

CHAPTER 4

REGIONALISM AND MULTILATERALISM IN CENTRAL ASIA Bahodir Ganiev and David Roland-Holst

1. As noted in Chapter 3, there are significant policy-related barriers to trade in Central Asia, which have adversely affected the recent trade performance of the Central Asian republics (CARs) and prevented them from fully realizing the gains from participation in international trade. And as noted in Chapter 1, regional cooperation in trade policy in the form of reciprocal trade liberalization under a regional trade agreement (RTA) can help the CARs reduce these trade barriers at relatively low costs, boost intra-regional trade and facilitate broad-based trade liberalization. However, an RTA not only creates trade between member countries, but also diverts trade between member and non-member countries and its net effect on social welfare in member countries and the world at large is theoretically ambiguous. Moreover, an RTA can give rise to vested interests in partial trade liberalization and make broad-based trade liberalization politically more difficult to carry out.

2. Another way for the CARs to reduce the policy-related trade barriers at relatively low costs and expand trade rapidly is to join the World Trade Organization (WTO). Since accession to WTO brings improved access to markets in other WTO member countries, it enables a new member country to boost exports and mitigate the initial adverse effects of trade liberalization on employment and the balance of payments. And since membership in the WTO requires according the most favored nation (MFN) status to all member countries, liberalization of trade policy in the process of WTO accession leads to little trade diversion and is likely to improve social welfare in both the new member country and the world as a whole. However, accession to the WTO is a relatively long process, as it involves negotiations with a large number of member countries and requires the implementation of a broad range of policy and institutional reforms.

3. In an effort to expand trade and closer integrate into the international trading system, the CARs have been pursuing both RTAs (regionalism) and accession to WTO (multilateralism). As noted in Chapter 1, an RTA complements the multilateral trading system represented by the WTO insofar as it promotes broad-based liberalization in the member countries. In fact, RTAs are legal under the WTO rules. However, their discriminatory nature is contrary to the principle of non-discrimination on which the multilateral trading system is based, and—under certain circumstances—an RTA can weaken the multilateral trading system. How a particular RTA, affects trade, social welfare and political feasibility of broad-based trade liberalization in the member countries and the multilateral trading system depends on a number of factors listed in Box 1.1.

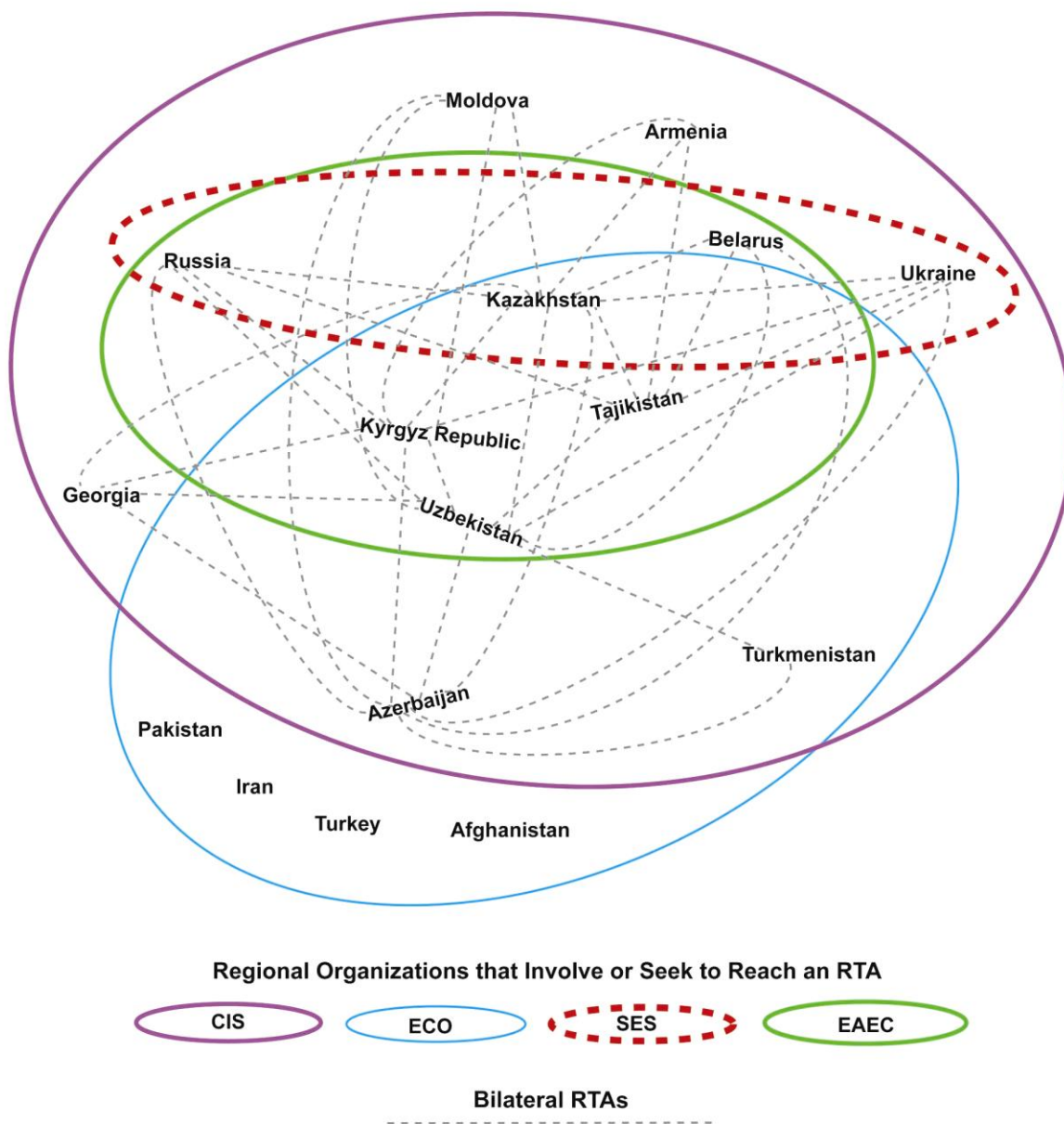
4. This chapter analyses regionalism and multilateralism in Central Asia. Specifically, it reviews RTAs involving the CARs and assesses their effects on the CARs. It then reviews the status of the CARs' accession to the WTO and discusses the benefits and costs of WTO membership for the CARs. The chapter also discusses the options for regional cooperation that the CARs can pursue within the multilateral framework.

