority of its requirements for metal-cutting machines, pressing machines, rolling equipment, enriching equipment, and nonferrous metallurgical equipment while exporting comparable amounts of similar equipment produced domestically. Meanwhile, the republic imported all blast furnace equipment, agglomerating equipment, coking equipment, and other metal-working machinery.

Agriculture

Agricultural exports made up 22.1 percent of the republic's total exports (the largest single share for all sectors) , and 5.8 percent of Kazakhstan's imports (Table 26, below). Output from the agricultural sector in Kazakhstan has typically been more than sufficient to supply its population with the narrow range of products in which it specializes, while it depends on imported deliveries for a wide variety of other agricultural products. Those goods in which the country specializes, wool products and wheat, accounted for 56.3 percent and 37.3 percent of total agricultural exports, respectively. Russia and the Central Asian republics were the major recipients of Kazakhstan's agricultural exports, while the Central Asian republics, along with Azerbaijan, also supplied the largest share of imports.

Table 26
Kazakhstan, Agricultural Balance, 1991

	Kazakh Exports (billion rubles)	% Total	Kazakh Imports (billion rubles)	% Total	Balance (billion rubles)
Total:	4.57	100.0	1.23	100.0	3.34
Russia	2.17	47.5	0.01	0.9	2.16
Ukraine	0.39	8.5	0.12	10.1	0.26
Belarus	0.61	13.4	0.001	0.1	0.61
Moldova	0.11	2.3	0.001	0.1	0.11
Lithuania	0.17	3.7	0.01	0.8	0.16
Latvia	0.19	4.2			0.19
Estonia	0.12	2.5			0.12
Georgia	0.01	0.3			0.01
Azerbaijan	0.10	2.2	0.90	73.2	-0.80
Armenia	0.03	0.7			0.03
Uzbekistan	0.33	7.1	0.13	10.5	0.20
Kyrgyzstan	0.08	1.8	0.001	0.1	0.08
Tajikistan	0.18	4.0	0.04	3.2	0.14
Turkmenistan	0.07	1.6	0.01	1.2	0.06

Despite Kazakhstan's status as a net exporter of basic food products, there are signs that this production is inefficient and will require significant restructuring to become sustainable. These indications were discussed in Chapter 1, where we saw that foreign-to-domestic price ratios for this output were generally less than one, and that development of Kazakhstan's agricultural sector during the Soviet period failed to exploit the conditions in Kazakhstan that made it well suited for the production and export of wool products and leather materials. Crop production in Kazakhstan is diverse, but dominated by cereals. Over the period 1987-1991, a total of 67 percent of cultivated land was allocated to grain crops; of this area, wheat accounted for approximately 60 percent, while barley was planted on 28 percent. The remaining 30 percent of cultivated land was devoted to fodder production for cattle and sheep, reflecting the Soviet policy of promoting intensive livestock production.[58]

Like the sectors examined above, Kazakhstan's reliance on imported supplies of goods required to sustain agricultural production is consistent with the overall pattern of regional specialization and strong interdependence among republics for inputs. While the republic produced and exported mineral fertilizers and tractors, it was nearly or completely dependent on imports of feed protein, feed straw, cereals, and machinery such as harvesting combines, irrigation equipment, feed processing and distributing equipment, and spare parts for existing stocks of equipment. Wheat and potato harvesters came exclusively from Russia, all beet and corn harvesters were produced in Ukraine,

[58]ibid., p. 132.

and all cotton harvesters were imported from Uzbekistan. Ukraine was also the source for all feed distributing equipment received by Kazakhstan. Without more specific information about the country's domestic production of tractors and other agricultural machines (cited in Section 1 as potentially promising based on a reported foreign-to-domestic price ratio greater than one) it is unclear whether this output can be expanded and diversified to increase self-sufficiency in agricultural production.

Machinery

We now turn to a consideration of those sectors that made up the largest shares of Kazakhstan's interrepublic imports. These three sectors, machinery, light industry, and food industry, made up 57.1 percent of total imports. We first examine trade in machinery, (Table 27) which made up 11 percent of Kazakhstan's total exports and 20.2 percent of its total imports. Machinery deliveries related to the oil and gas, chemical, and agricultural sectors have been treated above; a substantial number of commodities make up the rest of the republic's trade turnover in this sector. Russia was the dominant trade partner for most of these remaining machinery deliveries, with some exceptions: Ukraine provided nearly all cranes and railroad equipment delivered to Kazakhstan in 1991, and Uzbekistan was the largest single supplier of elevators.

Table 27
Kazakhstan, Machinery Balance, 1991

	Kazakh Exports (billion rubles)	% Total	Kazakh Imports (billion rubles)	% Total	Balance (billion rubles)
Total:	2.26	100.0	4.31	100.0	-2.05
Russia	1.63	72.1	2.65	61.4	-1.02
Ukraine	0.27	12.0	0.90	20.9	-0.63
Belarus	0.08	3.6	0.17	3.9	-0.08
Moldova	0.02	0.7	0.02	0.5	-0.005
Lithuania	0.01	0.5	0.02	0.4	-0.01
Latvia	0.02	1.1	0.03	0.8	-0.01
Estonia	0.01	0.2	0.02	0.6	-0.02
Georgia	0.02	0.9	0.002	0.1	0.02
Azerbaijan	0.01	0.6	0.06	1.3	-0.04
Armenia	0.01	0.3	0.01	0.3	-0.01
Uzbekistan	0.09	4.1	0.24	5.5	-0.14
Kyrgyzstan	0.03	1.4	0.15	3.5	-0.12
Tajikistan	0.02	1.1	0.04	0.8	-0.01
Turkmenistan	0.03	1.4	0.003	0.1	0.03
Not accounted for:			0.002	0.04	-0.002

The republic was a net exporter of several specific goods while simultaneously importing all other related products. For example, Kazakhstan exported specialized automobiles, but imported all other vehicles, including trucks, cars, and trolleys. The republic

exported zinc auto batteries while importing lead and alkaline batteries. Bulldozers, boilers, cargo ships, laundry and chemical cleaning equipment, automation equipment, and bearings were also net exports. Other imported machinery included railroad locomotives and rolling stock, communications wiring and equipment, precision instruments, engines and generators, electrical equipment, large household appliances, computing equipment, and electronic instruments.

Light Industry

Light industrial imports accounted for 28.3 percent of the republic's total imports, the largest share for any one sector, while exports for this sector made up just 4.7 percent of total exports. Russia and the Central Asian republics were the dominant trade partners for the republic in this category of goods.

Table 28
Kazakhstan, Light Industry Balance, 1991

	Kazakh Exports (billion rubles)	% Total	Kazakh Imports (billion rubles)	% Total	Balance (billion rubles)
Total:	0.95	100.0	5.60	100.0	-4.65
Russia	0.40	42.5	2.78	49.6	-2.37
Ukraine	0.11	11.3	0.51	9.2	-0.41
Belarus	0.02	1.8	0.51	9.1	-0.49
Moldova	0.005	0.5	0.09	1.6	-0.08
Lithuania	0.002	0.2	0.17	3.0	-0.17
Latvia	0.004	0.4	0.15	2.7	-0.15
Estonia	0.004	0.4	0.06	1.1	-0.06
Georgia	0.01	0.7	0.14	2.4	-0.13
Azerbaijan	0.02	1.9	0.17	3.0	-0.15
Armenia	0.01	1.4	0.21	3.8	-0.20
Uzbekistan	0.25	26.4	0.30	5.4	-0.05
Kyrgyzstan	0.03	2.6	0.24	4.3	-0.21
Tajikistan	0.05	5.3	0.21	3.8	-0.16
Turkmenistan	0.04	4.0	0.04	0.7	-0.002
Not accounted for:	0.01	0.5	0.02	0.3	-0.01

The same pattern of narrow product specialization observed above is evident in Kazakhstan's light industrial trade. While Kazakhstan was a net exporter of high-bulk yarn, it imported all other yarn and fabrics, predominantly from Russia. The republic was a net exporter of radio receivers but imported all other household electronic goods and small appliances. Felt shoes, furs, and sheepskin goods were all net exports, while all other finished clothing items were imported. Other net exports included meat grinders and souvenirs. All household furnishings, personal care items, and kitchenware were imported.

Food Industry

Interrepublic exchange of food industry (shown below) output made up 6.4 percent of Kazakhstan's total exports and 10.7 percent of total imports for 1991. As Table 29 shows, Russia's role in these commodity flows was far less significant than was the case for other sectors; for example, the Central Asian republics were the major recipients of Kazakhstan's sugar, tea, and flour exports.

Table 29
Kazakhstan, Food Industry Balance, 1991

	Kazakh Exports (billion rubles)	% Total	Kazakh Imports (billion rubles)	% Total	Balance (billion rubles)
Total:	1.32	100.0	2.27	100.0	-0.95
Russia	0.41	31.4	0.35	15.6	0.06
Ukraine	0.05	3.7	0.50	22.0	-0.45
Belarus	0.02	1.3	0.10	4.6	-0.09
Moldova	0.003	0.2	0.03	1.5	-0.03
Lithuania	0.01	0.5	0.002	0.1	0.005
Latvia	0.01	0.4	0.01	0.3	-0.001
Estonia	0.003	0.2	0.01	0.4	-0.01
Georgia	0.01	0.9	0.40	17.5	-0.39
Azerbaijan	0.01	0.7	0.23	10.1	-0.22
Armenia	0.01	0.4	0.01	0.3	-0.001
Uzbekistan	0.45	34.4	0.31	13.8	0.14
Kyrgyzstan	0.06	4.8	0.06	2.5	0.01
Tajikistan	0.08	6.2	0.12	5.2	-0.04
Turkmenistan	0.14	10.5	0.03	1.2	0.11
Not accounted for:	0.06	4.5	0.11	4.8	-0.05

Looking at the import side for 1991, we see that Kazakhstan depended on imports for staple food items such as tea and sugar; Ukraine supplied nearly 100 percent of the republic's imported sugar and Georgia sent nearly 85 percent of its total tea imports. Uzbekistan delivered conserves, vegetable oil, tomato products. Alcoholic beverages were also supplied largely by other republics; approximately 80 percent of champagne and wine imports came from the Central Asian republics, while almost 75 percent of all cognac imports were sent by Georgia and Azerbaijan.

Remaining Sectors

The pattern for other sectors is fairly consistent: exports of wood and paper, construction materials, chemicals, and other industry were shipped predominantly to Russia, Ukraine, and Central Asia. In fact, the other Central Asian republics were the largest consumers of construction materials from Kazakhstan; approximately half of all deliveries were bound for that region, especially for Turkmenistan and Uzbekistan. Data for 1991 also show that Kazakhstan was an active producer and exporter of chemicals and

chemical-based products for a number of different commodities. Russia was the top supplier of most imports for these sectors.

Conclusions

The degree of interdependence in the structure of Kazakhstan's trade with the other republics, along with the specific characteristics of that interdependence, are legacies of the Soviet system of planned resource distribution described above. This effort to document Kazakhstan's interrepublic trade flows at as low a level of aggregation as possible has provided a much clearer picture of Kazakhstan's specific import needs and export capabilities than other analyses utilizing more highly aggregated data. The conclusions that can be drawn from this first cut apply to all the sectors described above. First, industrialization in Kazakhstan under Soviet central planning was not comprehensive; it was, however, rather intense in narrow, selected areas. Second, some aspects of the regional development proceeded so as to take advantage of local resource endowment; the exploitation of deposits of oil, natural gas, and metals falls into this category. In other instances, development choices were undertaken in order to accommodate the priorities of central planning and were ill-advised in economic terms; here the best example would be the introduction of wheat cultivation in areas unsuited to sustaining these crops. Finally, economic ties between Kazakhstan and the other republics are still strong; significant interdependencies and structural impediments to greater economic autonomy remain throughout the country's economy.

