THE IMPACT OF KAZAK ACCESSION TO THE WORLD TRADE ORGANIZATION: A QUANTITATIVE ASSESSMENT

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Abstract: In this paper we employ a computable general equilibrium model of the Kazak economy to assess the impact of accession to the World Trade Organization (WTO), which encompasses (1) improved market access; (2) Kazak tariff reduction; (3) reduction of barriers against entry by multinational service providers; and (4) reform of local content and VAT policies confronting multinational firms in the oil sector. We assume that foreign direct investment in business services is necessary for multinationals to compete well with Kazak business services providers, but cross-border service provision is also present. The model incorporates productivity effects in both goods and services markets endogenously, through a Dixit-Stiglitz framework. We estimated the ad valorem equivalent of barriers to foreign direct investment based on detailed questionnaires completed by specialized research institutes in Kazakhstan. We estimate that Kazakhstan will gain about 6.7% of the value of Kazak consumption in the medium run from WTO accession and up to 17.5% in the long run. We estimate that the largest gains to Kazakhstan will derive from liberalization of barriers against multinational service providers, but the other three elements of WTO accession that we model all contribute positively to the estimated gains. Piecemeal sensitivity analysis shows that qualitatively our results are robust, but there are four parameters in our model that significantly affect the estimated magnitude of the gains from WTO accession.

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EXECUTIVE SUMMARY

I. Introduction

Kazakhstan has been negotiating its accession to the World Trade Organization (WTO) for ten years. Its Working Party on accession to the WTO was established on February 6, 1996. Bilateral market access negotiations began in October 1997, and are continuing on the basis of revised offers in goods and services. Since 2004, the accession negotiations have acquired increased momentum. A draft Report of the Working Party was prepared by the Secretariat in May 2005. Based on this Report, the Chairman of the Working Party on the Accession of Kazakhstan indicated that Kazak accession "…has taken an important step forward". He said progress would not have been possible without key domestic reforms and the enthusiasm of the Kazak negotiating team.

In early 2006, the accession negotiations of Russia and Ukraine are nearing their final stages. In view of the some, their anticipated accession may provide added impetus to the momentum of Kazak talks on accession. Nonetheless, WTO accession will impact on virtually all sectors of the economy and commitments or reform will include import tariffs on manufactures, rights of foreign investors in business services, customs regulations, product standards, agricultural policies, and trade related investment measures. The Government of Kazakhstan has requested this quantitative assessment of the consequences of WTO accession in Kazakhstan that would attempt to assess the overall impact of these changes. In this paper, we identify the key sources of gains and the key sectors and interests in terms of winners and losers. We also identify where potential reforms can do the most to help the competitiveness of the Kazak economy, which we hope may be able to assist the Government in its efforts to use the WTO accession process to make the Kazak economy more competitive.

We present results on the aggregate effects, discuss which sectors will expand or contract and why, and we discuss the labor market effects by sector.

Our principal results are that, overall, the Kazak economy will gain about 6.7 percent of the value of Kazak consumption (3.7 percent of GDP) from WTO accession in the medium term and could be as high as 17.5 percent of Kazak consumption (9.7 percent of GDP) in the long run (taking into account the positive impact of WTO accession on the investment climate). Regarding adjustment costs, we estimate that about 2.3 percent of the Kazak workforce would have to change jobs. In most economies, the normal turnover of the workforce is considerably larger than this in one year.

We expect wages to rise by about five percent in the medium term to fifteen percent in the long run. Despite these gains, there are sectors that we estimate will lose from WTO accession. We find that export intensive sectors are likely to gain the most, while specific capital owners in highly protected domestic sectors that do little exporting are the most likely losers. Labor in the business services sectors (as well as capital owners that form joint ventures with multinationals) will likely gain from foreign direct investment, even if less competitive or desirable capital owners in these sectors lose.

The methodology of this paper is to examine the impacts on the economy of WTO accession alone, despite the fact that other events may be taking place that could have a more dominant impact on the economy. The oil boom and the related "Dutch disease" issues are clearly extremely important for the determination of the industrial structure of Kazakhstan and for some sectors will dominate the impact of WTO accession. Our results do not indicate that the direct impacts of WTO accession are a cure for Dutch disease, but international experience shows that export and industrial diversification can best be achieved by policies that improve the investment climate broadly. WTO accession, to the extent that it contributes to the rule of law, neutral incentives to agents and reduction in the incentives to lobbying for rents, should help in the diversification goal.

II. Principles of Sector Analysis

The following are some basic principles that will help understand which sectors should expand and which should contract:

Not all sectors can expand in the medium term

The economy has a limited amount of labor and capital. If labor and capital expand in some sectors, they must contract in others. Thus, some sectors contract or lose, relative to others.

Not all sectors will contract

Some commentators fear WTO accession because they believe it will lead to widespread unemployment. They argue that reduction of tariff protection will lead to a surge of imports that will throw Kazak workers into widespread unemployment. But international experience with trade liberalization shows that the overall level of unemployment is not affected by the level of trade protection. In virtually all international experiences investigated, after a period of adjustment, manufacturing employment is typically no less than before trade liberalization. Exports can be expected to expand as a result of trade liberalization, since the anti-export bias of the tariff will fall.

Aggregate value added and output will expand.

We estimate that the economy gains from WTO accession overall. Thus, although some sectors will contract output, overall the value of output GDP and the payment to labor and capital will increase.

III. Why Does the Economy Gain and How Much?

We believe Kazakhstan will gain from WTO accession from five effects:

1. Improved Market Access

Kazakhstan has already negotiated most-favored nation (MFN) status on a bilateral basis with most of its important trading partners, so Kazakhstan's exporters will not see an immediate reduction in the tariffs they face and this effect may not be expected to be large. But Kazakhstan will have improved rights under antidumping and countervailing duty investigations in the export markets of WTO members, which is the source of the improved access we model. But given bilateral MFN status, improved access is not the main sources of gains. We estimate that the gains to Kazakhstan from improved market access are only about 0.5 percent of the value of Kazak consumption, or slightly more than 7 percent of the total gains to Kazakhstan from WTO accession.

2. Kazak tariff reduction

Tariff reduction in Kazakhstan will lead to improved domestic resource allocation since tariff reduction induces the country to shift production to sectors where production is valued more highly based on world market prices. This impact, know as the "gains from trade" is the fundamental effect from trade liberalization is often stressed by international trade economists in the literature. In addition, Kazak businesses will be able to more easily import modern technologies and this will increase Kazak productivity. But MFN tariff rates on goods in Kazakhstan are not high, and trade within the CIS is predominantly tariff free, so these impacts are not likely to be large[1]. We estimate that the gains to Kazakhstan from tariff reduction are about 0.4 percent of the value of Kazak consumption or about 6 percent of the total gains from WTO accession. We also estimate that about 0.3 percent of the Kazak workforce would have to change jobs as a result of the tariff reduction alone.

[1] Tariff rates by sector in our model are listed in table 4. None exceed ten percent. The weighted average tariff rate in our model is 4.6% of the value of imports.

3. Liberalization of barriers to foreign direct investment in services

Kazak commitments to multinational service providers will encourage them to increase foreign direct investment to supply the Kazak market. Kazak businesses will then have improved access to the services of multinational service providers in areas like telecommunication, banking, insurance, transportation and other business services. This should lower the cost of doing business and increase productivity of Kazak firms using these services. We estimate that the gains to Kazakhstan from liberalization of barriers to FDI in services are about 4.9 percent of the value of Kazak consumption or over 70 percent of the total gains to Kazakhstan of WTO accession.

Several of the business services sectors are crucial inputs into the manufacturing sector and efficient, competitive business services sectors are key to the development of a Kazak economy that can compete in the increasingly integrated global marketplace. Given the importance of telecommunications, financial services and transportation services, we have developed policy notes in these sectors which we provide as appendices. Some of the key barriers or issues in these sectors are as follows.

In banking, through the end of 2005, branches of foreign banks have been prohibited and banks with foreign participation were limited to a maximum of fifty percent of the aggregate authorized capital of the sector; moreover cross ownership among the incumbents limits competition[2]. In addition, banks with foreign participation may be subjected to additional requirements, such as quotas on foreign employment, the type of business in which they may engage, reporting procedures and the makeup of their Board of Directors. In transportation services, railroad tariffs differentiate between imports, exports and domestic freight destinations. A major reform of the railroad sector is planned, with the introduction of competition into freight and passenger services, while the network or infrastructure services are to be subjected to monopoly regulation. In air transportation services, domestic route licensing is rather restrictive. In telecommunications, there is strong restriction on entry in some areas of services;

incumbent operators have excessively long exclusivity rights in areas such as long distance and international telephone services and with respect to interconnection for mobile operators. The costs of long distance telephone calls and broadband internet access are several times the costs in comparator countries.

4. Crude oil and natural gas policies

Policies with respect to multinational use of local inputs have offsetting impacts on the use of Kazak inputs by multinationals. Local content policies favor the use of Kazak inputs, but the discriminatory VAT discourages the use of Kazak inputs as operators need to levy VAT on domestic supplies but not on foreign supplies. Both policies represent distortions with respect to a neutral tax and regulatory regime. We estimate that simultaneously eliminating both distortions by exempting multinationals from the VAT on the purchase of domestic inputs and eliminating local content requirements results in a gain of 0.9 percent of consumption or 0.5 percent of GDP.

5. Potential growth effects

The increased efficiency of the Kazak economy from WTO accession that we model above in a "comparative static" framework will have the effect of making investment more profitable. This will lead to a larger capital stock and output. In the long run version of our model, we assess the increase in the capital stock and output available to the Kazak economy due to the increased productivity of capital. This could lead to overall gains as high as 17.5 percent of the value of Kazak consumption. In addition, the modernization of a vast number of laws (e.g., the custom code, standards, intellectual property) could provide additional incentives to invest and increase the capital stock and output in Kazakhstan. We do not, however, model these latter effects and to that extent our estimates could be an underestimate of the gains to the Kazak economy in the long run.

[2] We model here the impact of the recent amendments made to the Banking Law, because these were introduced mainly to fulfill Kazakhstan's offer on financial services to WTO. The final offer may be even more liberal if it

IV. The Model and Data

We construct a computable general equilibrium model of the Kazak economy. There are 57 sectors. The core data is the 2003 input-output table produced by the Statistical Agency of the Republic of Kazakhstan. Primary factors include capital, labor and sector-specific capital. Tariff data are taken from Government decree information as of May 2005, available on the Kazak government websites. Barriers to foreign direct investment have been estimated in key sectors based on data extracted from questionnaires completed by Kazak service sector experts and estimated using econometric techniques recently developed by several Australian economists. The main text contains much more detail on the structure of the model, key modeling features and the data.

V. Results

The actual tariff changes remain subject to negotiation. We assume that tariffs are reduced by 50% across the board. We assume that discriminatory taxes on multinational service providers are cut by 50 percent except in maritime and air transportation services (where they are cut by 25 percent) and financial services (where they are cut by 100 percent). Metals sectors, which have been subject to antidumping actions, obtain improved export prices due to improved market access (either 1% or 1.5%). The aggregate results have been discussed above. We now focus on the employment effects at the sector level.

Manufacturing sectors where employment will expand

The manufacturing sectors that we estimate are likely to expand their output the most are electrical equipment, chemicals and crude oil and gas; basic metals and communication equipment also

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includes the changes that Kazakhstan will need to make when creating a financial center in Almaty.

enjoy significant expansion, and several others expand slightly. Electrical equipment and chemicals are among the most intense exporting sectors in the economy, as both export over 50 percent of their output. Basic metals and communication equipment also export significant shares of their output (23 percent). Export intensity is important because a reduction in Kazak tariffs will generally depreciate the real value of the tenge. Then sectors that export intensively will gain more domestic goods for a unit of their exports. In addition, metals should receive improved treatment in antidumping actions.

Sectors where employment will contract

The sectors that contract the most are the sectors that are the most protected prior to tariff reduction and which have a relatively small share of exports. Most notably this includes wood products, medical equipment, vehicles and trailers, other non-metallic products and publishing. Wood products, publishing, vehicles and trailers, and other non-metallic products all export five percent or less of the value of their output. Medical equipment, although a significant exporter, is the sector with the highest protection in the economy, so an across the board 50 percent cut in tariffs hits this sector relatively hard.

Services Sectors with liberalization of foreign direct investment barriers

Some of these sectors expand employment (e.g., communications, financial intermediation and land transport), but we estimate that it will fall slightly in water and air transport services.[3] Lobbying interests in these sectors is likely to be diverse.

Since multinationals will also demand mostly Kazak labor, labor interests may support more FDI in many sectors. Capital owners who are likely to become joint venture partners for new multinational entrants in the Kazak market may see the value of their investment rise and support additional FDI. But Kazak capital owners who will not become joint venture partners may see the value of their investments

[3] As in most countries, barriers to foreign investors in air transportation services are rather high: we estimate the ad valorem equivalent of the barriers to foreign investors at 98 percent. But we assume a relatively low reduction in these barriers (to 74 percent) compared with other sectors, since air transportation services are not part of WTO negotiations explicitly.

decline from additional competition, and they may oppose additional rights for foreign investors in business services.

VI. Conclusions

Provision of national treatment to multinational service providers would provide very substantial gains to Kazakhstan from improved access to business services; this partly reflects the relatively protected domestic business services market compared with a tariff regime that is not highly protective. But tariff reduction can also provide gains. We estimate the Kazak economy will gain about 6.7 percent of consumption in the medium term. Taking the impact on the investment climate in the long run into account, we estimate that gains could be as high as 17.5 percent of consumption in the long run.

On average we estimate that Kazak industry and service providers will expand, but there are sectors that lose. A slightly depreciated real value of the Kazak tenge, lower costs of inputs (especially when the quality is taken into account) and improved treatment in antidumping cases abroad are the primary reasons for expansion in industry. The sectors that depend on exports the most, gain the most and expand the most. This includes electrical equipment, chemicals and crude oil and gas; basic metals and communication equipment. Sectors that do not export much and have relatively large tariff reductions decline the most. This includes wood products, medical equipment, vehicles and trailers, other non-metallic products, and publishing. Non-traded services also slightly decline for the same reason. Interests in service sectors that compete with multinationals are diverse. Kazak labor can work in the multinational firms, and some Kazak capital owners are likely to gain from forming new partnerships with multinationals. At the same time some Kazak capital owners may lose due to increased competition from multinational service providers.

The Impact of Liberalizing Barriers to Foreign Direct Investment in Services: The Case of Kazak Accession to the World Trade Organization

Jesper Jensen and David Tarr

I. Introduction

The Working Party on the accession of Kazakhstan to the WTO was established on February 6, 1996. Bilateral market access negotiations began in October 1997, and are continuing on the basis of revised offers in goods and services. Since 2004, the accession negotiations have acquired increased momentum. A draft Report of the Working Party was prepared by the WTO Secretariat in May 2005. Based on this Report, the Chairman of the Working Party on the Accession of Kazakhstan indicated that Kazak accession "…has taken an important step forward." He said progress would not have been possible without key domestic reforms and the enthusiasm of the Kazak negotiating team.

In view of the momentum of the talks on accession, the Government of Kazakhstan has requested this quantitative assessment of the consequences of WTO accession in Kazakhstan. With this analysis, we hope to identify the key sectors and interests in terms of winners and losers. Importantly, we should be able to identify key sources of gains and where potential reforms can do the most to help the competitiveness of the Kazak economy. In the process we may be able to assist the government in its efforts to use the WTO accession process to make the Kazak economy more competitive.

We develop a 56 sector small open economy comparative static computable general equilibrium model of Kazakhstan that we believe is appropriate to evaluate the impact of Kazak accession to the WTO. We document that the Kazak tariff structure is not a highly distorted tariff structure. On the other hand, barriers to foreign direct investors in several key business services sectors remain significant in several sectors and are the focus of negotiations between Kazakhstan and the WTO Working Party. Consequently, a serious evaluation of Kazak WTO accession requires developing a model that is capable of assessing the impact of liberalization of barriers against FDI in an applied context.

Our key modeling assumptions are that: we assume that a substantial portion of business services require a domestic presence; multinational service providers import some specialized capital or labor as

part of their decision to establish a domestic presence; and business services supplied with a domestic presence are supplied by imperfectly competitive firms who produce a unique variety of the service. We adopt the Dixit-Stiglitz-Ethier structure for business services (and for increasing returns to scale goods) that implies endogenous productivity gains from the net introduction of new varieties.[4]

In addition, local content policies in crude oil and gas are an important aspect of the accession negotiations. At issue is whether multinational oil producers that invest in Kazakhstan are encouraged to purchase Kazak inputs in a manner that is inconsistent with the TRIMS agreement. For the purpose of our modeling exercise, we assume that the Kazak requirements are binding on multinational oil producers and that these provisions will have to be eliminated upon accession. On the other hand, multinational oil producers have reportedly negotiated a waiver of the fifteen percent VAT on imported inputs—a provision that works in the opposite direction of the local content provisions in terms of encouraging Kazak input use by multinational oil producers. A policy being considered by some in the Government is to provide a VAT exemption to multinational oil producers in the purchase of their domestic inputs. The VAT exemption would be implemented to offset the impact of the elimination of local content policies[5] The net impact of simultaneously eliminating local content and providing a VAT exemption on multinational purchases of Kazak inputs may be neutral on the use of Kazak inputs in the oil sector.

We argue that the gains to Kazakhstan from WTO accession derive from five principal effects: (1) improved access to the markets of non-CIS countries in selected products. Kazakhstan has already negotiated most-favored nation (MFN) status on a bilateral basis with most of its important trading partners, so Kazakhstan's exporters will not see an immediate reduction in the tariffs they face and this effect may not be expected to be large. But Kazakhstan will have improved rights under antidumping and countervailing duty investigations in its export markets, which is the source of the improved access we

[4] Elasticities of substitution for product categories in the Dixit-Stiglitz framework have been estimated by Broda and Weinstein (2004). They estimate that, although there are variances within the groups, for agriculture, services and goods the Dixit-Stiglitz elasticity of substitution is close to three. We choose three as our central Dixit-Stiglitz elasticity of substitution.

[5] Multinationals oil companies have reportedly negotiated the VAT exemption on imported inputs as part of their investment agreements. So imposing the VAT on multinational use of imported inputs is not an option for the government, nor may it be appropriate from the easiness of tax administration point of view (as the MOF would need to process many refunds as the bulk of oil and gas is exported).

model;[6] (2) tariff reduction on goods will induce improved domestic resource allocation and increase the number of varieties of imports in imperfectly competitive sectors. The latter will increase total factor productivity in downstream sectors due to a Dixit-Stiglitz-Ethier externality; (3) reduction in barriers against multinational service providers will increase the number of service varieties available in Kazakhstan. The variety increase will increase total factor productivity (or lower the quality adjusted costs) in sectors that use business services; (4) elimination of local content policies in the oil sector and simultaneous exemption of the VAT for multinational oil company purchases of Kazak inputs; and (5) positive effects on the investment climate from increases in the rate of return to capital. We model this impact in a comparative steady state model, which produces an upper bound estimate of the gains from an increase in capital stock due to trade liberalization.