3.2 “Spaghetti Bowl Effect” of Regional Trade Agreements

5. The CARs have joined several regional organizations that involve or seek to reach a multilateral RTA. In addition, they have entered into numerous bilateral RTAs. A combination of

these, often overlapping, multilateral and bilateral RTAs has resulted in what the trade literature aptly calls “the spaghetti bowl effect” (see Figure 4.1).¹

Figure 4.1 “The Spaghetti Bowl Effect” of Regional Trade Agreements Involving Central Asian Republics
(As of November 2005)



Note: In August 2005, Turkmenistan downgraded its membership in the CIS to the status of an “associated member”.

Source: Information gathered by the authors

6. The CARs are all members of the Commonwealth of Independent States (CIS), which was established by Belarus, Russia and Ukraine in 1991 and is comprised of all former Soviet Union (FSU) countries with the exception of Estonia, Latvia and Lithuania. The overall objective of the CIS is to contribute to “further development and strengthening of the relationships of friendship, good neighbourhood, inter-ethnic harmony, trust, mutual understanding and mutually

advantageous cooperation among” the member countries. In 1994, the CIS countries signed an Agreement on the Establishment of a Free Trade Area, but were not able to agree on a common list of exemptions from the free trade regime. In 1999, they made amendments in the agreement, whereby the list of exemptions could be agreed on the bilateral basis. However, not all CIS countries have been able to agree on the list of exemptions even on the bilateral basis, and the agreement has not been fully implemented.

7. In late 1995, Kazakhstan joined the agreement on the establishment of a customs union signed by Belarus and Russia in early 1995. The Kyrgyz Republic followed suit in 1996 and Tajikistan in 1999. In February 2000, the five countries signed an agreement on a common external tariff schedule (CETS), whereby they committed themselves to adopt a CETS within five years after the entry into force of the agreement.² In October 2000, they signed a treaty establishing the Eurasian Economic Community (EAEC), a regional organization aimed at facilitating the creation of a customs union and a common economic space of the member countries. The EAEC treaty entered into force in May 2001 and superseded the customs union agreement between its member countries. In 2003, the EAEC countries agreed on a CETS consisting of 6,178 tariff lines that were common to Belarus, Kazakhstan and Russia.³ In October 2005, Uzbekistan joined the EAEC as a result of its merger with the Central Asian Cooperation Organization, which consisted of Kazakhstan, Kyrgyz Republic, Tajikistan, Russia and Uzbekistan. As of November 2005, 63% of tariffs lines in Kazakhstan, 49% of tariff lines in Tajikistan and only 18% of tariffs line in the Kyrgyz Republic were harmonized with the CETS of the EAEC.

8. An alternative grouping among CIS countries emerged in September 2003 when Belarus, Kazakhstan, Russia and Ukraine reached a tentative agreement to create a Single Economic Space (SES).⁴ The agreement envisages the establishment of supranational institutions and a free trade zone with the ultimate goal of creating an economic union of the member countries. However, the future of the SES became uncertain following the 2004 presidential election in Ukraine, which brought to power a pro-Western government. In August 2005, Belarus, Kazakhstan and Russia pledged to sign a package of 29 statutory documents of the SES by December 2005 and an additional 15 documents by March 2006, but Ukraine indicated it would not sign any SES document that envisioned establishment of a supranational institution.

9. In an attempt to maintain a common economic space specifically in Central Asia, Kazakhstan, Kyrgyz Republic and Uzbekistan created the Central Asian Economic Union in 1994. The organization was renamed the Central Asian Economic Community (CAEC) when Tajikistan joined in 1998. The presidents of the four countries proclaimed the Central Asian Cooperation Organization (CACO) as the successor to the CAEC in 2002, and Russia joined the CACO in 2004. Although the founding agreement of the CACO stated high aspirations, little progress had been made in institutionalizing or implementing them. At their meeting in St. Petersburg, Russia, in October 2005, the presidents of the CACO member countries decided to merge the organization with the EAEC.

10. In 1992, the CARs—along with Afghanistan and Turkmenistan—joined the Economic Cooperation Organization (ECO), which was set up by Iran, Pakistan and Turkey in 1985 for the purpose of promoting economic, technical and cultural cooperation among the member countries. In 2004, Iran, Kazakhstan, Kyrgyz Republic, Pakistan and Turkey signed an ECO Trade Agreement (ECOTA), whereby they agreed to reduce the highest tariff rate on imports from the other signatory countries to a maximum of 15% within eight years after entry into force of the agreement. However, the ECOTA did not enter into force as of November 2005.

11. In addition to joining the regional institutions that involve or aim to reach a multilateral RTA, CARs have signed a large number of bilateral preferential and free trade agreements. However, some of these bilateral RTAs have never entered into force because they have not been ratified by at least one signatory country, while the effectiveness of those that have formally entered into force has been limited due to narrow coverage, complex rules of origin and less-than-full implementation. Often, exemptions include goods that account for a significant proportion of bilateral trade between the signatory countries, and the rules of origin are so complex that for importers preferential tariffs envisaged in the RTAs are not worth claiming.

12. The main reason why many bilateral RTAs that have formally entered into force are not fully implemented is that, like the multilateral RTAs, they lack an effective enforcement and dispute settlement mechanism. Consequently, they cannot prevent the signatory countries from taking actions that are inconsistent with the agreements and do not help settle trade disputes that may arise from such actions. Indeed, the free trade agreements that Kazakhstan signed with the Kyrgyz Republic in 1995, Russia in 1992 and Uzbekistan in 1997 did not prevent it from introducing a temporary ban and a 200% tariff on certain imports from those countries in the late 1990s. Similarly, the free trade agreements that Uzbekistan signed with many other CIS countries have not prevented it from imposing high implicit tariffs on imports from those countries in the form of excise taxes that are levied on imported but not domestically produced goods or have higher rates for imported than domestically produced goods.