By the end of 1991, the system that previously enforced these planned deliveries had collapsed; without enforcement, efforts since then to maintain existing commodity flows have not slowed precipitous declines in the volume of trade and production. The situation has created a dilemma for leaders in the former republics: each has reason to believe that with cooperation, his country's economic situation could be stabilized, but none can judge whether the others are willing or, more importantly, able to deliver on the commitments necessary to make cooperation and stabilization a reality. Compounding this uncertainty is their inability to judge whether the stabilization they seek represents a minimum or maximum outcome.

Acknowledging their country's enduring dependence on continued functioning of the system of interrepublic commodity exchange described above, Kazakhstan's leaders have actively supported policies aimed at restoring and preserving existing interrepublic economic ties. In the next section, I consider the wider set of issues that contribute to Kazakhstan's long-standing support of integration in general and close alignment with Russia in particular. This policy approach made good sense in light of the constraints

described above as well as others faced by the country's leaders. Additional economic considerations explain this policy choice, as well as related issues of internal and external security, all of which pointed to the need for close coordination with Russia and the rest of the CIS.

4. Other Factors Influencing Trade Developments in Kazakhstan

This analysis was undertaken in order to improve our understanding of the costs and benefits associated with Kazakhstan's support for reintegration of the Soviet economic space and preservation of pre-existing interrepublic ties. The previous two sections highlight different aspects of Kazakhstan's trade links with the rest of the former Soviet Union. In particular, they demonstrate that Kazakhstan's support for reintegration cannot be explained in terms of its dependence on the implicit subsidization provided by the Soviet internal price structure. On the contrary, shifting from Soviet internal pricing to world market pricing would move the terms of trade in Kazakhstan's favor.

But further analysis, provided in Section 2, demonstrates that the benefits of improved terms of trade would not be sufficient to offset the tremendous cost of quickly withdrawing from the interrepublic trade structure inherited from the Soviet economy. The data support the conclusion that economic ties between Kazakhstan and the other republics remain strong following the collapse of the Soviet economy. Significant dependencies on interrepublic deliveries remain in most sectors, which not only rule out immediate self-sufficiency, but also create an impediment to the pursuit of trade opportunities with new partners in the short to medium term, which could last anywhere from 5-10 years if not longer.

In this last section, I examine the wider set of issues that contribute to Kazakhstan's long-standing support for integration in general and close alignment with Russia in particular. This approach made good sense in light of the other constraints faced by the country's policymakers. Additional economic considerations explain this policy choice, as well as related issues of internal and external security, all of which pointed to the need for close coordination with Russia. The benefits of this approach could reasonably be expected to outweigh the costs so long as support for integration was unanimous among the parties involved.

As it turns out, Russia has displayed no such inclination toward intra-CIS coordination. The cooperative, compliant approach adopted by Kazakhstan's leaders consistently failed to elicit a similar response. Tensions have risen sharply as Russian-imposed conditions for settlement of outstanding interstate issues have become increasingly stringent. As the discussion below will demonstrate, the result has been a shift in the cost-benefit balance that previously justified Kazakhstan's support for reintegration. The benefits are not being realized while costs associated with lost time, further economic deterioration, and eroding public support are on the rise. While

Kazakhstan still cannot afford to alienate Russia, there is now a greater imperative for serious exploration and development of alternative arrangements. The chapter concludes with some observations on what this might mean in practice, and the potential for U.S. policymaking to assist as Kazakhstan engages in this delicate balancing act.

Remaining Structural Ties to the Old System

Beyond the issue of Kazakhstan's trade ties with Russia (which were shown to be extensive in Section 2), other economic factors have limited the options available to the country's policymakers, dictating their support for close alignment with Russia within the larger context of economic reintegration among CIS member states. Geography plays an important role in determining these preferences. Bordered by Russia to the north, China to the east, the other Central Asian republics to the south, and the inland Caspian Sea to the west, the country is essentially landlocked and, consequently, entirely dependent on its neighbors for transshipment of its output to international markets. The existence of port facilities on the Caspian Sea does not negate the need for negotiating the terms of transshipment with the governments of Russia, Iran, or the Caucasian states in order to bring the country's exports to markets outside of the former Soviet Union. This means that Kazakhstan will depend primarily on land routes for transporting goods and materials.

Infrastructure put in place during the Soviet period interacts with the geographical constraints described above in limiting Kazakhstan's possibilities for redirecting economic activity toward new markets and trading partners. For example, the current state of facilities for land transport seriously restricts the country's options for reorienting trade flows and reinforces the strength of its ties to Russia. The country's rail and road arteries direct commodity flows north and west into Russia, while routes linking markets and population centers in the south and east remain underdeveloped.

The situation is further complicated by the lack of an essentially "national" railroad network.[59] Rail lines connecting East Kazakhstan and West Kazakhstan oblasts to the rest of the country run through Russian territory. Similarly, the shortest route between Pavlodar oblast and neighboring regions in southeastern Kazakhstan is along a portion of the Western Siberian railroad that traverses Russian territory. Finally, the majority of technical support and material supply facilities that served the formerly unified rail system are located outside of the country; Kazakhstan's Ministry of Transport

[59]Isingarin, 1993, pp. 1-2.

calculated that 80 percent of these services were provided by Russia, another 12 percent were provided by Ukraine, while Kazakhstan's enterprises provided only 5 percent.[60]

A similar pattern of dependence can be observed in Kazakhstan's infrastructure for energy transmission. Electrical power generation illustrates the complexity of separating from the other former republics; the country's system consists of two separate grids, one connected to the Russian grid in the north and the other tied to the Central Asian grid in the south. The two grids are not connected to each other and have no possibility of energy exchange between them without massive additional investment to create the necessary links.

Oil production capacity in Kazakhstan also depends critically on infrastructure links with Russian facilities. The country aspires to provide for its domestic energy needs and to earn hard currency by exporting its surplus at world market prices, thereby decreasing its dependence on Russia, but the infrastructure necessary to support these development goals is not yet in place. Of central concern in this regard is the tangled relationship between producing and refining facilities located in both countries and the pipelines that connect them. Kazakhstan's producing fields are located on the Caspian lowland in the west, and future development is likely to occur further to the west, offshore on the Caspian Sea shelf. A small amount of crude oil is refined in this region, while the bulk of output from the Caspian oil fields is piped to facilities in southwestern Russia for processing.[61] The country's two large refineries, located in Pavlodar (in the east) and Chimkent (in the south) are not linked in any way to the western oil fields and do not utilize raw materials from domestic sources. Instead, they are supplied by long pipelines from oil fields in southwestern Siberia.

The potential for linking domestic producing and processing facilities is further undermined by the fact that existing refineries are not equipped to process the sulfur-laden oil characteristic of reserves in the country's large deposits. This seriously limits Kazakhstan's ability to achieve energy self-sufficiency in the near term. The country's refineries are not equipped to produce refined oil products derived from its own crude in sufficient quantities to satisfy domestic needs, and Russian deliveries are still necessary to satisfy internal demand for refined products. These are shipped directly from Russian suppliers or produced in domestic refineries that are themselves supplied exclusively by Russian oil fields.

This technological impediment is compounded by the fact that Kazakhstan's refineries are not large enough to satisfy present levels of domestic consumption of

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[60]ibid., p. 133,

[61]World Bank, 1992, p. 58.

refined products. The 1991 commodity trade data used in Section 2 confirm reports that Kazakhstan has traditionally been a net importer of refined products in 1991. According to a 1992 report, refinery runs in 1991 covered only approximately 77 percent of the country's total consumption,[62] although this varies across different types of products, some of which are in deficit while others are in surplus.

In addition to the absence of links supporting domestic production, these infrastructure limitations also threaten oil export potential: currently, Kazakhstan's only means for transporting domestically produced oil beyond its borders is a pipeline through Russia to distant Black Sea and Baltic ports. As a result, the cost (as well as the possibility) of transshipment remains outside of Kazakhstan's control. Russian authorities have moved recently to take advantage of this dependence by demanding large shares of the revenues from the oil and gas development projects launched in Kazakhstan over the last year in exchange for the use of Russian-controlled pipelines for export purposes.[63]

Thus, the country's ability to utilize its resource endowment as the basis for realizing its economic potential is restricted by structural ties that still link it to the larger economic system put in place during the Soviet period, particularly those connecting it with Russia. In this way, Kazakhstan's options are far fewer than those available to the European republics of the former Soviet Union as they embark upon the same transition process; though the country's immediate hard currency export potential is far greater, access to alternative markets for inputs and outputs remains severely limited for the short to medium run.

Foreign capital and technical expertise could accelerate the reduction of these infrastructure limitations, especially those that constrain Kazakhstan's oil export capabilities. The government has made a priority of attracting foreign companies to play a substantial role in the expansion of oil, condensate, and natural gas production at known sites, the exploration and preparation of the most promising unexploited sites, expansion of domestic refinery capacity to reduce dependence on facilities located in Russia, and the construction of pipeline systems and port facilities to promote exports to world markets. For their part, Western investors appear ready to provide the infusion of funds, technology, and know-how required to realize this goal. The long-awaited final agreement with Chevron to develop the Tengiz oil fields, signed on April 7, 1993, in

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[62]Interfax Petroleum Report, 1992, p. 12.

[63]RFE/RL Daily Report, no. 28, 10 Feb., 1994, reported that Russians might demand up to 40% of revenues from sales of oil and gas from the Kazakh-British-Italian facility under construction in the Karachaganak field, and that Russians had already asked for 20% of revenues from the Kazakh-Chevron joint venture in Tengiz.

Almaty, is now only one of many similar initiatives that promise to bring necessary capital, technology, and know-how into the country. According to a recent review, contracts have been signed with more than 40 companies from 17 different countries.[64] These contracts include agreements for oil and gas exploration and production in the Aktyubinsk area of western Kazakhstan in cooperation with the French firm Elf-Aquitaine, the joint development of the Karachaganak deposits with Agip (Italy) and British Gas, and the construction of a new crude oil export pipeline by the Caspian Pipeline Consortium. Formed in June, 1992 founding members Kazakhstan and Oman were subsequently joined by neighboring countries as well as other firms with oil-and-gas-production agreements (concluded or pending) in the Caspian area of Kazakhstan and Azerbaijan. Participants now include Azerbaijan, Russia, Chevron, Amoco, Agip, British Gas, British Petroleum, Elf-Aquitaine, and UNOCAL.[65]

While these projects hold out the promise of reduced dependence on existing transport and processing facilities, recent developments indicate that the imperative of cooperating with Russia will not diminish quickly. A variety of problems, both practical and political, have emerged in the selection of alternate pipeline routes. A pipeline through the unstable Caucasian region to the Black Sea could be damaged, either intentionally or inadvertently, by different opposing factions engaged in various conflicts currently ongoing in Armenia, Azerbaijan, Georgia, and Chechnya. Proposals for another promising route, through Iran to the Persian Gulf, have been received coolly by the United States, which opposes cooperation with that country's Islamic regime, although officials have been unwilling to say whether they plan to formally object to the routing. One report claimed that U.S. officials had threatened to recommend that the World Bank withhold financing for such a project.[66] In the meantime, American officials are actively engaged in helping Kazakhstan negotiate with Russia for continued access to existing pipelines.[67] Taken together, these factors dictated the choice of continued close cooperation with Russia in hopes of finding mutually advantageous arrangements for exporting Kazakhstani oil production.

