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Central Asia's comparative advantage in international trade

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Central Asia's Comparative Advantage in International Trade

Matthias Lücke and Jacek Rothert

- This paper outlines a strategy for identifying the pattern of Central Asia's comparative advantage in international trade, based on factor prices and transport costs, historical production patterns, and recent trends in the geographical and product composition of Central Asian trade. The paper focuses on Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan, along with Azerbaijan and Mongolia.
- A country's comparative advantage cannot be determined at the level of individual industries or products. At the same time, policymakers benefit from an awareness of a country's general pattern of comparative advantage as they prioritize measures for promoting nontraditional exports or policy reforms to reduce barriers to trade, whether related to trade policy instruments, to transport and transit, or to the investment climate.
- A comparison of manufacturing wages in the region with key competitors shows that the resource-rich countries (Kazakhstan and Azerbaijan) with monthly wages above \$100 will hardly be able to compete on price in labor-intensive exports to the world market (e.g., in direct competition with China). For the remaining countries with lower wages, the viability of particular labor-intensive exports would have to be assessed from detailed estimates of cost structures, including buildings and transport.
- As they are geographically remote, it is very difficult for Central Asian countries to expand exports by integrating into production networks operated by European firms (a strategy employed with much success in Central and Eastern Europe). Enhanced processing of local raw materials that are already exported (such as cotton) will often be a more viable option.
- At present, Central Asia's exports are dominated by unprocessed or semiprocessed commodities. Prominent export products vary somewhat across countries, so that export growth would not push Central Asian countries to compete in all the same products. Many trade flows are also so small in relation to potential markets (Russia, Western Europe, etc.) that ruinous export competition is unlikely. For several industrial products, Central Asian countries are significant exporters to CIS countries, but not to the rest of the world. Such products could be focal points for export diversification into nontraditional markets.

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This paper was written while Jacek Rothert was participating in the Advanced Studies Program at the Kiel Institute for World Economics, Germany.

Executive Summary

The purpose of this paper is to develop strategies for identifying the comparative advantage of Central Asian economies in international trade, given available information about factor prices and transport costs, historical production patterns, and recent trends in the geographical and product composition of Central Asian trade. In practice, it is not possible to determine a country's comparative advantage at the level of individual industries or products. However, awareness of a country's general pattern of comparative advantage can help policy makers to prioritize measures for promoting nontraditional exports along with policy reforms to reduce barriers to trade, whether related to trade policy instruments, to transport and transit, or to the investment climate. This paper focuses on Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan, along with Azerbaijan and Mongolia.

While simple theoretical models of international trade suggest that every country must have a comparative advantage in some product, a careful examination of relevant theory suggests that this assertion provides no robust basis for predicting viable nontraditional export products. First, Central Asian countries are geographically remote and transport costs to the nearest sea ports (for access to the world market) are high because of long distances and multiple borders. With high transport costs, exporting (or importing) certain goods may become economically unviable and the country may end up producing a wider range of goods for domestic consumption (it will also be poorer, other things equal, than a similar country with better access to the world market).

Second, in practice, the number of goods produced is higher than the number of factors of production by any meaningful definition. In this case, even theoretical models no longer predict which particular goods a country will export (or import) under free trade. While a country will export the services of its abundant factors of production through its exports and imports of goods, there are normally multiple combinations of ex-

port and import products and quantities that are consistent with this.

Third, the many labor migrants from Central Asia, working mainly in Russia, demonstrate that, when goods are expensive to trade because of geography and policy-induced barriers, it may be easier for workers to move in response to international wage differentials. Additional income in the form of migrant remittances is typically spent on both imported and domestic goods. Therefore, exports will decline and the production of nontraded goods and services will increase in response to labor migration.

While it is not possible to determine a country's comparative advantage at the industry or product level and thus to predict the viability of particular nontraditional exports, this paper goes on to suggest broad guidelines for identifying potentially competitive export sectors. In each case, an initial assessment based on these guidelines will need to be complemented with a detailed analysis of what obstacles exist to the development of these exports and how these obstacles might be removed. What exports are economically viable can ultimately only be established through entrepreneurial activity under hard budget constraints defined by conditions in national and global markets.

First, this paper considers international comparisons of the prices of important factors of production, especially manufacturing wages. In contrast to the predictions of popular trade-theoretical models, factor endowments are in reality too different across countries for factor prices to be equalized through trade in goods and services. Therefore, current factor prices are a useful indicator of a country's comparative advantage (this point is likely to be more obvious to noneconomists than to economists trained in traditional trade theory). The largest international factor price differences are for low-to-medium-skilled labor rather than financial capital or machinery. Among CAREC countries, the officially reported monthly wage ranges from around \$15 in resource-poor Tajikistan to nearly \$160 in oil-rich Kazakhstan. Among comparator countries, Sri Lanka has a monthly wage in the same low order of magnitude and China between \$100 and \$200. Therefore, the resource-rich CAREC countries

(Kazakhstan and Azerbaijan) will hardly be able to compete on price in labor-intensive products manufactured for the world market (i.e., in direct competition with China, in particular). For the remaining countries, the viability of particular investment projects involving labor-intensive exports would have to be assessed based on detailed cost structures, including buildings and transport.

Second, remoteness from the world market entails not only high monetary transport costs, but also long transport times that are an obstacle to export expansion in their own right. It has been estimated from US data that, for manufactured goods, each day saved in shipping is worth 0.8 percent *ad valorem* in terms of a higher sales price (and vice versa). With transport time between Tashkent and Paris, for example, at around 250 hours, compared to 25 hours between Paris and Warsaw, it is very difficult for Central Asian countries to expand exports by integrating into production networks operated by European firms (a strategy employed with much success in Central and Eastern Europe). Enhanced processing of local raw materials that are already exported (such as cotton) would often be a more viable option.

Third, the decline of trade between the republics of the former Soviet Union after 1990 occurred in a chaotic fashion and may partly have reflected the vagaries of the disintegration process rather than the long-term viability of particular trade flows under market conditions. Therefore, this paper examines historic production patterns in manufacturing with a view to identifying sectors that played a large role during the late 1980s but are no longer significant.

While some such industries might be gone for good, it is conceivable that others could be restructured and become economically viable. In general, the spatial allocation of industries across the former Soviet Union appears to have rationally followed local resource endowments; however, there was a tendency in many industries to create oversized enterprises with a narrow product range acting as near-monopoly suppliers for large parts of the Soviet Union.

Fourth, recent international trade patterns offer some clues to possible paths of export expansion. In most CAREC countries, exports are highly concentrated on a few commodities, mostly raw materials. At the same time, prominent export products vary somewhat across countries, so that export growth would not push Central Asian countries to compete in all the same products; many trade flows are also so small in relation to potential markets (Russia, Western Europe, etc.) that ruinous export competition is hardly a serious possibility. For several industrial products, Central Asian countries are significant exporters to CIS countries, but not to the rest of the world. While this observation suggests that transaction costs are lower in trade with CIS countries, for example, because traditional supply channels are still functional, it also provides a starting point for an investigation of how exports to the rest of the world might be expanded.

Finally, this paper uses several brief case studies to demonstrate how recent trade patterns can be analyzed, using the TradeMap and Product Map data tools developed by the International Trade Center (which are described in the Annex in more detail), to identify possible opportunities for export expansion.

1 Introduction¹

This paper develops strategies for identifying the comparative advantage of selected Central Asian economies in international trade against the background of recent trends in the geographical and product composition of Central Asian trade. It responds to a request from Central Asian governments, within the CAREC initiative, to assist them in identifying those sectors where they are likely to have particularly favorable prospects in the world economy. The purpose of this paper is to help governments prioritize policy reforms to reduce barriers to trade, whether related to trade policy, transport and transit, or to the host of behind the border issues commonly summarized under the notion of the business climate. Setting priorities is crucial because there are simply too many potential concerns for governments to be able to tackle them simultaneously.

This paper focuses on Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan, along with Azerbaijan and Mongolia.² These countries are among the countries most remote from major international markets in Europe, America, and Asia. In addition, their transport infrastructure was built with an orientation towards the other former republics of the Soviet Union and their economies were specialized within the division of labor of the Council for Mutual Economic Aid (CMEA), with a politically conditioned isolation from the world market.

Over the past 15 years, these countries have undergone a process of gradual as well as uneven integration into the world economy. The share of non-CIS countries in their foreign trade has increased somewhat, as politically induced isola-

tion from world markets under the central planning system has been overcome. However exports to non-CIS countries are dominated by raw materials and commodities, particularly energy products, cotton, wheat, and gold; manufactures remain significant only in trade with CIS countries.

Remarkably, CAREC countries, with the possible exception of Uzbekistan, have relatively open and liberal trade regimes, with several regional trade agreements (although these are not always consistently applied). Trade liberalization has not led to greater geographical and product diversification in international trade largely because of the remaining “behind-the-border” obstacles (including cumbersome regulations for business entry and exit, weak domestic financial markets, and pernicious governance problems) as well as shortcomings in transport and customs procedures.³

Against this background, this paper develops strategies for identifying the comparative advantage of CAREC economies with a view to helping governments to prioritize policy reforms. The paper begins by stressing the methodological difficulties of identifying comparative advantage in a dynamic world economy, with multiple products and factors, resource booms, and large inflows of remittances (Section 2). On this basis, we caution against attempting to protect or subsidize particular industries on the grounds of their presumed future comparative advantage. We also discuss several rules of thumb that will allow us, in subsequent sections, to suggest an illustrative list of potentially competitive sectors. On this basis, it should be possible to prioritize government actions to improve conditions for international trade, involving suitably nondistortive policy tools.

Sections 3 to 5 apply those rules of thumb to suggest where the comparative advantage of Central Asian countries may lie. Section 3 discusses the evolution of manufacturing wages and other key cost elements. Section 4 discusses historic production patterns in the former Central Asian Soviet republics. Section 5 reviews the

¹ The authors gratefully acknowledge very helpful suggestions and comments by Martin Raiser and participants at a seminar in Tashkent, December 2005. As usual, all errors are our own. An earlier version of this paper was commissioned by the World Bank at the request of the Trade Policy Coordination Committee under the Central Asian Regional Economic Cooperation (CAREC) initiative, which is supported by a group of international financial institutions (ADB, EBRD, IMF, UNDP, and World Bank). CAREC includes Azerbaijan, China, Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan.

² Neither China nor Afghanistan nor Russia are included in this paper because their development and trade challenges are rather different.

³ These obstacles, and the potential benefits of removing them, are being analyzed by the ADB as part of a larger study on trade, transport, and transit (the 3 Rs).

geographic reorientation of trade towards non-CIS countries, the commodity concentration of exports and imports, and current patterns of “revealed comparative advantage” (i.e., net exports at commodity level).

Finally, Section 6 gives some hints on how businesses and policymakers can use these insights to identify products and sectors whose potential export competitiveness merits further investigation. This section also demonstrates the use of the TradeMap and Product Map data tools developed by the International Trade Center Geneva (ITC), which are freely available in many developing countries and are described in more detail in the Annex. While economic theory does not permit us to determine comparative advantage down to the level of industries or even product groups, being aware of what general direction export expansion is likely to follow may enable policymakers to prioritize export promotion measures as well as policy reforms that remove obstacles to closer integration into regional and global markets.

2 Comparative Advantage with Many Goods and High Transport Costs

Comparative advantage and the benefits from specialization are popular notions in economic theory and are often useful, at a high level of abstraction, in understanding the mechanisms that drive international trade and the effects of trade policy. However, these notions provide no guidance for identifying particular sectors or industries that countries “should” specialize in. Section 2.1 explains in a nontechnical fashion the theoretical considerations behind this assertion.

At the same time, it is possible to give some guidance as to what types of industries can be realistically expected to develop under existing conditions. Section 2.2 discusses several indicators, none of which should be looked at in isolation, but which may jointly give a sense of the likely international competitiveness of various economic activities.

2.1 Theoretical Considerations

Introductory courses in international economics frequently teach comparative advantage as the basis for specialization in international trade. Assume, for example, that the home country’s trading partners are technologically superior in all industries (i.e. the home country finds itself at an absolute disadvantage in all sectors). Even then, it is normally possible to identify a good where the absolute technological disadvantage is less pronounced than elsewhere; this is the sector where the home country enjoys a comparative advantage. It is easy to see that the home country’s consumption possibilities (or real income) will grow if it specializes in the production and export of that good and imports other goods (where it finds itself at a comparative as well as an absolute disadvantage). In this sense, it is frequently asserted that every country must have a comparative advantage in some goods.

This assertion is not helpful for our present task because introductory models of international trade tend to neglect crucial features of reality that have a strong bearing on economic development in Central Asia. First, Central Asian countries are all landlocked and transport costs to the nearest sea port (still the best available approximation of an access point to the world market) are fairly high. One intuitive way of accounting for international transport costs in economic models is to assume that a certain share of imports and exports “evaporates” before reaching the respective importing country’s border. If transport costs are too high, international trade becomes unattractive relative to domestic production. Furthermore, if transport costs differ sharply across products, they may drive the commodity composition of a country’s international trade and push other determinants (factor endowments, technological level) into the background.

Second, elementary trade models typically assume that there are an equal number of goods and factors of production. However, in reality, by any meaningful definition, there are more goods than factors of production (e.g., human and physical capital, labor, natural resources). Thus, it is no longer possible to predict which particular goods a country will export under free trade.

It is possible to state that each country will be a net exporter, through its international trade in goods, of the services of those factors of production with which it is better endowed than the rest of the world. However, this statement does not translate directly into a “comparative advantage” in particular goods.

Third, elementary models normally do not include nontraded goods. This omission becomes particularly relevant when a country experiences a resource boom (such as Azerbaijan and Kazakhstan). Export prices of natural resources are higher than production costs by the amount of the resource rent. With a rapid increase in foreign exchange revenues from exports, the domestic currency tends to appreciate, rendering nonresource exports less competitive, and making imports cheaper. Factors of production will therefore shift from the production of nonresource exports and import-competing goods to the production of nontradables.⁴

Fourth, elementary models of international trade assume that factors of production (or at least labor) cannot move across borders. In reality, the large number of labor migrants from Central Asia, who work mainly in Russia, attest to the fact that, when goods are expensive to trade because of geography and policy-induced barriers, it may be easier for people to move in response to international wage differentials. In some ways, the economic effects of greater opportunities for migration are similar to a natural resource boom. Remittances from workers abroad are typically spent not only on imports, but also on domestically produced goods and services. Increasing demand for nontraded goods will lead to a real appreciation of the domestic currency, cheaper imports, and less competitive goods exports. Although reliable numbers are hard to come by, it is clear that large shares of the working populations of the smaller, resource-poor CAREC countries now work abroad, especially in Russia.