This paper follows the recent innovative structure of Jensen, Rutherford and Tarr (forthcoming) in that it numerically assess the liberalization of barriers against foreign direct investors in business services in a multi-sector applied general equilibrium model. Dixit-Stiglitz variety-productivity effects are key to the results.

This paper is innovative in that we extend the Jensen, Rutherford and Tarr analysis to examine the impact of local content policies. Modeling local content policies requires a modeling framework that distinguishes domestic from foreign firms, and one where foreign firms have a domestic presence through foreign direct investment. We also use that framework to examine a policy option being considered in Kazakhstan: the waiver of the VAT on domestic inputs into oil and gas; the intent is to place domestic inputs on an equal VAT footing with imported inputs in the crude oil and gas sector, as multinationals in the sector are reported to have negotiated a waiver of the VAT on imported inputs.

We estimate that the gains to Kazakhstan (measured as Hicksian equivalent variation) from WTO accession are 6.7 percent of Kazak consumption (or 3.7 percent of GDP) in the medium run, and could be as high as 17.5 percent of Kazak consumption (9.7 percent of GDP) in the long run (using our

[6] WTO accession will grant an "injury determination" to Kazakhstan in antidumping cases in WTO members countries. In addition, the US has decided to treat Kazakhstan as a market economy in antidumping cases, which will improve the rights of Kazak exporters in these cases in the US. But market economy status may be denied in particular cases, so it will be necessary to see how this is implemented in practice.

comparative steady state model). To understand the sources of these gains, we execute several scenarios that allow us to decompose the impacts. Tariff reform only is responsible for 0.4 percentage points of the gain in consumption. Improved market access accounts for 0.5 percentage points of the welfare gain. Combined VAT and local content reform in the oil sector results in a gain of welfare equal to 0.9 percent of consumption. We estimate the gains from FDI liberalization in services are 4.9 % of the value of Kazak consumption, which amounts to over 70 percent of the total gains from Kazak WTO accession. Thus, while improving its offer to foreign services providers within the context of the GATS may be a difficult aspect of Kazakhstan's negotiation for WTO accession, our estimates suggest that the most important component of WTO accession for Kazakhstan in terms of the welfare gains is liberalization of its barriers against FDI in services sectors.

The crucial importance in the Kazak context of liberalization of barriers to FDI reflects the starting point of the analysis; that is, we assess that Kazakhstan has done more to lower it tariffs on goods than it has to liberalize its barriers to FDI in services sectors. Telecommunications, banking services and transportation services provide crucial inputs to the manufacturing sector and are key to the development of a Kazak economy capable of competing on the global marketplace. Given the external pressure that accompanies WTO accession, WTO accession represents a unique historical opportunity to not only commit to liberalization of the foreign direct investment regime, but also to implement complementary reform of the domestic regulatory framework in these sectors. Consequently, we also provide short policy notes suggesting the most important reforms in the key services sectors. Some of the key barriers or issues in these sectors are as follows.

In telecommunications, there is strong restriction on entry in some areas of services; incumbent operators have excessively long exclusivity rights in areas such as long distance and international telephone services and with respect to interconnection for mobile operators; foreign ownership of a company can't exceed 49 percent; and cross ownership among the incumbents limits competition. The costs of long distance telephone services and broadband internet access are three to six times the costs of comparator countries such as Russia, selected EU countries, and Australia.

In banking, up to the end of 2005, branches of foreign banks were prohibited, and banks with foreign participation were limited to a maximum of fifty percent of the aggregate authorized capital of the sector. In addition, banks with foreign participation may be subjected to additional requirements, such as the type of business in which they may engage, reporting procedures and the makeup of their Board of Directors. In transportation services, railroad tariffs differentiate between imports, exports and domestic freight destinations. In addition, a major reform of the sector is planned, with the introduction of competition into freight and passenger services, while the network or infrastructure services are to be subjected to monopoly regulation. Existing railroad service, however, is quite slow, contributing to very long delivery times for external trade. In air transportation services, domestic route licensing is rather restrictive.

The ad valorem equivalence of the barriers to foreign direct investors in business services has been estimated specifically for this study, as explained below. These estimates were based on surveys we commissioned of specialized service sector institutes in Kazakhstan to obtain data on the regulatory environment in the key business services sectors and the application of recent econometric methodology for estimating barriers to FDI in services (see Findlay and Warren, 2000).

The paper is organized as follows. In section II we describe the model and the most important data. In section III we describe and interpret the central policy scenarios. In section IV we examine the impact of different modeling assumptions (or model closures) on the results and present the results of our piecemeal sensitivity analysis in which we examine the robustness of our results to parameter choice. In the appendices, we present the service sector policy notes and the detailed calculations of the estimates of the ad valorem equivalents of the barriers against foreign direct investment.

II. Overview of the Model and Key Data

Overview of the Model Formulation

This model is based on the model of Jensen, Rutherford and Tarr (forthcoming), an algebraic formulation of the model may be found in Jensen, Rutherford and Tarr (2004). The main difference in this paper is the treatment of local content policies and specialized VAT treatment for the multinationals in the oil sector. Figure 1 presents a graphical overview and we provide a summary of the structure here.

Primary factors include labor ; mobile capital; sector-specific capital in the energy sectors reflecting the exhaustible resource; sector specific capital in imperfectly competitive sectors; and primary inputs imported by multinational service providers, reflecting specialized management expertise or technology of the firm. The existence of sector specific capital in several sectors implies that there are decreasing returns to scale in the use of the mobile factors and supply curves in these sectors slope up.

There are 56 sectors shown in table 1. Regardless of sector, all firms minimize the cost of production. There are three categories of sectors in the model.

Competitive goods and services sectors. These goods and services are produced under constant returns to scale and where price equals marginal costs with zero profits. This includes agriculture and hunting, forestry, fishing and clothing. It also includes certain public services, like education and post office facilities, and key mineral industries.[7] In these sectors, products are differentiated by country of origin, i.e., we employ the Armington assumption. All Kazak goods producing firms (including imperfectly competitive firms) can sell on the domestic market or export. Kazak firms optimize their output decision between exports and domestic sales based on relative prices and their constant elasticity of transformation production function.

[7] Although heat, power and gas are monopolistically controlled, prices are controlled by the government. Thus, market determined pricing to exploit market power is excluded by the government, and we maintain the assumption of price equal to marginal costs.

In agriculture, a wide range of non-trade distorting subsidies are permitted without restraint, including direct income support to farmers and subsidies for research and development. But trade distorting subsidies are constrained by the WTO. In our scenarios, we do not assume that WTO accession will cause a reduction in production or export subsidies in Kazakhstan. Although agriculture is clearly a major item of negotiation in the Kazak WTO accession discussions, the primary issue is whether an earlier base period than the recent years can be used. This is because the Kazak government subsidies to agriculture have been rather small in the 2004-2006 period, especially when compared to 1997 and 1998. If the Kazak government succeeds in persuading its Working Party to accept the earlier base period, then it would be permitted to increase production distorting subsidies relative to the present levels. If the government then chooses to employ production distorting subsidies, it would be an independent decision of the government, not one required by the WTO. But the present levels of subsidies are not considered very strong in terms of influencing the output decisions; consequently WTO constraints should not cause a significant fall in production related subsidies in the sector.

Goods produced subject to increasing returns to scale. This goods are differentiated at the firm level. These include basic metals and metal products, electrical equipment and machinery. We assume that these manufactured goods may be produced domestically or imported. Firms in these industries set prices such that marginal cost (which is constant) equals marginal revenue; and there is free entry, which drives profits to zero. For domestic firms, costs are defined by observed primary factor and intermediate inputs to that sector in the base year data. Foreigners produce the goods abroad at constant marginal cost but incur a fixed cost of operating in Kazakhstan. The cif import price of foreign goods is simply defined by the import price, and, by the zero profits assumption, in equilibrium the import price must cover fixed and marginal costs of foreign firms. We employ the standard Chamberlinian large group monopolistic competition assumption within a Dixit-Stiglitz framework, which results in constant markups over marginal cost.

For simplicity we assume that the composition of fixed and marginal cost is identical in all firms producing under increasing returns to scale (in both goods and services). This assumption in a Dixit-Stiglitz based Chamberlinian large-group model assures that output per firm for all firm types remains constant, i.e., the model does not produce rationalization gains or losses.

The number of varieties affects the productivity of the use of imperfectly competitive goods based on the standard Dixit-Stiglitz formulation. The effective cost function for users of goods produced subject to increasing returns to scale declines in the total number of firms in the industry.

Services that are produced in Kazakhstan under increasing returns to scale and imperfect competition. The third category of sectors is business services. This includes sectors such as telecommunications, financial services, most business services (like accounting and consulting services of various types) and transportation services. In business services sectors, we observe that some services are provided by foreign service providers on a cross border basis analogous to goods providers from abroad. But a large share of business services are provided by service providers with a domestic presence, both multinational and Kazak.[8] Our model allows for both types of foreign service provision in these sectors. There are cross border services allowed in this sector and they are provided from abroad at constant costs—this is analogous to competitive provision of goods from abroad. Cross border services, however, are not good substitutes for service providers who have a presence in Kazakhstan.[9]

There are also multinational service firm providers that choose to establish a presence in Kazakhstan in order to compete with Kazak firms directly in the Kazak market. When multinationals service providers decide to establish a domestic presence in Kazakhstan, they will import some of their technology or management expertise. That is, foreign direct investment generally entails importing specialized foreign inputs. Thus, the cost structure of multinationals differs from Kazak service providers.

[8] One estimate puts the world-wide cross-border share of trade in services at 41% and the share of trade in services provided by multinational affiliates at 38%. Travel expenditures 20% and compensation to employees working abroad 1% make up the difference. See Brown and Stern (2001, table 1).
[9] Daniels (1985) found that service providers charge higher prices when the service is provided at a distance.

Multinationals incur costs related to both imported primary inputs and Kazak primary factors, in addition to intermediate factor inputs. Foreign provision of services differs from foreign provision of goods, since the service providers use Kazak primary inputs. Domestic service providers do not import the specialized primary factors available to the multinationals. Hence, domestic service firms incur primary factor costs related to Kazak labor and capital only. These services are characterized by firm-level product differentiation. For multinational firms, the barriers to foreign direct investment affect their profitability and entry. Reduction in the constraints on foreign direct investment will induce foreign entry that will typically lead to productivity gains because when more varieties of service providers are available, buyers can obtain varieties that more closely fit their demands and needs (the Dixit-Stiglitz variety effect).

Crude Oil and Gas Sectors. Our treatment of the oil and gas sectors deserves a separate discussion. We view oil and gas as goods produced under increasing returns to scale and imperfect competition. Unlike other goods in this model we assume, for obvious reasons in the case of Kazakhstan, that there is foreign direct investment in the sector. The modeling of this sector is similar to the modeling of the IRTS services sectors except that several new features have been added to incorporate a treatment of local content policies and specialized VAT treatment for the multinationals oil firms. In addition, we assume that there is a specific factor in each sector to reflect the need for crude oil and gas reserves.

Local content policies encourage multinational oil firms to purchase some share of their inputs locally. The policies are reportedly negotiated on an individual basis as part of the contracts between the oil firms and the government. Also, we understand that the policies could be characterized as voluntary agreements, where the oil firms commit to making an effort to purchase inputs locally and regularly report on the local content in the contracts that they enter. We are not aware of specific requirements, for example a required percentage cost share of specified domestic inputs with an associated direct penalty for non-compliance.

VAT policies are reportedly also negotiated on an individual basis. Multinational oil firms are reported to be exempt from VAT on imported inputs, but pay, save some exemptions, a non-refundable VAT of around 15 percent on the purchase of domestic inputs.

Policies in the sector have offsetting effects on the use of Kazak inputs by multinational firms. The discriminatory VAT encourages the use of imported inputs, while local content favors Kazak inputs. Local content requirements imply a distortion that increases the use of domestic inputs beyond the point where the (true) value of its marginal product equal its cost. In our model, the non-refundable VAT is incorporated as an ad-valorem tax rate applying to all domestic inputs purchased by multinational firms. We represent the Kazak local content policies as a twenty percent price preference (subsidy) by multinationals for domestic inputs which is financed out of the gross revenues of multinational oil firms. These modeling assumptions imply that both policies distort the input choice of the multinationals, but only the VAT policies involve a transfer of funds to the government. Our modeling of the local content policies is inspired by the work of Grossman (1981) and extends that work into our more complicated modeling environment.

The modeling of the oil sector differs in two more respects from the other services sectors. First, we assume that all firms, domestic and multinational, use sector-specific capital which is perfectly mobile across all oil firms. This factor reflects that oil and gas is an exhaustible resource. Second, we assume national product differentiation (in addition to firm level product differentiation) to add convexity to the model.

Comparative Steady State Formulation

In this version of our model, we allow the capital stock to adjust to its steady state equilibrium, but hold the real return on capital constant. We retain all of the other model features we employ in our WTO reference case, i.e., we allow for tariff and FDI liberalization with endogenous productivity effects as above. We call this our comparative steady state model. In the comparative static model, we assume

that the capital stock is fixed and the rental rate on capital is endogenously determined. In the comparative steady state model, the logic is reversed. We assume that the capital stock is in its initial steady state equilibrium in the benchmark dataset, but that the capital stock will adjust to a new steady state equilibrium based on a fixed rate of return demanded by investors. That is, if the trade policy shock happens to induce an increase in the rate of return on capital so that it exceeds the initial rate of return, investors will invest and expand the capital stock. Expansion of the capital stock drives down the marginal product of capital, i.e., it drives down the rental rate on capital, until the rate of return on capital falls back to the initial level.[10] To analyze trade policy, this comparative steady state approach has been employed by many authors, including Harrison, Rutherford and Tarr (1996, 1997) and Baldwin et al. (1999) and Francois et al. (1996). The approach, however, dates back to the 1970s, when both Hansen and Koopmans (1972) and Dantzig and Manne (1974) used it. The approach ignores the foregone consumption necessary to achieve the higher level of investment and thus, is an upper bound estimate on the long run gains within the framework of the model assumptions.

Key Data

Ad Valorem Equivalence of Barriers to Foreign Direct Investment in Services Sectors.

Several of the business services sectors are crucial inputs into the manufacturing sector and efficient, competitive business services sectors are key to the development of a Kazak economy that can compete in the increasingly integrated global marketplace. We have briefly summarized some of the key distortions and recommended reforms above and provide policy notes in the appendices for more details.

Estimates of the ad valorem equivalence of the barriers to FDI in services are key to the results. Consequently, we commissioned 20 page surveys from Kazak research institutes that specialize in these sectors and our econometric estimates of these barriers are based on these surveys.

[10] The rate of return on investment in our model is the rental rate on capital divided by the cost of a unit of the capital good.

These questionnaires provided us with data and descriptions and assessments of the regulatory environment in these sectors.[11] Using this information and interviews with specialists in Kazakhstan, we estimated the ad valorem equivalence of barriers to foreign direct investment in several Kazak sectors, namely in telecommunications; financial services, insurance and securities; and maritime and air transportation services. The process involved converting the answers and data of the questionnaires into an index of restrictiveness in each industry. We applied the methodology explained in the volume by C. Findlay and T. Warren (2000). More specifically we follow the methodology of Warren (2000) for telecommunications and Kimura (2004a, b) for transportation services and financial services. For each of these service sectors, authors in the Findlay and Warren volume evaluated the regulatory environment across many countries. The price of services is then regressed against the regulatory barriers to determine the impact of any of the regulatory barriers on the price of services. We assume that the international regression applies to Kazakhstan. Applying that regression and our assessments of the regulatory environment in Kazakhstan from the questionnaires and other information sources, we estimate the ad valorem impact of a reduction in barriers to foreign direct investment in these services sectors.[12] The results of the estimates are listed in table 4.[13] For details on the calculations, including the data, please see Appendix B.

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[11] This information was provided by Kazak research institutes. We thank Mr. Il (Иль) Kalimulin, head of infrastructure and transport department at the Economic Research Institute under the Ministry of economy for his preparation of the questionairres on air transport, maritime transport and telecommunications; Ms. Gulbakhyt Kalieva for her preparation of the banking questionnaire; Ms. Dinara Aldabergenov for preparation of the insurance questionnaire; and Ms. Altyn Jumanbaeva for preparation of the securities questionnaire.

[12] Warren estimated quantity impacts and then using elasticity estimates was able to obtain price impacts. The methodology of Kimura et al. that we employ are for "discriminatory" barriers against foreign direct investment. Kimura et al. also estimate the impact of barriers on investment in services that are the sum of discriminatory and non-discriminatory barriers.

[13] Based on a homogenous product methodology, such as employed by Kimura et al (2004), we estimate that the price of mobile telecommunications is elevated 20%, the price of fixed line services by 15% and internet services are only 1% higher. This is a weighted average price increase of 16%. We believe that in telecommunications it is crucial to employ a differentiated product model to characterize competition between multinational and Kazak telecommunications providers. This means that if the discriminatory tax on multinational service providers results in a 16% increase in the **composite price** of domestic and multinational service provision. Then the ad valorem tax on multinationals, say at rate x, must be above 16% since there is no discriminatory tax on domestic service providers and the composite price is a weighted average of domestic prices (which are untaxed) and multinational prices which are taxed at a rate x. More precisely, if x is the ad valorem equivalent of the barriers to multinational investment in telecommunications in Kazakhstan , s is the share of the market in Kazakhstan of multinationals, 16% is the amount

Share of the Output of the Sector produced by Multinational Service providers. The impact of liberalization of barriers to foreign direct investment in business services sectors on the demand for labor in these sectors will depend importantly on the share of the output of the sector sold by multinationals. For crude oil and gas, land transport, water transport, financial intermediation, insurance, and IT services, we employ an average of two proxies. One proxy is the share of employees in large and medium enterprises with foreign ownership (Year: 2003, Source: Labour Statistics Department, Statistical Agency of Kazakhstan). The other source is the share of total value-added captured by firms with foreign ownership (Year: 2003, Source: National Accounts Department, Statistical Agency of Kazakhstan). Since these data sources produce unequal estimates, we use an average of the two as our central estimate; we use the actual values as the bounds for the sensitivity analysis.

For communication, we have detailed data on revenue by type of telecommunication services. (Year: 2005, Source: Interfax Kazakhstan - AIC http://www.aic.gov.kz). We aggregate the data to three types of services: Fixed line, mobile and internet. Fixed line and internet services are dominated by Kazak firms, whereas mobile services are almost exclusively provided by firms with significant foreign ownership. We use the revenue share for mobile firms as our estimate of the marketshare of foreign firms in the telecommunication sector. For air transport, our estimate is based on interviews with Kazak experts.

Share of Expatriate Labor. We also have a parameter in the model for the share of expatriate labor used by multinational firms. We show in the sensitivity of results section that this parameter does not impact the welfare results significantly. On the other hand, despite the fact that multinationals use Kazak labor less intensively than their Kazak competitors, if multinationals use mostly Kazak labor, their

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by which telecommunications prices are elevated due to the barriers and if we assume Kazak domestic service providers prices are unaffected, then we may solve for x from: $sx + (1-s)*0 = .16$. That is, $x= .16/s$. Since our data indicates that $s = .55$, then $x = .29$ or 29%.

