

PED-329 MICROECONOMICS OF COMPETITIVENESS (FINAL PAPER)

- Professor Michael E. Porter -

Kazakhstan Energy Cluster

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I. COUNTRY OVERVIEW

(1) Leader in Central Asia with rich natural resources

Kazakhstan is the largest country in Central Asia, surrounded by Russia, China, Uzbekistan, Kyrgyzstan, Iran and Turkey. This land-locked country is the ninth largest in the world¹ equaling Western Europe. With the population of 15.1 million, ethnic Kazakh represent 53.4%. Other ethnic groups include Russian 30%, Ukrainian 3.7%, Uzbek 2.5%, German 2.4%, Tatar 1.7%, Uygur 1.4%, other 4.9%².

(2) History of Kazakhstan

Early Tribal Movements. In the 13th Century, Kazakh tribes were occupied by the Mongols and ruled by various khanates³ which were based on a nomadic economy and located along the Great Silk Road connecting Europe with China. In the 16th century, the formation of a single Kazakh nation was completed⁴.

Russian Empire and the Soviet Era. In the 17-18th centuries the nomadic Jungar tribes waged a war against the Kazakh khanate. The Kazakh khans were forced to seek the military protection from the Russian Empire, which resulted in Kazakhstan becoming a part of the Russian Empire in 1848⁵. Later, in 1920, Kazakhstan became an autonomous republic of the Soviet Union and a constituent republic in 1936. Kazakhstan was not only the most important grain supplier of the other USSR republics⁶, but also the most significant site of military-industrial activity in Central

Asia. Kazakhstan suffered greatly under Soviet control, especially during the collectivization of 1930s. During the World War II, many factories and academic institutions were moved to Kazakhstan from the occupied Western territories of the Soviet Union.

New Era. When the Soviet Union broke up, Kazakhstan proclaimed its independence on December 16, 1991. Its foreign policy is focused on Russia and other regional neighbors. The country successfully maintains the balance among Russia, China and the West and gained broad international support ⁷ especially after announcing the national policy of nuclear non-proliferation. After 9/11, Kazakhstan supported the U.S.-led efforts to combat international terrorism. Presidents Clinton and Bush named Kazakhstan a "strategic partner of the United States in Central Asia"⁸.

II. KAZAKHSTAN ECONOMY

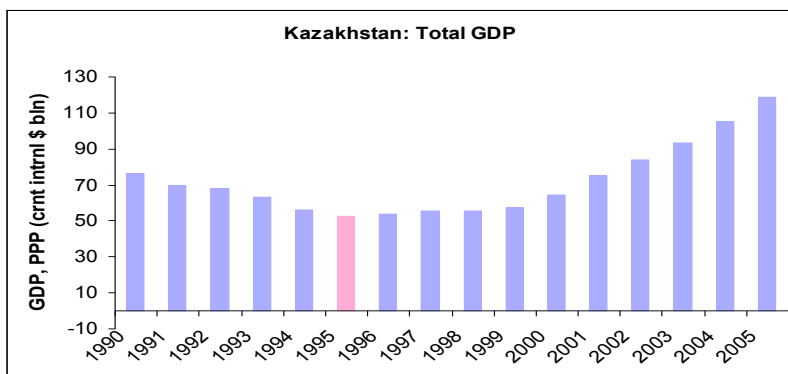
(1) THE PERFORMANCE IN SOVIET UNION AND INDEPENDENCE

During the Soviet period (1920-1991) Kazakhstan was an agrarian region and supplier of raw materials for the Soviet economy. In addition, thanks to abundant mineral resources and large territory, Kazakhstan played a role of a "trial lab" where the Soviet government implemented several of its initiatives, including the Virgin lands program and the Baykonur space station. Industrialization combined with active development of natural resources resulted in negative

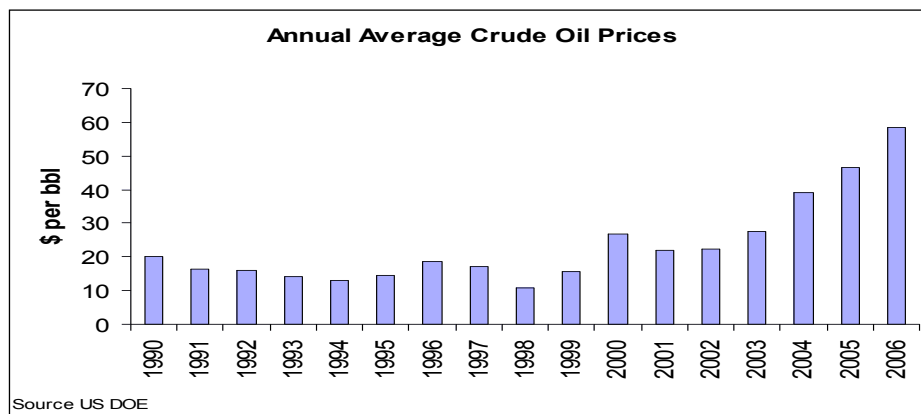
environmental consequences such as severe desertification of large territories, including Aral Sea.

Economic Hardships of Independence. The main economic challenge of independence has become transition from the Soviet-styled central planning to the market economy. During these years, Kazakhstan has made considerable progress in implementing complex political, economic and social reforms to establish a democratic state with a market economy. While the country has not experienced political turbulences during the transition period, it has faced numerous economic, social and environmental challenges.

First years since independence Kazakh economy experienced severe decline. In 1995, the worst year in Kazakh economy, total GDP was equivalent to 69% of its 1990 value (see chart below) and just 45.1% of its 1989 level.

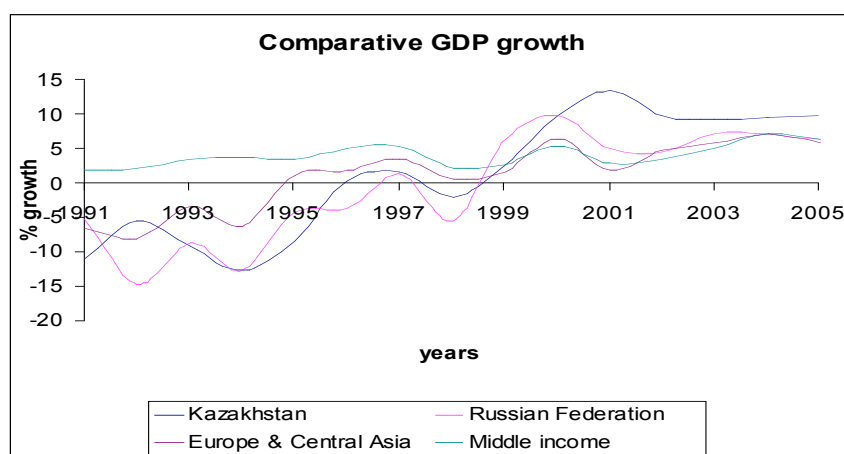


Economic decline of 1990-1995 was largely due to break-up of economic relationship with former Soviet countries, overall economic declines in Russia and other CIS countries and plummeting oil price(see chart below).