⁴ Developments along these lines are frequently described as the “Dutch disease.” As a result of natural gas discoveries in the Netherlands in the 1950s and a subsequent surge in gas exports, the Dutch currency appreciated in real terms and Dutch manufactured exports became less competitive.

This brief survey of relevant theory demonstrates that it is generally impossible to predict in which particular goods or industries has a comparative. Furthermore, with large natural resources or opportunities for migration, a country’s production structure may shift strongly towards nontradable goods and services.

2.2 Approximations

The previous section demonstrates that there is no analytically rigorous and empirically robust way to identify sectors in which a transition economy would enjoy a comparative advantage. This insight alone cautions against government policies that attempt to “pick winners”, i.e. single out industries for special protection or subsidization based on the hope that they will later become internationally competitive. Other arguments against such policies are based on the political economy of protection. In particular, it is highly likely that government policy would be hijacked by sectoral interests and protection would become entrenched, rather than being phased out over time. Most countries that have attempted such policies, especially in Latin America, have suffered from economic stagnation as a result.⁵

However, the purpose of this paper is not to describe how to pick winners (industries to be protected and subsidized), but to suggest industries that could become successful exporters or replace imports in Central Asia, given the right

⁵ It is also true that South Korea and Taiwan had fairly interventionist trade and industrial policies in the 1950s and 1960s. Their much greater success with these policies is related to several factors. First, these countries chose the industries to be supported on the basis of the (successful) Japanese model of industrial development. It may be noted that the international division of labor is much more diverse today, so that Central Asian countries would not be able to find an appropriate, straightforward industrial development model that they could follow step by step. Second, in South Korea and Taiwan, politicians remained firmly in charge of industrial policy. Without significant natural resources, the survival of the governments depended on economic success, which would have been hindered by uncompetitive, protected industries. In many Central Asian countries, the low quality of the business climate and wide prevalence of corruption suggest that government policy could quickly succumb to special interests.

policy environment. While these suggestions could be used to set priorities for policy reforms, these reforms would still be meaningful (though possibly of a lower priority) if our suggestions regarding comparative advantage turned out to be wrong. In this sense, the following considerations may be useful in identifying the kinds of industries that might have a comparative advantage in Central Asia in the medium to long run.

Factor Prices and Cost Structures

In traditional (Heckscher-Ohlin-Samuelson) trade theory, it is strictly a country's endowment with factors of production (not the prevailing factor prices) that determines the pattern of international trade. This is important in theory because countries with "not-too-different" relative factor endowments may have their factors equalized through trade (trade increases demand for relatively abundant factors, and hence their relative prices). Therefore, even if factor prices are equalized across countries by trade, the pattern of trade reflects relative factor endowments.

In practice, however, factor endowments across most countries are too different for trade to equalize factor prices (Clague 1991a, 1991b). The largest international factor price differences exist for low-skilled labor where productivity-adjusted wages (expressed in dollars) are far lower in labor-abundant developing countries than in capital-abundant industrial countries. By contrast, price differences for many other factors of production are less pronounced; for example special industry machinery is typically produced by a limited number of firms and exported world-wide for broadly the same ex-factory prices. Therefore, international cost differences for machinery mostly reflect differences in the costs of transportation and importation (including tariffs, licences, etc.). Medium and high-skilled labor also tends to be cheaper in developing countries (when salaries are expressed in dollars), but the difference is smaller than for low-skilled labor. Furthermore, developing countries may enjoy some cost advantage in buildings, whose construction tends to use low-skilled labor intensively.

In terms of pure manufacturing costs, therefore, low wages for low-skilled labor (productivity-

adjusted; measured in dollars) suggest potential competitiveness in labor-intensive manufactures (unsurprisingly). However, for differentiated products, manufacturing costs may only be a small portion of the cost of getting the right kind of product to the customer. For example, many labor-intensive manufactures (clothing, shoes, etc.) are highly fashion-dependent; to export successfully, a firm must have low-cost access to up-to-date designs, marketing channels in importing countries, transport within the exporting country, international transport, etc. Ultimately, such costs and the time it takes to get a product to market may be more important for export competitiveness than pure manufacturing costs.

On balance, therefore, low manufacturing wages indicate potential competitiveness in pure manufacturing costs for low-skill-intensive goods. However, whether potential competitiveness can be translated into expanding exports depends crucially on the local business climate as well as the cost of transactions with international suppliers and customers.

Historic Trade and Production Patterns

The central planning process in the former Soviet Union involved significant inefficiencies due to excessive firm size, inefficient interactions between economic agents, and politically imposed isolation from world markets. At the same time, the allocation of economic activities across space within the former Soviet Union was arguably broadly rational—with low-skilled-labor-rich republics specializing in labor-intensive commodities (e.g., Murrell 1990, Chapter 7; Lücke 1992). The dissolution of the former Soviet Union and the early transition process in which administrative trade between former Soviet republics was replaced by market-based trade between newly independent states often proceeded in a chaotic fashion. Industrial restructuring to adapt existing industrial plant to the requirements of the world market, which would typically have required significant investment outlays, was frequently hampered by an unfavorable investment climate.

It is instructive, therefore, to consider historic production structures, particularly in manufacturing, with a view to identifying industries that played a large role during the late 1980s but are

no longer significant. While some such industries might be gone for good, together with the inefficiencies of the central planning process (such as oversized monopoly producers for particular capital goods), others might conceivably be revived, given size adjustment, appropriate corporate governance, investment in technological updating, etc. If successful, newly competitive exports would partly reflect path dependency (existing plant and labor with sector-specific training), combined with a fundamentally rational plant location decision made under the central planning system.

The notion of path dependency may be taken one step further. Given the CIS countries' shared language of international communication (Russian), history, transition experiences, business culture, existing transport links, regional trade agreements: Which exports from CAREC countries are most likely to benefit from these linkages, which should help to reduce transaction costs within the CIS? Especially, given recent import growth in Russia, which Russian imports would CAREC countries be in a good position to supply?

Recent Trends in Trade

Obviously, a strong (or strongly improving) export performance in a commodity is also suggestive of comparative advantage. Less obviously, CIS countries tend to export a much wider range of goods (especially manufactures) to other CIS countries than to the rest of world. This is likely to reflect lower transaction costs in trade with CIS countries, traditional supply relationships, familiarity with market conditions, etc. At the same time, with appropriate investment in product design, marketing channels, etc., CIS markets could conceivably serve as a springboard to markets farther away.

Similarly, declining imports combined with growing domestic production could indicate the emergence of a comparative advantage in this sector—or at least, a reduction in a previous comparative disadvantage. However, any analysis of trends and patterns in foreign trade needs to take into account that observed trends and patterns may reflect existing distortions rather than future competitive potential.

3 Cost Structures

As discussed in Section 2.2, low wages for low-to-medium-skilled labor are a likely source of comparative advantage in manufacturing for Central Asian countries. At the same time, the actual competitiveness of labor-intensive industries based in Central Asian countries will also depend on other costs, especially transport costs to the “world market” (for practical purposes, to the nearest seaport or overland to Europe).

Table 1 compares the evolution of the monthly average wage (in dollars) in CAREC and other selected countries. Among CAREC countries, the officially reported monthly wage ranges from around \$15 in resource-poor Tajikistan to nearly \$160 in oil-rich Kazakhstan. Among the comparator countries listed, only Sri Lanka has a monthly wage in the same low order of magnitude. However, the data source does not list China, which is a large exporter of labor-intensive products. The best available information indicates that China's manufacturing workers earned on average around \$100 per month in 2002, with urban manufacturing employees closer to \$200 and manufacturing workers in Township and Village Enterprises (TVE), which are located mostly outside cities, closer to \$70 (Banister 2004).

Table 1 suggests that the resource-rich CAREC countries (Kazakhstan and Azerbaijan) will hardly be able to compete on price in labor-intensive products manufactured for the world market (i.e., in direct competition with China, in particular). Both the relatively high wages (measured in dollars) and high transport costs militate against such an approach. For the remaining countries, the viability of particular investment projects involving labor-intensive exports would have to be assessed based on detailed cost structures, including buildings and transport.

Raballand, Kunth, and Auty (2005) discuss the linkage between transport costs and the commodity and regional composition of Central Asian exports and imports. Two of their observations stand out. First, transport time between Western Europe (Paris) and locations to the East

Table 1:
CAREC and Comparator Countries, Average Monthly Wage, 1995–2003 (in dollars)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
CAREC									
Azerbaijan	n.a.	n.a.	n.a.	n.a.	45	50	56	65	79
Kazakhstan	n.a.	n.a.	n.a.	n.a.	90	97	118	133	156
Kyrgyz Republic	33	29	40	29	23	26	30	37	44
Mongolia	33	37	34	40	39	49	52	n.a.	n.a.
Tajikistan	n.a.	n.a.	n.a.	n.a.	9	9	10	12	15
Uzbekistan	36	54	54	57	57	44	39	39	41
Comparator Countries									
Brazil	n.a.	920	926	885	542	560	470	405	427
Czech Republic	405	470	446	478	469	453	501	613	754
Hong Kong SAR	768	819	861	864	859	872	918	906	886
Mexico	234	232	259	262	298	350	402	416	397
Sri Lanka	77	77	74	75	74	77	72	78	n.a.

Source: IMF Country Reports, most recent issues available; World Bank Office Tashkent, informal working documents; US Bureau of Labor Statistics, online data.

increases more or less proportionately with distance within Central Europe, but closer to exponentially after crossing the Polish-Belarusian border. This “virtual border” is related to various factors such as time-consuming border controls when trucks or rail cars enter the EU from Eastern Europe and lower running speeds of trucks and trains in CIS countries.

Long transport times are likely to be an obstacle to trade development quite apart from direct transport costs. Hummels (2001) estimates, based on US data, that for manufactured goods each day saved in shipping is worth 0.8 percent ad valorem in terms of a higher sales price. With transport time between Tashkent and Paris, say, at around 250 hours compared to 25 hours between Paris and Warsaw, this alone puts Central Asian firms at a substantial competitive disadvantage vis-à-vis Central European firms. As participation in production networks requires just-in-time deliveries of goods along the production chain, long (and presumably variable) transport times render it more difficult for Central Asian firms to initiate nontraditional exports by participating in production networks.⁶

⁶ The growing importance of production networks is also reflected in the finding by Carrere and Schiff (2004) that the “average distance of trade” has declined over the last several decades for many country groups, especially those engaging in intensive regional integration, such as EU member countries (which would also be an important market for nontraditional exports from Central Asia).

Second, direct transport costs between Western Europe and Central Asia are rather high, relative to the fob prices of potential export goods, because of long distances as well as certain idiosyncratic factors. For example, shippers have to include the replacement cost of containers in the price of shipments to Central Asia on the assumption that containers cannot be recovered. Furthermore, logistics infrastructures in Central Asia are inefficient in meeting the needs of small exporters who are not able to guarantee a regular flow of full containers to a particular location.⁷ Table A1 reproduces estimates of the cost of road, rail/sea, and air transport from Central Asia and the Caucasus to Belgium for large exporters (shipping full units, such as containers or planeloads) versus small exporters (shipping 1-ton parcels). For small exporters, road and air transport are approximately twice as expensive, and rail/sea transport up to 4 times as expensive, as for large exporters.

It is difficult to translate these transport costs into an ad valorem equivalent for exports to Western Europe. For a start, Raballand, Kunth, and Auty (2005) indicate that transport costs to Paris are 3 to 5 times as high from Tashkent as from Warsaw. Furthermore, they suggest that for metals exports from Central Asia to Western Europe as well as for cotton exports from

⁷ For example, anecdotal evidence suggests that freight consolidation services hardly exist at all in Tajikistan.

Kyrgyzstan to Russia, transport costs are below 10 percent of the fob price of exports. On the other hand, for several agricultural products (tobacco, apple juice concentrate), transport costs from Central Asia quickly approach prohibitive levels even for deliveries to Russia (around 16 percent for tobacco), thus limiting exports in spite of ample local supplies and processing capacities.

At least two alternative strategies for expanding nontraditional exports from Central Asia are conceivable, although both are hampered by elevated levels of transport times and costs. First, Central Asian firms could aim to integrate into global or European production chains. This would allow them to concentrate on specific components of the value added chain in which they enjoy a competitive advantage (due, for example, to low labor costs). Commercial partners (for example, West European firms) would typically provide some intermediate inputs, machinery, financing, and a wide range of technological and marketing know-how.

However, such a strategy would force Central Asian firms to compete directly with enterprises in the Western CIS and Western Balkans, where wages are also quite low but transport times and costs to Central and Western Europe are much lower than from Central Asia. Transport costs would be a particularly serious concern because export volumes would initially be small (driving up transport costs) and because integration into value added chains would require substantial imports of intermediate products (increasing the ratio of transport costs to local value added). In sum, integration into global or, more particularly, West European production chains presents many difficult challenges.

Second, Central Asia could aim to expand nontraditional exports by vertically integrated industries. This strategy would be most promising for the processing of raw materials that are already competitive (traditional) exports, such as local cotton processed into textile yarn, fabrics, or clothing. Central Asian firms would have to compete especially with producers in China that also benefit from low wages but enjoy well-functioning international transport links (container liner services across the world), enabling them to obtain inputs at world market prices and

export worldwide at reasonable transport costs. In fact, container freight rates from the coast of China to Rotterdam appear to be substantially lower than rail freight from Central Asia,⁸ while transport times could also be somewhat shorter depending on the precise routing.

While manufactured exports based on processing traditional export commodities may frequently be viable, there are not many such raw commodities (cotton is probably the most important one). Furthermore, the production and marketing of textiles and clothing requires substantial managerial and technological know-how, which cannot be created overnight. It is essential, therefore, that processing activities should not be based on artificial incentives, such as maximum prices imposed for local raw materials (whose domestic prices are already below the world market level because of high international transport costs). What is clear from this discussion is that long transport times and high transport costs are key obstacles to the expansion of nontraditional exports; any measures in the broad area of trade facilitation that effectively reduce these obstacles are likely to generate a high rate of return.

4 Historic Production Patterns

Appendix Table A2 summarizes the structure of industry according to the last industry census conducted in the Soviet Union in 1989. The data have been rearranged according to the 1987 version of the US Standard Industrial Classification. They cover civilian industry (including mining), but not the military industrial complex.