Barriers to foreign direct investment, however, have an indirect effect on the price of Kazak telecommunications services. Consequently, $sx + (1-s)*y = .16$ may be more appropriate, where y is the amount by which the price of Kazak telecommunication services are increased in the benchmark as a result of barriers on multinational telecommunications service providers. The value of y would have to be less than the value of the increase in composite services (0.16). It is likely that the indirect effect of barriers to foreign direct investment on the price of domestic Kazak telecommunications services is less than 0.05, since the composite price increased by only 0.16 and

expansion is likely to increase the demand for Kazak labor in these sectors.[14] Due to lack of data in Kazakhstan, we used our estimates from our Russia model for this parameter; but we perform sensitivity analysis with respect to this parameter.

Tariff and Export Tax Data. We begin with tariff rate data at the four digit Harmonized System level based on government decree number 1389 of the Republic of Kazakhstan with updates and amendments as of May 5, 2005.[15] We then aggregated the four digit data to two digit categories using a simple average method of tariff rate aggregation. Subsequently, we mapped the two digit tariff lines to the sectors of our model and again used a simple average of the tariff rates to obtain the tariff rates at the level of aggregation of our model. The export tax rate data were taken from the rates implied by the input-output table.

Input-output table. The core input-output model is the 2003 table produced by the Statistical Agency of the Republic of Kazakhstan. We use this table along with the data on tariff rates, estimates of the ad valorem equivalents of barriers to foreign direct investment, data on local content and VAT policies in the oil sector and data discussed above on services sectors to calibrate the model following the calibration procedure in Jensen, Rutherford and Tarr (2004). In all sectors except oil and gas, we calibrate an identical cost function for intermediate inputs for both national and multinational firms (in the absence of firm specific data). In the oil and gas sector, we calibrate separate cost functions for the national and the multinational firms as the VAT and local content policies affect their cost functions differently. We first calibrate identical cost shares for intermediate inputs (as in the other sectors). The incorporation of the twenty percent price preference then reduces the cost shares of domestic inputs purchased by multinational firms. The price preference (an ad-valorem subsidy) is then financed by an ad-valorem "tax" on output. The revenue of this "tax" equals the value of the subsidy to domestic inputs leaving

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lower values of y yield higher estimates of x. But if we take y=.05, then x equals 0.25. We take a conservative estimate here of 0.25 or 25% for telecommunications.

[14] See Markusen, Rutherford and Tarr (2005) for a detailed explanation on why FDI may be a partial equilibrium substitute for domestic labor but a general equilibrium complement.

output of the multinational firms unchanged. The incorporation of the discriminatory VAT finally increases the same cost shares by 15%.[16]

III. Results

In our general WTO scenario, we assume that barriers against foreign direct investment are reduced by fifty percent, except as indicated in table 4; basic metals and metal products, which are subject to antidumping actions in export markets receive slightly improved market access. This is implemented as an exogenous increase in their export price as shown in table 4; and the tariff rates of all sectors are reduced by fifty percent.[17] We first discuss (and present in table 5) our estimates of the impact of Kazak WTO accession on aggregate variables such as welfare and the real exchange rate, aggregate exports, the return to capital, skilled labor and unskilled labor, and the percentage change in tariff revenue. In order to obtain as assessment of the adjustment costs, we estimate the percentage of labor and mobile capital that must change industries. The gains come from a combination of effects, so we also estimate the comparative static impacts of the various components of WTO accession in order to assess their relative importance.

First we discuss the comparative static results. We shall also consider the results of assuming the time frame is long enough for capital to adjust to its new long run steady state equilibrium in a scenario we call comparative steady state.

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[15] The data were extracted from "Jurist" (a source of data on the laws of Kazakhstan) as of September 29, 2005. This is an on-line data source at http://base.zakon.kz. Tariff rates for Kazakhstan may also be found at http://zakon.kz/, which is an electronic reference database to the legislation of Kazakhstan.

[16] We understand that multinational oil firms prefer to deal with the same global suppliers for a number of reasons, including cost-savings from using the same suppliers in all the countries where they operate and a major concern for quality and safety standards that national firms may not be able to deliver. Our calibration procedure implies cost shares of domestic inputs purchased by multinationals close to the average of both national and multinational firms. We may therefore overestimate the "true" cost shares for multinationals and underestimate the same shares for national firms. We have not been able to identify that allows to verify this or to improve our calibration procedure.

[17] Actual tariff reductions remain are part of the accession negotiations and are not known with certainty.

Aggregate Welfare Effects of WTO Accession

We estimate that the welfare gains to Kazakhstan are equal to 6.7 percent of Kazak consumption (or 3.7 percent of GDP) in the medium term. These gains derive from four key effects: (1) improved access to the markets of non-CIS countries in selected products; (2) Kazak tariff reduction; (3) liberalization of barriers to foreign direct investment in services sectors; and, (4) the elimination of local content policies for multinational oil companies combined with VAT exemption on their input purchases from domestic sources (parallel treatment to the VAT treatment on imported inputs).

We execute four scenarios that allow us to understand the relative impact of these various elements and the mechanisms through which they operate.

Impact of Tariff Reduction. The results for this scenario are presented in column (4) of table 5. We lower tariffs by fifty percent, but there is no liberalization of the barriers to FDI or improved market access or local content reform. The estimated welfare gains to the economy are 0.4 percent of consumption or 0.2 percent of GDP. From table 4, we can see that tariffs rates are not high in Kazakhstan (the maximum rate when aggregated to the sectors of our model is ten percent). Thus, additional welfare gains from tariff reform alone are limited.

The gains to the economy from tariff reduction alone come about for two reasons. Tariff reduction in Kazakhstan will lead to improved domestic resource allocation since tariff reduction will induce Kazakhstan to shift production to sectors where production is valued more highly at world market prices. This is the fundamental effect from trade liberalization in constant returns to scale (CRTS) models. In addition, tariff reduction on imports in imperfectly competitive sectors raises the tariff ridden demand curve for imports. This increases profitability for foreigners of selling in the Kazak market thereby inducing new entry by foreign suppliers until zero profits are restored. Although there is a loss of domestic varieties due to increased foreign competition, there is a net increase in varieties. The additional varieties in the imperfectly competitive sectors of Kazakhstan result in a productivity improvement for

users of these goods through the Dixit-Stiglitz-Ethier effect. This result is analogous to the result found by Rutherford and Tarr (2002) in a fully dynamic model.

Impact of Improved Market Access. In column (5) of table 5, we present the results of a scenario in which we allow for improved market access in basic metals by 1.5% and metals by 1 percent, but we do not lower tariffs or barriers to FDI in services sectors nor do we change local content or VAT policy in oil. We estimate that the impact of improved market access at 0.5 percent of consumption (0.3% of GDP). Gains derive from improved prices for exports. But a higher value for exports also allows Kazakhstan to buy more imports and more varieties of imports increase productivity. Thus, the impact of improved market access is greater in a model with Dixit-Stiglitz variety effects than in a constant returns to scale model.

Impact of Foreign Direct Investment Liberalization in Business Services. In this scenario, labeled reform of FDI barriers in column (6) of table 5, we cut the discriminatory tax on multinationals in the services sectors by 50 percent, but there is no reduction in tariffs or improved market access. The reduction in the discriminatory tax on multinationals increases profitability for provision of services in Kazakhstan by multinationals, thereby inducing new entry by multinational service providers until zero profits are restored. Although there is a loss of domestic service varieties due to increased multinational foreign competition, there is a net increase in varieties. Kazak businesses will then have improved access to the services of multinational service providers in areas like telecommunication, banking, insurance, transportation and other business services. The additional service varieties in the business services sectors should lower the cost of doing business and result in a productivity improvement for users of these goods through the Dixit-Stiglitz-Ethier effect. We estimate that the gains to Kazakhstan from liberalization of barriers to FDI in services are about 4.9 percent of the value of Kazak consumption or over 70 percent of the total gains to Kazakhstan of WTO accession.

Impact of Removal of Local Content Provisions in Oil and Provision of Parallel Exemptions on the VAT. In this scenario, the requirement for multinationals to purchase some share of inputs

locally is removed. We model this requirement as a twenty percent price preference by multinationals for domestic inputs (which is financed out of multinational oil company revenues on their output). On the other hand, multinational oil companies are reportedly exempt from VAT on imported inputs, but pay the 15 percent VAT on the purchase of domestic inputs. In this scenario, we impose parallel treatment of the VAT by exempting multinationals from the VAT on the purchase of domestic inputs. In column (3) of table 5, we present the results. The implementation of these combined policies in the oil sector results in a gain of 0.9 percent of consumption or 0.5 percent of GDP. More detailed analysis of these policies is presented below.

Sector Results

Expanding Industrial Sectors. Sectors we estimate will expand are those that either: export a relatively large share of their output; obtain an exogenous increase in export prices as a result of WTO accession; are relatively unprotected initially compared to other sectors of the economy; or experience a significant reduction in the cost of their intermediate inputs, typically because they have a large share of intermediate inputs that come from sectors that experience productivity advances due to trade or FDI liberalization.

The industrial sectors that we estimate are likely to expand their output the most are electrical equipment, chemicals and crude oil and gas; basic metals and communication equipment also enjoy significant expansion, and several others expand slightly. Electrical equipment and chemicals are among the most intense exporting sectors in the economy, as both export over 50 percent of their output. Basic metals and communication equipment also export significant shares of their output (23 percent). (See table 3.) Export intensity is important because a reduction in tariffs generally depreciates the real exchange rate. Then sectors that export intensively will gain more domestic goods for a unit of their

exports.[18] Consequently, these sectors experience a relatively large gain from the depreciation of the real exchange rate. We discuss the crude oil and gas sector in more detail below.

Declining Manufacturing Sectors. The sectors that contract the most are the sectors that are the most protected prior to tariff reduction and which have a relatively small share of exports. Most notably this includes wood products, medical equipment, vehicles and trailers, other non-metallic products and publishing. Wood products, publishing, vehicles and trailers, and other non-metallic products all export five percent or less of the value of their output. Medical equipment, although a significant exporter, is the sector with the highest protection in the economy, so an across the board 50 percent cut in tariffs hits this sector relatively hard.

Business Services Sectors. Kazak business and labor interests in these sectors are not the same, and we discuss the impact on labor in these sectors first. We find that output will expand in several of these sectors (communications, financial intermediation and land transport) but fall in water and air transport services. Markusen, Rutherford and Tarr (2005) explain the reasons for diverse impacts on employment in these sectors. They have shown in a more stylized model that even when foreign direct investment is a partial equilibrium substitute for domestic skilled labor, it may be a general equilibrium complement. The reason is as follows. As a result of a reduction in the barriers to foreign direct investment in these sectors, we estimate that there will be an expansion in the number of multinational firms who locate in Kazakhstan to provide business services from within Kazakhstan, and a contraction in the number of purely Kazak firms. Although multinationals also demand Kazak labor, they use Kazak labor slightly less intensively than Kazak firms. i.e., since multinationals import primary inputs, foreign direct investment is a partial equilibrium substitute for Kazak labor. But as more service firms enter the market, the quality adjusted price of services falls, and industries that use services expand their demand for business services. For communications, financial intermediation and land transportation, on balance

[18] The real exchange depreciates because the increased demand for imports accompanying the decline in tariffs induces an increase in the price of foreign exchange. In addition, the reduction in barriers to multinational investment in the services sector depreciates the real exchange rate. This is because multinationals use more foreign

the increase in labor demand from the increase in the demand for business services typically exceeds the decline in labor demand from the substitution of multinational supply for Kazak supply in the Kazak market. That is, FDI is a partial equilibrium substitute but a general equilibrium complement to Kazak labor in these sectors. On the other hand, the fact that multinationals use Kazak labor less intensively dominates for the air and water transportation sectors, and to a lesser extent IT services.

Regarding capital, as a result of the removal of restrictions, we estimate there would be significant increase in foreign direct investment and an increase in multinational firms operating in Kazakhstan. We expect, however, that the increase in foreign direct investment to have diverse impacts on Kazak firms and specific capital owners. We define a firm as a multinational even if a foreign firm and a Kazak firm have formed a joint venture. When they want to invest in Kazakhstan, multinationals will often look for Kazak joint venture partners. Kazak companies that become part of the joint ventures in the expanding multinational share of the business services market will likely preserve or increase the value of their investments. Kazak capital owners in business services who remain wholly independent of multinational firms, either because they avoid joint ventures or are not desired as joint venture partners, will likely see the value of their investments decline, and the least efficient will exit the industry.[19]

This suggests that domestic lobbying interests within a service sector could be diverse regarding FDI liberalization. We estimate that labor should find it in their interest to support FDI liberalization even if capital owners in the sector oppose it. But capital owners themselves may have diverse interests depending on their prospects for joint venture partnerships with multinationals.

Agriculture. In table 6 we see that we estimate that the impact of WTO accession on the output of agriculture and hunting will be an increase by two percent in the medium term and fifteen percent in the long run. The data do not suggest that agriculture is highly protected in Kazakhstan, and thus it will not lose a significant amount of protection, especially when

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labor, and they must pay in foreign exchange for the foreign labor from domestic sales. The depreciation of the real exchange rate encourages exports and mutes the import expansion.

compared with other sectors in the economy. As mentioned above, we do not believe it is appropriate to assume a reduction in trade distorting subsidies as a result of WTO accession. In the long run, we estimate that the beneficial impacts of WTO accession on productivity and the capital stock will increase agriculture output significantly.

We estimate that there will be a significant increase in agricultural productivity in the long run, so that the larger output will be produced with only a slightly larger number of workers in the sector.

Oil Sector Policies: Local Content Requirements and Value-Added Exemptions for Multinationals

In the oil sector, local content requirements and the value-added exemption for multinationals work in opposite directions with respect to the incentive for multinationals to use Kazak inputs. That is, local content requirements for multinationals encourage the use of Kazak inputs by multinationals. On the other hand, the exemption of the fifteen percent value-added tax on multinational use of imported intermediates serves to discourage the use of Kazak inputs by multinationals. We find (column 4, table 7) that simultaneously exempting multinationals from the VAT on the purchase of domestic inputs and eliminating local content requirements results in a gain of 0.9 percent of consumption or 0.5 percent of GDP. If we independently provide for an exemption of the multinationals oil companies from VAT on their purchases of Kazak inputs (parallel VAT treatment of Kazak and imported inputs), we find (column 6, table 7) that the Kazak economy would gain 1.1 percent of consumption (0.6 percent of GDP). On the other hand, we estimate that elimination of local content policies, in the presence of discriminatory VAT treatment being retained will result in a loss of welfare to the Kazak economy of 0.3 percent of consumption (column 5, table 7). The explanation for the local content estimate is a "second best" story.

[19] We assume that firms in the business services sectors must use a specific factor in order to produce output. This specific factor results in an upward sloping supply curve in each business services sector.

Discriminatory VAT treatment has a powerful effect of discouraging the use of Kazak inputs by multinational oil companies. Local content policies offset that distortion, so their removal diminishes welfare.

To verify our second best explanation, in column (7), we display results from a scenario where we start from no discriminatory VAT treatment and then eliminate local content policies. As expected, the result of unilateral elimination of local content policies results in a gain in welfare equal to 0.2 percent of consumption (column 7, table 7). Further, if local content were equal to a 30 percent subsidy to Kazak purchases rather than a 20 percent subsidy (as assumed in our central scenario), then unilateral elimination of local content policies with no discriminatory VAT treatment would result in a gain to the Kazak economy of 0.9 percent of consumption (column 8, table 7).[20] These scenarios verify that the local content policies are harmful to the economy absence the offsetting VAT distortion and the adverse consequences of local content policies increase more than proportionately with the level of the distortion.

IV. Sensitivity Analysis

The results depend on the choice of parameters in the model as well as certain assumptions or "closures." In this section, we evaluate the impact on the results of the changing the values of the key parameters or modeling assumptions in the model. We begin with key model assumptions. We then discuss the results of "piecemeal sensitivity" analysis on the parameters.

[20] Welfare costs of distortions tend to increase geometrically with the level of the distortion.

Model Assumptions

CRTS model--No productivity effects. We executed a CRTS version of our model where we reduced tariffs by 50% and allowed improved access.[21] Without the Dixit-Stiglitz structure that provides the possibility of FDI and productivity gains, the welfare gains are reduced to 0.5 percent of consumption (or 0.3 percent of GDP) (column 7, table 5), i.e., we return to the "Harberger" constant

Long Run Comparative Steady state Results of WTO Accession. In a long run analysis, we should allow for the fact that WTO accession could improve the investment climate in Kazakhstan. In this scenario, we employ our comparative steady state model. As explained in section II, the principal feature is that we allow for the fact that accession to the WTO could increase the rate of return on investment.[22] This would induce an increase in the capital stock until the marginal productivity of capital declines sufficiently that the rate of return on investment is no higher than the initial steady state equilibrium rate of return on investment. With our comparative steady state model, we estimate that the gains to Kazakhstan from WTO accession are 17.5% of consumption (9.7% of GDP). This is more than twice the estimated comparative static welfare gains. The reason the gains are larger is that we estimate that WTO accession will induce an increase in the rental rate on capital in Kazakhstan in the comparative static model by 6.6%. In the comparative steady state model, this induces an expansion of the capital stock in the new equilibrium. We estimate that the capital stock will increase by about 12.9% of its initial level in the long run steady state equilibrium. With a higher capital stock, the economy is able to produce more output and there is more consumption. We typically argue that this type of model produces an upper bound estimate of the welfare gains because the foregone consumption necessary to achieve the higher capital stock is not taken into account. However, Rutherford and Tarr (2002) have shown that a fully dynamic model which incorporates productivity effects like those in our present model, and which takes

[21] Without increasing returns to scale, removing barriers to FDI has no effect.

into account foregone consumption from investment decisions, could produce estimated welfare gains that are as large or larger than these comparative steady state results.

Piecemeal Sensitivity Analysis

In table 8, we present the impact on welfare of varying the value of key parameters. In these scenarios, we retain the central value of all parameters except the parameter in question. In general, the gains to the economy (welfare gains) increase with an increase in elasticities, since higher elasticities imply that the economy is able to more easily shift to sectors or products that are cheaper after trade and FDI liberalization.[23] The parameters that have a significant impact on the results are: the elasticity of substitution between value-added and business services (esubs); the elasticity of substitution between varieties of firms (esub); the elasticity of multinational firm supply (etaf); and the share of foreign ownership (theta_fdi).

Elasticity of substitution between value-added and business services (esubs). Regarding esubs, a liberalization of the barriers to FDI will result in a reduction in the cost of business services, both from the direct effect of lowering the costs of doing business for multinational service providers and from the indirect effect that additional varieties of business services allow users to purchase a quality adjusted unit of services at less cost. When the elasticity of substitution between value-added and business services is high, users have the greater potential to substitute the cheaper business services and this increases productivity.