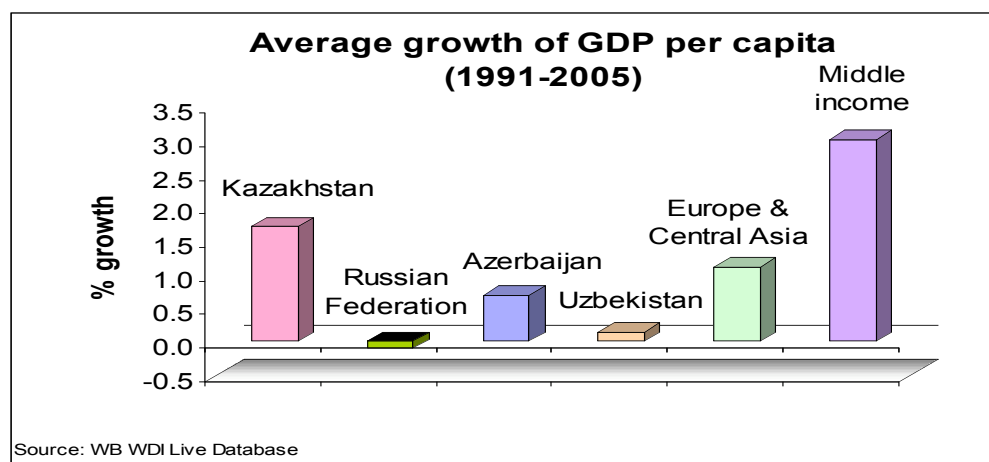
(2) ECONOMIC REFORMS

Since gaining its independence, Kazakhstan has undergone through a dramatic economic reform process that, since 1995, resulted in establishing one of the most rapidly developing economies (see chart below).

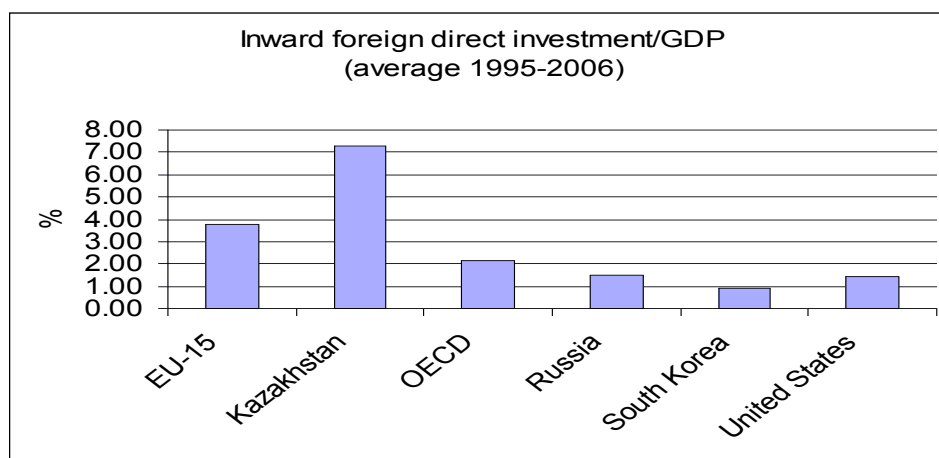


In terms of its GDP per capita, during the period between 1991-2005 Kazakhstan has achieved an average growth of 1.71%, which is well above the average for ECA region and CIS. According to IMF, since 2000, Kazakhstan's per capita income has more than tripled, the unemployment rate has been halved, and close to \$30 billion of foreign exchange reserves have

been accumulated by the National Bank (NBK) and the National Fund. Such impressive growth was largely due to favorable external environment, including high oil prices and availability of abundant global capital.



Partially thanks to its political stability and remarkable economic performance, Kazakhstan had witnessed very high inflow of FDIs as percentage to its GDP (see chart below)

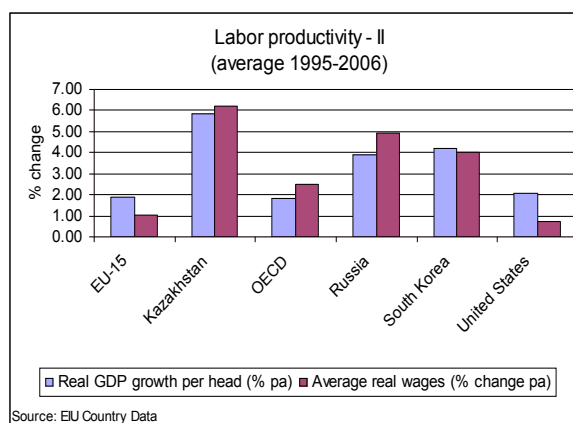
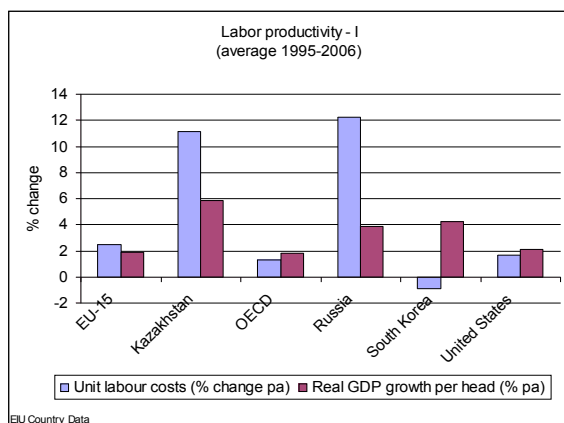


The first signs of recognition of Kazakhstan's successful economic policies were visible in 2001 when it became the first country in CIS to be given the status of a "country with market economy" by the EU. Similar status was granted by the US in 2002. Soon later, in October of

2002, Moody's rating agency upgraded Kazakhstan's sovereign rating up to Baa3, thus making it the first country in the CIS to receive such a rating.