The structure of employment across branches of industry showed some similarities across the five countries (former Soviet republics) for which data are available. Food processing accounted for around 15 percent of civilian indus-

⁸ Reportedly, transport costs for typical consumer good exports from the Far East to Europe are 1 to 2 percent of end user prices (Volk 2002), compared to around 10 percent 20 years ago. Shipping a rail car from Central Asia to Europe cost very approximately \$4,000 in 2003, compared with around \$2,000 for a container from China to Rotterdam.

trial employment in all countries. Light industry (leather goods, textiles, clothing) was very prominent, accounting for between 23 percent and 35 per cent of industrial employment, except in Kazakhstan, where it accounted for only 12 percent. Capital goods industries combined (industrial machinery including computers, electrical and electronic goods, transport equipment, and precision instruments) accounted for 7 percent of industrial employment in Tajikistan, 20 percent in Kyrgyzstan, and 12 percent to 15 percent in the remaining countries. Mining played a particularly important role in Kazakhstan, where it accounted for 24 percent of industrial employment.

Overall, these observations are compatible with the notion that the structure of industry during the late Soviet years reflected a broadly rational allocation of economic activity across space within the Soviet Union (Murrell 1990; Lücke 1992). In particular, light industry was especially important in the less developed republics (Tajikistan, Uzbekistan), where the main raw material, cotton, is also produced. Large primary metals industries in Azerbaijan, Kazakhstan, and Tajikistan reflect the local availability of energy resources.

At the same time, the data document a tendency of Soviet-era planners to set up large, highly specialized plants that were near-monopoly suppliers within the former Soviet Union (Brown, Ickes, and Ryterman 1994; Lücke 1994). One potential example is the electrical industry in Kyrgyzstan (with 9.4 percent of industrial employment), half of which was represented by one plant (named after the 50th anniversary of the Soviet Union) that produced lightbulbs with a staff of more than 6,000 in 1989. After substantial restructuring and probably downsizing, it is conceivable that such plants could be viable under market economy conditions if their input requirements are broadly in line with local factor endowments and if they can maintain access to a large enough regional market (in this case probably including Kyrgyzstan, Uzbekistan, Tajikistan, and southeastern Kazakhstan).⁹

While path dependence may thus lead to the persistence of particular exports, this example also demonstrates the limitations of using past production and trade patterns as a guide to determining what exports may be viable in the future. First, reorientation to the West European market was crucial for the restructuring of enterprises and exports in Central and Eastern Europe (Funke and Ruhwedel 2005). However, no trading partner of comparable size in close geographic proximity is easily available to Central Asian countries. Second, there are now (and will be in the foreseeable future) various informal and formal trade barriers between the CIS countries that disrupt even the limited regional (Soviet) market that enterprises had relied on until 1990. Third, during the Soviet era, the poorer Central Asian republics benefited from direct subsidies from the Soviet federal budget as well as from cheap energy supplies (compared to world market prices). As a result, local demand was higher than at present, leading to higher local output along with higher imports from the rest of the Soviet Union.

Finally, enterprise restructuring and export expansion in Central Eastern Europe was sustained by a growing network of widely different inter-firm links with importing countries, such as foreign direct investment, outward processing arrangements, provision of designs, marketing of output, etc. (Smarzynska Javorcik 2004; Lücke and Szalavetz 1999). Such links enabled firms to focus initially on manufacturing operations where their comparative advantage lay, and subsequently to gradually move into higher-value-added activities as technological and managerial competence were enhanced. At the same time, such links depend crucially on a good transport and communications infrastructure between the importing and the exporting countries. Although inter-firm links are widely observed in developing and transition economies, firms in Central Asian countries may at present find it difficult to establish such links with partners outside the region because of their poor communications and transport infrastructure.

⁹ Kandogan (2003 and 2004) summarize the interplay of changes in quantity, quality, and variety in the restructuring of former socialist enterprises in Central Eastern Europe and

in the CIS. Crucially, enterprise restructuring in Central Eastern Europe was accompanied by reorienting exports towards adjacent Western European markets.

5 Emerging Patterns of Trade

5.1 Direction of Trade

Over the last 15 years, the international trade flows of the countries of the former Soviet Union have undergone significant restructuring. As the growing share of non-CIS countries in the exports and imports of most CIS countries demonstrates, the isolation from world markets that prevailed during the Soviet period is gradually being overcome (Elborgh-Woytek 2003).

Graph 1 paints a nuanced picture for changes in the direction of trade for the CAREC countries between the mid-1990s and early 2000s, based on IMF Direction of Trade Statistics. In Kazakhstan and Azerbaijan, trade with CIS countries has broadly held up well (in dollar terms), while trade with non-CIS countries grew sharply, fueled by growing oil exports. Uzbekistan's foreign trade, both with CIS and non-CIS countries, suffered a substantial decline (the 2004–2005 recovery, following a reform of the exchange rate regime, is not yet reflected in the data). In Tajikistan, Kyrgyzstan, and Mongolia, total exports and imports remained broadly constant; in exports the share of CIS countries decreased substantially, whereas in imports it increased (Tajikistan) or declined only slightly.

One possible explanation for the high share of imports from CIS countries is that consignments are typically smaller for imports than for exports (see also the discussion of the commodity concentration of exports and imports in the following section). Therefore, the cost of diversifying imports may be higher, relative to the value of imports, than for exports, which are more concentrated across commodities.

5.2 Commodity Concentration

CAREC country exports are highly concentrated (Appendix Table A3) and dominated by raw materials (including primary metals). According to the ITC TradeMap database, the top 3 products at the 4-digit level of the Harmonized System accounted for between 48 percent (Uzbekistan) and 87 percent (Azerbaijan) of total

merchandise exports in 2003. The only case of a manufactured product in this “top 3” group is cotton fabrics in Tajikistan (its third-ranked export valued at \$12 million or 2.2 percent of total merchandise exports in 2003).

It is noteworthy that Uzbekistan's exports are more diversified than in the remaining countries, not least due to motor vehicle exports of \$93 million (5.3 percent of total exports) in 2003. Furthermore, across CAREC countries, prominent export products are somewhat diverse—so that any future expansion of nontraditional exports need not force Central Asian countries into competing all in the same products. In particular, agricultural exports (fresh and processed) tend to differ across countries; many trade flows, especially for the smaller CAREC countries, are also so small in relation to potential markets (Russia, Western Europe, etc.) that ruinous export competition is hardly a serious possibility. While most CAREC countries are large exporters of raw cotton, their exports of textile yarns, fabrics, and clothing are still quite small; vertical integration would open opportunities for specializing in various product niches of the (fairly large) textile and clothing complex, without placing CAREC countries in excessive competition with one another.

5.3 Normalized Net Exports (“Revealed Comparative Advantage”)

In the empirical trade literature, many indicators have been developed that seek to characterize an economy's revealed comparative advantage as expressed through its trade pattern. In interpreting such indicators, it needs to be borne in mind that exports can be due to “genuine” comparative advantage as well as policy-induced distortions—the fact that a good is exported successfully does not mean it is being produced economically.

Appendix Table A4 presents a comprehensive description of the CAREC countries' revealed competitive advantage based on net exports (exports minus imports) for each major (1-digit) commodity group according to the SITC classification and a few important subgroups. Since

trade flows for individual commodity groups are vastly different in size, net exports are normalized by dividing by the sum of exports and imports for the same commodity group (and multiplying by 100). When there are only exports and no imports, suggesting a strong comparative advantage for the commodity group, the indicator is +100; with only imports and no exports, the indicator is -100. Normalized net exports for all merchandise trade taken together (equal to 0 if total merchandise trade is balanced) may be looked upon as the dividing line between revealed comparative advantage and disadvantage.

Overall, normalized net exports for all trading partners are mostly negative for broadly defined categories of manufactures (SITC 5, 6, 7, and 8) and positive for nonenergy raw materials (SITC 2), food products (SITC 0 and 1), and energy materials (SITC 3) in Azerbaijan, Kazakhstan, and Uzbekistan. This picture demonstrates that Central Asian exports are heavily resource based. Some of the few positive indices of net exports among broad categories of manufactures, such as for SITC 6 (basic manufactures) in Kazakhstan and Tajikistan, reflect metallurgical products (particularly steel and aluminium) that are often excluded from narrower definitions of manufactures. With the exception of Mongolia, net exports of miscellaneous manufactures (SITC 8) are rather low; this observation is significant because this category includes the clothing industry (SITC 84), which was historically the starting point for manufactured export growth in many developing countries,

At the same time, for some food products and manufactures, Table A4 shows pronounced differences between net exports to CIS versus non-CIS countries. Azerbaijan, for example, is a net exporter of beverages and tobacco (SITC 1) and special industrial machinery (SITC 72) to the CIS countries, but a net importer from the rest of the world. Net exports of oils and fats (SITC 4) and miscellaneous manufactures (SITC 8) to the CIS are also higher than to the rest of the world. Similar examples can be found for other CAREC countries, such as food and live animals (SITC 0) in Kazakhstan, electrical products (SITC 77) in Kyrgyzstan, food and beverages (SITC 0 and 1)

in Tajikistan, and machines and transport equipment (SITC 7) in Uzbekistan.

For agricultural products, a regional orientation of exports is to be expected. For industrial products, a relatively high level of normalized net exports to CIS countries, compared to the rest of the world, suggests that traditional supply channels may still be functional. For example, Kyrgyzstan's large exports of electrical goods probably reflect the strong historical role of this industry in the country (see Section 4). However, in sharp contrast to industrial restructuring in Central Eastern Europe, nontraditional export markets have not been developed on a wide scale. It may be useful, on a case-by-case basis, to identify the main obstacles to the commercial reorientation of enterprises; while the business climate, transport, and communication costs are obvious candidates, a detailed investigation may be useful in pinpointing bottlenecks and devising operational strategies for improvements.

6 Conclusions: Identifying Promising Export Markets and Policy Priorities

Against the background of Section 5 as well as the foregoing discussion, the TradeMap and Product Map data tools developed by the International Trade Center (ITC) can be used to identify sectors that could become competitive exporters. These data tools have been developed to help structure large amounts of trade data and related information. They are freely available via the Internet in many developing countries, including Central Asia (for detailed descriptions and conditions of access see their websites, www.trademap.org and www.p-maps.org; the Annex includes comments on the coverage of Central Asian countries). Since there are very many potentially competitive export products, this section presents only an introductory discussion of a few salient examples. The best way for readers to become familiar with the TradeMap and Product Map tools would be for them to explore the databases themselves to assess trade patterns for particular sectors.

Table 2:

Exports of Raw Cotton and Cotton Products, Tajikistan and Uzbekistan, 2004 (thousands of dollars)

HS rev.1		Tajikistan	Uzbekistan
5201	Cotton, not carded or combed	165,520	752,593
5202	Cotton waste (including yarn waste and garnetted stock)	891	10,998
5203	Cotton, carded or combed	151	2,220
5204	Cotton sewing thread		43
5205	Cotton yarn (not sewing thread) 85% or more cotton, not retail	10,251	139,800
5206	Cotton yarn (not sewing thread) less than 85% cotton, not retail	41	153
5207	Cotton yarn (not sewing thread) put up for retail sale		188
5208	Woven cotton fabrics, 85% or more cotton, weight less than 200 g/m ²	5,706	43,010
5209	Woven cotton fabrics, 85% or more cotton, weight over 200 g/m ²	9,521	18,018
5210	Woven cotton fabrics, < 85% cotton, mxd w/ manm fib, weight <200g/m ²	23	
5212	Woven fabrics of cotton, nes	101	149
52	TOTAL	192,205	967,172

Source: ITC TradeMap, database; data are based on mirror statistics (i.e., importers', rather than exporters', data).

The *textiles and clothing* sector is of special relevance because it played an important role in Central Asia during the Soviet period. It is also a key export sector for many developing countries. The WTO Agreement on Textiles and Clothing has recently expired and quantitative restrictions on textile and clothing trade have been largely abolished. As a result, China is now competing with other developing countries on an equal footing, having previously been restricted by quotas. However, textile and clothing products are very diverse, with physical-capital-intensive processes (spinning and weaving) as well as labor-intensive ones (clothing assembly).

Along the value-added chain starting with raw cotton, Central Asian exports are heavily concentrated in the very first stage (HS5201: cotton, not carded or combed); Table 2 demonstrates this observation for Tajikistan and Uzbekistan. It would be useful (but beyond the scope of this paper) to explore in detail what is holding back downstream processing of cotton and related exports. There are significant (but still smallish) exports of cotton yarn (HS5205), and conditions for export expansion in terms of historical production experience, factor endowments, etc., are likely to be favorable. One issue to consider is the quality and price of transport links to fast-growing import markets for cotton yarns and fabrics (most prominently, Hong Kong and China, which, incidentally, registered no HS5205 imports from Central Asia at all; Table 3).

Table 3:

Imports of HS5205, Cotton Yarn (Not Sewing Thread), 85% or More Cotton, Not Retail, 2004 (thousands of dollars)

	Import value	Growth rate, 2000–2004 (annual, percent)
World estimation	8,680,797	6
Hong Kong (SARC)	1,844,078	9
China	1,451,248	13
South Korea	499,012	-1
Italy	461,468	2
United States	407,597	2
Japan	317,302	-1
Portugal	85,364	8
Turkey	249,014	31
Germany	238,423	-2
Honduras	234,531	67
France	162,599	-2
Belgium	136,993	-2
Bangladesh	125,294	0
Taiwan, Province of (China)	123,873	3
Mauritius	112,210	-2
Spain	107,871	0
Austria	99,765	6
Canada	87,676	-17
Malaysia	87,644	5
Czech Republic	75,293	8
United Kingdom	74,411	-15
Colombia	73,138	16
Australia	71,292	9
Sri Lanka	70,387	7
Israel	68,009	-7
Poland	66,999	22
Greece	64,769	9
Morocco	50,933	0
Mexico	46,771	-21
Thailand	45,794	-4

Source: ITC TradeMap database.

Another potential export sector in Central Asia is *cut flowers and ornamental plants*. Climatic conditions are favorable, agricultural wages are low, and Central Asian capitals have relatively

frequent flights (at least, passenger flights) to Russia, a fast-growing import market. Exports from developing countries (including Kenya, Colombia, and Ecuador) have increased substantially in recent years to rival those of the Netherlands, still the world's largest producer and exporter of cut flowers in particular.

Since the Harmonized System of commodity classification does not always place technologically similar products in adjacent product codes, it is useful to obtain a list of the products of the cut flowers and ornamental plants sector from the ITC Product Map data tool (Table 4). It turns out that, while most products are in HS Chapter 06, flower seeds are in Chapter 12.