Elasticity of substitution between varieties (esub). Regarding esub, a decrease in the elasticity of substitution between varieties increases the welfare gain because when varieties are poor substitutes, additional varieties are worth more to firms and consumers. When esub approaches its lower bound of

[22] Rutherford and Tarr (2003) explain why we typically, but not always find in models with product differentiation, that the rate of return on investment (the rental rate on capital divided by the cost of a unit of capital) increases. This despite the fact that we have no a priori expectation that the rental rate on capital will rise relative to the wage rate.
[23] An increase in the elasticity of substitution between varieties reduces the welfare gain. This is because when varieties are good substitutes, additional varieties are worth less to firms and consumers.

unity, additional varieties reduce the quality adjusted cost functions of firms and consumers by very large amounts. Finally, the welfare gains increase with the share of the industry captured by multinationals. The same proportional expansion of the multinational sector has a larger absolute value on sales and numbers of varieties when the multinational share of the industry is large.

Elasticity of multinational and Kazak firm supply (etaf, etad). These parameters are primarily dependent on the sector specific factor for each firm type (foreign or domestic). When etaf is high, a reduction in the barriers to foreign direct investment results in a larger expansion in the number of multinational firms supplying the Kazak market, and hence more gains from additional varieties of business services. In addition, the share of the services market captured by multinationals has a stronger effect, since a liberalization results in a larger number of new varieties introduced.

Share of output of business service sectors initially captured by multinationals (theta_fdi)i). When multinationals have a larger share of the market initially (large theta_fdi(i)), a liberalization of barriers against FDI that induce a given percentage increase in the multinational output will have larger absolute impacts in sectors with large multinational initial shares. We see that this impact is significant.

Share of expatriate labor employed by multinational service providers (theta_m(i)). The impact of liberalization of barriers to foreign direct investment in business services on the demand for labor in the business services sectors will depend on the share of expatriate labor used by multinational firms. If multinationals use mostly Kazak labor, their expansion is likely to increase the demand for Kazak labor in these sectors. Here we estimate the impact of employing the upper or lower bound estimates of this share in all business services sectors.

We find that the impact on the welfare estimates of lower or higher share of imported inputs in the business services sectors is only one-tenth of a percentage point of consumption. But the impact on labor demand in the business services sector is more significant. For example, skilled labor demand in telecommunications increases by 5.8% with our central estimates of labor demand change, but would increase by 7.2% with the lower shares of imported inputs by multinationals and by 4.5% with higher

shares of labor demand by multinationals. There is a similar range of results for labor demand in most of the business services sectors. With sufficiently high share of expatriate labor use by the multinationals, the demand for labor in the business services sectors would decline. But we expect to see an increase in the demand for labor in telecommunications, financial services and truck transportation, and a decline in air transportation services and science servicing. Except for air transport, the shift in employment in all sectors is less than ten percent of initial employment.

V. Conclusions

In this paper we have developed an innovative small open economy computable general equilibrium model of the Kazak economy that is capable of assessing the impact of the liberalization of barriers against foreign direct investment and the impact of local content and VAT policies in the oil and gas sectors. Estimates of the ad valorem equivalence of the barriers against foreign direct investment were prepared for this analysis based on surveys conducted in Kazakhstan. We find that the source of the largest gains to Kazakhstan from WTO accession is that additional multinational service providers will reduce the quality-adjusted cost of purchasing business services in Kazakhstan and that these gains are rather substantial when compared with the typical gains from constant returns to scale models of tariff liberalization. We believe that these results are consistent with the economic geography literature and the earlier urban economics literature that suggest that access to a diverse set of service providers with a domestic presence is crucial for growth.[24]

[24] See Vernon (1960), McKee (1988), Marshall (1988), Holmes (1995), Hummels (1995), Chinitz (1961) and Fujita, Krugman and Venables (1999).

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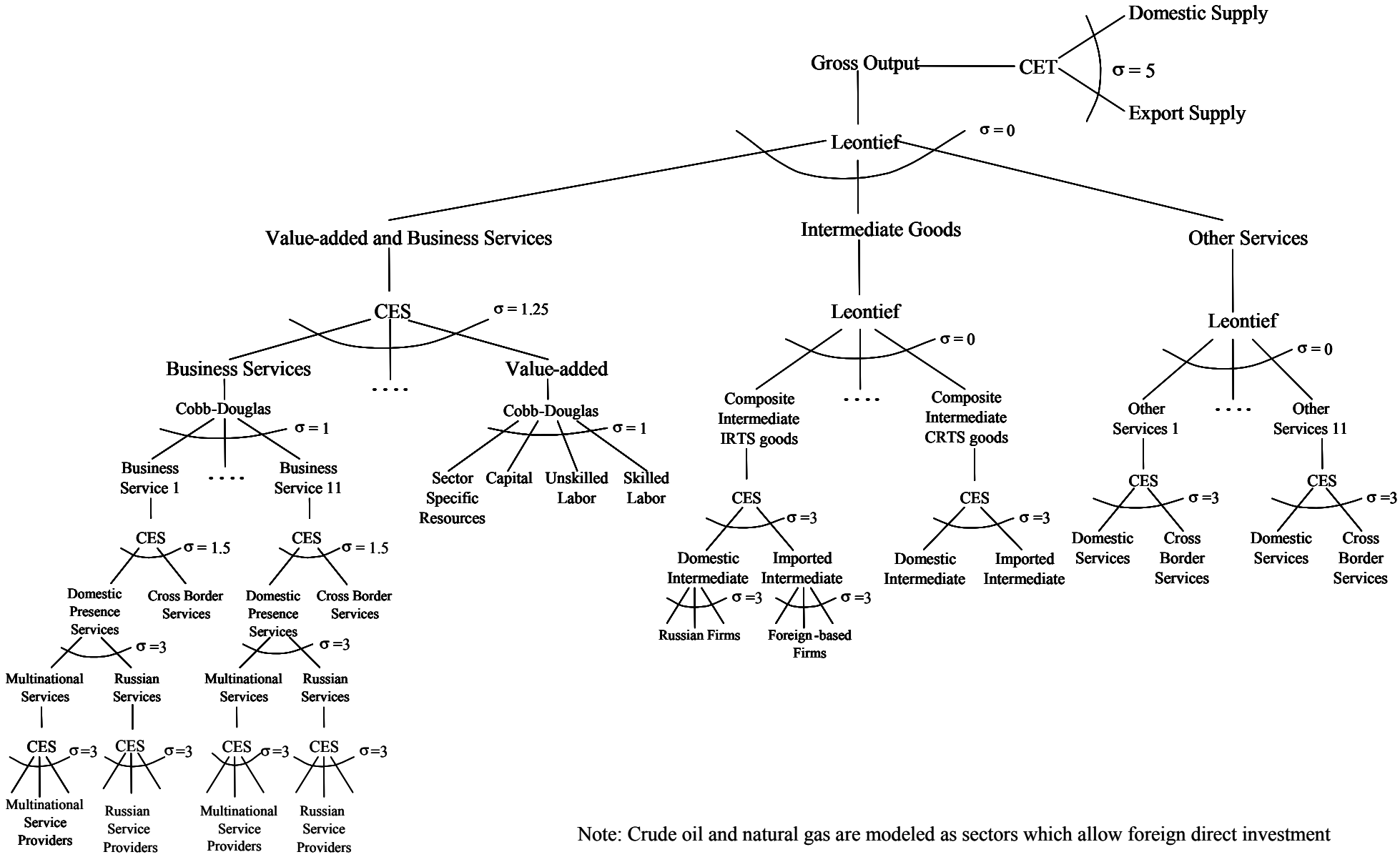
Figure 1: Production and Allocation of Output



Note: Crude oil and natural gas are modeled as sectors which allow foreign direct investment

Table 1. List of Sectors

1. Sectors where foreign direct investment from new multinational services providers is possible

Crude oil and gas
Communication
Financial intermediation
Insurance
IT services
Land and pipeline transport
Water transport
Air transport

2. Sectors where new foreign firms may provide new goods from abroad

Food products
Tobacco
Textiles
Wood products
Paper & pulp
Publishing
Rubber & plastic
Other non-metallic products
Basic metals
Metal products
Machinery
Office equipment
Electrical equipment
Communication equipment
Medical equipment
Vehicles & trailers

3. Competitive sectors subject to constant returns to scale

Agriculture & hunting
Forestry
Fishery
Coal & lignite
Metal extraction
Other mineral resources
Clothing & furs
Leather products
Oil products
Chemicals
Other transport equipment
Furniture & other industry
Processing of raw materials
Heat & power & gas
Water
Construction
Repair of vehicles
Wholesale trade
Retail trade
Hotels
Restaurants
Food delivery
Real estate services
Leasing
Research and development
Public administration
Education
Health & social services
Waste services
Public associations
Recreation
Other services

Table 2. Structure of Value Added

	VA	VA%	LAB%	CAP%
Agriculture & hunting	353	9	19	81
Forestry	4	0	55	45
Fishery	5	0	22	78
Coal & lignite	24	1	50	50
Crude oil & gas	340	9	26	74
Metal extraction	78	2	55	45
Other mineral resources	16	0	78	22
Food products	127	3	23	77
Tobacco	9	0	35	65
Textiles	14	0	18	82
Clothing & furs	5	0	30	70
Leather products	1	0	34	66
Wood products	2	0	37	63
Paper & pulp	4	0	30	70
Publishing	9	0	67	33
Oil products	64	2	28	72
Chemicals	18	0	47	53
Rubber & plastic	5	0	36	64
Other non-metallic products	20	0	47	53
Basic metals	218	5	34	66
Metal products	14	0	35	65
Machinery	21	1	48	52
Office equipment	0	0	36	64
Electrical equipment	5	0	50	50
Communication equipment	2	0	35	65
Medical equipment	3	0	32	68
Vehicles & trailers	1	0	72	28
Other transport equipment	14	0	70	30
Furniture & other industry	4	0	35	65
Processing of raw materials	4	0	40	60
Heat & power & gas	99	2	48	52
Water	19	0	40	60
Construction	272	7	39	61
Repair of vehicles	5	0	29	71
Wholesale trade	323	8	40	60
Retail trade	203	5	34	66
Hotels	17	0	47	53
Restaurants	8	0	49	51
Food delievery	14	0	49	51
Land and pipeline transport	316	8	33	67
Water transport	1	0	50	50
Air transport	9	0	53	47
Communication	53	1	61	39
Financial intermediation	81	2	31	69
Insurance	7	0	57	43
Real estate services	179	4	14	86
IT services	11	0	63	37
Research and development	19	0	68	32
Public administration	86	2	75	25
Education	159	4	76	24
Health & social services	83	2	57	43
Waste services	30	1	28	72
Public associations	25	1	58	42
Recreation	31	1	55	45
Other services	557	14	27	73

VA: Value added
VA%: Sectoral value added as a percent of aggregate value added
LAB%: Labor share of value added, in percentage form
CAP%: Capital share of value added, in percentage form

Table 3. Structure of Exports and Imports

	EXP	EXP%	EXPIN%	IMP	IMP%	IMPIN%
Agriculture & hunting	132	6	21	18	1	4
Forestry	1	0	9	1	0	13
Fishery	1	0	3	0	0	2
Coal & lignite	92	4	48	1	0	4
Crude oil & gas	1052	47	85	68	4	28
Metal extraction	45	2	21	5	0	4
Other mineral resources	13	1	22	3	0	10
Food products	38	2	12	69	4	23
Tobacco	3	0	6	1	0	5
Textiles	4	0	9	14	1	29
Clothing & furs	1	0	11	7	0	43
Leather products	0	0	8	4	0	63
Wood products	1	0	5	20	1	80
Paper & pulp	1	0	7	21	1	68
Publishing	35	2	2	12	1	31
Oil products	20	1	6	74	4	26
Chemicals	51	2	85	119	6	94
Rubber & plastic	2	0	5	43	2	78
Other non-metallic products	74	3	1	27	1	36
Basic metals	354	16	53	89	5	24
Metal products	9	0	10	40	2	54
Machinery	13	1	20	183	10	84
Office equipment	0	0	6	15	1	98
Electrical equipment	18	1	73	249	14	98
Communication equipment	2	0	43	34	2	92
Medical equipment	2	0	23	27	1	80
Vehicles & trailers	0	0	0	81	4	98
Other transport equipment	0	0	1	41	2	57
Furniture & other industry	1	0	7	20	1	67
Processing of raw materials						
Heat & power & gas	6	0	2	6	0	3
Water						
Construction	3	0	0	116	6	17
Repair of vehicles						
Wholesale trade	0	0	0	0	0	0
Retail trade						
Hotels						
Restaurants						
Food delievery						
Land and pipeline transport	121	5	15	82	5	11
Water transport				2	0	46
Air transport				11	1	26
Communication	9	0	8	7	0	7
Financial intermediation	2	0	2	7	0	6
Insurance	0	0	3	12	1	54
Real estate services						
IT services	0	0	0	2	0	9
Research and development						
Public administration	28	1	14	6	0	4
Education						
Health & social services						
Waste services						
Public associations						
Recreation	0	0	0	2	0	3
Other services	107	5	14	297	16	32

EXP: Value of exports
EXP%: Sector exports as a percentage of aggregate exports
EXPIN%: Sector exports as a percentage of domestic output
IMP: Value of imports
IMP%: Sector imports as a percentage of aggregate imports
IMPIN%: Sector imports as a percentage of aggregate consumption

Table 4. Tariff Rates, Barriers to FDI and World Prices

	Tariff rates (%)		Tariff-Equivalent Barriers (%)		World prices (change in %)
	Base year	WTO	Base Year	WTO	WTO
Agriculture & hunting	6	3			
Forestry	3	2			
Fishery	6	3			
Coal & lignite	3	2			
Crude oil & gas	3	2			
Metal extraction	3	2			
Other mineral resources	3	2			
Food products	8	4			
Tobacco	3	2			
Textiles	7	4			
Clothing & furs	5	3			
Leather products	7	4			
Wood products	9	4			
Paper & pulp	2	1			
Publishing	8	4			
Oil products	3	2			
Chemicals	3	2			
Rubber & plastic	4	2			
Other non-metallic products	9	4			
Basic metals	3	2			1.50
Metal products	5	3			1.00
Machinery					
Office equipment					
Electrical equipment					
Communication equipment					
Medical equipment	10	5			
Vehicles & trailers	4	2			
Other transport equipment	5	2			
Furniture & other industry	4	2			
Processing of raw materials					
Heat & power & gas					
Water					
Construction					
Repair of vehicles					
Wholesale trade					
Retail trade					
Hotels					
Restaurants					
Food delievery					
Land and pipeline transport			33	17	
Water transport			92	69	
Air transport			98	74	
Communication			25	13	
Financial intermediation			11		
Insurance			53	27	
Real estate services					
IT services			25	13	
Research and development					
Public administration					
Education					
Health & social services					
Waste services					
Public associations					
Recreation					
Other services					

Source: Authors' estimates

Table 5. Impact of WTO Accession on Economy-Wide Variable: Policy Results and Decomposition of Effects
(results are percentage change from initial equilibrium)

Scenario definition	Benchmark	WTO accession	VAT and local content reform only	Tariff reform only	Improved market access only	Reform of FDI barriers only	WTO accession in CRTS model	WTO accession in steady state model
FDI liberalisation?	No	Yes	No	No	No	Yes	-	Yes
Improved market access?	No	Yes	No	No	Yes	No	Yes	Yes
Reduction in tariffs?	No	Yes	No	Yes	No	No	Yes	Yes
Oil VAT reform?	No	Yes	Yes	No	No	No	-	Yes
Removal of local content policies?	No	Yes	Yes	No	No	No	-	Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Aggregate welfare								
Welfare (EV as % of consumption)	0.0	6.7	0.9	0.4	0.5	4.9	0.5	17.5
Welfare (EV as % of GDP)	0.0	3.7	0.5	0.2	0.3	2.7	0.3	9.7
Government budget								
Tariff revenue (% of GDP)	0.8	0.5	0.8	0.4	0.8	0.8	0.5	0.5
Tariff revenue (% change)	0.0	-41.5	2.5	-45.3	0.3	4.2	-48.0	-38.5
Aggregate trade								
Real exchange rate (% change)	0.0	1.9	0.1	0.4	0.0	1.4	0.1	3.2
Aggregate exports (% change)	0.0	7.3	1.7	2.3	0.0	2.9	1.1	13.5
Return to factors								
Wage (% change)	0.0	5.2	0.9	0.9	0.2	3.1	0.7	14.7
Capital (% change)	0.0	6.6	1.8	0.5	0.2	4.0	0.5	16.2
Factor adjustments								
Labor adjustment (% of workers who change jobs)	0.0	2.3	1.3	0.3	1.1	0.8	0.9	0.8
Capital adjustment (% of mobile capital released to other sectors)	0.0	1.1	0.6	0.4	0.7	0.4	0.7	0.0
Capital stock, % change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9

Source: Authors' estimates.