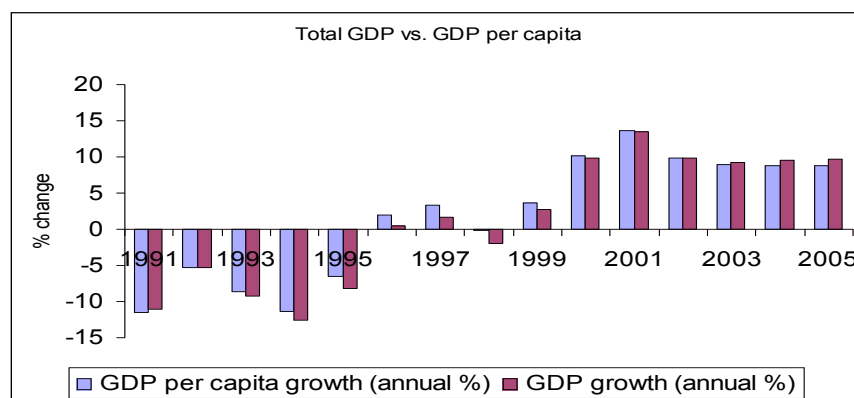
(3) LABOR PRODUCTIVITY

In spite of overall economic boom, the labor productivity is declining and economy shows the early signs of possible Dutch disease. The President of Kazakhstan has set up a long-term objective for Kazakhstan to join the world's top-50 most competitive nations. Given these objectives, it may be appropriate to benchmark Kazakhstan against: US, EU, newly industrialized South Korea and neighboring Russia.



As may be seen from the following chart, unit labor costs are growing almost twice as fast as the real GDP per capita. Situation is similar when comparing growth of real GDP per capita with the growth of the average real wages. We may notice from the following chart, average real wages are growing faster than the real GDP per capita. Based on the previous two charts, we conclude that Kazakhstan experiences the declining labor productivity. Unfortunately, the situation is

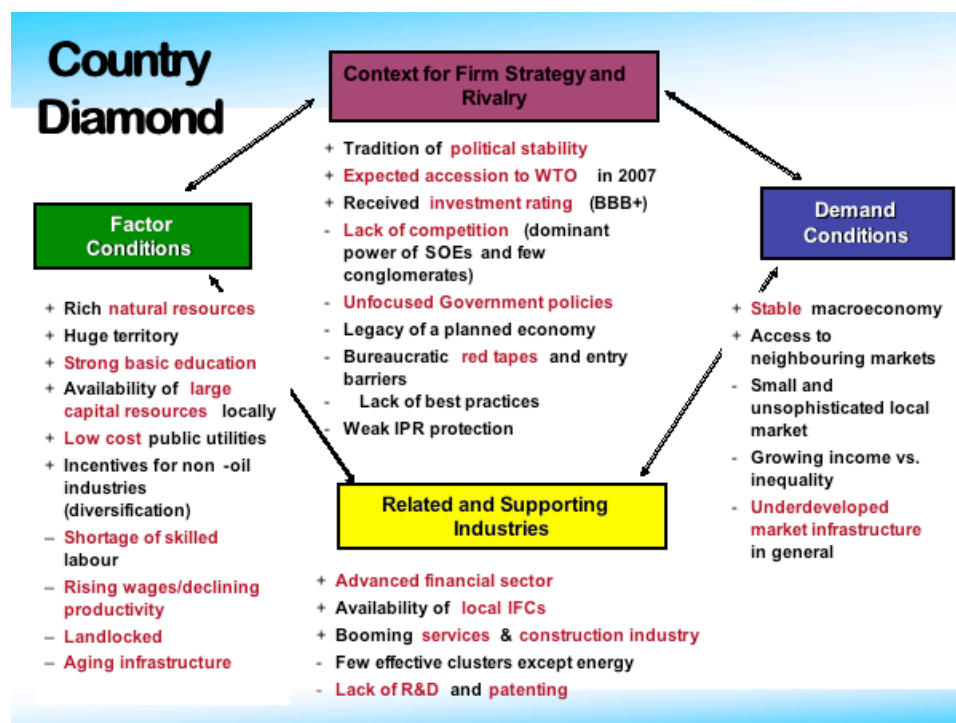
similar if analyzing growth of total GDP vs. growth of GDP per capita. As we can see from the graph below, if the growth of GDP per capita until 2001 was faster than that of total GDP, the situation would be changed in 2002 when growth of GDP per capita slowed below the growth of total GDP.



(4) THE RISK OF DUTCH DISEASE

According to EIU's Country Report (April 2007), the industrial sector, which remained the largest contributor to the GDP formation in 2006, heavily relies on oil and gas sectors accounting for more than 50% of its value added. In addition, the non-oil industries that are doing well "are those that either have solid export prospects such as metal products or those that are supplying the oil and gas sector, such as machine-building". In 2006 mineral products (mainly oil and gas) accounted for almost 72% of country's exports. These factors lead to conclusion that the country shows early signs of Dutch disease.

III. COUNTRY DIAMOND



(1) FACTOR CONDITIONS

With **large territory** and **abundant natural resources**, Kazakhstan is **strategically located** on the transit route between Europe and Asia. The country has inherited **highly educated population** with an average literacy level of 98.4%⁹. Thanks to its **banking sector**, which is widely regarded as the best in the CIS¹⁰, **capital markets are well developed** with growing number of local institutions issuing the Eurobonds and listed at the international stock markets. However, as it was mentioned in the previous chapter, the fast growing Kazakh **economy heavily relies on inputs from mineral resources** (mainly oil and gas) and shows signs growing inequality.

With regard to inequality, UNDP's Human Development Report-2006 has ranked Kazakhstan at 79 out of 177 countries (see graph on the right), which indicates the Medium level of Human Development.

Although this position indicates 1 position improvement when compared with 2005 it is nevertheless 1, 3 and 6 positions decline when compared with 2004, 2003 and 2000, respectively.