4.2 Effects of Regional Trade Agreements

13. Since the RTAs involving the CARs generally have a narrow coverage and complex rules of origin and most of them have remained agreements on paper only, their impact on the trade regime and trade in the CARs has so far been limited. In part because of the multilateral and bilateral RTAs signed by the CIS countries, trade among them tends to be freer than trade between CIS and non-CIS countries; and in part for this reason, the CARs mostly over-trade with each other and other CIS countries, as noted in Chapter 2. Likewise, trade among the EAEC member countries is freer than trade between them and other countries, although there is no indication that they at present over-trade with each other more than with other CIS countries.

14. At the same time, some of the RTAs are likely to have significant effects on the CARs if they enter into force and/or are fully implemented. In particular, they are likely to lead to considerable trade diversion. Table 4.1 compares the actual shares of selected EAEC member countries in Kazakhstan, Kyrgyz Republic and Tajikistan's merchandise imports with estimates of the corresponding bilateral import supply capacity. It shows that Kazakhstan, Kyrgyz Republic and Tajikistan could have imported a much larger share of their merchandise imports from each other and Russia in 2003 (2000 in the case of Tajikistan) than they actually did. This suggests that considerable trade diversion is likely to occur and social welfare is likely to worsen in Kazakhstan, Kyrgyz Republic and Tajikistan if these countries raise tariffs on imports from countries that are not EAEC members in an effort to implement the EAEC customs union.

Table 4.1: Actual and Potential Share of Selected EAEC Member Countries in Kazakhstan, Kyrgyz Republic and Tajikistan's Merchandise Imports, 2003
(In percent)

			Exporter			
			Kazakhstan	Kyrgyz Republic	Russia	Tajikistan ^a
Importer	Kazakhstan	Actual		0.7	39.0	0.1
		Potential ^b		3.0	90.0	2.9
	Kyrgyz Republic	Actual	23.8		24.6	0.3
		Potential ^b	60.2		99.1	5.2
	Tajikistan ^a	Actual	12.2	1.1	15.6	
		Potential ^b	39.8	16.9	100.0	

^a The numbers are for 2000.

^b Refers to estimated bilateral import supply capacity (see Table 2.4 and endnote 5 in Chapter 2).

15. Using partial equilibrium analysis, Tumbarello (2005) assesses welfare effects of implementing the customs union of the EAEC on its member countries under the two scenarios: (i) prior to and (ii) following their accession to the WTO.⁵ She finds that the net welfare effect of implementing the EAEC customs union on Kazakhstan, Kyrgyz Republic and Tajikistan would be negative under the both scenarios (see Table 4.2). The implementation of the EAEC customs union would increase tariff revenues in all three countries, but this would be more than offset by a decline in consumer surplus. The net negative effect of implementing the EAEC customs union on Kazakhstan and Tajikistan would be much larger under the first scenario than under the second.

Table 4.2: Welfare Effects of Implementing Customs Union of Eurasian Economic Community on Kazakhstan, Kyrgyz Republic and Tajikistan
(Million US dollars)

	Kazakhstan	Kyrgyz Republic	Tajikistan
Prior to WTO Accession			
Change in tariff revenue	+223.4	+22.8*	+12.1
Change in consumer surplus	-255.2	-26.3*	-13.8
Net welfare effect	-31.8	-3.5*	-1.8
Following WTO Accession			
Change in tariff revenue	16.9	-	3.8
Change in consumer surplus	-19.4	-	-4.5
Net welfare effect	-2.4	-	-0.7

* Since the Kyrgyz Republic has already joined the WTO, the figure represents the potential benefit/cost of implementing the EAEC customs union.

Source: Tumbarello (2005).

16. While static comparisons of consumer surplus help identify stakeholders, trade policy as comprehensive as a regional agreement will induce extensive indirect and structural effects on competitiveness and resource allocation. To elucidate these more complex forces, the Asian Development Bank has developed a new dynamic CGE model of the Kazakhstan economy, as part of its study on Central Asia regional cooperation in trade, transport and transit. The model

has been developed according to generally accepted specification standards and implemented in the GAMS programming language. It has a relatively detailed structure, with 25 sectors, 16 regions and 30 household types. Technically, the model is a system of simultaneous equations that simulate price-directed interactions between firms and households in commodity and factor markets. The roles of government, capital markets and other trading partners are also specified, with varying degrees of detail, to close the model and account for economy-wide resource allocation, production, employment and income determination. Commodity and factors prices are key endogenous variables, with changes in prices inducing changes in the level and composition of supply and demand, production and income, and the remaining variables in the system. The equation system is solved for prices that correspond to equilibrium in markets and satisfy the accounting identities governing economic behavior. They are then calibrated to the 2002 Social Accounting Matrix for Kazakhstan. The model is described in greater detail in Appendix 3, and its underlying methodology is discussed in Roland-Holst (2005b).

17. In the present application, we consider two alternative tariff policy scenarios for Kazakhstan, one with respect its prominent bilateral partner Russia and one with respect to a collective EAEC. In the first experiment, we assume Kazakhstan adopts a tariff for each commodity which is the higher (in ad valorem percent) of the two country's existing tariff schedules (termed Max(K,R)). The second experiment merely implements EAEC common external tariffs across the board for Kazakhstan.

18. Macroeconomic results for these two scenarios are presented in Table 4.3 below, followed by detailed domestic structural results presented in Table 4.4. The salient macro results agree with those of partial equilibrium (PE) analysis, but extending these over time indicates how the burden of tariff distortion can grow. Essentially, both Russia individually and EAEC collectively are applying higher tariffs than the effective Kazakhstan rates we estimate.¹ For this reason, adopting either schedule would increase average protection levels, imposing net distortionary costs that increase much faster over time than tariff revenues. Thus by 2015, tariff revenue changes remain stable, but welfare costs have doubled. The results are even more adverse with adoption of Russian tariffs, which are higher than either Kazakhstan or EAEC. In this case, tariff revenues by 2015 are treble the PE estimates, but welfare costs have increased six fold.