Table 6. Impact of WTO Accession on industry and labor by sector
(percentage change in variable)

	WTO Accession				WTO Accession in Long Run			
	output	exports	imports	labor	output	exports	imports	labor
Sector								
Agriculture & hunting	2	3	10	-2	15	26	15	2
Forestry	-3	-8	8	-4	2	-11	20	-4
Fishery	-10	-18	4	-11	-1	0	10	-10
Coal & lignite	3	2	10	0	3	-1	19	-4
Crude oil & gas	15	16	40	20	16	16	58	12
Metal extraction	4	-5	20	5	-2	-15	21	-5
Other mineral resources	1	2	7	-1	0	-8	16	-6
Food products	-12	-13	43	-14	-3	1	46	-13
Tobacco	0	-2	37	-2	10	12	48	1
Textiles	-11	-9	23	-13	-2	7	24	-12
Clothing & furs	-1	-1	9	-3	7	10	15	-3
Leather products	-5	0	4	-6	-2	5	6	-10
Wood products	-24	-19	6	-25	-21	-13	14	-28
Paper & pulp	-7	-6	0	-9	-1	2	6	-10
Publishing	-17	-56	29	-18	-16	-14	44	-21
Oil products	4	19	7	0	13	40	12	0
Chemicals	11	13	3	10	8	9	11	1
Rubber & plastic	2	113	5	0	16	197	10	6
Other non-metallic products	-17	-91	33	-19	-13	12	45	-21
Basic metals	7	16	25	6	4	10	33	-5
Metal products	-7	10	11	-9	0	24	18	-9
Machinery	2	16	3	1	4	18	10	-4
Office equipment	-3	-3	2	-5	4	7	7	-5
Electrical equipment	46	52	2	42	64	72	9	50
Communication equipment	6	8	3	4	21	27	10	11
Medical equipment	-19	-15	7	-21	-9	-1	14	-17
Vehicles & trailers	-16	-18	2	-17	-23	-31	9	-27
Other transport equipment	-3	-4	6	-4	3	-5	17	-1
Furniture & other industry	-2	2	3	-3	9	17	12	0
Processing of raw materials	0			-4	1			-11
Heat & power & gas	4	3	8	1	10	8	16	0
Water	4			3	11			3
Construction	2	5	2	-1	13	20	11	2
Repair of vehicles	6			3	13			2
Wholesale trade	-7	-8	-6	-10	11	10	13	0
Retail trade	-3			-6	12			1
Hotels	4			2	11			2
Restaurants	5			3	12			4
Food delievery	4			3	12			5
Land and pipeline transport	6	11	14	1	14	23	20	2
Water transport	-7		1	-9	1		10	-6
Air transport	-13		3	-16	-9		9	-17
Communication	10	16	44	6	15	12	58	6
Financial intermediation	6	3	15	4	18	17	26	7
Insurance	1	-8	6	0	7	-11	15	1
Real estate services	3			1	12			-1
IT services	0	-4	11	-2	7	-3	21	0
Research and development	4			3	8			3
Public administration	2	0	5	0	4	-6	15	-2
Education	1			0	2			-1
Health & social services	1			-1	2			-4
Waste services	1			-1	5			-5
Public associations	0			-1	1			-5
Recreation	2	1	4	-1	5	2	9	-4
Other services	1	-4	7	-1	11	10	15	1

Source: Authors' estimates

Table 7. Impact of removal of VAT discrimination and local content policies: Policy Results and Decomposition of Effects
(results are percentage change from initial equilibrium)

Scenario definition	Benchmark	WTO accession	WTO accession without VAT and local content reform	VAT and local content reform only	Local content reform only	VAT reform only	Local content reform only (no VAT on oil firms)	Local content reform only (30% and no VAT on oil firms)
FDI liberalisation?	No	Yes	Yes	No	No	No	No	No
Improved market access?	No	Yes	Yes	No	No	No	No	No
Reduction in tariffs?	No	Yes	Yes	No	No	No	No	No
Oil VAT reform?	No	Yes	No	Yes	No	Yes	No	No
Removal of local content policies?	No	Yes	No	Yes	Yes	No	Yes	Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Aggregate welfare								
Welfare (EV as % of consumption)	0.0	6.7	5.8	0.9	-0.3	1.1	0.2	0.9
Welfare (EV as % of GDP)	0.0	3.7	3.2	0.5	-0.1	0.6	0.1	0.5
Government budget								
Tariff revenue (% of GDP)	0.8	0.5	0.5	0.8	0.8	0.8	0.8	0.8
Tariff revenue (% change)	0.0	-41.5	-42.9	2.5	1.9	0.3	2.4	4.6
Aggregate trade								
Real exchange rate (% change)	0.0	1.9	1.8	0.1	0.0	0.0	0.0	0.0
Aggregate exports (% change)	0.0	7.3	5.3	1.7	1.2	0.4	1.5	3.0
Return to factors								
Wage (% change)	0.0	5.2	4.2	0.9	0.0	1.0	0.1	0.3
Capital (% change)	0.0	6.6	4.7	1.8	0.0	1.9	0.1	0.6
Factor adjustments								
Labor adjustment (% of workers who change jobs)	0.0	2.3	1.2	1.3	0.7	2.0	0.8	1.3
Capital adjustment (% of mobile capital released to other sectors)	0.0	1.1	0.8	0.6	0.7	1.2	0.8	1.3
Capital stock (% change)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Authors' estimates.

Table 8. Piecemeal Sensitivity Analysis–Welfare effects

	Parameter value			Hicksian equivalent variation[b] with corresponding parameter		
Parameter[a]	Lower	Intermediate	Upper	Lower	Intermediate	Upper
esubs	0.5	1.25	2.0	4.5	6.7	10.7
esub	2.0	3.0	4.0	11.5	6.7	5.7
sigmadm	2.0	3.0	4.0	6.5	6.7	6.9
esubva	0.70	1.00	1.30	6.6	6.7	6.8
esubt	0.0	0.0	0.25	6.7	6.7	7.0
esubc	0.5	1.0	1.5	6.2	6.7	7.3
etadx	3.0	5.0	7.0	6.5	6.7	6.9
etad	5.0	7.5	10.0	6.8	6.7	6.8
etaf	10.0	15.0	20.0	5.3	6.7	7.7
theta_m(i)		see table below		6.7	6.7	6.8
theta_fdi(i)		see table below		4.2	6.7	8.2

[a] The piecemeal sensitivity analysis employs central values for all parameters (see below) other than the tested parameter and lump sum tax replacement.

[b] Hicksian equivalent variation as a percent of the value of consumption in the benchmark equilibrium.

Key:

Parameter	**Value**	**Definitions of the parameter**
esubs	1.25	Elasticity of substitution between value-added and business services
esub	3.0	Elasticity of substitution between firm varieties in imperfectly competitive sectors
sigmadm	3.0	"Armington" elasticity of substitution between imports and domestic goods in CRTS sectors
esubva	0.0	Elasticity of substitution between primary factors of production in value added
esubt	0.0	Elasticity of substitution in intermediate production between composite Armington aggregate goods
esubc	1.0	Elasticity of substitution in consumer demand
etadx	5.0	Elasticity of transformation (domestic output versus exports)
etad	7.5	Elasticity of Russian service firm supply with respect to price of output
etaf	15.0	Elasticity of multinational service firm supply with respect to price of output
theta_m(i)	varies	Share of specialized imports V as a share of value added in multinational firms in sector *i* in the benchmark equilibrium
theta_fdi(i)	varies	Share of output of service sector *i* captured by multinationals firms in the benchmark equilibrium

Parameter values for:	theta_fdi(i)			theta_m(i)		
	low	central	high	low	central	high
Crude oil & gas	0.40	0.60	0.80	0.07	0.10	0.13
Communication	0.35	0.55	0.75	0.07	0.10	0.13
Financial intermediation	0.10	0.20	0.30	0.01	0.03	0.05
Insurance	0.03	0.06	0.09	0.01	0.03	0.05
IT services	0.01	0.05	0.10	0.07	0.10	0.13
Land and pipeline transport	0.05	0.15	0.25	0.03	0.05	0.07
Water transport	0.10	0.15	0.20	0.01	0.03	0.05
Air transport	0.10	0.25	0.50	0.10	0.125	0.15

APPENDIX A

POLICY NOTES ON KEY BUSINESS SERVICES SECTORS IN KAZAKHSTAN

Commitments to foreign investors in services that may be undertaken in the context of WTO accession typically require the government to critically examine its domestic regulatory environment. Improvements in the domestic regulatory environment may lead to large gains that complement the gains from additional foreign direct investment. Below, we discuss WTO accession and reforms in the telecommunications, banking, and transportation sectors that we believe will lead to a more competitive, efficient economy.

APPENDIX A.1

POLICY NOTE ON USING WTO COMMITMENTS IN THE TELECOMMUNICATION SECTOR EFFECTIVELY[25]

The government of Kazakhstan is aware that an efficient (low-cost, high-quality) telecommunications sector is one of the critical determinants of export competitiveness. This is especially true given that currently calls to the US from Almaty cost 2 times the cost of calls from Moscow and 3.5 times on average the cost from the eight countries that recently acceded to the EU. Also the number of lines per 1000 inhabitants is 2.6 times larger in the newly acceded EU 8 countries than in Kazakhstan and almost twice as high in Russia.

Currently the implicit strategy of government of Kazakhstan is the one, in which financial resources and protection are given to the incumbent operators (e.g., mainly to Kazakhtelecom (KT), but also to two state-owned companies, namely TransTelecom and KazTranscom, which were recently created under Kazakhstan railways and Kazakhstan's gas pipeline national companies). The goal is to encourage them to carry out the investments and modernization that is necessary to compete in the global market. In this regard the Bank suggests that the rapid introduction of competition could make a substantial contribution to expansion and investment in the sector. The Government intends to liberalize the telecommunications market of Kazakhstan and some steps have been taken in that direction (e.g., six operators obtained long distance and international service operating licenses). But KT controls the majority of the fixed lines and still controls all communications on the lines it controls. Other fixed line operators are expected to be able to compete for the telecommunication services in these households as soon as the relevant regulations are approved. In theory, cellular providers could also provide international service directly (and without paying hefty connection fees to KT), but in practice they are precluded from doing so because they are partially foreign owned.

The government of Kazakhstan can use the WTO accession process in addressing the key problems that are reducing the effectiveness of the sector. Below are the most important areas of reform in the sector:

- **Competition:** Strong restriction on entry and restriction on foreign ownership ensure the monopoly provision of key services. In particular foreign ownership above 49% is not permitted. One way to effectively use the WTO accession process would be to allow majority foreign ownership in the GATS commitments. The existing level of cross ownership in the sector also limits competition—since KT owns 50% of 2 mobile operators, KT in turn is 50% owned by the state and as mentioned above two state owned enterprises (SOEs) own

[25] Svetolav Tinchev and Gareth Locksley (World Bank) and Laura Lucas and Fabrizio Cugia di Sant'Orsola (consultants) contributed to this note.

telecommunication companies that received long distance and international licenses. In these circumstances, maximizing the period for exclusivity rights for the incumbent operator with regards to long distance and international communications and with regards to interconnection on mobile networks signals that the change and full advantages that the WTO membership presents will only come several years after WTO accession. Shortening the period of exclusive (monopoly) rights in the WTO offer could provide a timely and strong signal to domestic players to prepare for a liberalized market. Investors will receive assurances of greater security and predictability in the rules-based environment that WTO membership represents.

- **Regulation:** The major issue related to the institutional aspect of the regulation is the independence of the telecommunications regulator. The WTO (and efficient management and supervision of the sector) requires that the regulator be independent of the operators. Therefore the role of the Agency as "manager" of state assets in the sector must be transferred to another body prior to WTO membership. Independence also requires a clear separation of functions. The current institutional structure fragments policy making over three agencies and at the same time endows the key agency with significant functions outside its core mandate (e.g. the administration of a large e-government program). The regulator should focus on the core regulatory functions, such as competition regulation, scarce resource regulation, licensing (issuance, monitoring and control), dispute resolution and tariff regulation. Due to different technologies, telecommunications regulation must be sector-specific, to fixed line and mobile. But the competition regulation authority in telecommunications is vested in two different entities, neither of which is the telecommunications regulator (AIC). To date, no fixed line sector-specific competition regulation has been introduced in Kazakhstan, for example on asymmetrical regulation, on unbundling of the local access loop of KT, interconnection duties and services and technological neutrality. In the mobile market, the lack of roaming or site sharing obligations on licensed operators has allowed the operators to achieve excess profits on termination rates and imposes high investment obligations for new entrants (2.5/3 mobile generation tenders are expected before the end of 2006).

- **Tariffs:** The existing distorted price regime redirects significant resources from non-telecommunications sectors into the telecommunication sector. Under the approved plan to increase the cost of domestic calls, and reduce the cost of international calls (i.e., the tariff rebalancing plan), tariffs will not realistically eliminate the major price distortions existing in telecom tariffs in Kazakhstan (*vis a vis* some appropriate benchmark countries) within the next 15 to 20 years. The progressive re-balancing of tariffs, including lowering interconnection charges is necessary for the market players to make economic investment decisions. Tariff rebalancing could be accelerated either by setting prices by reference to benchmarks from relevant competitive markets in other countries or opening up all market segments to competition and giving KT freedom to adjust its prices.

- **Universal Access:** KT and TransTelecom are providing services in rural and remote areas. They argue they lose money on these services. To address this issue, the Government set up a Universal Services Fund which collects contributions from every fixed line operator licensed to operate interurban and international voice services. So far, such funds have been given to the operators to compensate for their losses. The current practice has the following shortcomings: (1) the package of services to be provided was over determined by the regulator, as the bids do not focus on a particular level of services, but goes into the type of equipment that needs to be used. In this respect the Bank suggests that universal service programs need to be technologically neutral and it would be wrong to limit bids to those using a particular technical solution. For instance, extending cellular telephone networks may be the least-cost solution to meet given service objectives, however cellular providers do not participate (neither contributing nor bidding for the provision of the service) because they are excluded from the current program. In addition Kazakhstan still needs to clear a number of

mobile bandwidths necessary for the optimal provision of new mobile services and content. (2) The program funds recurrent costs rather than just investments. The Bank suggests that subsidies may be justified to meet part of the investment cost, but not to compensate for recurrent service losses. Investments that are unlikely to become commercially sustainable on their own after limited initial support are rarely undertaken. (3) KT does not provide information on the cost of the services and, in that regard; it receives a subsidy that lacks transparency. (4) To have true participation from all operators, and to maximize the choice of technology, it is necessary that the universal service program complements and follows economic and telecom sector reforms, particularly the liberalization of the supply side of the telecom market. Only then does it make sense to use subsidies to extend service beyond what companies are prepared to do on their own.

APPENDIX A.2

POLICY NOTE ON KEY ISSUES AND CRITICAL ACTIONS IN THE TRANSPORT SECTOR[26]

Railways

Kazakhstan is in the process of restructuring the railway sector. The Government's Program of Restructuring Railway Transport calls for Kazakhstan Temir Zholy (KTZ), the national railway, to separate the national monopoly elements of the railway - the infrastructure - from the potentially competitive elements of the railway (provision of locomotive, wagon and other services). The ultimate objective of the Program is to make the sector more commercial, to introduce competition, and to attract private financing. The Bank believes this to be a good plan and many important steps have already been taken towards implementation. To achieve the objectives of the restructuring program, Kazakhstan needs to complete the changes proposed in the restructuring plan and focus on strengthening the implementing structures.

A critical element of this is effective regulation of infrastructure access and prices. The existing system of railway infrastructure tariffs, whereby tariffs differentiate by type of movement (domestic, export and import) is against WTO rules and must be eliminated. The World Bank has been advising the Government on the different tariff harmonization scenarios, including the one that weights the changes in the level of tariffs by traffic volumes keeping KTZ revenues as well revenues by industries constant. To avoid cross-subsidy and assure that needed investment will be made all railway customers should pay marginal cost plus a contribution to fixed costs. The contributions to fixed cost should in total cover fixed costs and should vary depending on the price sensitivity of the customer. But to promote transparency, the number of different contribution rates should be kept small and their structure simple. The WTO accession process should be used to improve the regulatory environment to encourage a more efficient and competitive industry. This would include introduction of a regulation on prices (by the Anti-Monopoly Agency, AMA) that both encourage KTZ to invest efficiently in renewal of the infrastructure and encourage private entities to invest in rolling stock. The regulatory process for setting rail infrastructure tariffs should be changed to become less political, more fact-based based on costs of service and investment, more predictable and transparent.

The rail sector has major investment needs that must be met in a way that is affordable for rail customers. To keep transport costs low and industries in Kazakhstan competitive, investments should only be made in assets with high financial and economic return, and high importance to providing good rail service. To ensure effective use of investment, Government policy (and AMA regulation) should require KTZ to produce a robust business case for each investment proposal. Such a business case will have a financial analysis supported by commercial and operational justification. The government should develop a similar process for its own expenditure of funds in the rail sector, requiring each rail investment to have high economic return and high strategic value.

The Ministry of Transport and Communications (MoTC) is exploring the potential for building new railway infrastructure using Public-Private Partnerships (PPPs) financing, particularly the construction of a standard gauge railway across Kazakhstan. The largest risk to the financial viability of this project is the uncertainty of future traffic. This requires an independent study to be carried out to assess the viability of the proposed project.

Roads

[26] This note building on a larger piece prepared by Henry Kerali and Martha Lawrence (World Bank)

A significant proportion of the national and local road networks are in poor condition, with the exception of the main trade corridors that have recently been rehabilitated. Much of the existing road network was designed to Soviet standards and will need to be strengthened to carry the much heavier trucks that are now commonly used for transit freight. However, restoration of the roads, which has contributed to the high rate of road traffic injuries and fatalities, will require careful planning of investments in the medium term. Kazakhstan should plan for the expected rapid increase in traffic volumes and implement overloading control in order to protect the investments.

The MoTC has already gone a long way to implement institutional reform in road management. Notably, the Committee for Transport Infrastructure Development (CITD) now purchases most services through contracts (e.g. construction, rehabilitation and maintenance contracts). However, the capacity of CITD needs to be strengthened particularly to increase the number of staff dealing with contract management, procurement, quality control, and to improve management information systems.

There is also a need to develop the capacity of the local construction industry particularly to improve the quality of new construction, maintenance and rehabilitation. MOTC should consider issuing medium term contracts for road maintenance and rehabilitation to well established and reputable contractors as a way to quickly improve the road network condition.

At present, the scope for successful Public-Private Partnerships (PPPs) in road transport is limited to new construction of intra-urban roads (such as ring roads around the major cities). However, there is also potential for PPP schemes for the rehabilitation, operation and maintenance of existing Republican and some local roads that are in poor condition. This will require long term performance-based management and maintenance contracts to be established in Kazakhstan.

Aviation

The government should consider liberalizing the domestic aviation market. This would require a change of policy from restrictive route licensing to (i) allowing more domestic carriers to operate; (ii) improve the safety regulation of the domestic airlines; and (iii) reduce the government ownership role. The Government should focus on its important roles in overall policy, assuring high quality safety and security regulation along with efficiently managing the state owned infrastructure businesses (airports and air navigation). Government may then consider the use of subsidies to support more airline services on un-profitable routes and for the development of improved air transport infrastructure around the country.

Ports and Inland Waterways

The timing for proposed investments in the ports of Aktau and Kuryk should depend on the predicted volumes of oil shipments. However, there is a need to carefully regulate port operations since, with the planned investments at Kuryk, Kazmortransflot (KMTF) will dominate both shipping and port management.

Investments in existing inland waterway facilities will need to be carefully planned in view of the significant decline in traffic after independence. It is therefore recommend that a comprehensive review should be carried out to determine the realistic potential and related requirements for investment in Inland Water Transport.

APPENDIX A.3

POLICY NOTE ON

FINANCIAL SECTOR REFORM WITHIN WTO ACCESSION[27]

Kazakhstan has been very successful in reforming its banking sector. Between 1996 to 2000, the reforms included the introduction of a modern payment system, a tightening of prudential regulations, improvement of licensing policy, introduction of western banking laws and, among others, the gradual increase in capital requirements. These changes led to a significant reduction in the number of banks, from 204 to 47—the majority of which are privately owned. In 1998, Kazakhstan also privatized the management of pension contributions, which spurred grow in private pension funds and associated firms within the industry (asset management, custodians, etc.) The financial sector sustained itself well the regional financial crisis in 1998, and since 2000 it has been the fastest growing sector in the economy. At the beginning of 2005, a new set of financial sector reforms were initiated, including the creation of the independent Agency for Regulation and Supervision of Financial Markets and Financial Institutions (FSA)[28], which was formed on the basis of the banking supervision department of the Central Bank. The strengthening of this newly created agency is still an ongoing process.

Today there are 34 banks in Kazakhstan whose total assets account for 61.8% of GDP, and its loan portfolio for 41.9% of GDP. The capital of the commercial banking sector reached 6% of GDP. The three largest banks have approximately 60% of the total banking assets and of the total lending portfolio. These banks are also ranked among the largest in the CIS (a few positions below the largest Russian banks). All 3 banks are owned by Kazaks, but two of these have sold minor amounts of shares to either the EBRD or the IFC. Of the 34 banks, fourteen has foreign participation (in each of these 14 banks, at least 1/3 of the shares are held by foreigners), including nine subsidiaries of foreign banks. The subsidiaries of large foreign banks (ABN AMRO, Citibank and HSBC) operate in banking services, bond issuance, syndications and lending for multinational companies as well as large Kazakh SOEs. Other subsidiaries of foreign banks are mostly engaged in banking services for the companies of their home countries that do business in Kazakhstan (mainly Russia, China, Turkey, and Pakistan). There are also a few joint ventures among smaller banks of Kazakhstan.