Relative Merits of Remaining in the Ruble Zone

The introduction of Kazakhstan's own currency, the *tenge*, on November 15, 1993, marked the end of discussion about forming a "new type of ruble zone." The country's leaders regarded this development as a major setback; after all, they had

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[64]As reported by Matthew Sagers, "Kazakhstan's Oil Plans", Post-Soviet Geography, vol. 34, no. 1, January 1993, p. 68.
[65]ibid., p. 68.
[66]Report on All Things Considered, National Public Radio, February 14, 1994.
[67]Gwen Ifill, "US Will Triple Foreign Aid To Kazakhstan," New York Times, February 15, 1994, p. 3.

vehemently supported the preservation of a unified monetary space among those post-Soviet countries in which the ruble still functioned as the official currency, even after the International Monetary Fund declared the country "technically ready" to introduce its own currency.[68] How do we evaluate the failure to maintain an integrated currency area? Is this an arrangement that Kazakhstan should attempt to revive? In a 1992 report on interrepublic relations in the former USSR, IMF analysts laid out several practical and conceptual arguments that the country's national authorities, like those in the other newly independent states, had to balance in deciding to introduce their own currency.[69] Below, we list these arguments, then compare them with developments in Kazakhstan's economic relations with other republics in the year following their publication. As we shall see below, some militated in favor of introducing a Kazakhstani national currency, others against it, but all became moot when the choice was essentially made for Kazakhstan by Russia.

First, the potential implications for trade and payments with other former Soviet republics militated against introducing a separate currency in Kazakhstan. Slow, unwieldy payments arrangements were already having a significant negative effect on interrepublic trade. The leadership worried that introducing a new currency would further complicate the ability to settle trade with the rest of the ruble area, putting Kazakhstan at a disadvantage relative to the group of republics still transacting in Russian rubles.

Second, it is necessary to consider the role of exchange rates in facilitating adjustment to real shocks. In some instances, Russia and Kazakhstan could expect to experience similar shocks, such as volatility in markets for commodities both hoped to export, or the effect of bad weather on wheat harvests. In these cases where adjustment would be similar in both countries, fixing the exchange rate by using the same currency would have no adverse effect. However, because Kazakhstan's economy is more specialized and has a narrower industrial base than Russia's, real shocks would affect Kazakhstan differently. In these cases, Kazakshtan would be harmed by removing the exchange rate as a mechanism for adjustment to significant developments which differentially affect parts of the ruble area, finding itself restrained from taking appropriate measures for managing domestic economic conditions.

Third, there is the importance of putting the country's limited hard-currency and gold reserves to good use. Its development goals might be better served by paying for imports of strategic goods or guaranteeing foreign investment in the domestic economy

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[68]Critchlow, 1993, p. 14.

[69]International Monetary Fund, 1992, pp. 15-17.

rather than expending them to bolster a new currency. According to Nazarbaev, these reserves amounted to a reported $700 million in November, 1993.[70]

A final consideration that would have figured in Kazakhstan's decision to introduce a separate currency was the desirability of assuming responsibility for independent management of monetary policy outside of the ruble area. According to the IMF, establishing an independent monetary policy by introducing a separate Kazakhstani currency was desirable on economic grounds only if there were the reasonable expectation that it would lead to improvement in the country's inflation performance compared with what it would be if the country remained in the ruble zone. Given the limited institutional and administrative capacity available in Kazakhstan to achieve this, improvement over the existing situation could not be taken for granted, and could have resulted in increasing instability. Awareness of the limits on their ability to run a successful anti-inflationary monetary policy at least partially explains the leadership's hesitance to introduce a new currency.

The policy stance adopted by Kazakhstan's leaders indicated that worries about worsening the already bad payments situation and mismanaging an independent monetary policy dominated any interest they may have had in the ability to respond to shocks flexibly or in capturing seignorage. Indeed, they appeared willing to incur virtually any cost to avoid having to introduce a national currency, even after Russian monetary authorities, intent upon bring their country's money supply under control, forced Kazakhstan and other countries still using rubles out of the unified currency zone on July 26, 1993; ruble notes printed before 1993 were "invalidated," but sufficient supplies of "new" ruble notes now designated as legal tender were not forthcoming from Russian authorities. Worse still, old ruble notes were flooding into Kazakhstan from former republics which had changed to other currencies, creating strong inflationary pressures in the country's economy.

Nazarbaev staked out an extreme position for Kazakhstan in support of Russian conditions for reconstituting a unified currency area, arguing that this was a goal worth sacrificing sovereignty to achieve. The country acceded to all terms of the agreement on forming an economic union and creating a new type of ruble zone in an effort to induce Russian monetary authorities to replace old ruble notes with new ones immediately. These conditions included coordination and eventual unification of banking, credit, budget, and customs policies. But what had appeared initially to be goals for the future

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[70]See claim by Nazarbaev in Sergei Kozlov, "Vvedenie natsional'noi valiuty - neobkhodimaia i chresvychainaia mera," Nezavisimaia gazeta, November 16, 1993.

turned out to be strict conditions for participation, all of which would take years to achieve.[71]

Negotiations dragged on for more than three months, deadlocked over these conditions as well as the failure of both parties to agree on a mutually satisfactory rate of exchange between new rubles and the old ones which had poured into Kazakhstan from the other former republics.[72] Given the uncompromising position that Russia ultimately assumed with Kazakhstan, one has to wonder why the Russian authorities had engaged in any negotiations and condition-setting. While not strictly within the purview of this dissertation, a brief look at the political underpinnings of this policy provides some insight into this shift. It represented the victory of reform-minded, financially conservative members of the Russian leadership (Deputy Prime Ministers Fedorov and Shokhin) over those whose constituencies (such as the military-industrial complex) had a vested interest in propping up the economies of the "near abroad" (Central Bank Chairman Gerashchenko, Prime Minister Chernomyrdin). As this high-level policy conflict played itself out within the Russian government, Kazakhstan's position became increasingly untenable, leaving the country no choice but to introduce its own currency.

As the discussion in this section and above has shown, there were other important economic benefits that the country would realize in the short to medium term if it successfully cooperated with Russia. As the country's most important trading partner, Russia was positioned to play an important role in stabilizing declining production in Kazakhstan, much of which has been attributed to disruption of interrepublic deliveries. Nazarbaev greatly exerted himself toward this end, arguing repeatedly that restoring this trade flow would benefit enterprises and consumers on both sides of the border.

Even more significantly, the very act of moving quickly to open Kazakhstan's economy depended critically on Russian good will. The country would only able to deliver its output from its interior position by maintaining access to Russian road, rail, and pipeline arteries, as well as port facilities. In the event that access was denied or transit fees increased dramatically, the country would be effectively cut off from international commerce pending the construction of infrastructure necessary for opening

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[71]Interview with Andrei Illarionov, head of the analysis and planning group of the chairman of the Council of Ministers, Government of the Russian Federation, Delovoi mir, no. 253, 13-19 December 1993, p. 9, as translated in FBIS-USR-93-167, December 31 , 1993, pp. 9-10. In this as well as other accounts, it was argued that Russia was reluctant to take on the role of structural creditor for the rest of the former republics, forced to continue meeting its neighbors' needs for cash until real coordination in economic policy was achieved. For more on this also see Michalopoulos and Tarr, 1992, pp. 14-15.

[72]Kazakhstan's leaders prefered a rate of 1:1, which would have had a strong inflationary effect on the Russian monetary system, while Russian experts had still not come to any agreement. A preliminary rate of 0.67:1 in favor of Russia had been discussed. See Natalia Kalashnikova, "Alexandr Shokhin prizval vse tshchatel'no vsvesit'," Kommersant Daily, Oct. 23, 1993.

alternative external trade possibilities. Below, we will see that the benefits that Kazakhstan's leaders thought they would gain from cooperating with Russia were not limited to economic ones. They also hoped that internal and external security would be bolstered by a policy of broad policymaking integration, especially with the Russian Federation.

Payoffs to Internal Security

Beyond the considerations described above, concerns about internal stability figured in Kazakhstan's decision to endorse the formation of a common economic space and continued membership in the ruble zone. The government hoped to prevent developments in interstate relations from catalyzing social polarization among Kazakhs and Russians, the country's dominant ethnic groups. Russians represent 37 percent of the country's population, and Russian workers and specialists are represented in large numbers in strategic sectors of Kazakhstan's economy. Since the country became independent, members of this large and economically significant group have become increasingly concerned about the influence of Kazakh nationalists intent upon implementing policies skewed in favor of the indigenous population. Whether or not the leadership intended to slow or stop the "indigenization" of national political and cultural institutions, it has implicitly and explicitly analogized interstate relations to relations between the nation's dominant ethnic groups; it was hoped that a policy of close alignment with Russia would lend further credibility to stated policies of mutual respect and equal treatment for all ethnic groups, thereby reassuring Russians in Kazakhstan about their future in the country.

This approach was dictated by the potential for disruption that could result from policies perceived to make Russians and other non-Kazakhs less welcome in Kazakhstan. Indeed, recent developments have born out these concerns; dissatisfaction among Kazakhstani Russians increased after the *tenge* replaced the ruble. People in the northern Kazakhstani city of Petropavlovsk found their money useless for the purpose of visiting relatives across the border and shopping in Russia for goods unavailable in their own country. Many in the region saw this as validating Russian concerns about their future prospects in the country.[73] Of immediate concern is the critical role played by Russians in Kazakhstan's economy, especially in strategic sectors such as mining and metallurgy. Given the government's mixed success in convincing Russians to feel welcome in Kazakhstan, a policy that explicitly sought to separate the country from Russia would provide many with the motivation they need to pick up and leave. Because indigenous

[73] "Russian Rumblings," The Economist, March 12, 1994, p. 42.

cadres trained to take the place of these workers are in extremely short supply, their departure en masse would have a dramatically dislocating effect on the country's economy.

Future initiatives aimed at diversifying the country's economic base are also threatened by interstate and interethnic conflict, whether it finds expression through parliamentary deadlock or violent conflict. An image of ungovernability will jeopardize the country's development by damaging perceptions of Kazakhstan abroad; this will diminish its ability to attract necessary foreign capital as Western firms, already wary of uncertainties associated with investing in the country, take their resources and know-how elsewhere. Also, because of the problems with transit routes described above, investors interested in basing production in Kazakhstan for export will hesitate if access to markets in Russia and beyond might be limited or abruptly denied because of unresolved interstate tensions.

The integrity and security of strategic Soviet installations on the territory of Kazakhstan also figure in the government's decision to maintain ties to Russia. Nuclear weapons and launch facilities became an immediate source of concern for Russian and Kazakhstani security. Even though launch capabilities remained in Moscow's control, Kazakhstan's leaders were intent upon making the most of the strengthened bargaining position afforded to them by their possession of a small nuclear arsenal. However, maintaining the physical security of these weapons requires ongoing Russian involvement; in particular, provision of additional funding by Russia or the West will be necessary to shore up deteriorating maintenance practices, and, now that Kazakhstan has acceded to the Nuclear Non-Proliferation Treaty, to pay for their dismantling and removal.

Similarly, Kazakhstan's newly independent government assumed control over Baikonur, formerly the main launch site for the Soviet space program, which is also located within the country's borders. Leaders had hoped to assume control over the base and eventually provide launch services commercially to interested customers throughout the region. But without central investment allocations flowing in to preserve delicate equipment and instrumentation, the facility has fallen into disrepair. Instances of troop mutiny and plundering of valuable materials all point to the government's apparent inability to keep the center in working order. Kazakhstan had initially refrained from agreeing to lease arrangements until the status of Russian troops servicing the facility was resolved; President Nazarbaev had rejected any outcome that reduced the country's

sovereignty by creating a foreign military base in Kazakhstan.[74] However, according to the terms of the final agreement, signed in Moscow on March 28, 1994, Russian military and civilian personnel employed at Baikonur will be subject to Russian law, indicating Kazakhstan's ultimate willingness to sacrifice this principle in order to keep Russia involved in upkeep and operation of the space center.