Table 4.3: General Equilibrium Welfare Effects of EAEC Implementation on Kazakhstan

	(annual change from 2015 Baseline in millions of 2002 USD)		
	Welfare	Tariffs	Net
Max (Kaz,Rus) Tariffs	-1,525	779	-747
EAEC Tariffs	-460	288	-172

	(annual percent change from Baseline in 2015)				
	GDP	CPI	Exports	Imports	Employed
Max (Kaz,Rus) Tariffs	-1.58	1.21	-2.40	-1.98	-1.74
EAEC Tariffs	-.48	.46	-.96	-.80	-.53

19. One of the principle advantages of the CGE approach is to elucidate structural adjustments and chains of indirect linkage effects. Table 4.4 presents sectoral results for the

¹ Tariffs were aggregated directly from (over 11,000) customs lines to conform to the 25 sector model data.

two policies, revealing how the distortionary burden of increased tariffs is shared across sectors of the Kazakhstan economy. Note first of all that, although economywide average protection is only slightly higher, individual tariffs can differ quite significantly. This means the macro indicators mask significant shifts in the burden of adjustment across stakeholder in the economy. Generally speaking, increasing tariffs leads to real exchange rate appreciation, reducing export price competitiveness while rising tariffs reduce import demand. In most sectors, the export contraction is greater than that of imports, inducing output reductions and job losses across protected sectors. Sectoral responses depend on direct (own tariff) effects, macro effects on own competitiveness (exports), and shifting demand composition (output). In any case, it is clear that the adverse effects are widespread, but by no means uniform.

Table 4.4: General Equilibrium Sectoral Effects of EAEC on Kazakhstan (annual percent change from Baseline in 2015)

Max(K,R)	Tariffs	Imports	Exports	Output	Employed
<i>Agriculture</i>	7.95	-.37	-1.49	-.29	-.64
<i>Energy Fuels</i>	30.22	-2.13	-2.05	-1.49	-2.41
<i>Other Mining</i>	.00	-.52	-2.98	-2.36	-3.16
<i>Processed Food</i>	4.64	-.15	-1.08	.30	.13
<i>Textiles and Apparel</i>	17.00	.06	-1.32	-.17	-.49
<i>Wood & Paper Products</i>	23.92	-.83	-1.51	-.43	-.85
<i>Chemicals</i>	10.82	-.27	-2.69	-2.23	-3.25
<i>Mineral Products</i>	4.15	-.83	-2.25	-1.37	-1.92
<i>Metal Products</i>	15.17	-1.66	-2.80	-2.20	-3.30
<i>Machinery</i>	382.41	-2.34	-2.35	-.81	-1.04
<i>Electrical Appliances</i>	101.94	-1.37	-2.44	-.40	-.71
<i>Other Industries</i>	27.20	-1.14	-4.05	-3.30	-3.89
EAEC					
<i>Agriculture</i>	5.16	.45	-.48	-.08	-.20
<i>Energy Fuels</i>	29.52	-1.77	-.78	-.40	-.69
<i>Other Mining</i>	.00	-.13	-1.20	-.92	-1.23
<i>Processed Food</i>	2.53	-.23	-.20	.41	.45
<i>Textiles and Apparel</i>	9.11	-.07	-.44	.13	.07
<i>Wood & Paper Products</i>	10.13	.03	-.55	-.14	-.29
<i>Chemicals</i>	4.79	.06	-1.27	-1.06	-1.52
<i>Mineral Products</i>	2.25	-.10	-.92	-.46	-.66
<i>Metal Products</i>	9.34	-.64	-1.17	-.84	-1.26
<i>Machinery</i>	91.15	-.52	-1.14	-.65	-.79
<i>Electrical Appliances</i>	6.72	-.27	-.75	-.57	-.80
<i>Other Industries</i>	4.36	-.26	-1.54	-1.35	-1.59

20. Sectoral interests are often prominent in the political economy of trade policy formation and implementation, and the present results are no exception. Note for illustrative purposes that

Machinery tariffs are much lower in Kazakhstan than either in Russia or the EAEC. The reason for this is the country's need for significant capital good imports for energy development and modernization. Accession to a regime of higher protection would not only affect the economic variables cited above, but also the country's productivity growth and sustainable resource development.

21. Thus both macro and sectoral results offer evidence that regional agreements should be approached with caution. Our own estimates of initial protection levels, derived from detailed (>11,000) customs line data, indicates that Kazakhstan is pursuing a more liberal trade regime than its largest neighbor or than is called for in EAEC membership. Conforming to regional trade policies would therefore entail substantial aggregate efficiency costs and adverse structural adjustments.

4.3 Accession to World Trade Organization and Regional Cooperation in Trade Policy within the Multilateral Framework

22. In parallel with participation in various RTA, the CARs have pursued membership in the WTO, albeit with a varying degree of success. While the Kyrgyz Republic joined the WTO in 1998, the other CARs are at different stages of the accession process (see Table 4.X). Kazakhstan has made a considerable headway in revising its national legislation in line with WTO requirements and is at an advanced stage of the accession process, with an active program of Working Party meetings in recent years. Azerbaijan, Tajikistan and Uzbekistan's accession process are at an earlier stage than Kazakhstan's, although for all three countries the process has speeded up since 2002.

Table 4.X Status of WTO Accession of Central Asian Republics
(As of November 2005)

	Applied	Working Party Meetings	Member
Azerbaijan	June 1997	3 meetings (June 2002, October 2004 and January 2005)	
Kazakhstan	January 1996	8 meetings (1997-2005)	
Kyrgyz Republic	1993		December 1998
Tajikistan	May 2001	3 meeting (March 2004 and April 2005)	
Uzbekistan	December 1994	3 meetings (July 2002, June 2004 and October 2005)	

Source: www.wto.org.