Rank	Country	Ratio*
76	Saudi Arabia	...
77	Ukraine	28.1
78	Lebanon	...
79	Kazakhstan	33.9
80	Armenia	33.8
81	China	44.7
82	Peru	54.6
* Ratio of income or consumption share of richest vs poorest		
Source: UNDP HDR 2006		

In order to mitigate the negative developments,

the Government has adopted the Industrial-Innovative Development Strategy that aims to develop the non-extractive sectors and create competitive economy¹¹ through providing the **incentives** for these industries. Several institutions have been created to implement the strategy, including Kazyna and Innovation Fund. In addition, as result of detailed studies undertaken by the international consultants, seven priority clusters have been identified, including the oil and gas engineering as well as six other clusters representing the non-extractive sectors such as tourism, food, textile, logistics services, metallurgy, and construction materials.

In order to develop a competitive private sector, the Government has adopted the “Industrial-Innovation Development Strategy of the Republic of Kazakhstan for

2003-2015”. As part of this strategy, two state holding companies, namely Samruk and Kazyna, were established.

Kazyna Fund for sustainable development was established in April 2006 with an objective to effectively manage the public investments as well as to stimulate investment and innovation activities in order to increase the competitiveness of national economy. In doing so, Kazyna investment in projects representing the non-extractive sectors.

However, despite the efforts being publicized by the Government, the **labor productivity is declining** and, thanks to increasing inflation, growing GDP and wages do not translate into growing prosperity of population. Social indicators, such as health and life expectancy are not good either. Particularly, Kazakhstan’s life expectancy at birth is lower than the average for CIS¹². As suggested in the World Bank’s Country Economic Memorandum, these negative factors are related to **deteriorating environment** (desertification of Aral Sea) and **aging infrastructure**, especially in water and sanitation which are already at critical levels. The situation is similar with Kazakhstan’s road infrastructure, where out of 17,380 km national road more than 11,000 require rehabilitation and only 5% of rural roads, where 43% of population lives¹³, are paved¹⁴. Hence, according to ADB, despite economic reforms and macroeconomic stability, Kazakhstan experiences “institutional and behavioral constraints; **poor quality of infrastructure**; and **lack of skilled labor** (particularly in business, accounting, and finance)”¹⁵.

(2) CONTEXT FOR FIRM STRATEGY AND RIVALRY

Kazakhstan enjoys political stability and, unlike other CIS member countries, it was able to avoid the economically distorting political turmoil. Since 1996, one of the top priorities of Kazakhstan's economic policies is the WTO accession, which is expected in 2007¹⁶. As mentioned in previous chapter, as the first country in CIS to receive the investment rating, since 2002 Kazakhstan maintains the investment rating¹⁷ it received from Moody's rating agency (Baa2), Fitch Ratings (BBB) and S&P's (BBB/A-3). In spite of economic transformation that resulted in robust macroeconomic indicators, the Government failed to transform the public institutions from the legacy of central planning to the level when they enforce the laws and promote free competition. According to ADB, "weak judicial system, inadequate customs and law enforcement agencies, lack of competition resulting in high degree of ownership concentration, and lack of corporate governance in public and private sectors are serious obstacles to developing a healthy climate for private investment" in Kazakhstan¹⁸. In addition, the country suffers from the lack of IPR protection, which results in great losses to local businesses, totaling to about \$295 million per year or 1.3% of Kazakhstan's GDP¹⁹.

Declining labor productivity had its impact on Kazakhstan competitiveness rankings. As such, according to the Global Competitiveness Report, in 2006 Kazakhstan fallen by 5 places to 56th position in the global ranking:

	GCI	GCI	GCI	Changes	
Country	2006 Rank	2006 Score	2005 Rank	2005-2006	
Costa Rica	53	4.25	56	↗	3
China	54	4.24	48	↘	-6
Mauritius	55	4.20	55	→	0
Kazakhstan	56	4.19	51	↘	-5
Panama	57	4.18	65	↗	8
Mexico	58	4.18	59	↗	1
Turkey	59	4.14	71	↗	12
Source: World Economic Forum					

The above-mentioned decline in country's competitiveness echoed in Kazakhstan's Business Competitiveness Report-2006, which ranked the country at 73rd position, 13 positions down since 2005. The World Bank in its annual Doing Business Report paralleled these records

Ease of...	2006 rank	2005 rank	Change in rank
<i>Doing Business</i>	63	82	↗ +19
Starting a Business	40	37	↘ -3
Dealing with Licenses	119	121	↗ +2
Employing Workers	22	21	↘ -1
Registering Property	76	81	↗ +5
Getting Credit	48	117	↗ +69
Protecting Investors	46	43	↘ -3
Paying Taxes	66	63	↘ -3
Trading Across Borders	172	171	↘ -1
Enforcing Contracts	27	27	→ 0
Closing a Business	100	102	↗ +2
Source: Doing Business database, World Bank			

Although improved, Kazakhstan is still very low ranked in terms of Dealing with Licenses and Closing a Business, where the country is ranked at 119 and 100 respectively.

(3) DEMAND CONDITIONS

Thanks to high oil prices in the world market, Kazakhstan is able to maintain the stable macroeconomic conditions. In pursuing its political and economic policies, the Government orients itself to the neighboring Russia, China and Central Asian states. Membership in the Shanghai Cooperation Organization (SCO) provided Kazakhstan with much-needed **access to the neighboring markets**²⁰.

However, with population of 15.1 million, Kazakhstan has a relatively **small and unsophisticated market** where competition is mostly based on low-cost strategy and with few examples of product differentiation²¹.

In order to promote the management efficiency of government assets and set a new benchmark for corporate governance the National Holding Company **Samruk** was established in 2006. The company acts as an active shareholder in several state corporations (KazMunayGaz, KazakhTelekom, Kazakhstan Temir Zholy (railways), KazPost (post), and KEGOC (electricity)).

(4) RELATED AND SUPPORTING INDUSTRIES

As a result of increasing inflow of foreign currency from exports of mineral products, Kazakhstan is undergoing a period of economic **boom in its construction and engineering services**.²² Much of construction is being generated in Kazakhstan's capital city of Astana and demand from oil industry.

Kazakhstan **lacks an adequate IPR protection system**, which results in substantial losses to the local businesses. According to the UN's Human Development Report-2006, during the period of 2000-2004 Kazakhstan's R&D expenditures did not exceed 0.2% of GDP.