Clearly, concerns about internal stability reinforced Kazakhstan's decision to endorse the formation of a common economic space and continued membership in the ruble zone. Striking a cooperative stance toward Russia underlined the government's support for equal treatment of ethnic Russians residing in Kazakhstan. It also reassured foreign investors on whose backing Kazakhstan depends for making progress on economic development. In the next section, we examine how Kazakhstan could reasonably expect to strengthen external security by preserving its economic ties to Russia.

Payoffs to External Security

The question of Kazakhstan's trade and economic relations with Russia makes up only one part of the broader spectrum of Russian-Kazakh interstate relations. Among the other critical aspects of this relationship is the integrity of Kazakhstan's internationally recognized borders. Territorial ambitions among certain Russian constituencies are well known and stem from the fact that extensive immigration into the northern regions of Kazakhstan has resulted in a large concentration of Russians in these oblasts; two to three generations of Russians, as well as other Slavic peoples, have continuously resided in northern Kazakhstan, making up anywhere from 45-65 percent of the population in these oblasts. This has prompted Russian nationalists both inside and outside of Kazakhstan to argue that these regions and their residents should be considered subjects of the Russian Federation. Prominent figures on both sides of the border have raised the issue of returning parts of Kazakhstan to Russia.

Thus, the same strategies which were intended to assuage the concerns of Kazakhstani Russians can be interpreted as an effort to deflect criticism, or worse, from their nationalist allies in the Russian government itself. An aggressive policy of economic independence could mobilize Russians in northern Kazakhstan to secede from the republic, or motivate the Russian Federation to reclaim these territories for itself. Annexation would provide Russia with far more than political or patriotic payoffs; a large share of Kazakhstan's industrial capacity and mineral wealth is located in these regions.

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[74]For more information on the events leading up to the Baikonur agreement, see various numbers of RFE/RL Daily Reports for February-March 1994.

Furthermore, incorporation of these assets would entail minimal additional cost, since rail and road networks, electricity grids, as well as oil and gas pipelines already link the region directly to corresponding infrastructure in southern Russia. By demonstrating its interest in maintaining commodity flows to and from Russia, Kazakhstan hoped to avoid motivating the Russian Federation to resubordinate these critical regions under its own aegis.

There is also the evolution of Kazakhstan's relations with countries outside of the former Soviet Union to consider when trying to explain the country's decision to align itself with Russia. First, the country's proximity to China made it necessary for Kazakhstan to engage in a very delicate regional balancing act, trying to maximize its security relative to two powerful neighbors. The government has made some progress toward developing cooperative relations with China; although absolute levels of trade involved in this exchange still do not approach the magnitude of Kazakhstan's commodity exchange with Russia, China has already distinguished itself as Kazakhstan's most important non-CIS trade partner, supplying 44.6 percent of non-CIS imports in 1992.[75]

At the same time, Chinese authorities have been very cautious in their approach to the newly independent state with which they share a long western border. Their concerns are somewhat analogous to those of Kazakhstan's government vis a vis the Russians residing in their own country; from the Chinese standpoint, the existence of an independent state in which ethnic Kazakhs dominate the government sets a rather unwelcome example for the several million Kazakhs living in China's Sinkiang-Uighur Autonomous Region along the border with Kazakhstan. The desire to keep migratory or irredentist tendencies in check, as well as hesitation about openly vying with Russia for influence in the region, probably explain China's apparent reluctance to become involved in larger, more extensive projects in Kazakhstan's economy. This cool Chinese response may well have prompted Kazakhstan's decision to continue close security cooperation with Russia within the context of a unified defense space.

Outside of the immediate region, Japan is often mentioned as the most promising candidate for meaningful participation in Kazakhstan's economy. The lure of large, unexploited reserves of strategic natural resources to supply Japan's basic industries is powerful. Additionally, there are no outstanding political disputes between the two countries such as those currently complicating Russo-Japanese relations. However, recent reports indicate that in Japanese business circles there is lingering concern that

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[75]Aleksei Petrovskiy, "S kem i chem torguet Kazakhstan?" Kazakhstanskaia pravda Feb. 12, 1993, pp. 1-2.

conditions in Kazakhstan are not sufficiently stable for large-scale investment.[76] Private businesses are worried by widespread corruption, the limited supply of qualified personnel in the region, and the absence of modern transport infrastructure.[77] So far, these concerns have prevented Japanese investors from getting involved to the degree necessary to improve the country's economic prospects.

In addition to their being further removed from Kazakhstan's security concerns than its immediate neighbors, other countries with the potential to play a role in the Kazakhstan's development faced constraints on their ability or willingness to participate (or both). As a result, it quickly became apparent to Kazakhstan's leaders that direct support from the United States and Europe would not be forthcoming. Assistance from these western countries in economic and security matters was likely to remain more symbolic than substantive. Kazakhstan's leaders had to acknowledge that they would not provide a meaningful alternative to Russia for the purpose of maintaining external security.

Finally, little has come from the stated intent of Saudi Arabia, Iran, and Turkey to participate intensively in Kazakhstan's development; because of economic difficulties faced by each of these states, it quickly became clear that none would be able to provide sufficient resources to become meaningfully involved. Additionally, judging by Russia's angry response to Kazakhstani participation in the Islamic-oriented Economic Cooperation Organization, it was reasonable to assume that diversion of strategic interrepublic deliveries to customers in this bloc would antagonize Russia. Taken together, these considerations made Russia the front-runner as the security-enhancing choice for Kazakhstan. More than any other country, Russia had real interests at stake in Kazakhstan, and was most likely to render necessary assistance to protect them.

The Strategy Fails

Kazakhstan's Russo-centric policy initiatives demonstrated the government's willingness to forego alternative opportunities to advance its economic development. As the discussion above has shown, this preference was based quite reasonably on the belief that stable, lasting relations with Russia would eventually make it possible for Kazakhstan to achieve its economic goals within the framework of secure relations with all of its neighbors. Having analyzed how these policies were expected to work in theory, we now consider the outcome of this approach in practice. Nazarbaev's

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[76]"Yapontsy poka somnevaiutsya v nashei stabil'nosti. Zato tverdo doveryaiut posredniku - Turtsii," Kazakhstanskaia pravda, April 17, 1993.

[77]"Japan Seeks Eldorado in Central Asia," Nezavisimaia gazeta, February 11, 1993, p. 4, as translated in Foreign Broadcast Information Service, FBIS-USR-93-023, March 3, 1993, pp. 104-105.

government has held to this choice since the outset of the country's independent existence, but this compliant approach has failed to elicit a cooperative response from their counterparts in the Russian government. Below, we trace the progression of Kazakhstani-Russian relations during the post-Soviet period in the face of repeated signs that the Russian government was either unable or unwilling (or both) to factor Kazakhstan's interests into its own decisionmaking.

Nazarbaev's calls for cooperation date back to the 1991 Novo-Ogarevo negotiations aimed at arriving at a new Union treaty. He favored Gorbachev's 9+1 Union concept as the best way to avert further union-wide production declines, even in the wake of the August, 1991 coup attempt. However, Nazarbaev's continued support for this policy had the effect of distancing him from his more aggressively independence-minded colleagues in Russia and Ukraine. Yeltsin and Kravchuk, along with Shushkevich of Belarus, subsequently left him out when they announced the formation of what was initially the all-Slavic CIS in December, 1991. Ignoring the exclusionary message implicit in the slight, Kazakhstan joined soon thereafter.

One year later, after the CIS charter was signed, Kazakhstan's leaders renewed their calls for economic integration with Russia, Belarus, and Kyrgyzstan, arguing that all shared similar priorities and interests. They advocated the creation of organs for integrating strategic industrial sectors such as oil, gas, and machine-building, and supported efforts to restore and strengthen links between specific enterprises historically engaged in cross-border business in other Soviet successor states. Industry representatives gathered for meetings where they expressed their unanimous support for greater coordination, but achieved little in the way of concrete steps for improving operations across the region. CIS members signed numerous bilateral economic accords that stipulated agreed levels for delivery of strategic goods. But these agreements ultimately proved unenforceable, and economic conditions in Kazakhstan and elsewhere in the former Soviet Union continued to deteriorate.

Relations with the Slavic states of the CIS worsened after Kazakhstan became a member state in the Islamic-oriented Economic Cooperation Organization.[78] Russian, Ukrainian, and Belarusian leaders cited this as justification for excluding the country once again, this time from discussions in July, 1993, during which participants signed a memorandum on necessary measures to deepen economic integration amongst themselves. In reality, Kazakhstan's membership in this group posed no real threat to emerging intra-CIS arrangements; the extent of inter-state coordination envisioned in the

[78]Other members of the Economic Cooperation Organization included Azerbaijan, Uzbekistan, Tajikistan, Turkmenistan, Kyrgyzstan, Pakistan, Afghanistan, Iran, and Turkey.

former arrangement did not come close to the degree of integration proposed by advocates of a post-Soviet economic union.

The more likely reason for Kazakhstan's exclusion from the discussions was the virtual collapse of inter-governmental talks one month earlier between the country's Prime Minister Tereshchenko and then-Russian Deputy Prime Minister Shokhin. Numerous intergovernmental agreements guaranteeing delivery of critical supplies were not being fulfilled, while enterprises that did ship supplies were not being paid for their deliveries. The resulting spiraling payments crisis brought Russian-Kazakh relations to a particularly low point. Tereshchenko had come to Moscow in order to resolve the question of mutual payments with Russia; Kazakhstan had been forced to use more than half of the technical credits allocated by the Central Bank of Russia to support domestic enterprises that had not been paid by their Russian counterparts. After making no progress toward resolving this issue, Tereshchenko threatened to stop delivering wheat, coal, metal ore, and other important commodities to Russia. This provoked Russian representatives (Deputy Prime Ministers Shokhin and Fedorov) to show Kazakhstan's prime minister who was in charge. This prompted the inclusion of Ukraine as a major partner in a new economic union, a role Russia had originally assigned to Kazakhstan.[79]

At this point, Russian government representatives actively started encouraging their counterparts in Kazakhstan to introduce their own currency, in spite of clear indications from the country's leadership that they were not inclined to separate from the ruble zone. It is important to realize, however, that the unified ruble zone had already effectively ceased to exist; this was the result of efforts by Russian monetary authorities to rein in credit emission and money creation in the former republics, efforts which were already well under way by this time.[80] These steps were taken by the Central Bank of Russia (CBR) in response to an untenable situation that had arisen; following the collapse of the Soviet Union, the CBR alone was responsible for printing ruble bills, but regional central banks in the ruble zone could still issue credits locally. The latter institutions used this power to finance persistent trade deficits in the absence of a floating exchange rate system to introduce adjustments. Credits covered most deficits remaining once exports and imports were netted out, while the rest of the deficits simply accumulated. Credit emissions from multiple sources within the ruble zone essentially nullified Russian efforts to contain inflationary pressures and introduce monetary discipline. It is within

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[79]Ivan Petrov, Andrei Shmarov, "Ekonomicheskie soiuz - na zapad, rublevaia zona - na vostok," Kommersant, no. 33, August 16-26 1993.

[80]For a more detailed discussion of the payments problems and other related developments, see The Economist, Sept. 19, 1992, p. 92, and Abraham S. Becker, The Commonwealth of Independent States: The Road Back to Economic Integration, DRR-573-AF/A, RAND, November, 1993, pp. 20-25.

the context of these difficulties that the choice between continued monetary union and separate currencies became an issue within the CIS.