23. The potential benefits of WTO membership for the CARs are considerable. To join the WTO, a country needs to implement a broad range of policy and institutional reforms, including liberalization of trade policy and improvement of the legal and regulatory framework for international trade. Once it joins WTO, a country must conduct trade with other WTO members in accordance with pre-agreed rules. One of these rules requires that WTO members grant each other the MFN status. The terms on which a country joins the WTO and the rules in accordance with which its members conduct trade with each other are based on consensus and enforced through an effective dispute settlement mechanism. This means that accession to WTO can

help CARs liberalize trade policy at relatively low costs and expand trade rapidly due to improved access to markets in the large number of countries that are already WTO members.⁶ Since many countries with which CARs under-trade (including most developed countries and emerging market economies in East and South Asia) are WTO members, accession to the WTO can also help CARs fully realize their bilateral trade potential vis-à-vis these countries and diversify trade in terms of geographical distribution. Furthermore, WTO membership can help CARs reduce their vulnerability to possible protectionist measures by trading partners and make trade liberalization irreversible and the policy environment more predictable. It also strengthens the CARs' bargaining power in trade negotiations, especially with countries seeking WTO accession. Finally, accession to WTO can help CARs strengthen their capacity for policy management and improve the quality of institutions. As noted in Chapter 3, the poor quality of institutions is a major obstacle to trade in the CARs.

24. The potential benefits of WTO membership for the CARs will increase as more and more of their neighbors and trading partners accede to the organization. One reason the Kyrgyz Republic has not benefited much from its accession to the WTO in 1998 is that none of its immediate neighbors and a few of its key trading partners were WTO members at the time. The Kyrgyz Republic did not coordinate trade policy with its neighbors and acceded to the WTO with tariff bindings which were substantially lower than tariffs prevailing in the region. In response, some of its neighbors imposed tight restrictions on imports from the Kyrgyz Republic in an effort to prevent deflection of their trade with third countries through the Kyrgyz Republic. Since those neighboring countries were not WTO members, the Kyrgyz Republic could not use WTO rules and procedures to have the restrictions repelled. However, the situation has changed significantly since 1998. Most notably, China acceded to the WTO in 2001 and Russia is likely to join the organization in the near future. Continuing rapid economic growth and the attendant increase in demand for imports in these two large countries will create an opportunity for the CARs to boost exports and economic growth. WTO membership can help CARs to take this opportunity.

25. WTO membership also has costs for the CARs, but these often are exaggerated and misinterpreted. For example, the costs of policy reforms (such as trade liberalization) that a country implements in connection with the accession to the WTO are sometimes interpreted as costs of the membership in the organization. However, the country would need to implement most of these policy reforms anyway if it is to expand trade and integrate into the global economy. WTO membership actually reduces the costs of trade liberalization and makes it more difficult to reverse. Likewise, the constraints that WTO membership imposes on policy autonomy make the policy environment more predictable and conducive to trade, investment and growth.

26. The real costs of WTO membership are those associated with the accession to the organization. These include the costs of preparing accession documents, negotiating accession conditions with a large number of existing members, and building institutions that are needed to meet the requirements of WTO membership but otherwise have little significance for the country. Nonetheless, the costs of WTO accession are most likely to be less than the costs associated with the preparation of the numerous RTAs that have been signed by CARs but not implemented. Moreover, most bilateral and multilateral donors are more willing to provide CARs with technical assistance in institutional building for the accession to the WTO than for the preparation of an RTA.

27. WTO membership does not preclude regional cooperation in trade policy. There are several options for such cooperation that the CARs can pursue within the multilateral framework. First, the CARs may want to liberalize trade policy in a coordinated manner and on a

non-discriminatory basis, as was done by many Asia-Pacific Economic Cooperation member countries. This would help them avoid the bitter experience of the Kyrgyz Republic with uncoordinated trade liberalization. Second, the CARs that are not yet WTO members may want to coordinate their negotiating positions in the accession process with each other and other countries seeking WTO membership.⁷ This would strengthen their bargaining power during accession negotiations, but most likely prolong the process. Third, as they accede to the WTO, the CARs may want to join issue-specific coalitions within the WTO, such as the groups of developing countries pressuring for changes in WTO rules on agriculture and elimination of agricultural subsidies in developed countries (see Box 4.1).

BOX 4.1: Coalitions within the World Trade Organization

Several coalitions of member countries acting together and supporting each other on a particular issue have recently emerged within the WTO. Given the high costs for the CARs of the barriers to their agricultural exports to developed countries and of trade-distorting subsidies that these countries provide to their farmers, the coalitions of developing countries that seek reduction of barriers to agricultural imports to developed countries and elimination of trade-distorting agricultural subsidies in those countries are of particular importance for the CARs.

In the run-up to the WTO Ministerial Conference held in Cancun in September 2003, a group of 20 developing countries formed a coalition (referred to as the “G-20”) with the aim of significant liberalization of trade in agricultural products under the Doha round of multilateral trade negotiations. To this end, the members of the G-20 adopted a common position on trade in agricultural products, which was circulated as their joint proposal during the Cancun Ministerial Conference and became the platform of the group. The members of the group continued consultations on policy and technical issues relating to trade in agricultural products after the Cancun Ministerial Conference and intend to maintain the common position on agriculture during future trade negotiations under the Doha round.

During the WTO Ministerial Conference in Cancun, a group of West African cotton-producing countries (Benin, Burkina Faso, Chad and Mali) presented the Sectoral Initiative on Cotton, which highlighted the damage to developing countries caused by cotton subsidies in developed countries, particularly the United States, and called for the elimination of these subsidies. In March 2005, Brazil secured a final WTO ruling that most cotton subsidies in the United States were illegal under WTO rules, and in early July 2005, the US Government announced that it would ask Congress to pass legislation that would phase out these subsidies. Even if the United States fully eliminates the cotton subsidies found illegal by the WTO, considerable trade-distorting cotton subsidies will remain in the United States and other developed countries. Cotton-producing CARs could broaden the coalition against these subsidies and help speed up their elimination.

Source: Authors

4.4 Conclusions

28. Since 1991, the CARs have joined several regional organizations that involve or seek to reach a multilateral RTA. In addition, they have entered into numerous bilateral RTAs with other CIS countries. Many of these RTAs have not entered into force, while most of those that have formally entered into force have not been implemented. Consequently, their impact on the trade regime and trade in the CARs has so far been limited. If fully implemented, however, the concluded and planned RTAs involving CARs, such as the EAEC customs union, are likely to result in considerable trade diversion and have significant negative effects on social welfare in the CARs.