III. OIL AND GAS CLUSTER IN KAZAKHSTAN

(1) OIL AND GAS PRODUCTION IN KAZAKHSTAN

History. Alfred Nobel drilled the first well in Kazakhstan in 1899 in Karachungul Field not far from Atyrau in Western Kazakhstan and the first production started in 1911. Historically, most of the production was conducted onshore. During the period of World War II, 90 wells were drilled in Aktobe region and in the Basin of Emba River. Facilitation of seismic and exploration works in Kazakhstan was mainly dictated by the necessity to create an oil stream in the east of Soviet Union in case of war. 1950s and 1960s were periods of major oil and gas discoveries in Kazakhstan.²³ After Kazakhstan became independent in 1991, the country's government gained control over its natural resources. In 1993, the first joint venture was created between the Government and Chevron to develop Tengiz oilfield.

Current Status of Oil Sector. The largest onshore oil fields are **Tengiz**, one of the world's 10 largest oil fields with 6-9 billion barrels of reserves, and **Karachaganak** with 2.2 billion barrels. Recent seismic studies suggest that Tengiz may have between 9 and 13.5 billion barrels of oil²⁴.

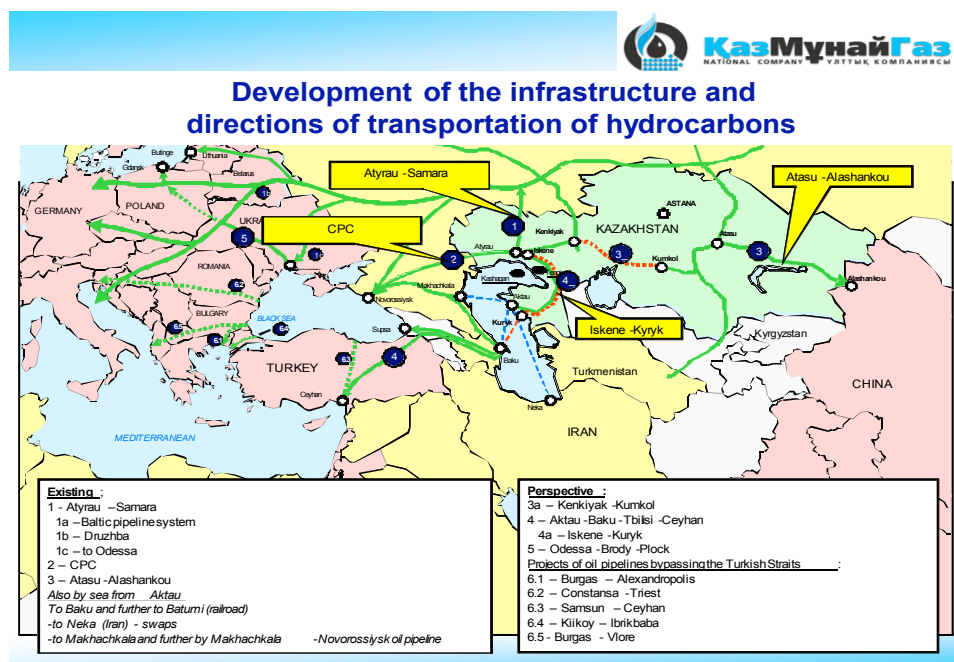
Tengizchevroil, the joint-venture consortium developing the Tengiz field, is comprised of ChevronTexaco, ExxonMobil, KazakhOil, and LukArco. **The Karachaganak Integrated Organization (KIO), a consortium of ENI, British Gas and ChevronTexaco including 500 billion square meters of natural gas, develops Karachaganak.** The most promising discovery of major hydrocarbon deposits, the offshore **Kashagan**(three times larger than Tengiz, 2,000 square mile under the Caspian Sea) is being developed by international consortium(ENI, NOC KazMunayGas, ExxonMobil, Shell, Total Fina Elf, ConocoPhillips, and Inpex). KazMunayGas has also created several joint ventures with Russian companies, such as RosNeft and LUKoil to explore and develop prospects in Northern Caspian. The joint venture with GazProm was formed to get an access to the refining facilities in Russia (Orenburg refinery) for gas condensate from Karachaganak field.

Kazakhstan is one of the most visible up-and-coming oil provinces in the world, having come from nowhere to a solid position in the top 10. Although last year's new discoveries were relatively modest with four new oil fields and a gas condensate discovery adding 48.2 million bbl, there are solid prospects both offshore and in the northwestern parts of the country that contain Chevron's Tengiz oil field and BG-Eni's Karachaganak gas condensate field²⁵. Kazakhstan potential oil reserves are estimated at approximately 100-110 million barrels²⁶. Oil production in Kazakhstan is growing fast with and output of 1,106,000 b/d in 2006²⁷ and a forecast of

production reaching 3.5 million barrels a day by 2015²⁸. The demand for Kazakh hydrocarbons is growing, especially from China and India. The amount of investment in oil and gas sector within the next 15 years is expected in the amount of more than 80 billion US dollars²⁹. In 2006 alone the investment equaled US\$11.85 billion, 17.5% increase compared to 2005³⁰.

National Oil Fund was established in 2000 to accumulate funds for future generations and to decrease dependence of the country's economy on its oil and gas revenues³¹. Resources of the National Fund are used to diversify the economy and to support the activities of Kazakh institutes of development. In the 1st quarter of 2007 the amount directed into the development budget was 37B tenge³² (about US\$ 308 million; US\$1=KZT120.02)

(2) EXPANSION & DIVERSIFICATION OF HYDROCARBONS TRANSPORTATION SYSTEM



The volume of oil transportation by KazTransOil (national oil transportation company) in 2006