Russian monetary authorities responded to this situation in July, 1992, by limiting financing for imports of Russian goods by former republics to the amount of rubles explicitly credited to their central banks in corresponding accounts at the CBR. Since all inter-enterprise transactions at the time were still being channeled through republic central banks, these banks now had to start distinguishing between credits Russia had granted and those they had issued themselves. The Russian government also began permitting its exporters to trade directly with republic importers through commercial banks. Now enterprises themselves, rather than central banks, had to hold enough "Russian" rubles to buy Russian goods. Rubles lent by local commercial banks courtesy of republic central banks now counted as "Ukrainian" or "Kazakh" rubles, usable only in the issuing republic unless others were willing to accept them. As a result of these policies, a market for the purchase or sale of specific republics' rubles had already developed in 1992, complete with implicit exchange rates that reflected the soundness of each republic's "currency."

Then, on July 26, 1993, Russia gave the other countries within the ruble zone another push by "invalidating" ruble notes printed before 1993 and withholding sufficient supplies of notes designated legal tender. Still in favor of integration, Nazarbaev called for negotiations with the goal of creating "a new kind of ruble zone." Moreover, the government's support for a currency union assumed that monetary policy would be managed by a supranational agency capable of taking the steps necessary to make the ruble a viable instrument for domestic and international transactions. At no time did Kazakhstan advocate management by the CBR, with Viktor Gerashchenko, the man judged by *The Economist* to be the world's worst central banker, at its helm. But this was probably an unrealistic expectation given Russia's natural dominance of regional economic affairs. When new Russian terms for participation proved too onerous, as described above, Kazakhstan was left with no choice but to introduce its own national currency, the *tenge*, on November 16, 1993.

The Russian government has demonstrated its inability or unwillingness (or both) to factor Kazakhstan's interests into its own decisionmaking. In addition, Russia's own economic reform process has become completely entangled in that country's political crisis. Consequently, there has been no beneficial spill-over for Kazakhstan resulting from successful Russian transformation, and no examples for the country's leaders to use as models for their own policies. Kazakhstan now faces rising costs associated with

continued alignment with Russia without much prospect of realizing the anticipated benefits.

The Results

Again and again, Nazarbaev's belief that Russia would work cooperatively with Kazakhstan proved unfounded. As a result, Kazakhstan finds itself even worse off than it was in the period immediately following the collapse of the Soviet Union. Reliance on Russia has proven costly in terms of setting back the timetable for realization of economic stabilization and development in Kazakhstan. The leadership has expended valuable energy and resources pursuing this goal of greater economic integration among the former republics. Stabilization efforts have had little impact on declining production. External shocks have accelerated inflation. Most of the policies that characterized the first stages of the reform strategy elaborated by Nazarbaev in May, 1992, have been slowed or halted.

To the extent that public opinion can be meaningfully gauged in Kazakhstan, it is interesting to note that Nazarbaev's popularity does not seem to have suffered greatly from these adverse developments. Observers inside and outside the country seem inclined to place full responsibility on the Russian government for worsening Kazakh-Russian relations.[81] It could be that Nazarbaev's persistently pro-Russian orientation has demonstrated to all of Kazakhstan's citizens, including Russians, that the Russian Federation cannot be relied upon either to cooperate with Nazarbaev's government or to protect the rights of the Russian diaspora. It remains to be seen whether this apparent sympathy for Nazarbaev's position as the spurned party can be translated into popular support for a more independent path toward development. After all, the costs of these persistent efforts to work with Russia have been high, leaving the population worse off than ever before. Their patience may not hold when they are faced with additional, harsher austerity measures required to stabilize the country's new currency and reorient economic activity.

Implications for Kazakhstan

The logic of Kazakhstan's long-standing support for economic reintegration in general and close alignment with Russia in particular is evident in the preceding analysis. The approach made sense in light of the economic and noneconomic constraints facing the country's policymakers; the benefits could reasonably be expected to outweigh the

[81]See "In Kazakhstan, 'Flea Market' Replaces Foreign Currency Exchange," Izvestiia, October 27, 1993, p. 4, as translated in Foreign Broadcast Information Service, FBIS-USR-93-143, November 8, 1993, pp. 13-14, and "The Torn-Up Ruble", Rabochaya tribuna, November 26, 1993, p. 2, as translated in Foreign Broadcast Information Service, FBIS-USR-93-156, December 13, 1993, p. 20.

costs, but only so long as it was supported by all the parties involved, especially by Russia. Even with its extensive resource endowment, Kazakhstan's economic future looks most promising within *the context of successful economic reform and development throughout the former Soviet Union*. Economic development across the region, together with the revival of trade relations, will be vital to the country's medium to long-term prospects.

As a result, any benefits associated with economic integration will be realized only if Russia successfully implements its own reform program. If this were to come to pass, Kazakhstan would benefit from greater economic stabilization in the short-term, largely due to the restoration of access to markets demanding and supplying compatible products, and improved access to the transport infrastructure necessary to bring its products to international markets. Integration might also help Kazakhstan's leaders reassert their authority and enforce compliance with regulations guiding economic activity. Kazakhstan's internal inter-ethnic and external inter-state relations could also be expected to stabilize and improve in an atmosphere of greater accommodation and cooperation with Russia.

But even in the best case scenario, economic integration would not be without its costs for Kazakhstan. It appears likely to slow progress toward charging world market prices for trade among member states, all of whom are seeking a continuation of concessionary pricing, especially for energy products. This means that Kazakhstan would continue to face adverse terms of trade indefinitely within the context of greater economic integration among former republics. Closer economic ties also appear to entail the surrender of some control over economic policymaking. This could negatively affect the country's ability to exploit its oil and other natural resources; indeed, Russia has recently demanded hefty shares of the revenues from the multi-billion dollar oil and gas development projects launched in Kazakhstan over the last year in exchange for the use of its pipelines for export purposes.[82]

This represents only one dimension of the loss of control over economic decisionmaking that would accompany greater integration. By signing on to the existing agreement for economic and monetary union, Kazakhstan's government would surrender the ability to independently use monetary and fiscal policies to ease internal shocks. Banking and customs regulations would also have to be harmonized according to Russian preferences. Finally, by agreeing to Russia's preferred method for administering corresponding accounts within a unified ruble zone, Kazakhstan would assume many of

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[82]Erik Whitlock, "Russia Demanding Cut of Kazakh Oil Deals," RFE/RL Daily Report, No. 28, 10 February 1994.

the responsibilities associated with having an independent currency without realizing the benefit of seignorage.

Kazakhstan's access to foreign aid and capital could also be negatively affected by economic integration. There has been a tendency for western donors to devote resources primarily to the Russian Federation, assuming that Russia will then assume responsibility for supporting its neighbors in the "near abroad." Indeed, in recent comments on Russia's role in the "near abroad," Economics Minister Shokhin referred to his country's role as an IMF for the other CIS countries.[83] Greater integration would, in all likelihood, reinforce this tendency; the Russian government could be designated the appropriate agent for coordinating and distributing aid to Kazakhstan and the other member states of an economic union. But given the massive corruption and inability to enforce agreements that are currently endemic in the Russian Federation, it seems unlikely that resources channeled through that country would ever reach Kazakhstan.

The costs of integration enumerated above represent the best that Kazakhstan could reasonably expect from participation. If Russia and the other member states fail to implement successful economic reforms, the results will be much worse. This remains a very real possibility; current leaders of Soviet successor states (with the exception of Kyrgyzstan's Akaev) are products of the old command-style system; as such, they remain highly susceptible to the temptation to retain and/or return to the administrative approach to economic policymaking with which they are most familiar. Far from providing the short-term stabilization they desire, this approach is more likely to lead to the further collapse of production, to hyperinflation, and to destabilization of the internal political and external security situation. By subscribing to this approach, Kazakhstan will have strengthened its ties to Russia at the expense of exploring alternative directions for economic activity necessary for coping with this outcome.

While the country must still avoid taking steps to overtly alienate the Russian Federation, Kazakhstan's leaders must now acknowledge the necessity of developing alternate arrangements. Efforts to strengthen inter-ethnic relations should continue; successfully preserving social stability will bolster Kazakhstan's reputation as having an investment environment superior to that found elsewhere in the former Soviet Union, including Russia. This, combined with the proven lure of Kazakhstan's resource wealth, will help to maintain or increase the flow of foreign capital into the country. Recently

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[83]Vitaly Portnikov, "Aleksandr Shokhin: Ekonomicheskoi voiny ne bylo. Rossiia mogla by stat' Mezhdynarodnym Valiutnym Fondom glia byvshykh sovetskikh respublik," Nezavisimaia gazeta, Dec. 9, 1993, p. 1.

concluded agreements demonstrate how lucrative these arrangements will be, for the government as well as for the regions targeted for investment.

Perhaps the best example of this is the long-awaited agreement with Chevron to develop the Tengiz oil fields in Atyrau oblast; the final agreement, signed in April, 1993, created Tengizchevroil, a joint venture created as an equal partnership between Tengizneftegas, (the regional organization), Kazakhstanmuynagas (the national company), and Chevron Overseas Company, a Chevron Corporation subsidiary. Chevron will pay taxes and royalties to the national and regional governments, and has agreed that 90 percent of the estimated 3,600 workers needed for the project will be citizens of Kazakhstan; this is a critical factor for Atyrau oblast where unemployment is a serious problem. Finally, Chevron will provide large-scale funding to Atyrau oblast over the next five years to support mutually agreed-upon projects for social development, including modernization of local water purification systems and medical facilities.[84] Subsequent deals with western investors have also included commitments to develop social infrastructure in regions where investment will be made.[85]

Clearly, Kazakhstan's government will have a key role to play in the efficient utilization of investments in the country's natural riches. Funding, technology, and know-how will have to be divided carefully between competing claims on limited resources. The challenge will be to maximize the creation of new productive capacity and related infrastructure, while propping up elements of the "old economy" to minimize the dislocating effects of transition. This will be essential in order to arrest the ongoing collapse of production, as well as provide new opportunities for labor released as inefficient enterprises are gradually shut down. By carefully exploiting these opportunities, the country's leaders could achieve positive results in economic development, improve the well-being of all citizens, and create some breathing space between the Kazakhstani and Russian economies.

Preliminary Implications for U.S. Policy Toward Kazakhstan

U.S. interests in the former Soviet Union are served by Kazakhstan's emergence as a strong, stable country based on secular traditions. This would result in the creation of a zone of stability, reducing the risk of exciting any Russian expansionist aspirations, as well as providing an important demonstration effect for other developing countries,

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[84]"Tengiz Raises the Level of Confidence," Trud, April 7, 1993, p. 1, as translated in Foreign Broadcast Information Service, FBIS-USR-93-047, April 16, 1993, p. 86.

[85]See for example the agreement signed last year between Kzyl-Orda oblast and a Canadian firm to extract oil in the region. According to the terms of the contract, the Canadian partner will participate in the development of social infrastructure in the region. Vladimir Li, "Kanadtsy bydyt dobyvat' Kzyl-Ordinskuyu neft," Kazakhstanskaia pravda, February 12, 1993.

especially the neighboring Central Asian states. The successful implementation of this development strategey, often refered to as the "Turkish" model, would reduce the appeal of Iran's "Islamic" model, thereby preempting or countering that country's influence in the region. Americans investing in major development projects in Kazakhstan would gain from enhanced regional stability and expanded commerce, although consumers and suppliers in Russia, China, and other nearby countries would be the main beneficiaries.