Prior to the December 2005 amendments to the Banking Law, banks with foreign participation operated with a number of restrictions, including:

- Authorized capital of those banks could not exceed 50 percent of the aggregate authorized capital of all banks in Kazakhstan;
- At least one member of the Board of Directors had to be a citizen of Kazakhstan;
- At least 70% of total number of employees were required to be citizens of Kazakhstan.
- In addition the authorized regulatory agency could impose additional requirements on banks with foreign participation with regards to the make-up of their Boards of Directors and

[27] This piece was prepared by Laura Lucas and commented by David Tarr, Olga Sulla, and Pedro L. Rodriguez (world Bank)
[28] www.afn.kz

management, the list of permitted banking operations, prudential standards, other binding norms and limits, and reporting procedures.

Issuance of a license to open a bank was conditional upon an agreement to observe all of the above mentioned requirements. The key issues of the WTO negotiations are: (1) whether the Government would allow branches of foreign banks to carry out activities on the territory of Kazakhstan; and (2) whether the government would authorize foreigners to own more than 50 percent of a fully-licensed domestic bank.

The banking system in Kazakhstan faces a number of problems today including high intermediation margins on average (although margins for large customers are reportedly very thin), signs of high concentration with little competition in rural areas and certain markets (for example, low income households), lack of services to SMEs and low lending to the private sector. The World Bank believes that providing improved access to multinational banks to the markets of Kazakhstan will introduce new competition into the Kazak banking sector, new ways of doing business and it will introduce a variety of new services. The new competition and services should contribute to the solution of the problems we have identified. In this regard, permitting branch banking would be a useful reform. The Bank also thinks that allowing foreigners to hold controlling shares of a domestic bank is also a useful feature. As in other areas of service sector reform, however, providing additional market access to foreign competitors is not likely to be sufficient to create a modern efficient banking sector. Increased access to foreign investors needs to be complemented with domestic market reform so that domestically owned banks become more efficient and capable of competing with multinational banks, while at the same time improving financial intermediation in Kazakhstan. .

APPENDIX B

ESTIMATION OF BARRIERS TO FDI

This Appendix documents estimations of regulatory barriers to FDI selected service sectors in Kazakhstan. Our methodology closely follows the methodology applied in a series of similar studies of Russia (see Kimura et al. (2004a) for an analysis of telecommunication services, Kimura et al. (2004b) for an analysis of transport services and Kimura et al. (2004c) for an analysis of financial services).

The methodology is essentially a two step procedure. First, we transform qualitative information about the barriers into a quantitative measure called the Trade Restrictiveness Index (TRI). Second, we estimate the economic impact of the barriers. The estimation translates the TRI into a tariff equivalent.

The tables at the end of this appendix document the calculation of the TRIs. For each type of service there are two tables. The first table shows the categories of barriers, the weight assigned to each of the categories, the possible scoring within the categories and the score chosen. The second table provides the reason for the score chosen for each of the categories in the first table. The scoring is based on information from surveys completed by service sector institutes in Kazakhstan. The table also reports two measures of TRIs. One is the FR, the overall Foreign Restriction index, which captures barriers to all firms. The other is the FDR, the Foreign Discriminatory Restriction index, which only captures barriers to foreign firms. We use the FDR in our calculations of tariff equivalents.

We also follow the methodology of Kimura et al.(2004a, 2004b) for banking, insurance, securities; and for maritime and air transportation services, For telecommunications, mobile and fixed line, as well as IT services, we employ the methodology and the coefficients of Warren (2000).

Table B.1 provides an overview of the results. The tariffs express the extent to which prices of foreign firms are higher due to regulatory barriers to FDI. For example, the prices of insurance services provided by foreign firms are 53% higher relative to a situation without the barriers accounted for in this study.

Table B.1 Ad Valorem Equivalent of Barriers to FDI in Services

	TRI	Ad Valorem Equivalent (%)	Model sector
Insurance	0,58	53	Insurance
Banking	0,10	8	Financial intermediation
Securities	0,18	14	Financial intermediation
Maritime	0,33	92	Water transport
Air Transport	0,35	98	Air transport
Fixed Line	0,73	20	Communication
Mobile Services	0,18	15	Communication
Internet	0,06	1	Communication

Source: Authors' estimates

Table B.2 Restrictions on the Maritime Services Sector in Kazakhstan

Category	Weight	Scoring	Score chosen
Restrictions on Commercial Presence and Cross-Border Trade			
Conditions on the right to fly the national flag	0.15		
Commercial presence required in the domestic economy		0.40	
50 per cent or more of equity participation must be domestic		0.30	0.30
50 per cent or more of the crew are required to be domestic		0.20	
Ship must be registered		0.10	0.10
Form of commercial presence	0.10		
Measures which restrict or require a specific type of legal entity or joint venture arrangement		1.00	
Shipping service suppliers must be represented by an agent		0.50	0.50
No restrictions on establishment		0.00	
Direct investment in shipping services suppliers	0.10		
The score is inversely proportional to the maximum equity participation permitted in an existing shipping service supplier		0.00	0.00
Direct investment in onshore maritime services suppliers	0.10		
The score is inversely proportional to the maximum equity participation permitted in an existing onshore maritime service supplier		0.45	0.45
Permanent movement of people	0.02		
No entry of executives, senior managers and/or specialists		1.00	
Executives, specialists and/or senior managers can stay a period of up to 1 year		0.80	
Executives, specialists and/or senior managers can stay a period of up to 2 year		0.60	
Executives, specialists and/or senior managers can stay a period of up to 3 year		0.40	
Executives, specialists and/or senior managers can stay a period of up to 4 year		0.20	
Executives, specialists and/or senior managers can stay a period of up to 5 year or more		0.00	0.00
Cabotage	0.10		
Foreigners generally cannot provide domestic maritime services		1.00	
Foreigners that fly the national flag can provide domestic maritime services		0.75	
Restrictions on type and length of time cargoes can be carried		0.50	
No cabotage restrictions		0.00	0.00
Transportation on non-commercial cargoes	0.10		
Private shipping service suppliers cannot carry non-commercial cargoes		1.00	
National flag shipping service suppliers can carry non-commercial cargoes		0.50	0.50
No restrictions on access to non-commercial cargoes		0.00	
Other restrictions			
Port services	0.10		
Some restrictions on access to ports		0.30	
Mandatory use of pilotage		0.20	0.20
Mandatory use of towing		0.15	0.15
Mandatory use of tug assistance		0.10	
Mandatory use of navigational aids		0.05	
Mandatory use of berthing services		0.05	0.05
Mandatory use of waste disposal		0.05	0.05
Mandatory use of anchorage		0.05	0.05
Mandatory use of casting off		0.05	
Discretionary imposition or restrictions, including for retaliatory purposes	0.05		
Governments are able to impose selective restrictions		1.00	1.00
Governments are unable to impose selective restrictions		0.00	
United Nations Liner Code	0.05		
Economy is party of the code and applies to Article 2 of the code		1.00	
Economy is party to the code but does not apply Article 2 of the code		0.75	
Economy is not party to code		0.00	0.00
Government permits conference	0.05		
Governments permits the operation of conferences		1.00	1.00
Conferences are subject to effective competition		0.00	
Bilateral maritime services agreements on cargo sharing	0.05		
The score for an economy is taken from the 35 by 35 matrix of bilateral agreements on cargo sharing		0.00	0.00
Composition of the board of directors	0.02		
The score is inversely proportional to the percentage of the board that can comprise foreigners		0.50	0.50
Temporary movement of people	0.01		
No temporary entry of executives, senior managers and/or specialists		1.00	
Temporary entry of executives, senior managers and/or specialists up to 30 days		0.75	
Temporary entry of executives, senior managers and/or specialists up to 60 days		0.50	
Temporary entry of executives, senior managers and/or specialists up to 90 days		0.25	
Temporary entry of executives, senior managers and/or specialists over 90 days		0.00	0.00

Table B.3 The estimated restrictiveness index for the Maritime Sector in Kazakhstan

Category	Weight	FR	FDR
Restrictions on Commercial Presence			
Conditions on the right to fly the national flag			
No restrictions on entry for foreign co ownership firms in international shipping and cabotage (2 out of 3 ships over 1000BRT are owned by a UK investor). However, certain services within maritime transport cannot be 100% foreign owned, which necessitates domestic equity participation. Note that no companies with 100% international equity ownership operate in the market. There are no explicit restrictions on crew composition. Ship registration is required and authorization is necessary for the transfer to open registers. Licensing procedures for commercially-based operators are allocated by competitive tenders. The amount of license fees and the method of their determination are not fully specified till date. Licenses for cargo handling are allocated through other discretionary mechanism. Licenses cannot be sold once allocated.	0.15	0.06	0.06
Form of commercial presence			
No formal restrictions on establishment. No restrictions to entry in international shipping, cabotage storage and warehousing. However, restrictions apply in cargo handling (3), freight forwarding (3), pilotage and towing (3) and maintenance and repair of vessels (2), with the maximum number of companies allowed given in the brackets. Entry in restricted areas is possible but foreign equity participation is subject to limits. Due to these limits, it is assumed that shipping service suppliers will be required to use the services of local agents.	0.10	0.05	0.05
Direct investment in shipping services suppliers			
No restrictions on foreign equity ownership of firms in international shipping and cabotage. 100% foreign ownership allowed in shipping services (defined as 'International shipping').	0.10	0.00	0.00
Direct investment in onshore maritime services suppliers			
Restrictions on foreign equity participation in onshore maritime service firms apply. Total number of firms allowed in cargo handling is 3 and 50% foreign participation is allowed; protected operators enjoy 5 year protection period. 20% private participation allowed in for freight forwarding; protected operators enjoy 5 year protection period. No foreign participation allowed in pilotage, towing and tying; protective measures are to increase government revenue from privatization or license fees. 50% foreign ownership allowed in maintenance and repairs of vessels; protected operators enjoy 5 year protection period; protective measures are to increase government revenue from privatization or license fees. 60% foreign participation allowed in storage and warehousing. The score is (1 – weighted average of permitted foreign equity participation)	0.10	0.065	0.065
Permanent movement of people			
No formal restrictions to this effect apply.	0.02	0.00	0.00
Cabotage			
100% foreign equity participation is allowed in cabotage. No restrictions to entry for foreign companies offering cabotage.	0.10	0.00	0.00
Transportation on non-commercial cargoes			
No evidence of restrictions to carry non-commercial cargoes. Significant restrictions in foreign participation in freight forwarding (only 20% foreign equity ownership allowed). However, it is assumed that providers must fly the national flag due to the lack of international carriers.	0.10	0.05	0.05
Other Restrictions			
Port services			
The use of pilotage, towing, berthing, waste disposal, and anchorage services is mandatory as well as discriminatory. The use of tug assistance and navigational aids are not mandatory. The requirements are assumed to be of discriminatory nature.	0.10	0.05	0.05
Discretionary imposition or restrictions, including for retaliatory purposes			
No formal provisions. Licensing requirements for cross-border services provision by foreign suppliers. The market and port infrastructure is controlled by a state owned company. Due to this, it is assumed that the government is able to impose selective restrictions.	0.05	0.05	0.05
United Nations Liner Code			
Economy is not part of the UN Liner Code.	0.05	0.00	0.00
Government permits conference			
Open conference agreements allowed. Conferences are not exempt from competition law.	0.05	0.05	0.00
Bilateral maritime services agreements on cargo sharing			
Economy is not part of bilateral maritime agreements including cargo sharing.	0.05	0.00	0.00
Composition of the board of directors			
No formal restrictions. Due to lack of foreign-owned companies it is assumed that 50% domestic participation will be required.	0.02	0.01	0.01
Temporary movement of people	0.01	0.00	0.00
		0.375	0.325

Table B.4 The foreign restrictiveness index: restrictions on Air Transport Services in Kazakhstan

Category	Weight	Scoring	Score chosen
Restrictions on Commercial Presence and Cross-Border Trade.			
Form of commercial presence	0.10		
Measures which restrict or require a specific type of legal entity or joint venture arrangement.		1.00	
Air Transport service suppliers must be represented by an agent.		0.50	
No restrictions on establishment.		0.00	0.00
Direct investment in international air transport service suppliers	0.10		
The score is inversely proportional to the maximum equity participation permitted in an existing air transport supplier.		0.50	0.50
Direct investment in domestic air transport service suppliers	0.10		
The score is inversely proportional to the maximum equity participation permitted in an existing domestic air transport supplier.		0.50	0.50
Permanent movement of people	0.02		
No entry of executives, senior managers and/or specialists.		1.00	
Executives, specialists and/or senior managers can stay a period of up to 1 year.		0.80	
Executives, specialists and/or senior managers can stay a period of up to 2 year.		0.60	
Executives, specialists and/or senior managers can stay a period of up to 3 year.		0.40	
Executives, specialists and/or senior managers can stay a period of up to 4 year.		0.20	
Executives, specialists and/or senior managers can stay a period of up to 5 year or more.		0.00	0.00
International air transport	0.10		
Foreigners generally cannot provide international air transport services.		1.00	
Foreigners can provide domestic air transport services with intergovernmental agreement, ASA.		0.50	0.50
No restriction on domestic air transport services.		0.00	
Domestic air transport	0.10		
Foreigners generally cannot provide domestic air transport services.		1.00	
Foreigners can provide domestic air transport services upon agreements.		0.50	0.50
No restrictions on domestic air transport.		0.00	
International charter flight	0.10		
Foreigners generally cannot provide international charter flight services.		1.00	
Foreigners can provide international charter flight services upon agreements.		0.50	0.50
No restriction on international charter flights services.		0.00	
Domestic charter flight	0.10		
Foreigners generally cannot provide domestic charter flight services.		1.00	
Foreigners can provide domestic charter flight services upon agreements.		0.50	
No restriction on domestic charter flight services.		0.00	0.00
Other Restrictions	0.10		
Airport services			
Foreigners generally cannot own airports.		0.40	
Foreigners generally cannot provide fuel supply services.		0.15	
Foreigners generally cannot provide repair and maintenance services of aircraft.		0.15	
Foreigners generally cannot provide air services trade and marketing.		0.15	
Foreigners generally cannot provide computer reservation system.		0.15	0.15
No restrictions.		0.00	
Discretionary imposition of restrictions, including for retaliatory purposes	0.05		
Governments are able to impose selective restrictions.		1.00	1.00
Governments are unable to impose selective restrictions.		0.00	
Discretionary imposition of subsidy to protect domestic air companies	0.05		
Government directly subsidizes only domestic companies.		1.00	
Government indirectly subsidizes only domestic companies.		0.75	0.75
Government does not subsidize either domestic or foreign companies.		0.00	
Inter-governmental ASA agreement	0.05		
The score for an economy is calculated, based on the number of participating airline companies in each ASA.		1.00	1.00
Composition of board of directors	0.02		
The score is inversely proportionately to the percentage of the board that can comprise foreigners.		0.50	0.50
Temporary movement of people	0.01		
No temporary entry of executives, senior managers and/or specialists up to 30 days.		1.00	
Temporary entry of executives, senior managers and/or specialists up to 30 days.		0.75	
Temporary entry of executives, senior managers and/or specialists up to 60 days.		0.50	
Temporary entry of executives, senior managers and/or specialists up to 90 days.		0.25	
Temporary entry of executives, senior managers and/or specialists over 90 days.		0.00	0.00

Table B.5 The estimated foreign restrictiveness index for the Air Transport services sector in Kazakhstan

Reason	Weight	FR	FDR
Form of commercial presence.			
No restriction to entry for firms with foreign equity participation in air transport. Companies must obtain license subject to the fulfillment of 'Provision on Licensing of Air Transportation of Passengers and Cargo No. 1150 of 1997'. The number of licenses is not limited by policy.	0.10	0.00	0.00
Direct investment in international air transport service suppliers.			
100% private equity permitted. Maximum 50% of foreign participation allowed in international scheduled services.	0.10	0.05	0.05
Direct investment in domestic air transport service suppliers.			
100% private equity permitted. Maximum 50% of foreign participation allowed in domestic scheduled services.	0.10	0.05	0.05
Permanent movement of people.			
No explicit restrictions to this effect.	0.02	0.00	0.00
International air transport			
No restrictions on cross border entry of foreign service providers. 50% foreign participation allowed.	0.10	0.05	0.00
Domestic air transport			
No restrictions on cross border entry of foreign service providers. 50% foreign participation allowed.	0.10	0.05	0.00
International charter flight			
No restrictions on cross border entry of foreign service providers. 50% foreign participation allowed.	0.10	0.05	0.00
Domestic charter flight			
No such flights are currently provided. Therefore, it is assumed that the medium restrictiveness level will apply. Foreigners can provide domestic charter flight services upon agreements.	0.10	0.05	0.05
Other restrictions			
Airport services			
Firms with 100% foreign equity participation can provide fuel supply, repair services, air services trade and marketing. Restrictions apply to foreign participation in firms providing computer reservation systems and luggage and freight handling and unloading. Foreign participation is limited to 40% in existing companies and 10% in new establishments in the former case. The restriction is because the service is considered strategic activity reserved to the state. Foreign equity participation is prohibited in luggage and freight handling and unloading. The number of companies supplying these services is limited to 20 because it is believed the market cannot sustain more operators.	0.10	0.015	0.00
Discretionary imposition of restrictions, including for retaliatory purposes.			
The government has special voting rights in the airlines.	0.05	0.05	0.05
Discretionary imposition of subsidy to protect domestic air companies.			
The government subsidizes three domestic airlines. The government has not covered operational losses of airlines in the past five years.	0.05	0.0375	0.0375
Inter-governmental ASA agreement.			
Bermuda (16 airlines). Each country designates one or several airlines on each route; limited number of points/routes operated by designated airlines as listed in the bilateral annex; there is no ex ante capacity control on each route, capacity offered is often negotiated via commercial agreements between airlines; several the freedoms may be granted, but total capacity must be proportional to the needs of the main bilateral route.	0.05	0.05	0.05
Composition of board of directors			
There are no explicit regulations to this effect. However, since the industry is dominated by 3 companies (all 100% domestic and two 50% privately held), it is assumed that 50% of the board will be domestic.	0.02	0.01	0.01
Temporary movement of people			
No explicit restrictions to this effect.	0.01	0.00	0.00
		0.463	0.298

Table B.6 The foreign restrictiveness index: restrictions on the Fixed Line Sector in Kazakhstan