Within Central Asia, the main product (HS 0603: cut flowers) is only exported by Uzbekistan and Azerbaijan in very small amounts to Russia and Ukraine, with total exports at just above \$1 million. This is surprising because world imports amounted to \$5.5 billion in 2004 and Russian imports to \$117 million. Here it is useful to focus on the Russian market, which would be a natural springboard to the rest of the world for Central Asian exporters of cut flowers because of existing or potential flight links, cultural affinity, etc. (Table 5). Russian imports overall grew very rapidly at 40 percent per year between 2000 and 2004. The Netherlands was still the largest supplier in 2004; however, as its exports to Russia grew only by 23 percent annually, it lost market share to Ecuador, Colombia, and Israel, whose exports to Russia each more than doubled year after year. In spite of strong overall import growth, Russian imports from Uzbekistan and Azerbaijan declined during 2000–2004.

It would be worth exploring in detail why Central Asian exports of cut flowers were so small and why exporters failed to take advantage of clear opportunities such as the growth of the Russian market. Notably, exporting fresh flowers requires a well-functioning logistics chain across borders (regular cargo flights seem to be less widespread in Central Asia than passenger flights), irrigation in many cases, well-functioning communication with potential customers, good knowledge of relevant markets, etc.—all of which may be weak points in many Central Asian countries.

Table 4:
ITC Product Map, Products in “Cut Flowers and Ornamental Plants”

HS Code	Description
60110	bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant (excl those used for human consumption and chicory plants and roots)
60120	bulbs, tubers, tuberous roots, corms, crowns and rhizomes, in growth or in flower; chicory plants and roots (excl those used for human consumption and chicory roots of the variety <i>cichorium intybus sativum</i>)
60210	unrooted cuttings and slips
60220	edible fruit or nut trees, shrubs and bushes, whether or not grafted
60230	rhododendrons and azaleas, whether or not grafted
60240	roses, whether or not grafted
60299	Plants, live (including their roots), nes
60310	fresh cut flowers and flower buds, for bouquets or for ornamental purposes
60390	dried, dyed, bleached, impregnated or otherwise prepared cut flowers and buds, for bouquets or for ornamental purposes
60410	mosses and lichens for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated, or otherwise prepared
60491	foliage, branches and other parts of plants, without flowers or flower buds, grasses, fresh, for bouquets or ornamental purposes
60499	foliage, branches and other parts of plants, without flowers or flower buds, grasses, for bouquets or ornamental purposes, dried, dyed, bleached, impregnated, or otherwise prepared
120930	seeds of herbaceous plants cultivated mainly for flowers, for sowing

Source: ITC Product Map database.

Table 5:
Russia, Imports of HS 060310, Cut Flowers and Flower Buds ..., Fresh, 2004

	Import value (thousands of dollars)	Growth rate 2000–2004 (annual, percent)
World	117,238	40
Netherlands	46,882	27
Ecuador	28,036	110
Colombia	16,351	127
Israel	7,035	168
Belgium	4,350	112
Germany	3,762	305
Turkey	2,294	200
France	2,227	0
Poland	1,555	110
Denmark	1,296	0
Italy	1,294	0
Uzbekistan	621	-47
China	359	166
Azerbaijan	312	-28
Lithuania	274	192
Spain	249	54
Thailand	149	0
Ukraine	19	-15
Armenia	16	-40
Costa Rica	11	0
South Africa	10	0

Source: ITC TradeMap database.

Table 6:
Russia, Imports from Central Asia and World, by HS Chapter, 2004

HS Chapter	Central Asia		World	
	Value (millions of dollars)	Annual growth rate, 2000–2004 (percent)	Value (millions of dollars)	Annual growth rate, 2000–2004 (percent)
All products	4,088	3	75,030	14
26 Ores, slag and ash	987	24	1,080	17
27 Mineral fuels, oils, distillation products, etc	858	-6	1,800	6
28 Inorganic chemicals, precious metal compound, isotopes	355	6	1,350	-2
72 Iron and steel	332	31	1,853	22
52 Cotton	262	-12	378	-7
10 Cereals	241	-4	456	-4
08 Edible fruit, nuts, peel of citrus fruit, melons	224	6	1,565	26
87 Vehicles other than railway, tramway	190	22	7,486	60
07 Edible vegetables and certain roots and tubers	149	23	466	17
84 Nuclear reactors, boilers, machinery, etc	89	12	11,091	26
17 Sugars and sugar confectionery	51	119	727	-7
85 Electrical, electronic equipment	38	10	6,738	34
25 Salt, sulphur, earth, stone, plaster, lime and cement	26	13	259	16
79 Zinc and articles thereof	25	40	29	30
20 Vegetable, fruit, nut, etc, food preparations	21	-8	598	26
62 Articles of apparel, accessories, not knit or crochet	21	10	370	37
24 Tobacco and manufactured tobacco substitutes	20	-26	757	1
39 Plastics and articles thereof	14	51	2,332	31
78 Lead and articles thereof	14	-12	20	-7
70 Glass and glassware	14	242	467	28
03 Fish, crustaceans, molluscs, aquatic invertebrates nes	14	17	643	48
11 Milling products, malt, starches, inulin, wheat gluten	13	-13	212	7
56 Wadding, felt, nonwovens, yarns, twine, cordage, etc	13	-19	159	15
12 Oil seed, oleagious fruits, grain, seed, fruit, etc, nes	11	-6	169	17
74 Copper and articles thereof	9	-23	111	9
90 Optical, photo, technical, medical, etc, apparatus	8	18	2,065	17
73 Articles of iron or steel	7	5	1,985	20
51 Wool, animal hair, horsehair yarn, and fabric thereof	7	-9	23	-14
40 Rubber and articles thereof	7	94	689	17
63 Other made textile articles, sets, worn clothing, etc	6	-23	229	26
81 Other base metals, cermet, articles thereof	6	3	59	22
48 Paper and paperboard, articles of pulp, paper and board	6	51	1,772	24
19 Cereal, flour, starch, milk preparations and products	5	38	214	24
89 Ships, boats, and other floating structures	4	21	155	-8
23 Residues, wastes of food industry, animal fodder	4	8	371	26
86 Railway, tramway locomotives, rolling stock, equipment	4	76	751	73
61 Articles of apparel, accessories, knit or crochet	4	-2	263	50
14 Vegetable plaiting materials, vegetable products nes	3	-10	4	-6
29 Organic chemicals	2	-5	577	13
88 Aircraft, spacecraft, and parts thereof	2	224	229	88
96 Miscellaneous manufactured articles	2	-1	140	4
04 Dairy products, eggs, honey, edible animal product nes	2	47	758	31
68 Stone, plaster, cement, asbestos, mica, etc, articles	2	-12	370	25
76 Aluminium and articles thereof	1	-74	449	5
22 Beverages, spirits, and vinegar	1	-23	1,132	29
38 Miscellaneous chemical products	1	-1	748	13
82 Tools, implements, cutlery, etc, of base metal	1	-16	342	26
06 Live trees, plants, bulbs, roots, cut flowers, etc	1	-44	186	40
47 Pulp of wood, fibrous cellulosic material, waste, etc	1	158	16	-14
09 Coffee, tea, mate, and spices	1	6	361	8
95 Toys, games, sports requisites	1	41	463	41
59 Impregnated, coated or laminated textile fabric	1	-18	105	7
60 Knitted or crocheted fabric	1	-33	105	5
32 Tanning, dyeing extracts, tannins, derivs, pigments, etc	1	-33	747	21

Source: ITC TradeMap database.

Finally, as Russia is the largest and most accessible regional market for the CAREC countries (and could be used as a springboard to the rest of Europe), it is useful to ask how CAREC countries might benefit from the recent economic

recovery there. Table 6 lists Russia's 2004 imports from Central Asian republics for 2-digit HS chapters by descending import value, together with total Russian imports. While Central Asia has high market shares in Russian imports of

many resource-based products, its role in Russian manufactured imports is typically much smaller. This is often the case even when Central Asian exports are significant and total Russian imports are growing rapidly, suggesting a significant potential for export expansion. These observations also suggest that regional integration with Russia, such as in the framework of the Eurasian Economic Community, in which Tajikistan, Kyrgyzstan, and Kazakhstan are members alongside with Russia, could benefit the growth of nontraditional exports in Central Asia if it leads to lower international transaction costs, for example, through regional cooperation in border procedures, transport, and communication.

These examples demonstrate how recent trade patterns can be analyzed to identify products that might become viable exports, and how this information can subsequently be used to identify obstacles to export expansion and necessary policy reforms to remove them. Economic theory does not permit us to determine comparative advantage down to particular industries or even product groups. What exports are ultimately viable can only be established through entrepreneurial activity under hard budget constraints defined by national and global markets. However, being aware of the likely direction of viable export expansion allows policymakers to prioritize export promotion activities as well as policy reforms aimed at better integrating Central Asian economies with regional and global markets.

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Annex: The ITC TradeMap and Product Map Databases

The analysis of the commodity composition of CAREC country trade in this paper draws on two analytical tools developed by the International Trade Center (ITC). TradeMap (www.trademap.org) breaks down international trade by commodity and country at the 6-digit level of the Harmonized System of commodity classification. Moreover, this data is integrated with a full list of import tariffs and nontariff barriers by product in all target markets. The database allows researchers to analyze the dynamics of market demand for a target product and in a target market by looking at changes over the past 5 years, and to relate the dynamics to market access conditions for each country relative to its major competitors (ITC 2004). Product Map (www.p-maps.org) provides for detailed sectoral market analysis for more broadly defined sectors (such as “footwear” or “textiles and clothing”).

The ITC TradeMap and Product Map tools rely on the COMTRADE international trade database maintained by the United Nations Statistical Office. Regarding the countries included in the present analysis, it should be noted that COMTRADE data for Tajikistan and Uzbekistan

are not based on reporting by the countries themselves, but on mirror statistics from partner countries. A comparison with data from the IMF’s Direction of Trade Statistics reveals that the ITC data for Uzbekistan are reasonably complete, with ITC exports and imports falling short of the likely correct total (IMF DTS data) by 7 percent and 13 percent, respectively, for 2003 (Table 7). More substantial discrepancies are revealed for Tajikistan; in particular, Tajik aluminium exports to the Netherlands do not show up in the ITC TradeMap (possibly due to classification issues in Dutch international trade statistics). Therefore, the COMTRADE-based analyses for Tajikistan may include a significant margin of error.

The COMTRADE database is also available from ITC under the PC-TAS (trade analysis system) label, classified according to SITC rather than HS. Since SITC categories are based on the level of processing, they are often analytically more useful than HS categories, which are mainly based on the underlying raw material. The PC-TAS database was used in the compilation of Table A4 on patterns of comparative advantages.

Table 7:
CAREC Countries, Comparison of International Trade Data from IMF and ITC, 2003

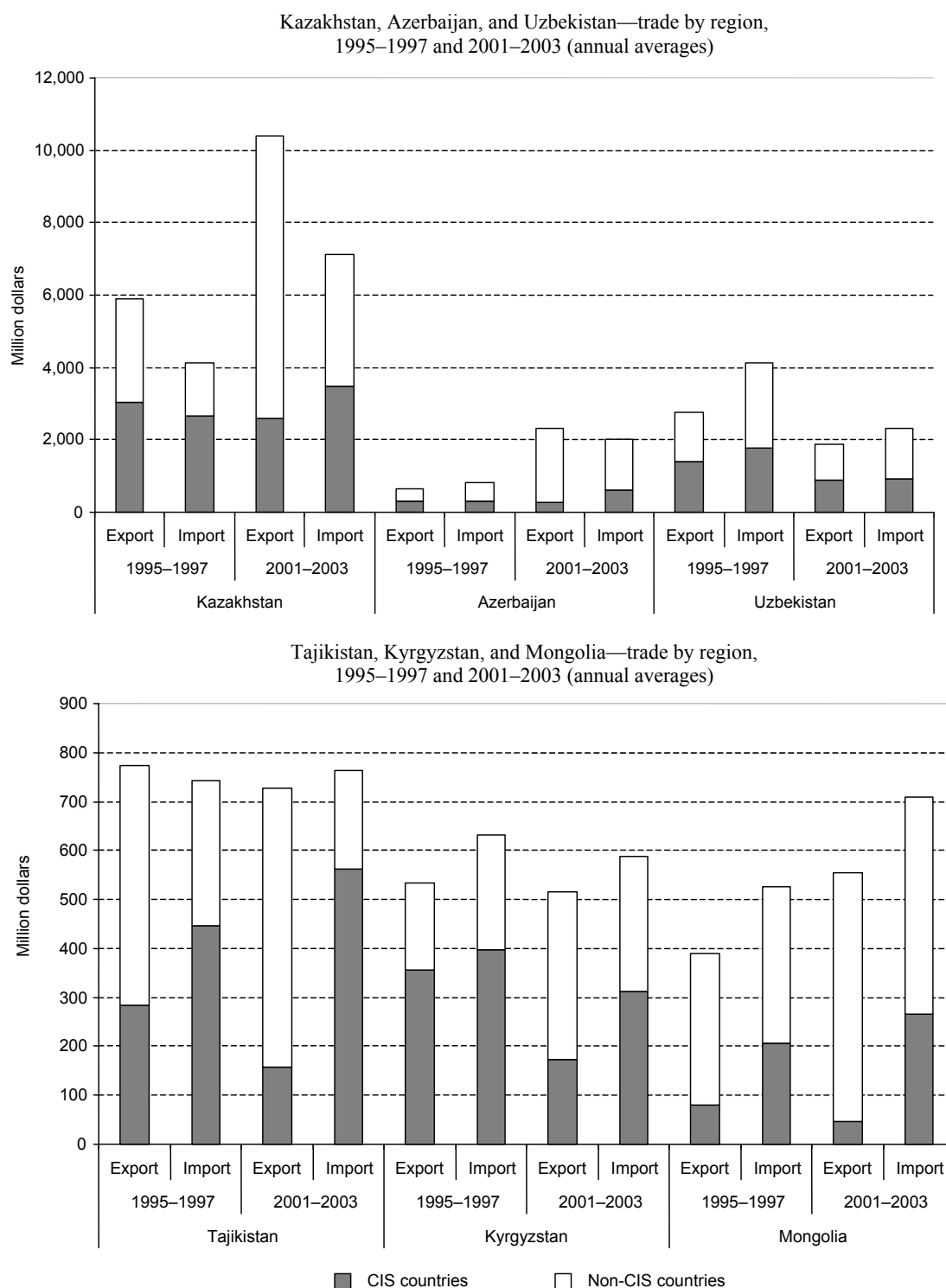
	Azerbaijan	Kazakhstan	Uzbekistan	Tajikistan ^a	Kyrgyzstan	Mongolia
Exports IMF-DTS (millions of dollars)	2,625	12,921	1,894	791	582	616
Exports ITC (millions of dollars)	2,592	12,926	1,760	552	582	616
Divergence (in percent of IMF-DTS)	1.3	0.0	7.1	30.2	0.0	0.0
Imports IMF-DTS (millions of dollars)	2,723	8,510	2,484	881	717	801
Imports ITC (millions of dollars)	2,626	8,409	2,159	582	717	801
Divergence (in percent of IMF-DTS)	3.5	1.2	13.1	33.9	0.0	0.0

^aITC data does not include Tajikistan’s aluminium exports to the Netherlands valued at appr. \$200 million.