Indeed, American interests are more directly threatened by adverse outcomes in Kazakhstan than they are served by positive developments there. A weak Kazakhstan, torn by inter-ethnic strife, experiencing economic and political collapse along with a rise in Islamic fundamentalism, would be an invitation for more aggressive Russian involvement in the region. Under these circumstances, U.S. involvement could become necessary. Today, there are real signs that the adverse outcomes described here may come to pass. The reform effort in Russia has faltered, and public dissatisfaction with that country's government is widespread. This has fueled the rise of politicians advocating the restoration of Russian control throughout the former Soviet region. Without Russia to act as the engine of regional reform, continued close alignment jeopardizes Kazakhstan's future prospects.

Recent developments now point to the need for a reorientation of U.S. policies; only recently have western countries and international financial institutions diverted their attention from the reform process in Russia. This concentration served as a strong signal to Kazakhstan's leaders that the West had little to offer, reinforcing their belief in the appropriateness of maintaining close, cooperative relations with Russia. As the likelihood of realizing the benefits associated with this policy becomes increasingly remote, it now makes sense for U.S. policies to adopt a wider focus; this entails movement away from past Russo-centric policies toward those aimed at achieving greater independence for Kazakhstan. While the U.S. is not currently in any position to provide funding in sufficient amounts to loosen Kazakhstan's remaining ties to the former Soviet economy, it can assume a policy stance that reinforces the country's sovereignty and independence rather than pushing it closer to the Russian Federation. Among other things, this would mean supporting projects that ease the transport constraints discussed above, improve export capabilities, and facilitate investment by American business in promising sectors of the country's economy.

In order for U.S. support for Kazakhstan to become more substantive than symbolic, more research will be necessary to answer two key questions: first, what prospects are there for the country's independent success in the absence of positive developments in Russia, and second, is there a meaningful role that American aid and

technical assistance can play in averting the realization of worst-case scenarios? Although these questions will remain unanswered here, they certainly merit further attention, perhaps as the subject of subsequent research.

Appendix

About the Data

The 1991 interrepublic commodity trade data used in this study were obtained by the author in the course of conducting field work in Almaty, Kazakhstan, in August and September 1992. They were compiled and provided by the Department for Material Balances, State Committee of the Republic of Kazakhstan for Statistics and Analysis. According to the head of this department, approximately 70 percent of all interrepublic deliveries were covered by these statistics.

The following series were provided:

1. Consumer imports and exports, 1990-1991
2. Producer imports, 1991
3. Producer exports, 1991 (two different series)

There were several differences in the two series on producer exports. They were released at different times; the first one was published in January 1992, while the second was not generated until July 1992. In its product coverage, the July series included a larger number of goods, with some important gaps. It did report deliveries of certain petroleum products not included in the first series. However, data were not provided for deliveries of other strategic goods such as wheat, copper, magnesium, titanium, brass, and bronze. In the interest of filling these gaps while taking advantage of any updated information the later series provided, the July series was used as the main source for producer exports, and items from the January series were inserted where necessary.

A double-counting problem presented itself in the compilation of total commodity imports from the separate series on producer and consumer imports. Deliveries of certain commodities were reported as both consumer and producer imports; thus there were two entries for each of the following categories: silk, cotton, and wool fabrics; refrigerators; washing machines; light automobiles; lamps and lights; vegetable oil; household plastics; and wallpaper. There was no obvious way to determine whether they referred to different shipments distinguished by their point of destination (retail outlets or production enterprises). In some cases, they were quite close in value but were never identical, which might have implied duplication. The sources for consumer and producer import series were different: consumer deliveries were compiled by the State Statistical Committee in Kazakhstan, while producer imports were submitted by the statistical authorities of the sending republic. Credibility levels for both these sources are roughly equal; record-keepers in Almaty had higher confidence in the accuracy of their export information and described the difficulty they had in keeping track of imports received. It seemed reasonable to assume that their experience must be analogous to that of statistical

authorities elsewhere in the former union. This required using figures reported by statistical authorities in the sending republic. These figures were retained while those reported as deliveries of consumer goods were deleted.

There is always some reason to question the reliability of Soviet statistics. However, there is reason to believe that these materials will be useful. First, these figures were never published in open form; designated for official use only, they were released in print runs of at most one hundred and as few as ten. As such, they are likely to be free of manipulation aimed at masking politically undesirable outcomes. Secondly, while Soviet pricing and taxation policies complicate analysis of data expressed in domestic prices and currency, those statistics reported in physical quantities are much more straightforward and likely to be accurate; indeed, planned output and deliveries measured in physical quantities were cornerstones of a system where prices had only minimal allocative function. Finally, while these figures are not likely to be ideal, they are more detailed and timely than those previously released by the Soviet statistical authorities.

Comparison with Other Sources

The table below illustrates the discrepancies between the 1991 interrepublic commodity trade data used in this analysis and those reported in a recent World Bank report.[86] First, it would appear that two different official agencies within Kazakhstan provided the different figures. However, it was made clear to the author in interviews with representatives of both organizations that only one of them, the State Statistical Committee (Goskomstat), generates these statistics and provides them to all other agencies, including the State Economic Committee (Gosplan). Thus, organizational origin does not explain the differences observed.

Table A.1
Comparing Different Data Sources

	State Statistical Committee (Author's data)				**State Economic Committee (World Bank)**			**Unspecified (IMF)**		
(billion rubles)	**EX.**	**IM.**	**BAL.**		**EX.**	**IM.**	**BAL.**	**EX.**	**IM.**	**BAL.**
Total	20.69	21.29	-0.60	Total†	27.93	21.70	6.23	16.51	20.05	-3.54
Subtotal *	18.97	17.92	1.05							
RF.	13.02	11.56	1.46	RF.	16.94	14.60	2.34			
UK.	1.70	2.74	-1.04	UK.	2.06	1.79	0.27			
BEL.	0.83	0.90	-0.07	BEL.	1.53	1.13	0.40			
UZB.	1.85	1.29	0.56	UZB.	4.49	1.98	2.51			
KYRG.	0.65	0.64	0.01	KYRG.	0.85	0.62	0.23			
TAJIK.	0.45	0.34	0.11	TAJIK.	1.35	0.80	0.55			
TURK.	0.47	0.45	0.03	TURK.	0.72	0.79	-0.08			

*Total for republics listed. †Reported as total interrepublic trade but only covers republics listed.

[86]World Bank, 1993, p. 204.

Furthermore, World Bank analysts were provided with data pertaining only to those republics that had become members of the Commonwealth of Independent States, and reported the sum of these deliveries as the total trade turnover for Kazakhstan in 1991. In contrast, Goskomstat provided the author with data covering all the former republics of the former Soviet Union. Note that in spite of this, World Bank data for the partial list of republics sum to a total that is higher than that reported by the author for all the republics. Still, this difference roughly corresponds to the estimate of Goskomstat officials that their data covered approximately 70 percent of total interrepublic commodity deliveries. Finally, IMF estimates report interrepublic trade flows considerably lower than those provided by both preceding sources.

According to the country economist for Kazakhstan at the World Bank, substantial improvements have been made in the institution's database on Kazakhstan since publication of the figures reported above.[87] However, these data have not yet been released for public use. He offered the following cautions regarding use of the published figures. While the variety of commodities covered has not changed meaningfully in the process of updating, coverage of deliveries actually received could be incomplete. Specifically, there appears to be a trend toward more comprehensive reporting of exports than of imports. Additionally, Goskomstat figures do not capture the exchanges based on barter arrangements that were being concluded more frequently at the end of 1991. In addition, budgetary transfers from Moscow were still quite substantial in 1991. As a result of these shortcomings, Lloyd considers figures showing Kazakhstan as having an overall trade surplus to be incorrect. World Bank analysts now estimate a current account deficit for Kazakhstan of $3.2 billion, equal to approximately 6 percent of GDP in 1991.

Calculations

Price Ratios Used in First Revaluation

In Revaluation 1, Kazakhstan's 1991 interrepublic commodity trade flows valued in domestic prices were adjusted to reflect their value in terms of world market prices. To accomplish this, 1990 foreign-to-domestic price ratios for 105 sectors were employed. Price ratios are foreign-trade prices divided by domestic prices, where domestic prices are those prices received in rubles, and foreign-trade prices are Goskomstat-estimated world prices for comparable products converted to rubles at the official exchange rate of 0.6

[87]Personal communication with Keith Lloyd, country economist for Kazakhstan, World Bank, March 16, 1993.

rubles per U.S. dollar. These data, which were published by the World Bank (Tarr, 1993) and were acquired from Intelligent Decision Systems (IDS) of Berkeley, California, one of whose employees was a former Goskomstat official involved in the production of the original data set, are presented below.

Table A.2
Kazakhstan: 105-Sector Foreign-to-Domestic Price Ratios for 1990

Sector	Exports	Imports	Sector	Exports	Imports
POWER	1.50	1.50	MACHINERY (cont.)		
OIL AND GAS			Other ind. M&E	1.90	1.90
Oil Products	3.54	3.54	Metal construction	1.06	1.06
Refineries	2.23	2.23	Metal products	0.78	0.78
Gas products	2.46	2.46	M&E repair	2.08	2.10
COAL	0.93	0.93	Medical equip.	n.a.	1.03
OTHER FUELS			WOOD & PAPER		
Combustible shales	n.a.	0.67	Logging	0.67	0.64
Peat	n.a.	n.a.	Sawmill	0.76	0.75
FERROUS			Plywood	n.a.	0.81
Ferrous ores	0.90	0.90	Furniture	0.33	0.44
Ferrous metals	1.23	1.23	Paper, pulp	0.81	0.81
Coking products	n.a.	1.48	Chemistry prod.	n.a.	0.19
Fire resistant	1.91	1.91	CONSTRUCT. MATERIALS		
Metal products	0.71	0.70	Cement	0.80	0.80
NON-FERROUS			Asbestos products	1.36	1.36
Non-ferrous ores	1.56	1.56	Roofing	1.06	1.06
Non.-ferr. Metals	1.67	1.67	Precast concrete	1.07	1.07
CHEMICALS			Wall Materials	n.a.	0.375
Mineral Chemistry	1.29	1.29	Ceramics	0.89	0.88
Basic Chemicals	0.72	0.72	Constr.products	0.62	0.66
Chemical fibers	0.72	0.71	Other	1.29	1.29
Synthetic resins	0.76	0.77	Glass, porcelain	0.68	0.84
Plastic Products	0.80	0.80	Medical products	n.a.	1
Paints, lacquers	0.75	0.75	LIGHT INDUSTRY		
Synthetic paints	n.a.	0.86	Cotton products	0.42	0.32
Synthetic rubber	0.74	0.74	Flax products	n.a.	0.414
Organic chemicals	0.89	0.89	Wool products	0.22	0.28
Tires	0.98	0.98	Silk products	0.173	0.173
Rubber, asbestos	0.86	0.86	Hosiery/knitwear	0.34	0.34
Other products	0.99	0.99	Other textiles	0.56	0.35
Pharmaceuticals	0.90	0.90	Sewn goods	0.33	0.33
MACHINERY			Leather	0.36	0.40
Energy, power	0.91	0.91	FOOD PRODUCTS		
Technology	1.03	1.03	Sugar	0.39	0.39
Mining	1.56	1.56	Bread products	n.a.	0.59
Transportation	1.40	1.36	Confections	0.43	0.46
Railway equip.	n.a.	0.72	Vegetable oils	0.367	0.38
Electro-technical	0.92	0.92	Perfume oils	0.75	0.71
Cables	1	1	Distilleries	n.a.	0.08
Pumps	1.14	1.14	Wines	n.a.	0.13

Kazakhstan: 105-Sector Foreign-to-Domestic Price Ratios for 1990 (continued)

Sector	Exports	Imports	Sector	Exports	Imports
Machine Tools	1.14	1.14	Fruit/Vegetables	0.38	0.39
Forging, pressing	0.87	0.87	Tobacco	0.19	0.26
Casting Equip	n.a.	1.10	Other food	0.87	0.28
Precision instruments	0.50	0.61	Meat products	0.48	0.48
Synthetic diamonds	n.a.	0.96	Dairy products	0.51	0.52
Tools, dies	0.90	0.80	Fish products	0.42	0.41
Autos, parts	1.69	0.85	Flour, cereals	0.45	0.39
Bearings	0.78	0.78	OTHER INDUSTRY		
Tractors, equip.	1.35	1.35	Microbiology	0.83	0.83
Construction M&E	1.41	1.41	Animal feed	0.88	0.86
Communal M&E	1.35	1.35	Other products	0.68	0.68
Light indust.M&E	1.17	1.14	AGRICULTURE		
Food M&E	1.25	1.30	Crops	0.55	0.49
Trade M&E	1.50	1.47	Animal husbandry	0.30	0.32
Printing M&E	n.a.	0.83	OTHER PRODUCTS		
Appliances	0.65	0.37	Info. services	n.a.	n.a.
Sanitary Engineering	0.54	0.54	Other services	0.97	0.97
Shipbuilding	1.14	1.16	Transport expenses	1.14	1.14
Radio Electronics	0.30	0.69			

Because the data set used in this study covered more than 500 different commodities, the appropriate ratio for assigning a world market value to a given import or export was chosen from the list above by identifying the sector which best corresponded to a given commodity in the larger data set.