Category	Weight	Scoring	Chosen score
Restrictions on Commercial Presence			
Licensing of fixed line services	0.20		
(a) Regional Line Service			
No new license is allowed.		1.00	
Licenses are issued through complicated (discriminately) and costly procedure.		0.75	0.75
Licenses are generally issued with application fee and several requirements.		0.20	
Licenses are generally issued with application fee.		0.10	
Licenses are automatically issued upon application without any cost.		0.00	
(b) Domestic Long Distance Line Service			
No new license is allowed.		1.00	
Licenses are issued through complicated (discriminately) and costly procedure.		0.75	0.75
Licenses are generally issued with application fee and several requirements.		0.20	
Licenses are generally issued with application fee.		0.10	
Licenses are automatically issued upon application without any cost.		0.00	
(c) International Line Service			
No new license is allowed.		1.00	
Licenses are issued through complicated (discriminately) and costly procedure.		0.75	0.75
Licenses are generally issued with application fee and several requirements.		0.20	
Licenses are generally issued with application fee.		0.10	
Licenses are automatically issued upon application without any cost.		0.00	
Form of commercial presence	0.10		
(a) Regional Line Service			
Measures which restrict or require a specific type of establishments.		1.00	1.00
No restriction on establishment.		0.00	
(b) Domestic Long Distance Line Service			
Measures which restrict or require a specific type of establishments.		1.00	1.00
No restriction on establishment.		0.00	
(c International Line Service			
Measures which restrict or require a specific type of establishments.		1.00	1.00
No restriction on establishment.		0.00	
Direct Investment: equity participation permitted	0.20		
The score is inversely proportional to the maximum equity participation permitted in an existing domestic company		1.00	1.00
Direct investment: restrictions on certain types of services	0.10		
Restrictions on providing some types of telephone services.		1.00	1.00
No restriction on providing any type of telephone services.		0.00	
Joint venture arrangements	0.10		
Issues no new license and no entry is allowed through a joint venture with a domestic company.		1.00	
Foreign company can enter only through a joint venture with a domestic company.		0.50	0.50
No requirement for foreign companies to enter through a joint venture with a domestic company.		0.00	
Permanent movement of people	0.02		
No entry of executives, senior managers and/or specialists.		1.00	
Executives, specialists and/or senior managers can stay up to 1 year.		0.80	
Executives, specialists and/or senior managers can stay up to 2 years.		0.60	
Executives, specialists and/or senior managers can stay up to 3 years.		0.40	
Executives, specialists and/or senior managers can stay up to 4 years.		0.20	
Executives, specialists and/or senior managers can stay a period of 5 years or more.		0.00	0.00

Table B.6 The foreign restrictiveness index: restrictions on the Fixed Line Sector in Kazakhstan (continuation)

Category	Weight	Scoring	Chosen score
Other Restrictions			
Third party resale of lease line	0.10		
Resale is not permitted.		1.00	1.00
Resale is permitted in any market.		0.00	
End user tariff	0.05		
End user tariff is determined by rate of return regulation.		1.00	
End user tariff is determined by price cap rule established by the authority.		0.50	0.50
End user tariff is determined by market force (no regulation).		0.00	
Regulation of network interconnection	0.05		
Interconnection is completely regulated by the authority.		1.00	
Interconnection is determined private negotiations in general, but general terms are determined by the authority.		0.50	0.50
Interconnection is completely determined by private negotiations (no regulation).		0.00	
Market structure	0.05		
(a) Regional Line Service			
Monopoly.		1.00	
Competition among plural providers.		0.00	0.00
(b) Domestic Long Distance Line Service			
Monopoly.		1.00	1.00
Competition among plural providers.		0.00	
(c) International Line Service			
Monopoly.		1.00	1.00
Competition among plural providers.		0.00	
Composition of the board of directors	0.02		
The score is inversely proportionately to the percentage of the board that can comprise foreigners.		0.00	0.00
Temporary movement of people	0.01		
No temporary entry of executives, senior managers and/or specialists.		1.00	
Temporary entry of executives, senior managers and/or specialists up to 30 days.		0.75	
Temporary entry of executives, senior managers and/or specialists up to 60 days.		0.50	
Temporary entry of executives, senior managers and/or specialists up to 90 days.		0.25	
Temporary entry of executives, senior managers and/or specialists over 90 days.		0.00	0.00

Table B.7 The estimated restrictiveness index for the Fixed Line Sector in Kazakhstan

Category	Weight	FR	FDR
Restrictions on Commercial Presence			
Licensing of fixed line services			
(a) Regional Line Service			
Kaztelecom was the monopoly provider of this service until 2003. However, 100 licenses were granted to domestic companies and 50 licenses for the resale of Kazteleco services. These licenses are not available for foreign companies and it is expected that there will be significant difficulties in obtaining them due to market dominance of the incumbent. Therefore, it is assumed that licenses are issued through complicated (discriminately) and costly procedure.			
(b) Domestic Long Distance Line Service			
Until 2003 Kaztelecom operated with exclusive right to the long distance market. However, this exclusive rights are limited to fixed line network of general use. 20 operators wishing to provide long distance use satellite networks as alternative to fixed line giving the possibility to provide full range of services. Obtaining licenses is expected to be difficult for foreign companies. Therefore, it is assumed that licenses are issued through complicated (discriminately) and costly procedure.	0.20	0.15	0.15
(c) International Line Service			
Until 2003 Kaztelecom operated with exclusive right to the international market.. Market entrants must use the incumbents network for international connections. Obtaining licenses is expected to be difficult for foreign companies. Therefore, it is assumed that licenses are issued through complicated (discriminately) and costly procedure.			
Form of commercial presence			
(a) Regional Line Service			
Foreign participation was prohibited in regional line service until 2003. Significant restrictions on foreign participation are expected to persist.			
(b) Domestic Long Distance Line Service			
Foreign participation was not allowed. Significant restrictions on foreign participation are expected to persist.	0.10	0.10	0.10
(c) International Line Service			
Foreign participation was not allowed. Restrictions on foreign participation are expected to persist. Market entrants must use the incumbents network for international connections.			
Direct Investment: equity participation permitted			
Foreign ownership not permitted in any type of service. (100% private equity participation is allowed only for domestic investors).	0.20	0.20	0.20
Direct investment: restrictions on certain types of services			
No restrictions on domestic equity participation. Foreign equity participation not possible.	0.10	0.10	0.10
Joint venture arrangements			
Although there are no restrictions on foreign ownership in fixed line, there are no 100% foreign owned companies. Foreign firms choose to enter through a joint-venture.	0.10	0.05	0.05
Permanent movement of people			
No explicit legislation to this effect. It is assumed that no restrictions persist.	0.02	0.00	0.00
Other Restrictions			
Third party resale of lease line			
Third party resale of domestic lease line permitted. Resale of foreign line not permitted. 50 licenses on resale of services of the Kaztelecom company have been granted by 2002. Limitations apply to long-distance and international communications in the form of exclusive rights to provide these services by Kaztelecom.	0.10	0.05	0.05
End user tariff			
Price caps are established by the regulator.	0.05	0.03	0.03
Regulation of network interconnection			
Interconnection is allowed in principle.	0.05	0.03	0.03
Market structure			
(a) Regional Line Service			
7 competitors, including 2 companies with foreign participation.			
(b) Domestic Long Distance Line Service			
Monopoly until 2003. Kaztelecom is still expected to posses close complete market share.	0.05	0.03	0.03
(c) International Line Service			
Monopoly until 2003. Kaztelecom is still expected to posses close complete market share.			
Composition of the board of directors			
No explicit legislation to this effect. It is assumed that no restrictions persist.	0.02	0.00	0.00
Temporary movement of people			
No explicit legislation to this effect. It is assumed that no restrictions persist.	0.01	0.00	0.00
		0.733	0.733

Table B.8 The foreign restrictiveness index: Mobile Services in Kazakhstan

Category	Weight	Scoring	Score chosen
Restrictions on Commercial Presence			
Licensing of mobile phone services	0.20		
No new license is allowed.		1.00	
Licenses are issued through complicated (discriminately) and costly procedure.		0.75	0.75
Licenses are generally issued with application fee and several requirements.		0.20	
Licenses are generally issued with application fee.		0.10	
Licenses are automatically issued upon application without any cost.		0.00	
Form of commercial presence	0.10		
Measures which restrict or require a specific type of establishments.		1.00	
No restriction on establishment.		0.00	0.00
Direct investment: equity participation permitted	0.20		
The score is inversely proportional to the maximum equity participation permitted in an existing domestic company		0.40	0.40
Direct investment: restrictions on certain types of services	0.10		
Restrictions on providing some types of telephone services.		1.00	
No restriction on providing any type of telephone services.		0.00	0.00
Joint venture arrangements	0.10		
Issues no new license and no entry is allowed through a joint venture with a domestic company.		1.00	
Foreign company can enter only through a joint venture with a domestic company.		0.50	0.50
No requirement for foreign companies to enter through a joint venture with a domestic company.		0.00	
Permanent movement of people	0.02		
No entry of executives, senior managers and/or specialists.		1.00	
Executives, specialists and/or senior managers can stay up to 1 year.		0.80	
Executives, specialists and/or senior managers can stay up to 2 years.		0.60	
Executives, specialists and/or senior managers can stay up to 3 years.		0.40	
Executives, specialists and/or senior managers can stay up to 4 years.		0.20	
Executives, specialists and/or senior managers can stay a period of 5 years or more.		0.00	0.00
Other Restrictions			
Regulation of interconnection between fixed line and mobile or between mobiles	0.05		
Interconnection is completely regulated by the authority.		1.00	1.00
Interconnection is determined by private negotiations in general, but general terms are determined by the authorities		0.50	
Interconnection is completely determined by private negotiations (no regulation).		0.00	
End user tariff	0.10		
End user tariff is determined by rate of return regulation.		1.00	1.00
End user tariff is determined by price cap rule established by the authority.		0.50	
End user tariff is determined by market force (no regulation).		0.00	
Allocation of radio spectrum	0.05		
Allocation is discriminately decided by the authority.		1.00	1.00
Allocated by auction with application fee.		0.20	
Allocated by auction without application fee.		0.10	
Radio frequencies are obtained with mobile services.		0.00	
Market structure	0.05		
Monopoly.		1.00	1.00
Competition among plural providers.		0.00	
Composition of the board of directors	0.02		
The score is inversely proportionately to the percentage of the board that can comprise foreigners.		0.00	
Temporary movement of people	0.01		
No temporary entry of executives, senior managers and/or specialists.		1.00	
Temporary entry of executives, senior managers and/or specialists up to 30 days.		0.75	
Temporary entry of executives, senior managers and/or specialists up to 60 days.		0.50	
Temporary entry of executives, senior managers and/or specialists up to 90 days.		0.25	
Temporary entry of executives, senior managers and/or specialists over 90 days.		0.00	0.00

Table B.9 The estimated restrictiveness index for the Mobile Sector in Kazakhstan

Category	Weight	FR	FDR
Restrictions on Commercial Presence			
Licensing of mobile phone services			
Licenses are issued through competitive tender subject to payment of service license fee. The license amounts to 6% of actual net profit (10.000 USD in one example). Foreign firms are not subject to different tender procedures. Exclusivity periods have existed in the market. There are only 2 market players in analogue and 2 market players in digital mobile (both incl. 50%-70% foreign ownership hence the barrier is assumed non-discriminatory).	0.20	0.15	0.00
Form of commercial presence			
No restrictions on new entry in analogue or digital mobile sectors.	0.10	0.00	0.00
Direct investment: equity participation permitted			
Maximum 50% foreign equity participation allowed in analogue / 70% foreign equity participation permitted in mobile.	0.20	0.08	0.08
Direct investment: restrictions on certain types of services			
No restrictions on new entry in analogue or digital mobile sectors.	0.10	0.00	0.00
Joint venture arrangements			
Although there are no restrictions on foreign ownership, there are no pure foreign owned companies. All companies are joint ventures.	0.10	0.05	0.05
Permanent movement of people			
No explicit policy restrictions to this effect. Freedom of movement of people assumed.	0.02	0.00	0.00
Other Restrictions			
Regulation of interconnection between fixed line and mobile or between mobiles			
Interconnection agreements between mobile and fixed line are determined by detailed terms by the regulatory agency. Setting of interconnection rates is determined jointly by the operator, the Ministry and Regulator. The Regulator sets technical standards, procedures for interconnection and time frames for interconnection. Interconnection agreements are not made public. Reciprocal pricing and unbundling rules are used.	0.05	0.05	0.00
End user tariff			
End user tariffs determined by price caps established by the regulator.	0.10	0.10	0.00
Allocation of radio spectrum			
Allocation of radio spectrum is done by discretionary decision of the licensing authority.	0.05	0.05	0
Market structure			
Incumbent company has 94% market share in analogue. Incumbent has 66% in digital mobile.	0.05	0.05	0.05
Composition of the board of directors			
No restrictions	0.02	0.00	0.00
Temporary movement of people			
No explicit policy restrictions to this effect. Freedom of movement of people assumed.	0.01	0.00	0.00
		0.53	0.18

Table B.10 The foreign restrictiveness index: restrictions on the Internet Services in Kazakhstan

Category	Weight	Scoring	Score chosen
Restrictions on Commercial Presence			
Licensing of internet services	0.20		
No new license is allowed.		1.00	
Licenses are issued through complicated (discriminately) and costly procedure.		0.75	
Licenses are generally issued with application fee and several requirements.		0.20	0.20
Licenses are generally issued with application fee.		0.10	
Licenses are automatically issued upon application without any cost.		0.00	
Form of commercial presence	0.10		
Measures which restrict or require a specific type of establishments.		1.00	
No restriction on establishment.		0.00	0.00
Direct investment: equity participation permitted	0.20		
The score is inversely proportional to the maximum equity participation permitted in an existing domestic company.		0.00	0.00
Direct investment: restrictions on certain types of services	0.10		
Restrictions on providing some types of internet services.		1.00	
No restrictions on providing any type of internet services.		0.00	0.00
Joint venture arrangements	0.10		
Issues no new license and no entry is allowed through a joint venture with a domestic company.		1.00	
Foreign company can enter only through a joint venture with a domestic company.		0.50	0.50
No requirement for foreign companies to enter through a joint venture with a domestic company.		0.00	
Permanent movement of people	0.02		
No entry of executives, senior managers and/or specialists.		1.00	
Executives, specialists and/or senior managers can stay up to 1 year.		0.80	
Executives, specialists and/or senior managers can stay up to 2 years.		0.60	
Executives, specialists and/or senior managers can stay up to 3 years.		0.40	
Executives, specialists and/or senior managers can stay up to 4 years.		0.20	
Executives, specialists and/or senior managers can stay a period of 5 years or more.		0.00	0.00
Other Restrictions			
Regulation of interconnection agreements among internet services providers	0.10		
Interconnection is completely regulated by the authority.		1.00	
Interconnection is determined by private negotiations in general, but general terms are determined by the authority.		0.50	0.50
Interconnection is completely determined by private negotiations (no regulation).		0.00	
Infrastructure	0.10		
Providers are not allowed to either built their own network or own/lease their international data gateways.		1.00	1.00
Providers are allowed to built their own network or own/lease their international data gateways.		0.50	
Providers are allowed to built their own network as well as own/lease their international data gateways.		0.00	
Market structure	0.05		
Monopoly.		1.00	
Competition among plural providers.		0.00	0.00
Composition of the board of directors	0.02		
The score is inversely proportionately to the percentage of the board that can comprise foreigners.		0.00	0.00
Temporary movement of people	0.01		
No temporary entry of executives, senior managers and/or specialists.		1.00	
Temporary entry of executives, senior managers and/or specialists up to 30 days.		0.75	
Temporary entry of executives, senior managers and/or specialists up to 60 days.		0.50	
Temporary entry of executives, senior managers and/or specialists up to 90 days.		0.25	
Temporary entry of executives, senior managers and/or specialists over 90 days.		0.00	0.00

Table B.11 The estimated restrictiveness index for the Internet Services in Kazakhstan

Category	Weight	FR	FDR
Restrictions on Commercial Presence			
Licensing of internet services			
There are no policy restrictions on foreign entry. Licenses are generally issued with application fee and several requirements. The following licensing requirements are in effect: publish table of tariffs, ensure confidentiality of communications, fulfill obligations related to national defense and security, pay annual taxes, fulfill the dates of license duration. Foreign firms not subject to different licensing scheme. These restrictions are not assumed discriminatory.	0.20	0.04	0
Form of commercial presence			
No restrictions on type of establishment; entry by any firm possible.	0.10	0.00	0.00
Direct investment: equity participation permitted			
Full private foreign ownership allowed. No restrictions with respect to investment in existing operators and setting up of new companies with foreign equity.	0.20	0.00	0.00
Direct investment: restrictions on certain types of services			
No restrictions on providing certain types of services.	0.10	0.00	0.00
Joint venture arrangements			
No company is 100% foreign owned despite the lack of formal restrictions on foreign ownership.	0.10	0.05	0.05
Permanent movement of people			
No explicit policy restrictions to this effect. Freedom of movement of people assumed.	0.02	0.00	0.00
Other Restrictions			
Regulation of interconnection agreements among internet services providers			
Interconnection agreements take part through private negotiations with general terms determined by the regulatory agency.	0.10	0.05	0.00
Infrastructure			
Internet service providers are not allowed to build their own networks. ISPs are not allowed to owns or lease own international data gateways.	0.10	0.1	0.00
Market structure			
6 companies including the fixed line monopolist Kaztelecom / 75% of the market is domestic owned and 25 is foreign owned / largest market share 50%. Therefore, it is assumed that competition takes place among plural providers.	0.05	0.00	0.00
Composition of the board of directors			
No explicit legislation to this effect. The company with largest foreign presence consists of 66% foreign equity ownership. Therefore, it is assumed that 1/3 of the board must be domestic.	0.02	0.00	0.00
Temporary movement of people			
No explicit policy restrictions to this effect. Freedom of movement of people assumed.	0.01	0.00	0.00
		0.246	0.056

Table B.12 The foreign restrictiveness index: restrictions on the Banking Services in Kazakhstan