Source: IMF Direction of Trade Statistics and Country Reports; ITC TradeMap database.

Appendix: Figures and Tables

Figure 1:
CAREC Countries, Direction of Trade, 1995–1997 and 2001–2003



Source: IMF Direction of Trade Statistics, various issues; own calculations.

Table A1:

Indicative Transport Costs for Large versus Small Exporters, to Antwerp/Rotterdam/Bruges International Airport, Spring 2004 (dollars/ton, including unofficial payments)

	Freight for large exporters using full units (40' container, full planeload)			Freight for small exporters using parcels of 1 ton			Typical transit time in days by		
	Road ^a	Rail & sea ^b	Air ^c	Road ^a	Rail & sea ^b	Air ^c	Road	Rail & sea	Air
Dushanbe (TAJ)	230	83	1,300	500	400	2,500	15	28	7
Khujand (TAJ)	220	75	1,300	480	400	2,200	14	26	7
Tashkent (UZB)	175	70	1,250	300	300	2,000	12	23	4
Almaty (KAZ)	180	72	1,150	300	300	2,000	13	21	4
Ashgabat (TKM)	200	77	1,200	400	350	2,300	14	28	6
Baku (AZB)	163	68	1,070	280	300	2,000	13	24	5
Tbilisi (GEO)	150	63	1,070	300	280	2,000	12	24	5
Yerevan (ARM)	170	70	1,040	420	350	2,400	14	30	7
Chisinau (MOL)	100	50	1,000	280	200	2,400	7	14	4

^aA 40-ton truck with CIS registry and driver, fully loaded (typically the payload is less than 40 tons). — ^bCentral Asian countries: rail transport to a Baltic port, and from there by feeder ship to Antwerp; South Caucasus countries: by ship to Odessa in Ukraine, after which by rail; Moldova: rail all the way. — ^cRussian TU-154 cargo aircraft with a payload of 15 tons; these aircraft can fly to only a very limited number of EU airports until Spring 2005. Replacing these will increase air freight by a factor of 1.5 or more.

Source: World Bank (2004).

Table A2:

CAREC Countries, Sectoral Structure of Industrial Employment, 1989

SIC section / Division		Azerbaijan		Kazakhstan		Kyrgyzstan		Tajikistan		Uzbekistan	
		Employment share (percent)	Average annual wage (rubles)	Employment share (percent)	Average annual wage (rubles)	Employment share (percent)	Average annual wage (rubles)	Employment share (percent)	Average annual wage (rubles)	Employment share (percent)	Average annual wage (rubles)
Section A	Agriculture, forestry, and fishing ^a	1.8	1,949	1.2	2,891	0.8	2,518	3.5	2,737	4.7	2,864
Section B	Mining	7.4	3,345	23.8	4,289	8.1	3,764	5.8	3,301	4.8	3,566
Section C	Construction ^a	1.2	2,879	0.9	3,384	0.4	3,593	0.4	2,935	0.8	2,903
Section D	Manufacturing	83.7	2,556	63.4	3,059	83.0	2,789	83.8	2,576	82.9	2,531
20	Food and kindred products	13.8	1,965	11.9	2,687	14.4	2,362	14.8	2,131	12.4	2,262
21	Tobacco products	0.5	2,100	0.1	2,929	0.8	2,768	0.4	2,854	0.1	1,901
22	Textile mill products	12.9	2,158	5.9	2,864	16.0	2,915	25.0	2,411	19.9	2,286
23	Apparel etc	7.5	1,805	6.0	2,458	10.1	2,188	9.7	1,992	9.2	2,108
24	Lumber and wood products, except furniture	1.7	2,299	0.8	3,238	0.8	2,868	1.0	2,523	0.8	2,769
25	Furniture and fixtures	1.0	2,956	1.2	3,211	1.9	2,937	1.4	2,499	1.7	2,970
26	Paper and allied products	0.3	2,653	0.2	2,981	0.2	2,437	0.1	2,654	0.3	2,471
27	Printing, publishing, and allied industries	1.0	2,231	0.9	2,600	1.2	2,456	1.5	2,315	1.2	2,426
28	Chemicals and allied products	6.6	2,711	4.9	3,376	0.4	2,653	3.4	3,205	6.3	2,931
29	Petroleum refining and related industries	1.5	3,082	0.9	3,277	0.2	2,845	0.1	2,573	1.0	3,057
30	Rubber and miscellaneous plastics products	2.6	2,779	1.8	3,509	0.6	3,197	0.0	na	1.0	3,079
31	Leather and leather products	2.5	2,490	2.2	2,741	3.9	2,618	4.5	2,282	3.9	2,373
32	Stone, clay, glass, and concrete products	7.2	2,721	7.0	3,110	10.1	3,102	7.1	2,793	8.8	2,776
33	Primary metal industries	5.6	3,698	4.7	3,976	0.9	2,820	5.3	4,993	2.8	3,036
34	Fabricated metal products	2.5	3,354	2.4	3,395	0.8	3,381	2.5	2,826	1.4	2,994
35	Industrial and commercial machinery	8.5	3,186	8.9	3,268	7.8	3,328	3.1	2,886	7.6	2,907
36	Electronic and other electrical equipment	2.6	2,835	1.2	3,149	9.4	2,939	2.3	2,639	3.2	2,800
37	Transportation equipment	2.3	2,885	1.1	3,050	2.7	3,230	0.9	2,353	0.6	2,984
38	Measuring, analyzing, and controlling instruments, etc	2.2	2,680	0.8	3,223	0.3	3,354	0.2	3,252	0.3	3,041
39	Miscellaneous manufacturing industries	0.9	3,163	0.6	2,990	0.7	2,979	0.7	2,750	0.4	2,698
Sections E, F, G, I	Other sectors ^a	5.8	2,218	10.7	3,118	7.7	2,156	6.5	2,301	6.8	2,481
TOTAL (number of employed; average wage)		320	2,617	997	3,375	181	2,892	146	2,648	679	2,629

^a"Industrial" employment in these sectors refers to firms included in the Soviet industry census but allocated to nonindustrial sectors under the USITC.

Source: USSR Census of Industry 1989, informal working documents (hence, no data for Mongolia are available); own calculations.

Table A3a:
Azerbaijan, Commodity Concentration of Exports and Imports, 2003

HS product code	Total trade flow (millions of dollars)	Cumulative total (percent)	Share of CIS countries (percent)
Exports			
2709 Crude petroleum oils	1,816	70.2	0.8
2710 Petroleum oils, not crude	398	85.5	28.9
5201 Cotton, not carded or combed	33	86.8	41.5
2818 Aluminium oxide (incl artificial corundum); aluminium hydroxide	33	88.1	99.6
7601 Unwrought aluminum	25	89.1	0.3
3901 Polymers of ethylene, in primary forms	21	89.9	21.2
802 Nuts nes	21	90.7	30.3
1516 Animal or veg fats, oils and fractions, hydrogenated	21	91.5	100.0
7207 Semifinished products of iron or nonalloy steel	13	92.0	0.3
810 Fruits nes, fresh	12	92.5	99.6
2716 Electrical energy	11	92.9	47.2
1512 Safflower, sunflower/cottonseed oil and fractions	9	93.3	99.5
808 Apples, pears, and quinces, fresh	8	93.6	100.0
7214 Bars and rods of iron/nonalloy steel nes, hot-rolled etc	7	93.9	21.7
2009 Fruit and vegetable juices, unfermented	7	94.2	92.8
3911 Petroleum resins, polyterpenes, polysulphides, etc, nes, in primary forms	7	94.4	0.0
2905 Acyclic alcohols and their derivatives	7	94.7	17.2
1517 Margarine	7	95.0	99.6
8431 Machinery parts (hd 84.25 to 84.30)	7	95.2	52.0
8411 Turbojets, turbopropellers and other gas turbines	6	95.5	14.1
6305 Sacks and bags of a kind used for the packing of goods	5	95.6	79.6
8524 Recorded tape, recorded for sound	5	95.8	0.0
2402 Cigars, cheroots, cigarillos, and cigarettes	4	96.0	2.3
1212 Locust beans	4	96.2	0.0
2401 Tobacco, unmanufactured, tobacco refuse	4	96.3	99.9
7216 Angles, shapes, and sections of iron or nonalloy steel	4	96.5	1.5
902 Tea	4	96.6	100.0
1515 Fixed vegetable fats and oils and their fractions	4	96.8	100.0
2208 Spirits, liqueurs, other spirit beverages, alcoholic preparations	3	96.9	100.0
1604 Prepared/preserved fish and caviar	3	97.0	0.0
Imports			
2711 Petroleum gases	216	8.3	17.8
7305 Tubes and pipes nes, ext diam >406.4mm, of iron and steel	176	15.1	2.4
8905 Light vessel, dredger, floating dock, floating/submersible drill platform	119	19.7	0.0
8431 Machinery parts (hd 84.25 to 84.30)	113	24.0	0.1
1001 Wheat and meslin	109	28.2	99.8
7304 Tubes, pipes and hollow profiles, seamless, of iron or steel	84	31.4	18.6
8703 Cars (incl station wagons)	67	34.0	70.6
2716 Electrical energy	59	36.3	62.4
8411 Turbojets, turbopropellers and other gas turbines	57	38.5	4.3
8414 Air, vacuum pumps; hoods incorporating a fan	55	40.6	43.7
8904 Tugs and pusher craft	52	42.6	0.0
8481 Taps, cocks, valves for pipes, tanks for the like, incl pressure reducing valves	51	44.6	5.7
7308 Structures (rods, angles, plates) of iron and steel nes	45	46.3	1.2
7208 Flat-rolled products of iron/nonal/s wdth. >/=600mm, hr, not clad	38	47.7	19.2
8544 Insulated wire/cable	30	48.9	20.2
8517 Electric apps. for line telephony, incl curr line system	29	50.0	1.4

Source: ITC TradeMap database; own calculations.

Table A3b:
Kazakhstan, Commodity Concentration of Exports and Imports, 2003

HS product code	Total trade flow (millions of dollars)	Cumulative total (percent)	Share of CIS countries (percent)
Exports			
2709 Crude petroleum oils	7,013	54.3	9.8
7403 Refined copper and copper alloys, unwrought	617	59.1	0.1
1001 Wheat and meslin	523	63.1	68.5
7202 Ferro-alloys	452	66.6	11.8
7210 Flat-rolled prod of iron or nonal/s wd>/=600mm, clad, plated or coated			
	363	69.4	50.4
2711 Petroleum gases	339	72.0	54.3
7209 Flat-rolled products of iron/nonalloy steel wd>/=600mm, cr, not clad	292	74.3	4.5
7208 Flat-rolled products of iron/nonal/s width>/=600mm, hr, not clad	274	76.4	16.2
2710 Petroleum oils, not crude	253	78.4	31.5
2701 Coal; briquettes, ovoids and similar solid fuels manufactured from coal	250	80.3	90.2
2818 Aluminium oxide (incl artificial corundum); aluminium hydroxide	187	81.8	91.8
2601 Iron ores and concentrates, including roasted iron pyrites	179	83.2	84.0
7901 Unwrought zinc	145	84.3	7.9
5201 Cotton, not carded or combed	140	85.4	30.3
7108 Gold unwrought or in semimanuf forms	133	86.4	0.0
7106 Silver, unwrought or in semimanuf form	110	87.2	0.0
2844 Radioactive chem elements and isotopes, their compounds, mixtures and residues	104	88.0	46.2
7408 Copper wire	98	88.8	0.5
7204 Ferrous waste and scrap; remelting scrap ingots or iron or steel	87	89.5	22.3
2603 Copper ores and concentrates	71	90.0	9.2
7207 Semifinished products of iron or nonalloy steel	64	90.5	0.1
1101 Wheat or meslin flour	58	91.0	85.6
8108 Titanium and articles thereof, including waste and scrap	56	91.4	0.0
4104 Leather of bovine/equine animal, other than leather of hd 4108/4109	51	91.8	0.0
7801 Unwrought lead	47	92.2	50.1
2804 Hydrogen, rare gases and other nonmetals	46	92.5	7.0
2716 Electrical energy	39	92.8	100.0
1701 Cane or beet sugar and chemically pure sucrose, in solid form	38	93.1	100.0
1003 Barley	37	93.4	24.8
2608 Zinc ores and concentrates	33	93.6	99.2
Imports			
8703 Cars (incl station wagons)	348	4.2	25.2
2710 Petroleum oils, not crude	271	7.5	81.0
2709 Crude petroleum oils	259	10.7	100.0
2711 Petroleum gases	255	13.8	82.1
3004 Medicament mixtures (not 3002, 3005, 3006), put in dosage	187	16.1	18.7
2844 Radioactive chem elements and isotopes, their compounds, mixtures and residues	163	18.0	88.3
7304 Tubes, pipes and hollow profiles, seamless, of iron or steel	148	19.8	52.9
1701 Cane or beet sugar and chemically pure sucrose, in solid form	132	21.4	8.6
8517 Electric apps for line telephony, incl curr line system	132	23.1	6.5
7305 Tubes and pipe nes, ext diam >406.4mm, of iron and steel	120	24.5	62.8
8704 Trucks, motor vehicles for the transport of goods	104	25.8	74.6
8802 Aircraft, (helicopters, aeroplanes) and spacecraft (satellites)	102	27.0	28.5
8431 Machinery parts (hd 84.25 to 84.30)	96	28.2	15.2
4011 New pneumatic tires, of rubber	95	29.4	82.4
8413 Pumps for liquids, liquid elevators	93	30.5	36.6
8705 Spec purp motor vehicles (fire fight vehs, crane trucks)	89	31.6	52.7

Source: ITC TradeMap database; own calculations.