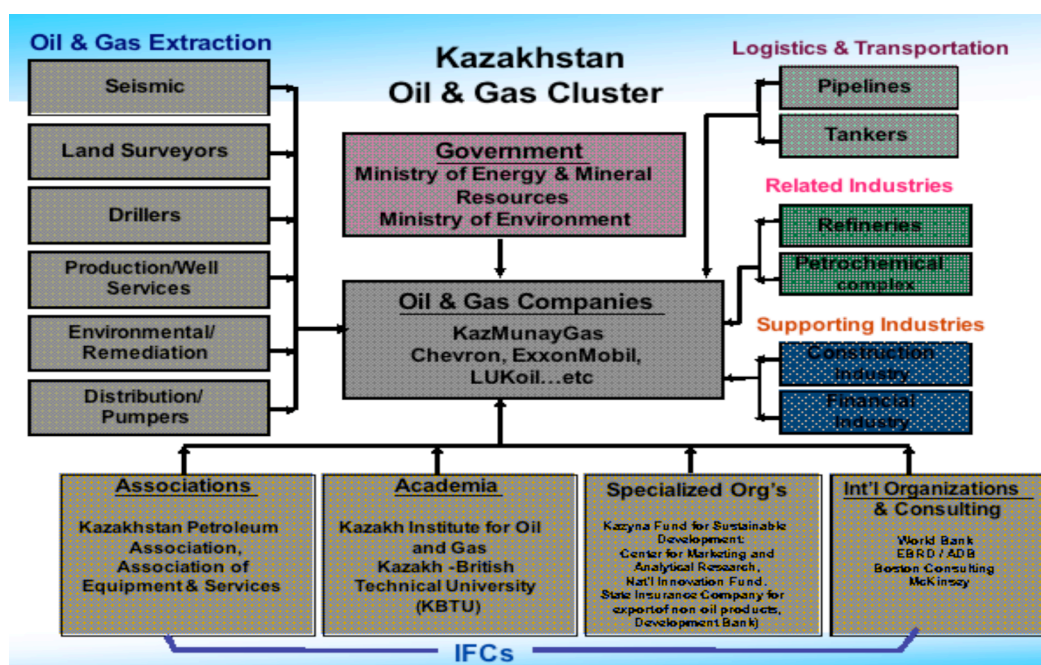
was 43.3 million tons the increase of 43% over the last 5 years³³. New pipelines were built and put into operation over the given period. The annual throughput capacity of the CPC (the pipeline built from Tengiz oilfield to the Black Sea) that was put into operation in 2005 is 30 million tons. The Atasu-Alashankou (Kazakhstan-China) pipeline's capacity is 10 million tons annually. However, despite of the efforts to build new transportation capacities, they still do not match the growth in production.

Russia is still a major partner in oil transportation with Kazakh crude being transited to European markets through its pipeline system where the volumes of transit and tariffs are agreed on the annual basis. The priority pipeline to Russia is Atyrau-Samara(15.6 million tons shipped in 2006) and Kazakhstan and Russian companies are now planning to double the capacity³⁴. Current transportation system needs to be expanded and diversified to cover different directions within the region to decrease Kazakhstan's dependency on Russian pipelines and to catch up with the growing volumes of production. The availability of multi-vector pipelines will make Kazakh oil and gas reserves more attractive.

(3) GOVERNMENT AND STATE OWNED ENTERPRISES IN ENERGY CLUSTER

Governmental Bodies in charge of Oil and Gas Industry: Ministry of Energy and Mineral Resources is an executive body for coordinating and managing energy sector including oil and gas industry. The roles of Ministry of Environmental Protection, which is in charge of oil

development with respect to environmental protection for sustainable development become more important. It shows the Government's concerns on the environment issues in oil industry especially on the sustainability of the unique Caspian nature. To address the lack of transparency in oil and gas industry, more policy efforts are necessary. In this context, Kazakhstan joined the Extractive Industries Transparency Initiative (EITI) in October 2005. Among 38 companies that have joined the EITI are not only oil and gas companies but also those that are engaged in mining and non-ferrous metals extractions³⁵.



National Oil and Gas Company KazMunayGas (KMG): The KMG was established in 2002 as a result of merger of the National Oil and Gas Company KazakhOil and National Holding Company Transport of Oil and Gas. In addition to production, transportation, processing and marketing of oil and gas, KMG also carries out the functions of an Authority representing the

Government in major oil projects, such as TengizChevroil, Karachaganak and Northern Caspian (Kashagan). KMG's share in national GDP in 2005 was 7.6%³⁶. In 2005, the company's share in crude production was 15.3%. It also provides 60 % of national volumes of oil transportation, 100 % of gas transportation, and 30 % of oil refining.

(4) EDUCATIONAL INSTITUTIONS

Among educational institutions preparing specialists for oil and gas industry, the most well known is Kazakh-British Technical University (KBTU) established with the partnership of the U.K. in 2001. KBTU trains specialists for oil and gas engineering, environment, geology, IT, finance, management, etc. KBTU is now considered as successful model in education institutions. The other major university is Kazakh National Technical University, founded in 1934, that used to be the main technical school in Kazakhstan in Soviet times. However, education sector in Kazakhstan is notorious for corruption. Except for the KBTU, usually professors' wages are very low and the quality of specialists from universities is considered as below the standard.

(5) IFCs IN OIL AND GAS CLUSTER

The Kazakhstan Petroleum Association (KPA) and the KazEnergy are most well known IFCs in oil and gas industry in Kazakhstan. **KPA** unites 62 companies from 20 countries and involves in the exploration, production, and other related services. Its main functions are to maintain a dialogue between firms and the Government, to monitor legislative developments affecting the

industry and to reflect industry's opinion on the policy³⁷. KPA also organizes conferences, industry fairs, training programs and seminars for members.

KazEnergy is an association with almost the same functions but created and managed by Kazakh firms, lead by state owned KMG. Although, the proclaimed objectives of both KPA and KazEnergy are to improve business environment, they are mainly focusing on the lobbying.

(6) EMERGING RELATED INDUSTRIES

The Government is conducting a policy of attracting both local and foreign investors into petrochemistry, oil machinery manufacturing, servicing and development of the offshore infrastructure.

Petrochemistry. In May 2006, reconstruction of the Atyrau Refinery was completed. The project carried out together with the Marubeni Incorporated group of Japanese companies is estimated at \$400M. After the modernization of this 60-year old refinery, production of a wide range of high-quality products will be launched: high-octane gasoline, aviation kerosene, diesel fuel and other oil products. It is also planned to construct a petrochemical plant that will use gas from Tengiz and Kashagan fields³⁸.