29. In parallel with participation in various RTA, the CARs have pursued membership in the WTO. The Kyrgyz Republic has already joined the WTO. The other CARs are at different stages of the accession process. The potential benefits of WTO membership for the CARs are considerable, whereas its costs are relatively small. Most notably, accession to WTO can help CARs liberalize trade policy at relatively low costs and expand trade rapidly. Since many countries with which CARs under-trade are WTO members, accession to the WTO can also help CARs fully realize their bilateral trade potential vis-à-vis these countries and diversify trade in terms of geographical distribution. Furthermore, WTO membership can help CARs reduce their vulnerability to possible protectionist measures by trading partners and make trade liberalization irreversible and the policy environment more predictable. It also strengthens the CARs' bargaining power in trade negotiations, especially with countries seeking WTO accession. Finally, accession to WTO can help CARs strengthen their capacity for policy management and improve the quality of institutions. The benefits of WTO membership for the CARs have increased considerably with China's accession in 2001 and will increase further with Russia's imminent accession. Therefore, the CARs need to give priority to accession to WTO and regional cooperation in trade policy within the multilateral framework, such as concerted but non-discriminatory trade liberalization and cooperation with other developing countries to push for the elimination of cotton subsidies in developed countries.

30. Membership in an RTA that is part of deep regional economic integration could be beneficial for the CARs. However, such an RTA is unlikely to emerge in Central Asia in the near future. The primary reason is that few governments in the region are willing to accept tight constraints that deep regional integration would impose on their policy autonomy.⁸ That is why regional cooperation to promote trade in Central Asia should focus, at least in the short- to medium-term, on those areas where regional cooperation can help reduce transport costs and make transport times shorter and more reliable for international shipments to and from the CARs. These include transport and customs transit.

Appendix 3 – Technical Summary of the Kazakhstan Dynamic CGE Model

A3-1. Overview

A3-1. The complexities of today's global economy make it very unlikely that policy makers relying on intuition or rules-of-thumb will achieve anything approaching optimality in either the domestic or international arenas. Market interactions are so pervasive in determining economic outcomes that more sophisticated empirical research tools are needed to improve visibility for both public and private sector decision makers. The preferred tool for detailed empirical analysis of economic policy is now the Calibrated General Equilibrium (CGE) model. It is well suited to trade analysis because it can detail structural adjustments within national economies and elucidate their interactions in international markets. The model is more extensively discussed in an annex below and the underlying methodology is fully documented elsewhere, but a few general comments will facilitate discussion and interpretation of the scenario results that follow.

A3-2. Technically, a CGE model is a system of simultaneous equations that simulate price directed interactions between firms and households in commodity and factor markets. The role of government, capital markets, and other trading partners are also specified, with varying degrees of detail and passivity, to close the model and account for economywide resource allocation, production, and income determination.

A3-3. The role of markets is to mediate exchange, usually with a flexible system of prices, the most important endogenous variables in a typical CGE model. As in a real market economy, commodity and factor price changes induce changes in the level and composition of supply and demand, production and income, and the remaining endogenous variables in the system. In CGE models, an equation system is solved for prices that correspond to equilibrium in markets and satisfy the accounting identities governing economic behavior. If such a system is precisely specified, equilibrium always exists and such a consistent model can be calibrated to a base period data set. The resulting calibrated general equilibrium model is then used to simulate the economywide (and regional) effects of alternative policies or external events.

A3-4. The distinguishing feature of a general equilibrium model, applied or theoretical, is its closed form specification of all activities in the economic system under study. This can be contrasted with more traditional partial equilibrium analysis, where linkages to other domestic markets and agents are deliberately excluded from consideration. A large and growing body of evidence suggests that indirect effects (e.g., upstream and downstream production linkages) arising from policy changes are not only substantial, but may in some cases even outweigh direct effects. Only a model that consistently specifies economywide interactions can fully assess the implications of economic policies or business strategies. In a multi country model like the one used in this study, indirect effects include the trade linkages between countries and regions which themselves can have policy implications.

A3-2. Model Description

A3-5. The Kazakhstan model is a one-country dynamic calibrated general equilibrium (CGE) model, typical in most respects. Kazakhstan has five trading partners, Russia, Uzbekistan, Kyrgyz Republic, China, and a composite Rest of World (ROW) trading partner whose behavior is exogenous with respect to all external commodity and factor flows. The current industry/commodity breakdown incorporates 25 sectors, aggregated from 61 sectors in the

basic 2002 Kazakhstan SAM. We also use detailed household income information to disaggregate 30 household types, labor, capital, and land.

A3-3. Production

A3-6. As with many applied general equilibrium models, the Kazakhstan model decomposes the production structure into a series of nested decisions allowing for a wide range of substitution possibilities between the various inputs. While we experiment extensively with alternative functional forms and specifications of industry conduct, the basic constituents of production remain the same. Figure A3-1 provides a graphical depiction of the nested production structure.

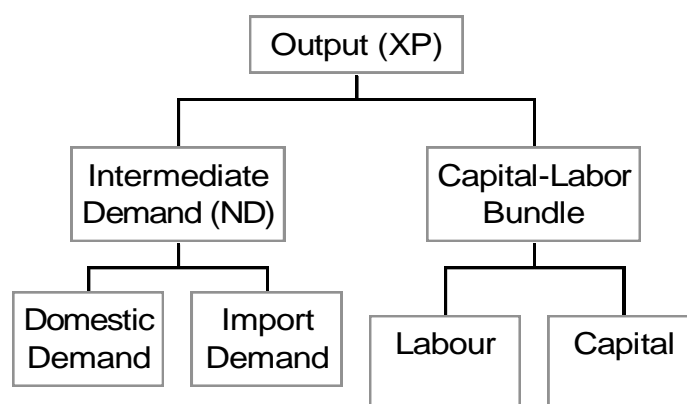
A3-7. The top level of the production structure decomposes the production decision between aggregate inputs and an aggregate bundle composed of capital and labor value added. While there is the possibility for allowing some substitution between intermediate inputs and value added, for the examples considered in this paper, it is assumed that the substitution elasticity is zero, or in other words the value added is always mixed in fixed proportions with intermediate inputs. It is also assumed that all the intermediate inputs are consumed in fixed proportion amongst themselves, though it is possible to substitute between domestic and imported intermediate goods. The next level of the production structure decomposes the value added bundle into labor and capital demand constituents.