Table A3c:
Kyrgyzstan, Commodity Concentration of Exports and Imports, 2003

HS product code		Total trade flow (millions of dollars)	Cumulative total (percent)	Share of CIS countries (percent)
Exports				
7108	Gold unwrought or in semimanuf forms	260	44.9	0.0
2710	Petroleum oils, not crude	48	53.2	13.5
5201	Cotton, not carded or combed	43	60.6	64.9
2716	Electrical energy	19	63.9	99.9
8539	Electric filament or discharge lamps	16	66.6	87.1
2401	Tobacco, unmanufactured; tobacco refuse	13	68.8	92.8
7003	Cast and rolled glass, sheets/profiles	12	70.8	95.0
6811	Articles of asbestos cement, of cellulose fiber cement	8	72.2	93.5
8708	Parts and access of motor vehicles	7	73.4	57.4
1701	Cane or beet sugar and chemically pure sucrose, in solid form	7	74.5	100.0
3923	Plastic packing goods or closures stoppers, lids, caps, closures, plastic containers	6	75.6	92.7
4101	Raw hides and skins of bovine/equine animals	6	76.7	1.3
2523	Cements; portland, aluminous, slag, supersulfate, and similar hydraulic cements	6	77.7	99.8
7204	Ferrous waste and scrap; remelting scrap ingots or iron or steel	6	78.7	2.5
6203	Men's suits, jackets, trousers, etc, and shorts	5	79.5	86.4
6204	Women's suits, jackets, dresses skirts, etc, and shorts	5	80.4	92.1
713	Dried vegetables, shelled	4	81.1	49.7
2841	Salts of oxometallic or peroxometallic acids	4	81.9	4.7
7005	Float glass and surf grd/polishd glas in sheet	4	82.6	98.7
7602	Aluminum waste and scrap	4	83.3	0.0
802	Nuts nes	3	83.8	5.5
5512	Woven fab of syn staple fibre (> 85% of such fiber)	3	84.3	74.1
8704	Trucks, motor vehicles for the transport of goods	3	84.8	51.6
2105	Ice cream	3	85.3	100.0
902	Tea	2	85.8	28.0
406	Cheese and curd	2	86.2	99.9
401	Milk and cream, not concentrated nor sweetened	2	86.6	100.0
8475	Machine for assg elec/electrn lamp; mach for wrkg glassware	2	86.9	95.9
6206	Women's blouses and shirts	2	87.3	100.0
7106	Silver, unwrought or in semimanuf form	2	87.6	0.0
Imports				
2710	Petroleum oils, not crude	124	17.5	96.6
3004	Medicament mixtures (not 3002, 3005, 3006), put in dosage	34	22.4	22.6
2711	Petroleum gases	32	26.8	100.0
8703	Cars (incl station wagons)	23	30.2	19.7
2701	Coal; briquettes, ovoids and similar solid fuels manufactured from coal	21	33.2	100.0
4011	New pneumatic tires, of rubber	15	35.3	83.2
8474	Machinery for sorting/screening/washg; agglomeratg/shapg mineral product	12	37.0	40.6
1701	Cane or beet sugar and chemically pure sucrose, in solid form	12	38.7	79.7
5515	Woven fabrics of synthetic staple fibers, nes	10	40.1	0.0
2402	Cigars, cheroots, cigarillos, and cigarettes	9	41.4	78.3
8708	Parts and access of motor vehicles	9	42.7	30.0
8525	Television cameras, transmissn apps for radio-telephony	9	43.9	2.5
2203	Beer made from malt	8	45.0	98.7
1001	Wheat and meslin	7	46.1	100.0
8802	Aircraft, (helicopters, aeroplanes) and spacecraft (satellites)	7	47.1	14.9
3907	Polyacetal, o polyether, epoxide resin, polycarbonate, etc, in primary form	7	48.1	1.6

Source: ITC TradeMap database; own calculations.

Table A3d:
Mongolia, Commodity Concentration of Exports and Imports, 2003

HS product code	Total trade flow (millions of dollars)	Cumulative total (percent)	Share of CIS countries (percent)
Exports			
2603 Copper ores and concentrates	164	26.6	1.0
7108 Gold unwrought or in semimanuf forms	140	49.3	4.2
4105 Sheep/lamb skin leather, other than leather of hd 4108/4109	34	54.9	0.0
6204 Women's suits, jackets, dresses skirts, etc, and shorts	31	60.0	0.0
5105 Wool and fine or coarse animal hair, carded or combed	28	64.4	0.0
2529 Felspar; leucite; nepheline and nepheline syenite; flourspar	21	67.9	92.6
6110 Jerseys, pullovers, cardigans, etc, knitted or crocheted	20	71.2	0.6
2613 Molybdenum ores and concentrates	15	73.7	0.2
6203 Men's suits, jackets, trousers, etc, and shorts	12	75.6	0.0
5102 Fine or coarse animal hair, not carded or combed	12	77.5	0.0
6104 Women's suits, dresses, skirts, etc, and shorts, knitted or crocheted	11	79.3	0.0
4104 Leather of bovine/equine animal, other than leather of hd 4108/4109	10	80.9	0.0
6205 Men's shirts	10	82.5	0.0
202 Meat of bovine animals, frozen	9	84.0	100.0
6106 Women's blouses and shirts, knitted or crocheted	7	85.2	0.0
6105 Men's shirts, knitted or crocheted	7	86.3	0.0
4101 Raw hides and skins of bovine/equine animals	6	87.2	0.0
2701 Coal; briquettes, ovoids and similar solid fuels manufactured from coal	6	88.2	0.0
5101 Wool, not carded or combed	5	89.0	2.9
504 Guts, bladders and stomachs of animals other than fish	5	89.9	1.2
2709 Crude petroleum oils	5	90.6	0.0
205 Meat of horses, asses, or mules—fresh, chilled, or frozen	4	91.2	98.5
2710 Petroleum oils, not crude	3	91.8	77.1
6201 Men's overcoats, capes, windjackets, etc, o/t those of hd 62.03	3	92.3	0.0
6103 Men's suits, jackets, trousers, etc, and shorts, knitted or crocheted	3	92.9	0.0
4106 Goat/kid skin leather, other than leather of hd 41.08/41.09	3	93.4	0.0
6109 T-shirts, singlets, and other vests, knitted or crocheted	3	93.8	0.0
6208 Women's singlets, slips, briefs, pyjamas, bathrobes, etc	2	94.2	0.0
7403 Refined copper and copper alloys, unwrought	2	94.6	0.0
7207 Semifinished products of iron or nonalloy steel	2	95.0	0.0
Imports			
2710 Petroleum oils, not crude	148	18.6	93.2
8703 Cars (incl station wagons)	38	23.5	10.2
8429 Self-propelled bulldozers, angledozers, graders, excavators, etc	20	26.0	7.0
8704 Trucks, motor vehicles for the transport of goods	17	28.1	22.8
8474 Machinery for sorting/screening/washg; agglomeratg/shapg mineral products	17	30.3	42.7
4907 Unused stamps; check forms, banknotes, bond certificates, etc	12	31.8	0.0
1101 Wheat or meslin flour	12	33.3	76.2
8529 Parts suitable for use solely/princ with televisions, recept apps	10	34.6	0.0
6002 Knitted or crocheted fabrics nes	10	35.8	0.0
8431 Machinery parts (hd 84.25 to 84.30)	9	37.0	31.9
5209 Woven cotton fabrics, 85% or more cotton, weight over 200 g/m2	9	38.1	0.4
2203 Beer made from malt	9	39.2	2.3
1001 Wheat and meslin	8	40.2	78.7
8421 Centrifuges, incl centrifugal dryers; filtering/purifying machinery	8	41.1	2.2
8471 Automatic data processing machines; optical readers, etc	8	42.1	2.1
1507 Soya-bean oil and its fractions	8	43.1	5.6

Source: ITC TradeMap database; own calculations.

Table A3e:
Tajikistan, Commodity Concentration of Exports and Imports, 2003

HS product code	Total trade flow (millions of dollars)	Cumulative total (percent)	Share of CIS countries (percent)
Exports			
7601 Unwrought aluminum	296	53.7	0.7
5201 Cotton, not carded or combed	137	78.6	20.3
5209 Woven cotton fabrics, 85% or more cotton, weight over 200 g/m2	12	80.8	0.7
813 Dried fruit	12	83.0	100.0
6203 Men's suits, jackets, trousers, etc, and shorts	8	84.4	2.4
5205 Cotton yarn (not sewing thread) 85% or more cotton, not retail	7	85.7	37.1
2716 Electrical energy	6	86.8	100.0
703 Onions, garlic, and leeks, fresh or chilled	6	87.9	99.3
5208 Woven cotton fabrics, 85% or more cotton, weight less than 200 g/m2	6	89.0	2.6
2009 Fruit and vegetable juices, unfermented	5	89.9	100.0
7602 Aluminum waste and scrap	5	90.9	0.0
3901 Polymers of ethylene, in primary forms	2	91.3	0.0
6204 Women's suits, jackets, dresses skirts, etc, and shorts	2	91.8	0.0
2617 Ores and concentrates, nes	2	92.2	45.9
713 Dried vegetables, shelled	2	92.6	96.1
806 Grapes, fresh or dried	2	93.0	100.0
7606 Aluminum plates, sheets and strip, of a thickness exceeding 0.2mm	2	93.3	0.0
1202 Ground nuts, not roasted	2	93.7	100.0
2002 Tomatoes, prepared or preserved	2	94.0	100.0
802 Nuts nes	2	94.3	100.0
7607 Aluminum foil of a thickness not exceeding 0.2mm	1	94.5	0.0
6205 Men's shirts	1	94.8	0.0
3907 Polyacetal, opolyether, epoxide resin, polycarbonate, etc, in primary form	1	95.0	0.0
1404 Vegetable products, nes	1	95.2	27.1
2401 Tobacco, unmanufactured; tobacco refuse	1	95.4	100.0
810 Fruits nes, fresh	1	95.5	100.0
7202 Ferro-alloys	1	95.7	0.0
7605 Aluminum wire	1	95.8	100.0
7204 Ferrous waste and scrap; remelting scrap ingots or iron or steel	1	96.0	0.0
5408 Woven fabrics of synth filam yarn (incl hd 54.05)	1	96.1	0.0
Imports			
2818 Aluminium oxide (incl artificial corundum); aluminium hydroxide	79	14.5	56.8
2709 Crude petroleum oils	46	22.9	0.0
1101 Wheat or meslin flour	31	28.6	65.5
2710 Petroleum oils, not crude	22	32.6	94.1
1701 Cane or beet sugar and chemically pure sucrose, in solid form	18	35.9	12.8
8703 Cars (incl station wagons)	12	38.1	63.1
1001 Wheat and meslin	11	40.1	95.4
2713 Petroleum coke, petroleum bitumen, and other residues of petroleum oils	11	42.0	100.0
2826 Fluorides; fluorosilicate, fluoraluminates, and other complex fluorine salt	9	43.6	100.0
4407 Wood sawn/chipped lengthwise, sliced/peeled	8	45.2	97.8
5702 Carpets and o tex floor covgs, woven, not tufted/flocked	8	46.7	0.0
3401 Soap; organic surface-active preparations for soap use	8	48.1	19.0
1704 Sugar confectionery (incl white choc), not containing cocoa	7	49.4	8.9
1806 Chocolate and other food preparations containing cocoa	7	50.6	84.4
8517 Electric apps for line telephony, incl curr line system	6	51.8	1.8
5703 Carpets and other textile floor coverings, tufted	6	52.9	5.6

Source: ITC TradeMap database; own calculations.

Table A3f:
Uzbekistan, Commodity Concentration of Exports and Imports, 2003

HS product code	Total trade flow (millions of dollars)	Cumulative total (percent)	Share of CIS countries (percent)
Exports			
5201 Cotton, not carded or combed	592	33.9	17.2
5205 Cotton yarn (not sewing thread) 85% or more cotton, not retail	128	41.2	8.7
7403 Refined copper and copper alloys, unwrought	113	47.7	0.0
7108 Gold unwrought or in semimanuf forms	106	53.7	0.0
8703 Cars (incl station wagons)	93	59.0	99.9
2711 Petroleum gases	86	64.0	100.0
5208 Woven cotton fabrics, 85% or more cotton, weight less than 200 g/m2	46	66.6	9.3
2844 Radioactive chem elements and isotopes, their compounds, mixtures and residues	38	68.8	48.1
806 Grapes, fresh or dried	27	70.3	95.6
2612 Uranium or thorium ores and concentrates	26	71.8	0.0
7901 Unwrought zinc	23	73.1	12.0
7112 Waste and scrap of precious metal	20	74.3	0.0
2710 Petroleum oils, not crude	19	75.3	23.5
3102 Mineral or chemical fertilizers, nitrogenous	18	76.4	9.9
702 Tomatoes	18	77.4	100.0
7106 Silver, unwrht or in semimanuf form	17	78.4	0.0
7214 Bars and rods of iron/nonalloy steel nes, hot-rolled etc	16	79.4	44.0
5209 Woven cotton fabrics, 85% or more cotton, weight over 200 g/m2	13	80.1	5.5
703 Onions, garlic, and leeks, fresh or chilled	13	80.8	95.1
5601 Wadding of tex mat and art thereof; tex fib	12	81.5	97.4
3901 Polymers of ethylene, in primary forms	12	82.2	29.8
807 Melons (including watermelons) and papayas, fresh	12	82.9	99.7
2002 Tomatoes, prepared or preserved	10	83.5	99.9
809 Apricots, cherries, peaches, nectarines, plums and sloes, fresh	10	84.1	100.0
6204 Women's suits, jackets, dresses skirts, etc, and shorts	9	84.5	0.0
5202 Cotton waste (including yarn waste and garnetted stock)	8	85.0	35.3
6110 Jerseys, pullovers, cardigans, etc, knitted or crocheted	8	85.5	0.3
6002 Knitted or crocheted fabrics, nes	8	86.0	1.4
713 Dried vegetables, shelled	8	86.4	33.8
6203 Men's suits, jackets, trousers, etc, and shorts	7	86.8	5.6
Imports			
8708 Parts and access of motor vehicles	165	8.0	2.2
8802 Aircraft, (helicopters, aeroplanes) and spacecraft (satellites)	136	14.7	4.0
3004 Medicament mixtures (not 3002, 3005, 3006), put in dosage	65	17.8	42.6
8411 Turbojets, turbopropellers, and other gas turbines	38	19.7	89.6
8471 Automatic data processing machines; optical readers, etc	38	21.5	2.1
8525 Television cameras, transmission apps for radio-telephony	38	23.3	2.0
8413 Pumps for liquids; liquid elevators	37	25.1	16.8
2709 Crude petroleum oils	35	26.9	100.0
8433 Harvesting/threshing machinery, hay mowers, etc	31	28.4	1.9
8430 Moving/grading/scrapping/boring machinery for earth	29	29.8	11.6
4011 New pneumatic tires, of rubber	28	31.2	59.1
8703 Cars (incl station wagons)	27	32.5	18.0
1101 Wheat or meslin flour	25	33.7	96.5
2608 Zinc ores and concentrates	24	34.8	93.4
8431 Machinery parts (hd 84.25 to 84.30)	23	36.0	17.3
8429 Self-propelled bulldozers, angledozers, graders, excavators, etc	22	37.0	15.0

Source: ITC TradeMap database; own calculations.