Offshore Infrastructure and Services. The Bautino base on the Caspian Sea is now being developed to provide necessary services for companies working offshore, such as construction of artificial islands, shipments by barges, etc. This project is being implemented with participation

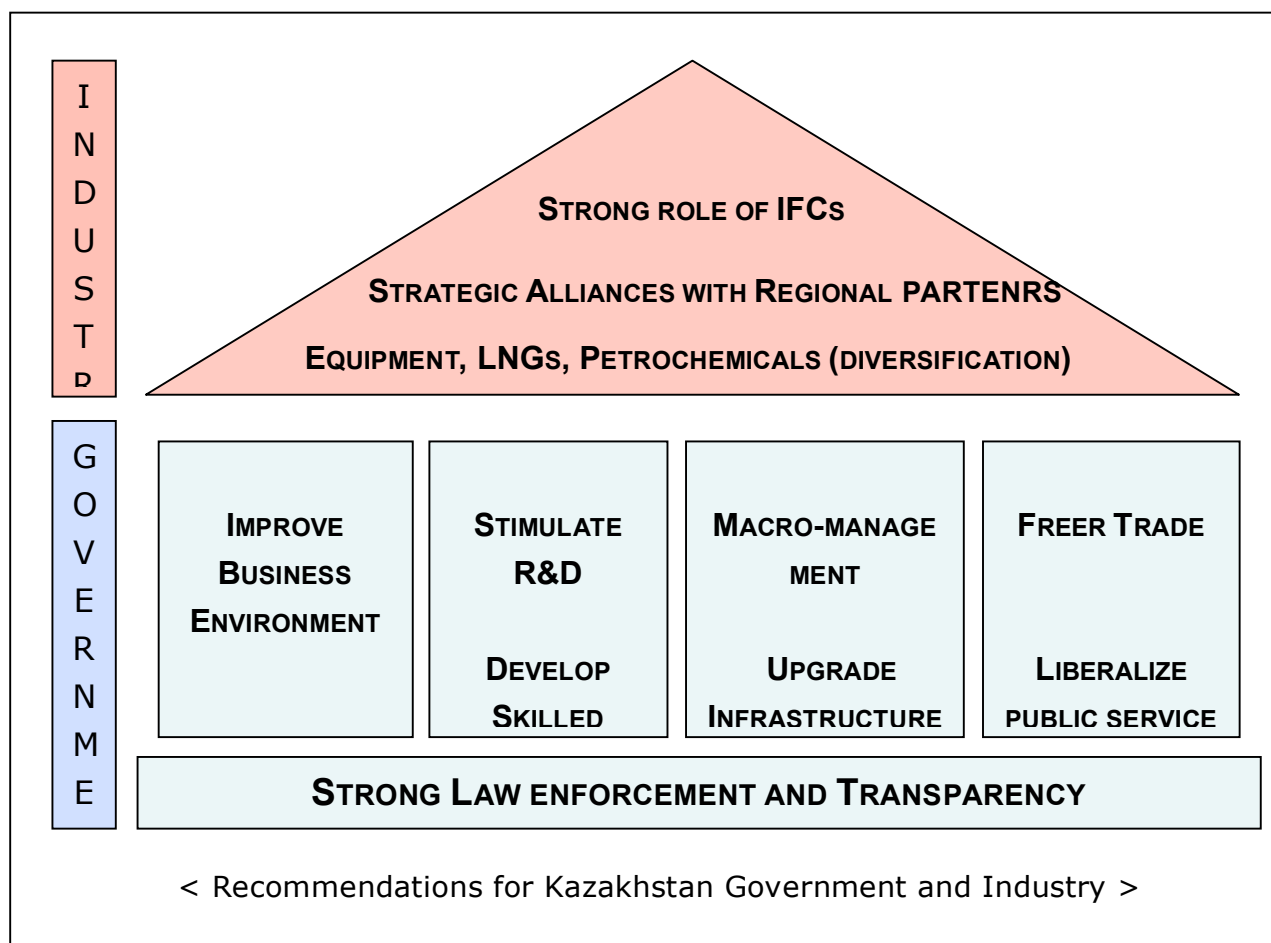
of both local and foreign firms³⁹.

Oil Machinery. There are several oil machinery factories producing pipeline valves, metal structures, oil reservoirs and tankers, wellhead equipment, barges, fiber glass pipes in Kazakhstan. They also provide maintenance and repair services⁴⁰. Currently, KMG and its subsidiaries are their major clients. The market for oil and gas equipment in 2006 was \$4 billion with a potential of annual growth of approximately 15-20% a year. However, the market share of local producers of oil equipment is only 1%⁴¹. The major problem lies in the low quality of products. Most of the facilities were constructed in 1950-1970s. The technologies in use are old. Hence, foreign companies prefer to import the same equipment from major producers in other countries like Germany, UK, Singapore, Japan and Korea. The government now runs the State Program of Diversification and Development of Oil Machinery Manufacturing Industry for 2006-2008 (about US\$90 million) for upgrading existing facilities.

V. RECOMMENDATION

Kazakhstan has made significant progress since its independence from the Soviet Union. There were huge amount of investments in oil and gas sectors, which have been main driving forces in economic growth of Kazakhstan. However, Kazakhstan should address far more difficult challenges of diversifying its economy and building a foundation for the sustainable growth. As

US deputy secretary of state, Mr. Armitage mentioned recently, “Oil alone cannot integrate Kazakhstan into the global economy. Oil alone will not create enough jobs for the country’s youth or improve life for those mired in rural poverty. And oil alone will not continue to attract foreign investment.”⁴²



In order to overcome these critical challenges ahead of Kazakhstan, government as well as industry should needs continuous reforms to become a strong regional economic leader. Above all, to diversify today’s heavily natural resources dependent economy is crucial for Kazakhstan’s sustainable development and growth. Based on the strong law enforcement and transparency,

government should try its best to build better business environment, stimulate R&D investment, develop skilled labor, maintain macroeconomic stability, liberalize trade, deregulate public utilities and upgrade infrastructure. Industry should strengthen the role of IFCs and pay more attention to the expanding their business interests in equipment, transportations, LNGs and related services. Private investors and businesses should keep reform to move up the value chain of this industry.

(1) STRENGTHEN LAW ENFORCEMENT AND TRANSPARENCY

“Rule of law” is the most important fundamental precondition for Kazakhstan’s sustainable growth. Government structure and regulatory practices should be reformed continuously. The leaders in the Kazakhstan government should be aware that the favoritism to specific groups or companies is the original source of overall. Government should focus on eliminating favoritism and adopting merit system. For this, it should minimize the number of activities that requires licenses or certificates from the government. Streamlining regulatory processes and adopting negative-list regulation system are the keys to overcome the negative legacies of centralized Soviet Union. It could be more complicated or burdensome to private businesses as well as foreign investors to create new governmental agencies to deal with new tasks. It may just add another regulatory burden and unnecessary administrative procedure to the businesses.