A3-4. Consumption

A3-8. The composite domestic household group is in turn captured by a single representative consumer who allocates disposable income across the various commodities. The model uses an extension of the familiar Stone-Geary consumer demand system, known as the extended linear expenditure system (ELES). The ELES has several distinct advantages over other demand systems. It allows for commodity-specific income elasticities which can either be econometrically estimated or derived from literature searches, it is easy to calibrate and implement, and it integrates the household saving decision in the consumer optimization process. In the ELES system, consumption is represented as the sum of two components, a subsistence minimum, and a share of supernumerary income, which is the residual disposable income after subtracting expenditures on the subsistence minimum. Household direct taxation is a fixed proportion of income.

Figure A3-1

Production Structure



A3-5. Other Final Demand

A3-9. There are three other domestic final demand accounts: government expenditures, investment expenditures, and changes in inventory. Aggregate real government expenditure is assumed to be fixed, while aggregate real investment expenditure will depend upon the closure rule. The decomposition into demand for commodities is assumed to use fixed shares in both cases.

A3-6. Trade

A3-10. The model uses an extension of the familiar Armington hypothesis to implement trade equations. The principle behind the Armington assumption is that goods are differentiated according to region of origin. In practice this means that each agent specifies demand for a specific *aggregate* good (derived from maximizing utility for example). This good is a constant elasticity of substitution (CES) aggregate of imports and domestic products in each sector. At this stage of the demand system, agents decompose demand for the aggregate good into its domestic and (aggregate) import components based on relative prices and (calibrated) penetration shares.

A3-11. Export supply is treated symmetrically to import demand, i.e. domestic producers are assumed to differentiate between domestic and export markets. A rise in export prices (relative to domestic prices), induces producers to shift production resources towards export markets. The model implements a constant elasticity of transformation (CET) curve to capture this assumption.

A3-7. Equilibrium

A3-12. Production is modeled with a constant-returns-to-scale technology, which guarantees that supply equals domestic plus external (export) demand for domestic output. Factor prices, wages and capital returns, are generally determined by equilibrium conditions. In both markets there are a wide range of possibilities. We assume that aggregate capital is fixed in supply and mobile between sectors. We assume that labor of a specific skill is perfectly mobile across sectors, which implies a single economy-wide average wage rate for each skill, assuming labor markets are competitive. A number of authors have demonstrated, however, that significant and persistent wage differentials exist across sectors for the same occupational groups. To account for this, we calibrate a distribution of inter-sectoral wage differentials which are held constant during the simulations.

A1. Closure

A3-13. There are three key macro closure rules. The first concerns the government revenue-expenditure balance. For the purposes of the simulations, we assume real government saving is fixed in each region. The instrument used to achieve the balance is the household tax schedule which will shift either right or left to guarantee the budget balance holds.²

A3-14. The second closure rule concerns the saving-investment balance. Domestic investment is determined by the stock of domestic private and public saving, plus net foreign saving (which is exogenous).

A3-15. The third and final closure rule governs the external account, where we assume that the trade balance is equal to the level of foreign saving. If foreign saving were fixed, all adjustment would necessarily be mediated by the real exchange rate, since increased import demands which follow from trade liberalization must be financed by increased exports. At rigid terms-of-trade, exports can only expand by attracting resources whose relative prices have declined due to structural adjustment in other sectors. These include tradables which are being displaced by new imports and nontradeables, whose price declines both contribute to falling domestic resource costs or real exchange rate depreciation. When foreign saving is endogenous, as in the present model, net flows of foreign investment will also exert an influence on external adjustment, possibly even driving up the real exchange rate and offsetting the export competitiveness which would otherwise result from trade liberalization.

Structural Equations of the Model

Consumer Behavior

$$C_i = LES_C(P_{Di}, Y) = \gamma_i + \frac{\eta_i}{P_{Di}} \left(Y - \sum_{j=1}^n P_{Dj} \gamma_j \right) \quad (A3-1)$$

Production Technology

$$S_i = \min\{CES_S(L_{Di}, K_{Di}; \phi_i), V_{li}/a_{li}, \dots, V_{ni}/a_{ni}\} \quad (A3-2)$$

$$V_{ij} = a_{ij} S_j \quad (A3-3)$$

Factor Demands

$$LD_i / KD_i = \psi(w / r_{Di}; \phi_i) \quad (A3-4)$$

$$KD_i = KD_i^d + \sum_f KD_i^f \quad (A3-5)$$

Factor Supplies

$$LS = LES_L(w, Y) \quad (A3-6)$$

$$KS_i = KS_i^d + \sum_f KS_i^f \quad (A3-7)$$

Commodity Demands, Supplies, and Allocation of Traded Goods

$$D_i = \bar{A}_{Di} \left[\sum_k \beta_i^k (D_i^k)^{(\sigma_i-1)/\sigma_i} \right]^{\sigma_i/(\sigma_i-1)} \quad (A3-8)$$

² This is equivalent to lump sum taxation or rebates.