Constructing Updated Foreign-to-Domestic Price Ratios for Revaluation 2

World market prices applicable in 1991 for natural resources, raw materials, and agricultural products were reported in the Commodity Yearbook 1993, published by the Commodity Research Bureau, as well as in the 1993 International Financial Statistics Yearbook, published by the International Monetary Fund.

World prices were adjusted in the following way to create new foreign-to-domestic price ratios:

1991 World price in $/unit measure
x Exchange rate (rubles/$U.S.)
x Unit adjustment
= 1991 World price in rubles/unit measure

Unfortunately, this calculation is quite sensitive to the choice of exchange rate. For this conversion, an exchange rate of R0.6/$U.S. was chosen; this was the official exchange rate in effect during the first half of 1991. This exchange rate was also consistent with the one employed in the 1990 World Bank ratios which were used again to revalue commodity trade flows for which a 1991 world market price could not be identified.

Observed unit values for traded commodities (ruble value ÷ physical quantity delivered) were used as a proxy for domestic prices. This approach is somewhat problematic. In a recent study on changing prices in Soviet-Hungarian trade, the authors point out that for the purpose of determining the price of a particular product, even the most disaggregated categories in trade data will usually contain some product differentiation. Thus, unit values of line in trade data will often not be an accurate indicator of the price of any particular product within the given category.[88] Nevertheless, in the absence of more suitable price data, observed unit values provide the most promising proxy.

The table below lists the prices chosen, as well as providing additional information about how they were derived by the reporting sources.

Table A.3
1991 World Market Prices Used for Revaluation

Product:	Price	$/Unit	Notes
Gasoline	0.80	$/gallon	Refinery sales price
Petroleum	20.00	$/barrel	Spot, f.o.b. U.S. Gulf of Mexico, UK Brent blend
Heating oil	0.40	$/gallon	Refinery sales price
Coal	43.70	$/metric ton	Reported export value, f.o.b., Australia
Coking coal	47.80	$/short ton	Monthly average price coal receipts at coke plants
Iron ore	33.30	$/metric ton	German ports, c.i.f., std. sinterfeed, 61.5% iron
Aluminum	0.59	$/pound	UK,c.i.f., spot, London Metal Exch., standard grade, purity≥ 99.5%
Copper	1.06	$/pound	UK, c.i.f. , spot, London Metal Exch., grade A cathodes
Lead	0.25	$/pound	UK, c.i.f., spot, London Metal Exch., 99.97% pure
Zinc	0.51	$/pound	UK, c.i.f., 98% pure, spot, London Metal Exch., high grade
Tin	2.54	$/pound	New York dealers price, spot
Magnesium	1.43	$/pound	Magnesium ingots (99.8%) f.o.b. Valasco, Texas
Titanium	75.00	$/tonne	Australian ports, f.o.b., limenite
Manganese	392.00	$/long ton	U.S. ports, c.i.f., Minimum 48% Mn. (low impurities)
Chromite	90.00	$/metric ton	South Africa, Cr2O3: 44%
Nitrogen fertilizer	115.00	$/short ton	Gulf Coast, f.o.b.
Phosphate fertilizer	42.50	$/metric ton	Morocco, 70% BPL, contract, f.a.s.
Potassium fertilizer	109.00	$/metric ton	Vancouver, f.o.b., Muriate of potash, average of daily quotes
Sulfur	70.00	$/tonne	Average sales value for shipments, mine/plant recovered
Titanium dioxide	1.00	$/pound	Titanium dioxide pigments anatase
Cement	63.60	$/short ton	Average of monthly prices, bulk cement
Hay	83.20	$/ton	Mid-month price rec'd by farmers, baled hay
Soybean meal	197.00	$/metric ton	Rotterdam, c.i.f., 44% U.S., nearest forward shipment
Sugar	0.28	$/pound	European ports, c.i.f., EEC import price: unpacked sugar
Tea	0.84	$/pound	UK warehouses, c.i.f., average all teas, London auction price
Lard	0.13	$/pound	Average wholesale price
Cotton oil	0.21	$/pound	Average price crude f.o.b.
Corn oil	0.28	$/pound	Spot price, crude, wet mill
Barley	2.10	$/bushel	Seasonal price rec'd by farmers
Potatoes	5.05	$/Cwt.	Average price rec'd by farmers
Cotton	0.85	$/pound	Average spot prices, c.i.f. N. Europe, USSR vtoroi
Molasses	67.00	$/ton	Wholesale price, blackstrap cane molasses
Edible tallow	0.14	$/pound	1991 loose average wholesale, Chicago
Wool	2.63	$/kg	Australia-NZ 48's: UK Dominion, 48's clean, Bradford grade
Wheat	3.50	$/bushel	Gulf of Mex., f.o.b.,U.S., no.1 hard red winter, ordinary protein

[88]See discussion in Oblath and Tarr, 1992, pp. 75-99.

The 1991 price ratios constructed according to the method described above often differed substantially from the 1990 World Bank price ratio applied in the first revaluation. The table below presents a comparison of the 1990 ratios with those that replace them in the second revaluation.

Table A.4
Comparing World Bank and Constructed Foreign-to-Domestic Price Ratios

Product:	1990 World Bank Ratio	1991 Constructed Ratio	Product:	1990 World Bank Ratio	1991 Constructed Ratio
Gasoline	2.227	0.92	Sulfur	0.72	0.42^{a}-0.26^{b}
Petroleum	3.54	1.05	Titanium dioxide	0.72	0.33
Heating oil	3.54	0.84	Cement	0.8	0.36^{a}-0.66^{b}
Coal	0.935	0.79	Hay	0.86	0.02
Coking coal	0.935	0.84	Soybean meal	0.86	0.06
Iron Ore	0.90	0.57	Sugar	0.39	0.16
Aluminum	1.671	0.65	Tea	0.87^{a}-0.28^{b}	0.07
Copper	1.671	0.41^{a}-0.79^{b}	Lard	0.38	0.06
Lead	1.671	0.15^{a}- 0.09^{b}	Cotton Oil	0.37^{a}-0.38^{b}	0.12
Zinc	1.671	0.22	Corn oil	0.37^{a}-0.38^{b}	0.07^{a}-0.05^{b}
Tin	1.671	0.07	Barley	0.45^{a}-0.39^{b}	0.05
Magnesium	1.671	0.48	Potatoes	0.38^{a}-0.39^{b}	0.05^{a}-0.03^{b}
Titanium	1.671	0.08	Cotton	0.55^{a}-0.49^{b}	0.15^{a}-0.30^{b}
Manganese	1.56	0.03^{a}-0.04^{b}	Molasses	0.55^{a}-0.49^{b}	0.55^{a}-0.16
Chromite	1.56	0.54	Edible tallow	0.49	0.04
Nitrogen fertilizer	1.29	0.09^{a}-0.03^{b}	Wool	0.30^{a}-0.32^{b}	0.05^{a}-0.09^{b}
Phosphate fertilizer	1.29	0.02^{a}-0.02^{b}	Wheat	0.55^{a}-0.49^{b}	0.14^{a}-0.15
Potassium fertilizer	1.29	11.58^{a}-0.49^{b}			

[a] Export price ratio
[b] Import price ratio

As was discussed in the second section, the reliability and appropriateness of data necessary to determine the component parts of these constructed ratios proved questionable. In some instances, reported commodity trade data yielded unreasonable observed unit values. More importantly, the calculation was quite sensitive to the choice of exchange rate. Potentially applicable exchange rates range from the 1991 official exchange rate of R0.6/$U.S. to the commercial exchange rate of R55/$U.S. which was in effect for the first half of 1991 to R170/$US registered on the Moscow Interbank Currency Exchange at the end of December, 1991. Calculations using these different exchange rates were carried out and yielded wildly varied outcomes. Ultimately, the R0.6/$U.S. rate was chosen to maintain consistency with the rate utilized in the ratios reported by the World Bank.

Sensitivity to Changing Oil Prices

The estimate is derived using the following methodology. In 1991, Kazakhstan's net oil exports to the rest of the former Soviet Union equaled 55 million barrels. Thus, a $1 change in the price per barrel of oil will change oil export earnings by $55 million. As mentioned in the text, this change represents the partial effect resulting from oil price fluctuations; additional changes would occur in the cost of non-oil energy exchange.

Bibliography

Bahry, Donna, *Outside Moscow: Power, Politics, and Budgetary Policy in the Soviet Republics*, Columbia University Press, 1987.

_____, "Perestroika and the Debate over Territorial Economic Decentralization," *The Harriman Institute Forum*, vol. 2, no. 5, May 1989.

_____, "The Union Republics and Contradictions in Gorbachev's Economic Reform", *Soviet Economy*, vol. 7, no. 3, 1991.

Balassa, Bela, "Outward Orientation," in H. Chenery and T. Srinivasan, eds., *Handbook of Development Economics*, vol. II, Elsevier Science Publishers B.V., 1989.

Bandera, V.N., and Z.L. Melnyk, eds., *The Soviet Economy in Regional Perspective*, Praeger, 1973.

Belkindas, M.V., and M.J. Sagers, "A Preliminary Analysis of Economic Relations Among Union Republics of the USSR, 1970-1988," *Soviet Geography*, vol. 31, Nov. 1990.

Berliner, Joseph S., *The Innovation Decision in Soviet Industry*, MIT Press, 1976.

Brown, Bess, "Nursultan Nazarbayev of Kazakhstan: A Profile", *Radio Liberty Report on the USSR*, May 31, 1991.

_____, "Kazakhstan: Inter-ethnic Tensions, Unsolved Economic Problems", *Radio Liberty Report on the USSR*, January 4, 1991.

_____, "Kazakhstan's Economic Reform Program," *Radio Liberty Report on the USSR*, June 14, 1991.

Brown, Bess, and John Tedstrom, "Privatization in Kazakhstan and Kyrgyzstan: Central Asia's Leaders", *Radio Liberty Report on the USSR* (included with electronic version of Daily Report), April 28, 1992.