Reasonable wages with much stricter monitoring system should be applied to the people who

enforce law and take charge of judicial system, which can guarantee the independence of judicial bodies. Plus, without political leader's attention, anti-corruption measures cannot draw an effective result. In short run, strong political support to anti-corruption measures are necessary. Furthermore, Kazakhstan should consider establishing independent anti-trust bodies to enhance competition and guarantee fair play in the economy.

Accelerating the speed of E-government project can be a good solution for eliminating corruption effectively. Burdens to private sectors such as taxation, business registration and regulatory measures can become more transparent through E-government projects because these measures can be completed without human touch.

(2) IMPROVING BUSINESS ENVIRONMENT

According to World Bank's "Doing Business data"⁴³, it takes 20 days to start business, which is shorter than any other countries in central Asia. However, comparing other advanced countries like the United States' 5 days and Australia's 2 days, Kazakhstan has still long way to go⁴⁴. Furthermore, it takes total 248 days in Kazakhstan to build a warehouse(Dealing with licence index) which is longer than regional average(242.5 days) and much longer than OECD average(149.5 days).

First of all, the administrative burdens shall not be unto investors but to public officials who is working with business sectors. To encourage more FDI toward Kazakhstan, especially in non-oil

sectors, one stop investment promotion agency should deal with all the administrative procedures on behalf of individual investors, which liberate private investors from the burden of administration. Since 1998, for example, Kazakhstan has discussed ongoing investment issues and provided supports to foreign investors through Kazakhstan Foreign Investors' Council Association(KFIC) that is chaired by the president of Kazakhstan. Kazakhstan needs to take advantages of these tools to build Kazakhstan's more concrete strategic plans for the futures and to mobilize domestic businesses to share the strategies and improve business environment for non-oil sectors' development. More specifically, both leaders from the public and private may list up the goals of reforms and frame the time schedules for better implementation.

WTO accession process can be a great chance to move forward in improving business environment and adopting internationally accepted standards. The Kazakhstan government needs to drive open market policy with a greater courage through abiding by WTO rules such as TRIMs(Trade Related Investment Measures) and TRIPs(Trade Related Aspects of Intellectual Property Rights). Trade Policy Review Mechanism in WTO will be also helpful to maintain transparency in the Kazakhstan trade policy.

(3) STIMULATE R&D AND DEVELOP SKILLED LABOR FORCES

Despite the fact that Kazakhstan has relatively strong basic education system and more than 98% of literacy rate, lack of skilled labors and engineers are casting dark cloud in Kazakhstan's

economy. Kazakhstan needs to develop various local technical training programs more vigorously and strengthen strategic alliances among government, business, foreign investors and academia. In broader and sense, it is also important to let engineers adapt themselves to international standards and best practices as much as possible.

The Government of Kazakhstan should expand special vocational and technical training funds for educating more engineers and less-skilled local workers. Public-Private Partnership really does matter in developing human resources. To maximize private sector's participation in these training programs, the Government can provide just seed money and places rather than direct intervention in minor details. It is important that private businesses select details like trainees, specific contents and programs in cooperation with institutes or universities. To increase scholarship programs and to launch more co-projects with other institutions from advanced and neighboring countries can be useful method. As KBTU shows successfully, it is important to cooperate with advanced countries and rationalize wages at proper level to provide adequate education. Furthermore, government as well as industry can provide enough incentives to let those trained engineers remain in the regions in need.

(4) MACRO-ECONOMIC MANAGEMENT AND UPGRADING INFRASTRUCTURE

Kazakhstan has been showing strong and stable macro economic indicators over the last decades and the fiscal health has been quite strong. The Government should maintain budget discipline

and fiscal stability continuously. Especially Kazakhstan's foreign exchange policy makers should remind that the trade surplus from oil and natural resources exports might end up ruining all the efforts to diversify the economy and hurting the competitiveness in domestic non-oil industries because of appreciation pressure in foreign exchange market. To prevent this risk, Kazakhstan tries its best to introduce FDIs as much as possible especially in non-oil sectors and improve the quality of capital markets further in Kazakhstan allowing more capital inflows. Upgrading basic infrastructure is critical to sustainable economy considering the fact that the FedEx is opening a new hub in the commercial capital of Almaty after finishing rebuilding Almaty international Airport. Kazakhstan has great potential to become a regional logistics hub in central Asia. To improve quality and volumes of social overhead capitals efficiently in relatively short period of time, the Government should allow private investors to participate the infrastructure upgrading projects and apply transparent concession scheme in tendering process. Private participation scheme like Build-Operate-Transfer(BOT) financing can be introduced in selective ways to achieve this goals.

(5) LIBERALIZATION IN INTERNATIONAL TRADE

Among frustrating rankings in Kazakhstan's performance in competitiveness, the trading across borders ranks at the lowest level in the world. The cost of imports and exports are almost two times more expensive than that of others in the region and three times higher than OECD average.

Time for exports (93 days) is more than nine times longer than OECD average(10.5 days).

Kazakhstan should maximize the WTO accession process as an opportunity to reform whole process of trade including tariff reduction, shipping, inspection and even immunization policies.

(6) INDUSTRY

Kazakhstan oil and gas industry should focus on creating more values from oil sectors. The most important challenge that Kazakhstan industry faced with is how to move up the value chain of oil and energy cluster and expand the value added structure more efficiently. Among possible areas that can be expanded in oil and other related industries, oil producing machinery and equipment, petrochemicals & refineries, and LNG producing development seem promising areas. For example, machinery and equipment industry seems to have promising future Because of its high cost of transportation, which is good for local companies, and increasing demand in the region. Geographical location of Kazakhstan can give strategic advantages in oil development and pipeline construction. FDIs in this equipment industry may be very helpful to promote the quality and enhance competition. Once it can improve the quality and volumes of these equipments, Kazakhstan can be a leader of this industry. Last but not least, Kazakhstan should develop the roles of IFCs more effectively. IFCs should do more than mere lobbying to the government on behalf of a few major oil companies. IFCs should be able to promote cooperation among member companies in R&D and training. IFCs can take the role as a catalyst for

upgrading industry's performance through launching the award winning ceremony for innovative companies or persons in the industry or quality guarantee marks like seal of excellence.

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