$$D_i^f / D_i^d = g_D(P_{Di}^f / P_{Di}^d; \sigma_i) \quad (A3-9)$$

$$S_i = \bar{A}_{S_i} \left[\sum_k \delta_i^k (S_i^k)^{(\tau_i+1)/\tau_i} \right]^{\tau_i/(\tau_i+1)} \quad (A3-10)$$

$$S_i^f / S_i^d = g_S(P_{Si}^f / P_{Si}^d; \tau_i) \quad (A3-11)$$

Composite Domestic Prices

$$P_{Di} D_i = \sum_k P_{Di}^k D_i^k \quad (A3-12)$$

$$P_{Si} S_i = \sum_k P_{Si}^k S_i^k \quad (A3-13)$$

Domestic Market Equilibrium

$$D_i = C_i + \sum_{j=1}^n V_{ij} \quad (A3-14)$$

$$D_i^d = S_i^d \quad (A3-15)$$

$$L_i^S = \sum_{i=1}^n L_{ii}^D \quad (A3-16)$$

$$KS = \sum_{i=1}^n KD_i^d \quad (A3-17)$$

Income and Government Revenue

$$Y = (1 - t_L) \sum_{i=1}^n w LD_i + (1 - t_K) \sum_{i=1}^n r_{Di} KD_i + Y_G \quad (A3-18)$$

$$Y_G = t_L \sum_i w LD_i + t_K \sum_i r_{Di} KD_i + \sum_k \sum_i (t_{Di}^k P_{Di}^k D_i^k + t_{Si}^k P_{Si}^k S_i^k) \quad (A3-19)$$

Balance of Payments

$$B^f = \sum_i [PW_{Si}^f S_i^f - PW_{Di}^f D_i^f] \quad (A3-20)$$

Foreign Commodity Prices

$$P_{Di}^f = (1 + t_{Di}^f) e PW_{Di}^f \quad (A3-21)$$

$$P_{Si}^f = 1 / (1 + t_{Si}^f) e PW_{Si}^f \quad (A3-22)$$

Foreign Demand and Supply Functions

$$D_i^{h,ROW} = \bar{A}_{M_i} (PW_{Si}^{h,ROW})^{\zeta_i} \quad (A3-23)$$

$$S_i^{h,ROW} = \bar{A}_{E_i} (PW_{Di}^{h,ROW})^{\xi_i} \quad (A3-24)$$

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$$\sum_i \omega_i P_{Di}^d = 1 \quad (\text{A3-25})$$

II. Variable and Parameter Definitions

Price Variables

e	Exchange rates (domestic/foreign currency)
P_{Di}^d	Domestic purchaser prices of domestic goods
P_{Di}^f	Domestic purchaser price of imports from region f
P_{Si}^d	Domestic producer price in the domestic market
P_{Si}^f	Domestic producer price for exports to region f
P_{Di}	Purchaser price of composite domestic demand
P_{Si}	Producer price of domestic output
PW_{Di}^f	World price of imports from region f
PW_{Si}^f	World price of exports to region f
r_{Di}	Rental rate on capital
w	Average wage rate

Quantity Variables

C_i	Personal consumption
D_i^d	Domestic demand for domestic goods
D_i^f	Domestic demand for imports from region f
D_i	Composite goods for domestic consumption
KD_i^d	Domestic demand for domestic capital
KS_i^d	Domestic supply of domestic capital
LD_i	Demand for labor
LS	Aggregate labor supply
S_i^d	Domestic production for domestic use
S_i^f	Domestic production for export to region f
S_i	Gross domestic output
V_{ij}	Demand for intermediate good i in sector j

Nominal Variables

B^f	Net foreign borrowing from region f (may be exogenous)
Y	Nominal domestic income
Y_G	Government income

Structural and Policy Parameters

a_{ij}	Intermediate use coefficients (Leontief technology)
γ_i	Subsistence consumption of good i
η_i	Marginal budget share for consumption of good i
ϕ_i	Elasticity of substitution between labor and capital in domestic production
σ_i	Elasticity of substitution between domestic and imported products
τ_i	Elasticity of transformation between domestic and exported products
ζ_i	ROW import supply elasticity
ξ_i	ROW export demand elasticity
\bar{A}_{D_i}	Calibrated intercept parameter for composite product demand
\bar{A}_{S_i}	Calibrated intercept parameter for composite product supply
\bar{A}_{M_i}	Calibrated intercept parameter for ROW import supply
\bar{A}_{E_i}	Calibrated intercept parameter for ROW export demand
β_i^k	Base share parameter of demand by origin in the composite demand
δ_i^k	Base share parameter of supply by destination in the composite demand
ρ_i^f	Ad valorem equivalent of nontariff barriers on imports from region f
t_{Di}^d	Indirect tax rate on domestic sector production
t_{Di}^f	Ad valorem tariff rate on imports from region f
t_K	Tax rate on capital income
t_L	Tax rate on labor income
t_{Si}^d	Producer tax or subsidy on domestic deliveries
t_{Si}^f	Tax or subsidy on exports to region f
ω_i	Domestic expenditure shares

Indices

i, j	sectors
d	= Kazakhstan
f	= set of foreign trading partners
k	= $d \cup f$

Endnotes:

- ¹ Figure 2.1 does not include the regional organizations, such as the Shanghai Cooperation Organization, which at least some of the CARs are members of but which do not involve and do not seek to reach an RTA.
- ² The agreement entered into force in 2000 for Belarus, Kyrgyz Republic, Russia and Tajikistan and in 2001 for Kazakhstan.
- ³ For comparison, the national tariff schedules of the EAEC member countries consist of 11,086 lines.
- ⁴ The SES is also referred to as the Common Economic Space.
- ⁵ The first scenario assumes that the EAEC members change their MFN tariffs to match the EAEC's current CETS and raise their MFN tariffs on goods not covered by the CETS to the highest levels prevailing in the EAEC member countries. The second scenario assumes that the EAEC members change their MFN tariffs to match the EAEC's current CETS and lower their MFN tariffs on goods not covered by the CETS to the lowest levels prevailing in the EAEC member countries.
- ⁶ As of 15 November 2005, 149 countries were WTO members.
- ⁷ In fact, Belarus, Kazakhstan, Tajikistan and Russia have agreed to pursue a coordinated approach to WTO accession as part of their cooperation in trade policy within the EAEC framework.
- ⁸ Advocates of RTAs often point to the success of the EU, and call on Central Asian leaders to follow this example. In the current Central Asian context, this is a red herring, because the political will is less and the economic costs greater. On the political level, the EU has been the vehicle for closer political ties, whereas the CARs have no wish to compromise their political autonomy. On the economic level, the least-cost EU producer's price (aside from agriculture) is generally little different from the world price, so the costs of trade diversion have been low. Among the economically similar CARs, the least-cost producer of an import-competing good is unlikely to be close to matching the world price and trade diversion costs will be high.