Brown, Stuart S., and Misha V. Belkindas, Who's Feeding Whom? A Balance of Payments Approach to Soviet Interrepublic Relations, Working Paper #90-21, Georgetown University Department of Economics, December, 1990.

_____, "Who's Feeding Whom? An Analysis of Soviet Interrepublic Trade," in John Hardt and Richard Kaufman (eds.) *Economic Reform in the Former Soviet Union* , Joint Economic Committee, U.S. Congress, 1993.

Bruton, Henry, "Import Substitution," in H. Chenery and T. Srinivasan, eds., *Handbook of Development Economics*, vol. II, Elsevier Science Publishers B.V., 1989.

Chenery, Hollis, "Interactions Between Industrialization and Exports," *American Economic Review*, vol. 70, no. 2, May 1980.

Critchlow, James, "Kazakhstan: The Outlook for Ethnic Relations," *Radio Liberty Report on the USSR*, (included with electronic version of Daily Report) Feb. 7, 1992.

_____, "Kazakhstan and Nazarbayev: Political Prospects," *Radio Liberty Report on the USSR*, (included with electronic version of Daily Report) , Feb. 1992.

_____, "What is the U.S. Interest in Central Asia's Future?" *Central Asia Monitor,* no. 5, 1992.

Leslie Dienes, "Investment Priorities in Soviet Regions," *Annals [of the American Geographers],* vol. 62, 1972.

_____, "The Soviet Oil Industry in the 12th Five Year Plan," *Soviet Geography*, vol. 28, no. 9, November 1987.

_____, "Economic Geographic Relations in the Post-Soviet Republics," *Post Soviet Geography*, vol. 34, no. 8, 1994.

European Economic Commission, "The Union and the Republics: Devolution or Disintegration?" *European Economy*, no. 45, December 1990.

Feshback, Murray , "Prospects for Outmigration from Central Asia and Kazakhstan in the Next Decade," in *Soviet Economy in a Time of Change: A Compendium of Papers*, submitted to the Joint Economic Committee, U.S. Congress, vol. 1, October 10, 1979. .

Findlay, R., "Growth and Development in Trade Models," in *Handbook in International Economics*, Elsevier Science Publishers B.V., vol. I, 1984.

Fuller, Graham, *Central Asia: The New Geopolitics*, RAND, Santa Monica, California, R-4219-USDP, 1992.

Gillette, Philip S., "Ethnic Balance and Imbalance in Kazakhstan's Regions," *Central Asia Monitor*, no. 3, 1993.

Gillula, James, "The Economic Interdependence of Soviet Republics," in *Soviet Economy in a Time of Change: A Compendium of Papers*, submitted to the Joint Economic Committee, U.S. Congress, vol. 1, October 10, 1979.

Gol'denberg, Lev, "Vsesoiuznyi rynok," *Soiuz*, No. 21, May 1990.

Gol'denberg, Lev, and T. Sivoshenkova, "Metologiia izucheniia obobshchaiushchikh pokazatelei razvitiia i vzaimosviazi regionov v edinom narodnokhoziaistvennon komplekse," *Vestnik statistiki*, no. 2, 1990.

Goskomstat USSR, "Ekonomicheskie vzaimosviazi respublik v narodnokhoziaistvennom komplekse," *Vestnik statistiki*, no. 3, 1990.

_____, "Ob'em vvoza i vyvoza produktsii po soiuznym respublikam za 1988 r. vo vnutrennykh i mirovykh tsenakh," *Vestnik statistiki,* no. 4, 1990.

Hewett, Ed, *Reforming the Soviet Economy,* Brookings Institution, 1988.

Holubnychny, Vsevolod, "Some Economic Aspects of Relations Among the Soviet Republics," in Erich Goldhagen, ed., *Ethnic Minorities in the Soviet Union*, Praeger.

Ickes, Barry W., and Randi Ryterman, "Roadblock to Economic Reform: Inter-Enterprise Debt and the Transition to Markets," *Post-Soviet Affairs*, vol. 9, no. 3, July-September 1993.

Imart, Guy G., "Kirgizia-Kazakhstan: A Hinge or a Fault-Line?" *Problems of Communism*, vol. 39, no. 5, September-October 1990.

Interfax Petroleum Report, November 6-13, 1992, p. 12.

International Monetary Fund, *Economic Review: Kazakhstan*, International Monetary Fund, May 1992.

_____, *Economic Review: Common Issues and Interrepublic Relations in the Former USSR.*, International Monetary Fund, April 1992.

International Monetary Fund, World Bank, Organization for Economic Cooperation and Development, European Bank for Reconstruction and Development, *A Study of the Soviet Economy*, vol. 1, International Monetary Fund, World Bank, Organization for Economic Cooperation and Development, European Bank for Reconstruction and Development, 1991.

Isingarin, S., "On the Main Lines of the Commonwealth: Without Cooperation We Will Not Survive," *Gudok*, 23 April, 1993, pp. 1-2, as translated in Foreign Broadcast Information Service, FBIS-USR-93-068, June 1, 1993, pp. 130-134.

Kindleberger, Charles P., "Government Policies and Changing Shares in World Trade," *American Economic Review*, vol. 70, no. 2, May 1980.

Koropeckyj, I.S., and Gertrude E. Schroeder, eds., *Economics of Soviet Regions*, Praeger, 1981.

Kroll, Heidi, "Monopoly and Transition to the Market," *Soviet Economy*, vol. 7, no. 2, 1991.

Krueger, Anne, "Trade Policies in Developing Countries," in *Handbook in International Economics*, Elsevier Science Publishers B.V., vol. 1, 1984.

_____, "Trade Policy as an Input to Development," *American Economic Review*, March 1980.

_____, "The Effects of Trade Strategies on Growth," in Robert E. Baldwin and J. David Richardson, eds., *International Trade and Finance: Readings*, 3rd ed., Little, Brown and Company, 1986.

_____, *Liberalization Attempts and Consequences*, Ballinger, 1978.

Krugman, Paul , and Maurice Obstfeld, *International Economics: Theory and Policy*, Scott Foresman and Company, 1988.

_____, *Geography and Trade*, MIT Press, 1991.

Kuznets, Paul W., "An East Asian Model of Economic Development: Japan, Taiwan, and South Korea," *Economic Development and Cultural Change*, University of Chicago, 1988.

Lee, Chung H., and Seiji Naya, "Trade in East Asian Development with Comparative Reference to Southeast Asian Experiences," *Economic Development and Cultural Change,* University of Chicago, 1988.

Leijonhufvud, Axel, "The Nature of the Depression in the Former Soviet Union," *New Left Review*, vol. 199, May-June 1993.

_____, "Problems of Socialist Transformation: Kazakhstan 1991," in Lazlo Somogyi, ed., *The Political Economy of the Transition Process in Eastern Europe*, Edward Elgar Publishing Company, 1993.

Lewis, Stephen R., Jr., "Primary Exporting Countries," in H. Chenery and T. Srinivasan, eds., *Handbook of Development Economics*, vol. II, Elsevier Science Publishers B.V., 1989.

Lipsey, Richard, "Trade Diversion and Welfare," *Economica*, vol. XXIV, February 1957.

_____, "The Theory of Customs Unions: A General Survey," *Economic Journal*, vol. LXX, September 1960.

Mal'tsev, V., "Territorial'nyi khozraschet: ot raspredeleniia k obmenu," *Vestnik statistiki*, no.1, 1990.

McAuley, Alastair, "The Economic Consequences of Soviet Disintegration," *Soviet Economy*, vol. 7, no. 3, 1991.

Michalopoulos, Constantine, "Trade Issues in the New Independent States," *Studies of Economies in Transition,* Paper no. 7, World Bank, 1993.

Michalopoulos, Constantine, and David Tarr, "Trade and Payments Arrangements for States of the Former USSR" *Studies of Economies in Transformation*, Paper no. 2., World Bank, 1992.

Mikhailov, L., "Kto i kak zhivet," *Ekonomika i zhizn'*, no. 10, March 1990.

Nordhaus, W.D., "Soviet Economic Reform," *Brookings Papers on Economic Activity*, vol. 1, Brookings Institution, 1990.

Noren, James H., and Robin Watson, "Interrepublican Economic Relations After the Disintegration of the USSR," *Soviet Economy*, vol. 8, no. 2, April-June 1992.

Nove, Alec, and J.A. Newth, *The Soviet Middle East*, George Allen & Unwin, Ltd., 1967.

Oblath, Gabor, and David Tarr, "The Terms-of-Trade Effect of the Elimination of State Trading in Soviet-Hungarian Trade, Journal of Comparative Economics, vol. 16, no. 1, 1992.

Olcott, Martha Brill, *The Kazakhs*, Hoover Institution Press, 1987.

_____, "Gorbachev's Nationalities Policy and Soviet Central Asia," Testimony before the Subcommittee on Europe and Middle East Committee on Foreign Relations, U.S. House of Representatives, February 25, 1988.

PlanEcon Report, vol. VIII, no. 11-12-13, March 27, 1992.

Rubin, Barnett, "Contradictory Trends in the International Relations of Central Asia," *Central Asia Monitor*, no. 6, 1993.

Rumer, Boris Z., *Soviet Central Asia: A Tragic Experiment*, Unwin Hyman, 1989.

Rywkin, Michael, *Moscow's Muslim Challenge*, C. Hurst and Co., 1982.

Sagers, Matthew J. , "Long Term Plans for Oil and Gas Sector in Kazakhstan," *Post-Soviet Geography*, vol. 34, no. 1, January 1993.

Schiffer, Jonathan R., *Soviet Regional Economic Policy: The East-West Debate over Pacific Siberian Development*, MacMillan, 1989.

_____, "Soviet Territorial Pricing and Emerging Republican Politics," *Journal of Soviet Nationalities*, vol. I, no. 3, Fall 1990.

Schroeder, Gertrude, "On the Economic Viability of New Nation-States", *Journal of International Affairs*, vol. 45, no. 2, Winter 1992.

Senik-Leygonie, Claudia, and Gordon Hughes, "Industrial Profitability and Trade Among the Former Soviet Republics,"*Economic Policy*, vol. 15, October 1992.

Slay, Ben, "On the Economics of Interrepublican Trade," *Radio Liberty Report on the USSR*, (included with electronic version of Daily Report), November 13, 1991.

Streeten, Paul, "A Cool Look at 'Outward-looking' Strategies for Development," in Robert E. Baldwin and J. David Richardson, *International Trade and Finance: Readings*, 3rd ed., Little, Brown and Company, 1986.

Tarr, David G., "How Moving to World Prices Affects the Terms of Trade in 15 Countries of the Former Soviet Union," *Policy Research Working Papers/Trade Policy*, Country Economics Department, World Bank, January, 1993.

Tedstrom, John, "The Economic Costs and Benefits of Independence for Ukraine," *Radio Liberty Report on the USSR*, December 7, 1990.

_____, "Russia's Radical Reform Program, Radio Liberty Report on the USSR, May 17, 1991.

Treml, V., et al., "The Soviet 1966 and 1972 Input-Output Tables," in *Soviet Economy in a New Perspective: A Compendium of Papers*, submitted to the Joint Economic Committee, U.S. Congress, Oct. 14, 1976.

World Bank, *Kazakhstan: The Challenge of Economic Development*, (draft report) World Bank, March 17, 1992.

_____, *Kazakhstan: The Transition to a Market Economy*, World Bank Country Study, International Bank, for Reconstruction and Development, Washington, D.C., 1993.

_____, *Statistical Handbook for the Republics of the Former Soviet Union*, World Bank, 1993.

_____, *World Development Report 1991*, World Bank, 1991.