Table A4a:
Azerbaijan, Normalized Net Exports and Commodity Composition of International Trade, 1998–2002

SITC	Product description	Trade with	Normalized net exports (percent)					Percent share in 2000–2002	
			1998	1999	2000	2001	2002	exports	imports
0	Food and live animals	CIS	-78	-76	-74	-72	-63	8.1	20.0
		RoW	-88	-71	-65	-85	-72	0.8	10.3
		Total	-85	-74	-70	-79	-67	1.5	13.7
04	Cereals and cereal preparations	CIS	-100	-100	-98	-99	-97	0.4	15.6
		RoW	-100	-100	-100	-100	-100	0.0	1.7
		Total	-100	-100	-98	-99	-97	0.0	6.5
1	Beverages and tobacco	CIS	79	78	19	78	49	6.9	1.1
		RoW	-20	-42	-59	-41	-25	0.4	1.7
		Total	52	47	-1	6	-1	1.1	1.5
2	Crude materials, inedible	CIS	-44	-38	-44	-40	-42	3.8	4.2
		RoW	79	75	13	40	41	2.6	2.8
		Total	36	38	-1	17	16	2.8	3.3
3	Fuels, lubricants, etc	CIS	58	52	61	-23	-39	51.0	31.4
		RoW	83	91	96	97	96	93.1	3.7
		Total	74	84	93	81	74	88.7	13.3
33	Petroleum, petroleum products and related materials	CIS	70	78	85	95	92	44.0	1.0
		RoW	96	98	99	99	99	93.6	1.0
		Total	87	95	98	99	99	88.1	1.0
34	Gas, natural and manufactured	CIS	-71	-100	-100	-99	-99	0.2	26.8
		RoW	-100	-100	-100	-100	50	0.0	0.0
		Total	-72	-100	-100	-99	-99	0.0	9.2
35	Electric current	CIS	21	3	14	-11	-80	4.0	3.8
		RoW	-100	-100	-100	-100	-36	0.3	2.7
		Total	-17	-27	-30	-72	-56	0.7	3.1
4	Animal, vegetable oils, fat, wax	CIS	68	89	27	37	-1	1.3	0.4
		RoW	-100	-99	-70	-97	-95	0.0	1.1
		Total	-52	-53	-44	-62	-57	0.2	0.8
5	Chemicals, related products nes	CIS	-27	-33	-28	-2	-6	7.1	4.0
		RoW	-83	-51	-53	-70	-54	1.0	7.5
		Total	-63	-46	-46	-50	-41	1.6	6.3
6	Manufactured goods	CIS	-82	-85	-88	-87	-86	2.6	16.6
		RoW	-80	-74	-83	-84	-87	0.8	19.5
		Total	-81	-78	-85	-85	-87	1.0	18.5
67	Iron and steel	CIS	-89	-97	-99	-95	-93	0.4	8.8
		RoW	-93	-89	-95	-80	-79	0.4	7.9
		Total	-90	-94	-97	-86	-83	0.4	8.2
69	Manufactures of metals, nes	CIS	-96	-91	-66	-85	-82	0.4	1.5
		RoW	-95	-97	-98	-92	-96	0.1	5.3
		Total	-95	-97	-93	-91	-94	0.1	4.0
7	Machines, transport equipment	CIS	-69	-74	-39	-49	-81	12.7	20.4
		RoW	-93	-88	-92	-92	-90	1.0	44.3
		Total	-87	-85	-76	-86	-88	2.2	36.1
71	Power-generating machinery and equipment	CIS	-42	-77	-91	-91	-92	0.1	1.4
		RoW	-62	-93	-93	-94	-92	0.1	7.7
		Total	-49	-91	-92	-94	-92	0.1	5.5
72	Machinery specialized for particular industries	CIS	-26	50	31	44	51	3.9	0.8
		RoW	-88	-71	-82	-81	-75	0.5	8.7
		Total	-80	-58	-64	-63	-65	0.9	6.0
74	General industrial machinery and equipment, nes, and machine parts, nes	CIS	-36	-74	-23	-21	-82	1.3	2.2
		RoW	-89	-94	-94	-82	-96	0.1	5.9
		Total	-74	-88	-84	-71	-93	0.3	4.6
76	Telecommunications and sound-recording and reproducing apparatus and equipment	CIS	-100	-100	-100	-100	-100	0.0	0.1
		RoW	-98	-98	-97	-99	-99	0.0	6.8
		Total	-98	-98	-97	-99	-99	0.0	4.5

Table A4a continued

SITC	Product description	Trade with	Normalized net exports (percent)					Percent share in 2000–2002	
			1998	1999	2000	2001	2002	exports	imports
77	Electrical machinery, apparatus and appliances, nes, and electrical parts thereof	CIS	-91	-95	-92	-92	-97	0.2	2.3
		RoW	-97	-97	-99	-90	-97	0.1	5.0
		Total	-95	-97	-98	-90	-97	0.1	4.1
78	Road vehicles (including air-cushion vehicles)	CIS	-98	-92	-77	-73	-95	1.4	7.2
		RoW	-100	-91	-94	-80	-92	0.1	1.9
		Total	-99	-92	-81	-75	-94	0.2	3.7
79	Other transport equipment	CIS	-95	-95	-20	-73	-92	4.5	6.2
		RoW	-32	-73	-63	-98	-86	0.1	6.0
		Total	-59	-79	-25	-96	-90	0.6	6.1
8	Miscellaneous manufactured articles	CIS	-55	-41	-37	-18	-8	2.1	1.4
		RoW	-73	-69	-86	-82	-91	0.3	9.0
		Total	-70	-66	-80	-75	-81	0.5	6.4
9	Goods not classified by kind	CIS	n.a.	-100	n.a.	67	54	4.3	0.5
		RoW	-100	-100	n.a.	-88	-99	0.0	0.0
		Total	-100	-100	n.a.	66	52	0.5	0.2
Total	All products						(millions of dollars)		
		CIS	-27	-24	-26	-35	-49	654	1,471
		RoW	-34	2	31	37	32	5,579	2,797
		Total	-31	-5	19	24	13	6,233	4,268

Source: ITC PC-TAS CD-ROM; own calculations.

Table A4b:

Kazakhstan, Normalized Net Exports and Commodity Composition of International Trade, 1998–2001

SITC	Product description	Trade with	Normalized net exports (percent)				Percent share in 2000–2001	
			1998	1999	2000	2001	exports	imports
0	Food and live animals	CIS	57	47	38	25	15.4	6.5
		RoW	-49	-48	-6	-33	1.9	6.6
		Total	14	19	25	3	5.7	6.5
04	Cereals and cereal preparations	CIS	94	90	88	82	14.3	1.0
		RoW	72	72	88	82	1.8	0.3
		Total	90	87	88	82	5.3	0.7
1	Beverages and tobacco	CIS	0	-21	-17	0	0.9	0.8
		RoW	-94	-99	-94	-90	0.0	1.4
		Total	-61	-70	-54	-41	0.3	1.1
2	Crude materials, inedible	CIS	57	63	75	75	17.9	2.1
		RoW	50	44	48	28	3.5	3.6
		Total	54	53	64	59	7.6	2.8
28	Metalliferous ores and metal scrap	CIS	60	76	94	90	15.4	0.6
		RoW	33	31	35	22	1.9	2.5
		Total	44	52	73	70	5.8	1.5
3	Fuels, lubricants, etc	CIS	25	27	33	27	48.6	21.6
		RoW	95	98	99	98	55.6	1.1
		Total	49	76	78	71	53.6	12.0
33	Petroleum, petroleum products and related materials	CIS	62	90	81	58	37.4	6.3
		RoW	100	100	100	100	54.6	0.0
		Total	81	98	96	89	49.7	3.2
4	Animal, vegetable oils, fat, wax	CIS	-92	-88	-94	-84	0.1	1.1
		RoW	-100	-100	-100	-100	0.0	0.4
		Total	-96	-95	-95	-88	0.0	0.8
5	Chemicals, related products nes	CIS	7	4	-58	-64	3.6	12.2
		RoW	-41	-15	-33	-40	2.2	11.0
		Total	-14	-4	-46	-52	2.6	11.6
52	Inorganic chemicals	CIS	44	48	-32	-46	2.9	6.0
		RoW	84	94	77	77	2.1	0.6
		Total	54	63	10	-1	2.3	3.4
6	Manufactured goods	CIS	-68	-68	-53	-52	8.3	21.6
		RoW	63	70	71	55	32.9	17.2
		Total	36	50	43	25	25.9	19.5
67	Iron and steel	CIS	-76	-74	-34	-33	6.1	10.8
		RoW	78	83	81	52	14.0	6.4
		Total	41	62	51	23	11.7	8.6
68	Non-ferrous metals	CIS	6	17	2	-17	1.4	1.5
		RoW	97	98	96	96	19.0	0.9
		Total	92	94	91	89	14.0	1.2
69	Manufactures of metals nes	CIS	-74	-77	-79	-81	0.3	2.6
		RoW	-93	-86	-76	-68	0.3	3.9
		Total	-85	-84	-78	-73	0.3	3.3
7	Machines, transport equipment	CIS	-66	-63	-79	-76	4.5	29.3
		RoW	-82	-74	-85	-90	1.3	48.7
		Total	-76	-70	-83	-85	2.2	38.5
72	Machinery specialized for particular industries	CIS	-18	-40	-66	-69	1.0	4.8
		RoW	-97	-86	-83	-89	0.4	11.5
		Total	-79	-76	-77	-83	0.6	8.1
74	General industrial machinery and equipment nes and machine parts nes	CIS	-32	-17	-63	-71	1.1	5.1
		RoW	-49	-21	-90	-93	0.2	12.2
		Total	-44	-20	-81	-85	0.5	8.6
76	Telecommunications and sound-recording and reproducing apparatus and equipment	CIS	-50	-38	-76	-86	0.1	0.5
		RoW	-96	-88	-72	-83	0.3	6.0
		Total	-92	-83	-72	-83	0.3	3.2

Table A4b continued

SITC	Product description	Trade with	Normalized net exports (percent)				Percent share in 2000–2001	
			1998	1999	2000	2001	exports	imports
77	Electrical machinery, apparatus and appliances nes, and electrical parts thereof	CIS	-67	-46	-69	-79	0.6	3.9
		RoW	-94	-98	-97	-96	0.1	6.2
		Total	-85	-82	-86	-89	0.2	5.0
78	Road vehicles (including air-cushion vehicles)	CIS	-92	-96	-94	-94	0.4	11.1
		RoW	-97	-95	-91	-91	0.1	6.3
		Total	-94	-96	-93	-93	0.2	8.7
8	Miscellaneous manufactured articles	CIS	-54	-54	-59	-84	1.0	4.7
		RoW	-85	-83	-83	-87	0.3	9.5
		Total	-79	-76	-73	-86	0.5	6.9
9	Goods not classified by kind	CIS	n.a.	-57	-100	-100	0.0	0.1
		RoW	84	88	85	87	2.2	0.4
		Total	84	86	80	87	1.6	0.2
						(millions of dollars)		
Total		CIS	1	-3	-8	-11	4,969	6,030
		RoW	17	36	47	32	12,440	5,359
		Total	11	23	27	15	17,408	11,389

Source: ITC PC-TAS CD-ROM; own calculations.

Table A4c:

Kyrgyzstan, Normalized Net Exports and Commodity Composition of International Trade—1998, 1999, and 2002

SITC	Product description		Normalized net exports (percent)			Percent share in 2002	
			1998	1999	2002	exports	imports*
0	Food and live animals	CIS	18	-11	-23	12.9	10.9
		RoW	-90	-85	-32	3.3	7.1
		Total	-38	-38	-26	6.8	9.2
04	Cereals and cereal preparations	CIS	-31	-46	-95	0.3	6.8
		RoW	-60	-87	-85	0.1	1.8
		Total	-40	-63	-93	0.2	4.1
05	Vegetables and fruit	CIS	96	80	79	6.2	0.5
		RoW	-40	14	63	2.4	0.6
		Total	73	70	72	3.8	0.5
06	Sugars, sugar preparations, and honey	CIS	47	2	-25	3.3	3.7
		RoW	-92	-96	-83	0.2	2.5
		Total	-53	-37	-45	1.4	3.1
1	Beverages and tobacco	CIS	91	71	15	11.5	4.6
		RoW	-19	7	-49	0.6	1.8
		Total	58	56	5	4.6	3.3
12	Tobacco and tobacco manufactures	CIS	97	76	51	12.2	2.7
		RoW	27	18	-34	0.6	1.2
		Total	81	63	37	4.9	1.9
2	Crude materials, inedible	CIS	-42	19	35	19.5	5.1
		RoW	87	54	73	17.0	3.0
		Total	29	44	55	17.9	4.1
21	Hides, skins, and furskins, raw	CIS	100	100	-84	0.1	1.0
		RoW	98	96	100	7.2	0.0
		Total	98	96	79	4.6	0.5
26	Textile fibers (other than wool tops and other combed wool) and their wastes	CIS	0	93	93	18.3	0.5
		RoW	83	89	64	7.3	1.6
		Total	72	90	80	11.4	1.1
3	Fuels, lubricants, etc	CIS	-75	-38	-68	16.7	47.0
		RoW	-91	-100	77	10.3	1.5
		Total	-76	-39	-45	12.6	26.2
34	Gas, natural and manufactured	CIS	-100	-100	-100	0.0	18.6
		RoW	-100	-100	No data	0.0	0.0
		Total	-100	-100	-100	0.0	8.6
35	Electric current	CIS	53	90	39	14.1	4.3
		RoW	-100	100	100	0.0	0.0
		Total	53	90	39	5.2	2.0
4	Animal, vegetable oils, fat, wax	CIS	-90	-61	-99	0.0	0.6
		RoW	-98	-92	-81	0.1	0.8
		Total	-96	-85	-89	0.0	0.7
5	Chemicals, related products nes	CIS	-73	-79	-77	2.1	8.5
		RoW	-53	-54	-86	1.4	20.0
		Total	-64	-63	-83	1.6	13.8
54	Medicinal and pharmaceutical products	CIS	-94	-79	-93	0.1	1.8
		RoW	-99	-97	-100	0.0	9.1
		Total	-97	-93	-99	0.0	5.7
6	Manufactured goods	CIS	-20	-34	-30	13.2	13.2
		RoW	-72	-78	-49	4.1	13.1
		Total	-39	-57	-38	7.4	13.2
65	Textile yarn, fabrics, made-up articles nes, and related products	CIS	-2	-24	61	2.9	0.5
		RoW	-47	-68	-83	0.5	5.6
		Total	-30	-55	-46	1.4	3.2
7	Machines, transport equipment	CIS	2	-3	4	16.8	8.3
		RoW	-80	-84	-65	7.1	36.5
		Total	-50	-61	-43	10.6	21.2