Category	Weight	Scoring	Score chosen
Restrictions on Commercial Presence			
Licensing of banks	0.10		
Issues no new license / No new license is allowed.		1.00	
Issues up to 3 new licenses with only prudential requirements / Licenses are issued through complicated (discriminately) and costly procedure.		0.75	
Issues up to 6 new licenses with only prudential requirements. / Licenses are generally issued with application fee.		0.50	
Issues up to 10 new licenses with only prudential requirements. / Licenses are generally issued with application fee.		0.25	
Issues new licenses with only prudential requirements. / Licenses are generally issued wit application fee.		0.00	0.00
Form of commercial presence	0.10		
Measures which restrict or require a specific type of establishments.		1.00	1.00
No restriction on establishment.		0.00	
Direct investment: equity participation permitted	0.20		
The score is inversely proportional to the maximum equity participation permitted in an existing domestic bank.		0.00	0.00
Direct investment: restrictions on certain types of services	0.10		
Restrictions on providing some types of banking services.		1.00	
No restriction on providing any type of banking services.		0.00	0.00
Joint-venture arrangements	0.10		
Issues no new banking licenses and no entry is allowed through a joint venture with a domestic bank.		1.00	
Bank entry is only through a joint venture with a domestic bank.		0.50	
No requirement for a bank to enter through a joint venture with a domestic bank.		0.00	0.00
Permanent movement of people	0.02		
No entry of executives, senior management and/or specialists.		1.00	
Executives, specialists and/or senior management can stay up to 1 year.		0.80	
Executives, specialists and/or senior management can stay up to 2 years.		0.60	
Executives, specialists and/or senior management can stay up to 3 years.		0.40	
Executives, specialists and/or senior management can stay up to 4 years.		0.20	
Executives, specialists and/or senior management can stay a period of 5 years or more.		0.00	0.00
Cross Border Trade			
Raising funds by foreign banks	0.10		
Banks are not permitted to raise funds in the domestic market. / Foreign banks are not permitted to have cross-border deposits of Kazakh banks, corporations, and households.		1.00	
Banks are restricted from raising funds from domestic capital market. / Foreign banks are permitted to have cross-border deposits of only some types of Kazakh residents or any type of Kazakh residents with specific ceiling amount.		0.75	
Banks are restricted in accepting deposits from the public. / Foreign banks are permitted to have cross-border deposits of Kazakh banks, corporations, and households with licenses.		0.50	
Banks can raise funds from any source with only prudential requirements. / Foreign banks are permitted to have cross-border deposits of any type of Kazakh residents without restrictions.		0.00	0.00
Lending funds by foreign banks.	0.10		
Banks are not permitted to lend to domestic clients. / Foreign banks are not permitted to have cross-border lending to Kazakh banks, corporations and households.		1.00	
Banks restricted to a specified lending size or lending to government projects. Foreign banks are permitted to have cross-border lending to only some types of Kazakh residents or any type of Kazakh residents with specific ceiling amount.		0.75	
Banks are restricted in providing certain services such as credit cards, leasing and consumer finance. / Foreign banks are permitted to have cross-border lending to Kazakh banks, corporations, and households with licenses.		0.50	
Banks are directed to lend to housing and small business.		0.25	
Banks can lend to any source with only prudential restrictions. / Foreign banks are permitted to have cross-border lending to any type of Kazakh residents without restrictions.		0.00	0.00
Other Restrictions			
Other business of banks - insurance and securities -	0.10		
Banks can only provide banking services.		1.00	
Banks can provide banking services plus one other line of business - insurance or security services.		0.50	
Banks have no restriction on conducting other lines of business.		0.00	0.00
Expanding the number of banking outlets	0.05		
One banking outlet with no new banking outlet permitted.		1.00	
Number of banking outlets is limited in number and location.		0.75	
Expansion of banking outlets is subject to non-prudential regulatory approval.		0.25	0.25
No restrictions on banks expanding operations.		0	
Composition of the board of directors	0.02		
The score is inversely proportional to the percentage of the board that can comprise foreigners.		0.20	0.20
Temporary movement of people	0.01		
No temporary entry of executives, senior managers and/or specialists.		1.00	
Temporary entry of executives, senior managers and/or specialists up to 30 days.		0.75	
Temporary entry of executives, senior managers and/or specialists up to 60 days.		0.50	
Temporary entry of executives, senior managers and/or specialists up to 90 days.		0.25	
Temporary entry of executives, senior managers and/or specialists over 90 days.		0.00	0.00

Table B.13 The estimated restrictiveness index for the Banking Services in Kazakhstan

Reason	Weight	FR	FDR
Restrictions on Commercial Presence			
Licensing of banks			
There are no explicit restrictions on foreign entry and the number of licenses is not limited by policy. There are no quantitative restrictions on short or long term capital in- and outflows but license from the National Bank is necessary for transfer of capital from residents to non-residents. These restrictions on capital movement are intended to give state-owned banks time to prepare for competition and to reduce the potential for systemic risk. They are considered as prudential requirements and non-discriminatory in nature.	0.10	0.00	0.00
Form of commercial presence			
Foreign banks are allowed to set up subsidiaries or representative offices only. Foreign banks are not permitted to establish branches; they must incorporate locally. By the end of 2001, there were 15 banks with foreign participation.	0.10	0.10	0.10
Direct investment: equity participation permitted			
100% private equity ownership allowed (incl. Foreign ownership).	0.20	0.00	0.00
Direct investment: restrictions on certain types of services.			
There are no restrictions on any types of services banks can provide. Banks are explicitly allowed to provide real estate lending, insurance services, securities services, foreign currency lending, foreign exchange services, credit card services, leasing, and operations involving gold and precious metals. Furthermore, banks are allowed to hold equity in non-financial as well as financial firms up to 10% value of own capital or 50% if the equity is held as pledge.	0.10	0.00	0.00
Joint-venture arrangements			
Foreign banks are not subject to different licensing requirements from domestic banks. Therefore, there is no requirement for a bank to enter through a joint venture with a domestic bank.	0.10	0.00	0.00
Permanent movement of people			
There is no explicit regulation affecting the freedom of movement of people	0.02	0.00	0.00
Cross border trade			
Raising funds by foreign banks			
No restrictions for domestic banks to lend cross-border to (make deposits with) foreign banks. There are no quantitative restrictions.	0.10	0.00	0.00
Lending funds by foreign banks.			
No restrictions for foreign banks to lend cross-border to domestic banks. Domestic banks are not subject to any qualifications in order to be able to access foreign capital.	0.10	0.00	0.00
Other Restrictions			
Other business of banks - insurance and securities.			
No restrictions for domestic or foreign banks to provide insurance and security services domestically.	0.10	0.00	0.00
Expanding the number of banking outlets			
Separate licenses are required to establish branches in each state/province. The number of licenses is not limited and foreign banks can apply for a license on the same terms as domestic banks. The licensing requirements are: payment of license fee, presentation of detailed business plan, minimum capital and compatible home country regulation. Expansion of banking outlets is subject to regulatory approval, some of which may be considered non-prudential.	0.05	0.0125	0.00
Composition of the board of directors			
At least one member of the supervisory board of a bank with foreign participation must be a citizen of the Republic of Kazakhstan. It is assumed that domestic participation comprises of 20% of the board.	0.02	0.004	0.004
Temporary movement of people			
There is no explicit regulation affecting the freedom of movement of people	0.01	0.00	0.00
		0.117	0.104

Table B.14 The foreign restrictiveness index: restrictions on insurance services in Kazakhstan

Category	Weight	Scoring	FR
Restrictions on Commercial Presence			
Licensing of insurance services	0.10		
No new license is allowed		1.00	
Licenses are issued through complicated (discriminately) and costly procedure.		0.75	0.75
Licenses are generally issued with application fee and several requirements.		0.20	
Licenses are generally issued with application fee.		0.10	
Licenses are automatically issued upon application without any cost.		0.00	
Form of commercial presence	0.10		
Measures which restrict or require a specific type of establishments.		1.00	1.00
No restriction on establishment.		0.00	
Direct investment: equity participation permitted	0.20		
The score is inversely proportional to the maximum equity participation permitted in an existing domestic insurance company.		0.50	0.50
Direct investment: restrictions on certain types of services	0.10		
Restrictions on providing some types of insurance services.		1.00	1.00
No restriction on providing any type of insurance services.		0.00	
Joint venture arrangements	0.10		
Issues no new insurance license and no entry is allowed through a joint-venture with a domestic insurance company.		1.00	
Foreign company entry is only through a joint venture with a domestic insurance company.		0.50	0.50
No requirement for an insurance company to enter through a joint-venture with a domestic insurance company.		0.00	
Permanent movement of people	0.02		
No entry of executives, senior managers and/or specialists.		1.00	
Executives, specialists and/or senior mangers can stay up to 1 year.		0.80	
Executives, specialists and/or senior mangers can stay up to 2 years.		0.60	
Executives, specialists and/or senior mangers can stay up to 3 years.		0.40	
Executives, specialists and/or senior mangers can stay up to 4 years.		0.20	
Executives, specialists and/or senior mangers can stay a period of 5 years or more.		0.00	0.00
Cross-border Trade			
Cross-border insurance supply by foreign insurance companies	0.20		
Foreign insurance companies are not permitted to provide Kazakh residents with any type of cross-border insurance services in Kazakhstan.		1.00	
Foreign insurance companies are permitted to provide Kazakh residents with certain type of cross-border insurance services in Kazakhstan.		0.75	
Foreign insurance companies are permitted to provide Kazakh residents with any type of cross-border insurance services with licenses in Kazakhstan.		0.50	0.50
Foreign insurance companies are permitted to provide Kazakh residents with any type of cross-border insurance services without restrictions in Kazakhstan.		0.00	
Other Restrictions			
Other business of insurances - banking and securities -	0.10		
Insurance companies can only provide insurance services.		1.00	
Insurance companies can provide insurance services plus one other type of business - banking or security services -		0.50	
Insurance companies have no restrictions on conducting other lines of business.		0.00	0.00
Expanding the number of insurance outlets	0.05		
One insurance outlet with no new insurance outlet permitted.		1.00	
Number of insurance outlets is limited in number and location.		0.75	
Expansion of insurance outlets in subject to non-prudential regulatory approval.		0.25	0.25
No restriction for insurance companies expanding operations		0.00	
Composition of the board of directors	0.02		
The score is inversely proportional to the percentage of the board that can comprise foreigners.		0.66	0.66
Temporary movement of people	0.01		
No temporary entry of executives, senior managers and/or specialists.		1.00	
Temporary entry of executives, senior managers and/or specialists up to 30 days.		0.75	
Temporary entry of executives, senior managers and/or specialists up to 60 days.		0.50	
Temporary entry of executives, senior managers and/or specialists up to 90 days.		0.25	
Temporary entry of executives, senior managers and/or specialists over 90 days.		0.00	0.00

Table B.15 The estimated restrictiveness index for the Insurance Services sector in Kazakhstan

Category	Weight	FR	FDR
Restrictions on Commercial Presence			
Licensing of insurance services			
There are no policy restrictions on new entry of insurance providers in life, non-life and reinsurance segments. Insurance companies must obtain license from Insurance Department of the Ministry of Finance. The licensing process is considered complicated since there are several requirements discriminatory provisions foreign companies must comply with. General requirements: license fee, detailed business plan, minimum capital, compatible home country regulation. Discriminatory requirements: property insurance cannot be provided by foreign companies; only non-resident insurance organizations are allowed to establish their affiliated companies; affiliated companies must have a rating from an international organization and a minimum rating criterion must be fulfilled;	0.10	0.075	0.075
Form of commercial presence			
Foreign insurance companies must form subsidiaries or representative offices. Non-resident insurance companies are not allowed to establish their branch offices in Kazakhstan.	0.10	0.10	0.10
Direct investment: equity participation permitted	0.20	0.00	0.00
Limits apply to equity ownership in insurance service companies for foreign investors. Life insurance 50%, property insurance 25%, health/medical 25%, reinsurance 25%. The score is calculated as (1 – weighted average of foreign equity participation allowed) = 0.70	0.20	0.14	0.14
Direct investment: restrictions on certain types of services			
Foreign insurance companies must form representative offices. Property insurance cannot be provided by foreign companies.	0.10	0.10	0.10
Joint venture arrangements			
Limits apply to equity ownership in insurance service companies for foreign investors. Life insurance 50%, property insurance 25%, health/medical 25%, reinsurance 25%. Foreign company entry is only through a joint venture with a domestic insurance company.	0.10	0.05	0.05
Permanent movement of people			
No explicit restrictions to this effect.	0.02	0.00	0.00
Cross border trade			
Cross-border insurance supply by foreign insurance companies			
Foreign insurance companies are not allowed to provide property insurance. Domestic residents can purchase life, medical, cargo, pension, investment services and mandatory insurance only through resident intermediary. Provisions regarding outflow of capital are in force: the amount of insurance premia passed to reinsurance organizations which are non-residents of Kazakhstan must not exceed 85% and founders of insurance companies may not be organizations registered with an offshore zone or organizations whose charter capital, directly or through affiliated organizations, has the participation of organizations registered in an offshore zone. The list of offshore zones is determined by the authorized state agency.	0.20	0.10	0.10
Other Restrictions			
Other business of insurances - banking and securities.			
No explicit regulation to this effect. Banking and security services are subject to different licensing requirements. It is assumed that a foreign service provider will be able to provide all services provided that licensing requirements are met.	0.10	0.00	0.00
Expanding the number of insurance outlets			
Separate licenses are required to establish branches in each state/province subject to the licensing criteria outlined. This restriction is not considered discriminatory.	0.05	0.0125	0.00
Composition of the board of directors			
At least one third of the members of the board of directors and the board of an insurance company with the participation on non-residents of Kazakhstan must be Kazakh citizens. Members of the board of directors and the board of an insurance organization (non-residents) must submit documents proving at least 3 years experience of administrative work in organizations working in the financial market.	0.02	0.0132	0.0132
Temporary movement of people			
No explicit restrictions to this effect.	0.01	0.00	0.00
	1.00	0.591	0.578

Table B.16 The foreign restrictiveness index: restrictions on the Securities Services in Kazakhstan

Category	Weight	Scoring	Score chosen
Restrictions on Commercial Presence			
Licensing of securities services	0.10		
No new license is allowed.		1.00	
Licenses are issued through complicated (discriminately) and costly procedure.		0.75	0.75
Licenses are generally issued with application fee and several requirements.		0.20	
Licenses are generally issued with application fee.		0.10	
Licenses are automatically issued upon application without any cost.		0.00	
Form of commercial presence	0.10		
Measures which restrict or require a specific type of establishments.		1.00	
No restrictions on establishment.		0.00	0.00
Direct investment: equity participation permitted	0.20		
The score is inversely proportional to the maximum equity participation permitted in an existing domestic securities company.		0.00	0.00
Direct investment: restriction on certain types of services	0.10		
Restrictions on providing some types of securities services.		1.00	1.00
No restriction on providing any types of securities services.		0.00	
Joint venture arrangements	0.10		
Issues no new securities license and no entry are allowed through a joint venture with a domestic securities companies.		1.00	
Foreign securities companies enter only through a joint venture with a domestic securities company.		0.50	
No requirement for a securities company to enter through a joint venture with a domestic securities company.		0.00	0.00
Permanent movement of people	0.02		
No entry of executives, senior managers and/or specialists		1.00	
Executives, specialists and/or senior managers can stay up to 1 year.		0.80	
Executives, specialists and/or senior managers can stay up to 2 years.		0.60	
Executives, specialists and/or senior managers can stay up to 3 years.		0.40	
Executives, specialists and/or senior managers can stay up to 4 years.		0.20	
Executives, specialists and/or senior managers can stay a period of 5 years or more.		0.00	0.00
Cross-border Trade			
Cross-border securities services supply by foreign securities companies	0.10		
Foreign securities companies are not permitted to provide Kazakhs residents with any cross-border securities services in Kazakhstan.		1	
Foreign securities are permitted to provide Kazakh residents with certain type of cross-border securities services in Kazakhstan.		0.75	
Foreign securities companies are permitted to provide Kazakh residents with any type of cross-border securities services with licenses in Kazakhstan.		0.50	
Foreign securities companies are permitted to provide Kazakh residents with any type of cross-border securities services without restrictions in Kazakhstan.		0.00	0.00
Cross-border securities purchase by Kazakh residents	0.10		
Kazakh residents are not permitted to purchase any cross-border securities services abroad with licenses.		1.00	
Kazakh residents are permitted to purchase certain type of cross-border securities services abroad with some restrictions.		0.75	
Kazakh residents are permitted to purchase any type of cross-border securities services abroad with licenses.		0.50	
Kazakh residents are permitted to purchase any type of cross-border securities services without restriction in Kazakhstan.		0.00	0.00
Other Restrictions			
Other business of securities - banking and insurance -	0.10		
Securities can only provide securities services.		1.00	
Securities an provide securities services plus one other line of business - banking or insurance -		0.50	
Securities have no restrictions on conducting other lines of business		0.00	0.00
Expanding the number of securities outlets.	0.05		
One security outlet with no new securities outlet permitted.		1.00	
Number of securities outlets is limited in number and location.		0.75	
Expansion of securities outlets is subject to non-prudential regulatory approval.		0.25	0.25
No restriction on securities companies expanding operations.		0.00	
Composition of the board of directors	0.02		
The score is inversely proportional to the percentage of the board that can comprise foreigners.			
Temporary movement of people	0.01		
No temporary entry of executives, senior managers and/or specialists.		1.00	
Temporary entry of executives, senior managers and/or specialists up to 30 days.		0.75	
Temporary entry of executives, senior managers and/or specialists up to 60 days.		0.50	
Temporary entry of executives, senior managers and/or specialists up to 90 days.		0.25	
Temporary entry of executives, senior managers and/or specialists over 90 days.		0.00	0.00

Table B.17 The estimated restrictiveness index for the Securities Services sector in Kazakhstan

Category	Weight	FR	FDR
Restrictions on Commercial Presence			
Licensing of securities services			
Foreign companies are officially not subject to different licensing requirements from domestic service providers, however, a number of restrictions can be considered complicated and discriminatory. Requirements: payment of license fee, minimum capital, compatible home country regulation. Security firms are required to disclose information related to performance, changes in ownership and accounts. Foreign firms are not allowed in securities dealing and stock brokerage services. This is to give incumbents time to prepare for competition.	0.10	0.075	0.075
Form of commercial presence			
No restrictions on form of legal establishment.	0.10	0.00	0.00
Direct investment: equity participation permitted			
100% domestic or foreign equity participation is allowed, except for stock brokerage.	0.20	0.00	0.00
Direct investment: restriction on certain types of services			
There are restrictions on securities dealing and stock brokerage services. Foreign security companies allowed to: underwrite new issues, provide risk management service, provide merger and acquisition advice and information services.	0.10	0.10	0.10
Joint venture arrangements			
Foreign securities firms are not subject to different licensing requirements from domestic firms. Foreign service providers are required to use domestic resident financial intermediary in the following segments: inter-bank market, foreign-exchange market, stock market. Foreign companies are not required to use resident financial firms in the derivatives market.	0.10	0.00	0.00
Permanent movement of people			
No explicit legislation to this effect.	0.02	0.00	0.00
Cross-border Trade			
Cross-border securities services supply by foreign securities companies			
There are no restrictions on cross-border trade (except for securities dealing) by foreign firms. Domestic residents are allowed to purchase securities issued abroad and domestic companies are permitted to raise capital abroad. Foreign securities firms are permitted to provide merger and acquisition advisory services, investment advisory services and credit rating services.	0.01	0.00	0.00
Cross-border securities purchase by Kazakh residents			
No restrictions of purchase by domestic residents of securities issued abroad; domestic companies raising capital abroad.	0.01	0.00	0.00
Other Restrictions			
Other business of securities - banking and insurance			
Commercial and universal banks are allowed to deal in domestic securities.	0.01	0.00	0.00
Expanding the number of securities outlets			
No explicit legislation to this effect. It is expected that expanding the number of licenses will be subject to similar requirements as in the case of banking and insurance.	0.05	0.0125	0.00
Composition of the board of directors			
No explicit legislation to this effect. However, it is expected that 50% domestic participation will be required given the lack of foreign owned companies in the market.	0.02	0.005	0.005
Temporary movement of people			
No explicit legislation to this effect.	0.01	0.00	0.00
		0.193	0.18