Table A4c continued

SITC	Product description		Normalized net exports (percent)			Percent share in 2002	
			1998	1999	2002	exports	imports*
72	Machinery specialized for particular industries	CIS	-15	-18	-63	1.1	3.3
		RoW	-94	-97	-93	0.6	16.2
		Total	-75	-81	-88	0.8	10.2
77	Electrical machinery, apparatus and appliances nes, and electrical parts thereof	CIS	46	29	50	8.7	2.0
		RoW	-43	-80	-64	1.0	4.4
		Total	3	-55	0	3.8	3.3
78	Road vehicles (including air-cushion vehicles)	CIS	-2	10	-4	4.4	3.2
		RoW	-59	-54	-16	5.1	7.0
		Total	-38	-31	-12	4.9	5.3
8	Miscellaneous manufactured articles	CIS	-32	9	37	7.3	1.8
		RoW	-94	-75	-93	0.5	16.3
		Total	-74	-60	-56	3.0	8.4
84	Articles of apparel and clothing accessories	CIS	100	100	100	2.7	0.0
		RoW	-99	-96	-88	0.4	6.6
		Total	-66	-66	-53	1.3	3.5
9	Goods not classified by kind	CIS	-100	100	100	0	0
		RoW	100	100	100	55.7	0.0
		Total	97	100	100	35.4	0.0
97	Gold, nonmonetary (excluding gold ores and concentrates)	CIS	n.a.	n.a.	n.a.	0.0	0.0
		RoW	100	n.a.	100	61.2	0.0
		Total	100	n.a.	100	38.6	0.0
			(millions of dollars)				
Total		CIS	-31	-17	-30	168	315
		RoW	-17	-12	5	292	264
		Total	-24	-14	-11	460	579

Source: ITC PC-TAS CD-ROM; own calculations.

Table A4d:

Mongolia, Normalized Net Exports and Commodity Composition of International Trade, 1998–2001

SITC	Product description	Trade with	Normalized net exports (percent)				Percent share in 2000–2001	
			1998	1999	2000	2001	exports	imports*
0	Food and live animals	CIS	29	31	-17	-42	36.2	13.7
		RoW	-91	-88	-96	-91	0.6	12.6
		Total	-59	-38	-62	-64	4.4	13.1
01	Meat and meat preparations	CIS	98	100	100	99	36.9	0.0
		RoW	70	99	99	-3	0.1	0.0
		Total	96	100	100	98	3.9	0.0
04	Cereals and cereal preparations	CIS	-100	-100	-100	-100	0.0	19.2
		RoW	-100	-100	-100	-100	0.0	6.0
		Total	-100	-100	-100	-100	0.0	9.2
1	Beverages and tobacco	CIS	-95	-60	-67	-100	0.6	1.5
		RoW	-89	-91	-98	-99	0.0	4.5
		Total	-90	-86	-92	-99	0.1	3.3
2	Crude materials, inedible	CIS	88	89	92	93	58.0	0.5
		RoW	98	98	97	96	58.6	1.2
		Total	97	97	97	95	58.5	0.9
21	Hides, skins, and furskins, raw	CIS	-100	-100	-50	42	0.1	0.0
		RoW	100	100	100	98	5.4	0.0
		Total	100	100	100	98	4.8	0.0
26	Textile fibers (other than wool tops and other combed wool) and their wastes	CIS	-100	-89	77	83	0.7	0.0
		RoW	95	95	92	90	15.6	0.9
		Total	91	94	92	90	14.1	0.7
27	Crude fertilizers, other than those of division 56, and crude minerals	CIS	92	92	93	92	39.2	0.6
		RoW	-100	-41	-82	-87	0.2	0.3
		Total	81	87	85	82	4.2	0.4
28	Metalliferous ores and metal scrap	CIS	100	99	99	100	18.8	0.0
		RoW	100	100	100	100	36.1	0.0
		Total	100	100	100	100	34.3	0.0
3	Fuels, lubricants, etc	CIS	-99	-100	-99	-98	1.6	49.9
		RoW	-82	-60	-69	-65	0.6	2.6
		Total	-98	-97	-96	-95	0.7	20.6
4	Animal, vegetable oils, fat, wax	CIS	-100	-100	-100	-100	0.0	0.3
		RoW	-100	-100	-100	-100	0.0	1.2
		Total	-100	-100	-100	-100	0.0	0.8
5	Chemicals, related products nes	CIS	-100	-100	-100	-100	0.0	2.4
		RoW	-99	-93	-88	-81	0.4	6.9
		Total	-99	-94	-90	-84	0.3	5.2
6	Manufactured goods	CIS	-91	-97	-87	-95	1.6	9.9
		RoW	-75	-77	-81	-29	7.6	21.6
		Total	-79	-81	-82	-40	7.0	17.1
61	Leather, leather manufactures nes, and dressed furskins	CIS	100	100	100	100	0.3	0.0
		RoW	11	-60	100	100	6.4	0.0
		Total	80	0	100	100	5.7	0.0
65	Textile yarn, fabrics, made-up articles nes, and related products	CIS	-84	-100	-100	-82	0.1	0.3
		RoW	-95	-91	-92	-95	0.5	14.6
		Total	-95	-92	-92	-95	0.4	11.1
7	Machines, transport equipment	CIS	-95	-96	-99	-98	1.3	20.5
		RoW	-91	-90	-98	-95	0.5	38.2
		Total	-92	-91	-98	-95	0.6	31.5
72	Machinery specialized for particular industries	CIS	-98	-100	-99	-100	0.1	9.9
		RoW	-80	-97	-94	-92	0.2	8.4
		Total	-83	-98	-95	-94	0.2	8.8
74	General industrial machinery and equipment nes, and machine parts nes	CIS	-100	-97	-100	-91	0.4	3.3
		RoW	-97	-61	-100	-98	0.0	5.2
		Total	-98	-68	-100	-97	0.1	4.7

Table A4d continued

SITC	Product description	Trade with	Normalized net exports (percent)				Percent share in 2000–2001	
			1998	1999	2000	2001	exports	imports*
76	Telecommunications and sound-recording and reproducing apparatus and equipment	CIS	-100	99	-100	-100	0.1	0.3
		RoW	-93	-95	-100	-99	0.0	5.4
		Total	-93	-92	-100	-99	0.0	4.2
77	Electrical machinery, apparatus and appliances nes, and electrical parts thereof	CIS	-100	-93	-100	-99	0.0	2.8
		RoW	-99	-99	-100	-100	0.0	4.9
		Total	-99	-98	-100	-100	0.0	4.4
78	Road vehicles (including air-cushion vehicles)	CIS	-93	-96	-99	-98	0.3	19.2
		RoW	-98	-96	-99	-95	0.1	10.0
		Total	-97	-96	-99	-96	0.1	12.2
8	Miscellaneous manufactured articles	CIS	-78	-67	-77	-79	0.6	1.3
		RoW	-2	28	40	43	25.0	11.2
		Total	-5	26	38	39	22.4	7.4
84	Articles of apparel and clothing accessories	CIS	86	35	98	93	0.5	0.0
		RoW	88	79	76	81	24.9	3.4
		Total	88	79	76	81	22.4	2.6
9	Goods not classified by kind	CIS	n.a.	n.a.	n.a.	n.a.	0.0	n.a.
		RoW	n.a.	n.a.	n.a.	n.a.	6.7	n.a.
		Total	n.a.	n.a.	n.a.	n.a.	6.0	n.a.
97	Gold, nonmonetary (excluding gold ores and concentrates)	CIS	n.a.	n.a.	n.a.	n.a.	0.0	0.0
		RoW	100	100	100	100	6.7	0.0
		Total	100	100	100	100	6.0	0.0
						(millions of dollars)		
Total		CIS	-45	-53	-64	-68	148	473
		RoW	-8	-7	3	3	1,247	772
		Total	-17	-18	-14	-17	1,395	1,245

Source: ITC PC-TAS CD-ROM; own calculations.

Table A4e:
Tajikistan, Normalized Net Exports and Commodity Composition of International Trade, 2000

SITC	Product description		Normalized net exports (percent)	Percent share in	
				exports	imports
0	Food and live animals	CIS	-43	5.9	10.0
		RoW	-93	0.1	4.0
		Total	-45	3.6	9.2
04	Cereals and cereal preparations	CIS	-100	0.0	9.8
		RoW	-100	0.0	0.2
		Total	-100	0.0	8.3
05	Vegetables and fruit	CIS	99	6.0	0.0
		RoW	29	0.1	0.1
		Total	98	3.2	0.0
1	Beverages and tobacco	CIS	89	1.5	0.1
		RoW	17	0.1	0.3
		Total	83	0.9	0.1
2	Crude materials, inedible	CIS	56	4.6	0.9
		RoW	-100	0.0	0.0
		Total	56	2.8	0.8
26	Textile fibers (other than wool tops and other combed wool) and their wastes (not manufactured into yarn or fabric)	CIS	96	3.9	0.1
		RoW	100	21.6	0.0
		Total	99	12.2	0.1
3	Fuels, lubricants, etc	CIS	-45	24.7	43.2
		RoW	-97	0.0	0.2
		Total	-45	14.8	37.5
33	Petroleum, petroleum products and related materials	CIS	-99	0.1	8.4
		RoW	0.0	0.0	0.0
		Total	-99	0.0	7.1
35	Electric current	CIS	-13	25.1	25.4
		RoW	0.0	0.0	0.0
		Total	-13	13.4	21.4
4	Animal, vegetable oils, fat, wax	CIS	-100	0.0	1.1
		RoW	-100	0.0	0.2
		Total	-100	0.0	1.0
5	Chemicals, related products nes	CIS	-90	2.5	33.4
		RoW	-100	0.0	55.5
		Total	-92	1.5	36.4
52	Inorganic chemicals	CIS	-99	0.3	35.8
		RoW	-100	0.0	52.2
		Total	-99	0.2	38.3
6	Manufactured goods	CIS	77	50.0	4.3
		RoW	97	82.1	3.1
		Total	87	62.8	4.1
68	Nonferrous metals	CIS	100	49.0	0.0
		RoW	100	60.4	0.1
		Total	100	54.3	0.0
7	Machines, transport equipment	CIS	8	10.6	6.0
		RoW	-32	5.9	33.2
		Total	-6	8.7	9.6
78	Road vehicles (including air-cushion vehicles)	CIS	-95	0.1	2.7
		RoW	-20	0.9	4.8
		Total	-69	0.5	3.1

Table A4d continued

SITC	Product description		Normalized net exports (percent)	Percent share in	
				exports	imports
79	Other transport equipment	CIS	74	10.1	1.2
		RoW	42	0.3	0.5
		Total	73	5.5	1.1
8	Miscellaneous manufactured articles	CIS	-79	0.2	0.9
		RoW	31	2.0	3.1
		Total	-17	0.9	1.2
9	Goods not classified by kind	CIS	-69	0.1	0.2
		RoW	97	9.8	0.4
		Total	89	4.0	0.2
97	Gold, nonmonetary (excluding gold ores and concentrates)	CIS		0.0	0.0
		RoW	100	7.6	0.0
		Total	100	3.5	0.0
(millions of dollars)					
Total		CIS	-20	373	558
		RoW	49	250	86
		Total	-2	623	644

Source: ITC PC-TAS CD-ROM; own calculations.

Table A4f:
Uzbekistan, Normalized Net Exports and Commodity Composition of International Trade, 1998–2002

SITC	Product description		Normalized net exports (percent)					Percent share in 2000–2002	
			1998	1999	2000	2001	2002	exports	imports
0	Food and live animals	CIS	8	57	28	15	46	14.8	11.5
		RoW	-97	-89	-81	-79	-65	1.3	7.7
		Total	-44	-22	-8	-16	-6	7.3	9.0
1	Beverages and tobacco	CIS	94	97	93	85	83	2.3	0.2
		RoW	-100	-100	-94	-100	-100	0.0	0.6
		Total	22	74	65	2	42	1.0	0.4
2	Crude materials, inedible	CIS	38	58	67	63	76	29.7	7.9
		RoW	93	97	97	91	83	48.8	1.9
		Total	82	86	86	79	81	40.3	3.8
3	Fuels, lubricants, etc	CIS	78	70	59	97	50	26.6	6.6
		RoW	-99	-50	45	81	45	3.5	0.6
		Total	74	66	59	92	49	13.8	2.5
4	Animal, vegetable oils, fat, wax	CIS	66	67	23	-38	-60	0.3	0.4
		RoW	-98	-100	-98	-100	-100	0.0	0.7
		Total	-54	-63	-30	-85	-93	0.1	0.6
5	Chemicals, related products nes	CIS	0	-21	-25	-70	-87	2.2	11.8
		RoW	-49	-76	-61	-28	-77	4.4	11.2
		Total	-30	-56	-48	-40	-80	3.4	11.4
6	Manufactured goods	CIS	-33	-19	-17	-31	-57	11.0	29.1
		RoW	0	-10	14	17	26	23.9	13.2
		Total	-16	-13	0	-3	-1	18.1	18.4
7	Machines, transport equipment	CIS	-37	-24	-18	-32	-46	10.6	28.2
		RoW	-98	-99	-97	-95	-96	1.3	51.2
		Total	-77	-83	-75	-79	-80	5.4	43.7
8	Miscellaneous manufactured articles	CIS	-31	-28	-2	-27	-61	1.6	4.1
		RoW	-96	-95	-87	-78	-68	1.7	10.3
		Total	-78	-85	-69	-65	-67	1.6	8.2
9	Goods not classified by kind	CIS	-2	23	70	100	-59	1.0	0.3
		RoW	9	-3	75	51	70	15.1	2.6
		Total	7	-3	75	51	69	8.8	1.8
						(millions of dollars)			
Total		CIS	-2	25	29	15	-11	2,489	1,840
		RoW	-16	-21	-6	-11	-13	3,096	3,786
		Total	-11	-7	10	-1	-13	5,585	5,625

Notes: Uzbekistan is not a reporter country—all values are based on mirror statistics.

Source: ITC PC-TAS CD-ROM; own calculations.

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