

CENTRAL ASIA

DEVELOPMENT IN 3D



Policy implications based on World Development Report 2009
Reshaping Economic Geography and publications of
the Eurasian Development Bank



THE WORLD BANK



Eurasian Development Bank

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The World Development Report 2009 can be purchased online or downloaded free of charge at <http://www.worldbank.org/wdr2009>.

Publications of the Eurasian Development Bank are available at <http://www.eabr.org/eng>.



A billion slum dwellers in the developing world's cities; a billion living within countries' fragile, lagging areas; a billion in nations at the bottom of the global hierarchy – these are the biggest development challenges. Concern for these overlapping populations sometimes leads to policies to make economic growth more spatially balanced. World Development Report 2009, Reshaping Economic Geography, has a different message: economic growth is seldom balanced. Efforts to spread it prematurely will jeopardize progress.

Central Asia comprises five landlocked developing countries – Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan – with limited access to world markets. Their combined economies are about \$146 billion, dominated by Kazakhstan's petroleum-driven economy of \$104 billion. Their geography poses special economic challenges.

Reshaping Economic Geography analyzes the role of regional integration through common institutions, connective infrastructure, and targeted interventions to offset the adverse economic effects of unfavorable human, physical, and political geography. It discusses how to tailor policies on urbanization, territorial development, and regional integration to the dimensions of economic geography – density, distance, and division within a country and a region – to foster growth.

DEVELOPMENT IN 3-D: DENSITY, DISTANCE, DIVISION

Production tends to be concentrated in big cities, leading provinces, and wealthy nations. Half of the world's production fits onto just 1.5 percent of its land. North America, the European Union, and Japan – with 15 percent of the world's population – account for 75 percent of the world's wealth.

Across the world, growing cities, mobile populations, and increasingly specialized production have spurred growth, most noticeably in North America, Western Europe, and Northeast Asia. Countries in East and South Asia and Eastern Europe are now experiencing similar changes. WDR 2009 uses three dimensions of economic geography – density, distance, and division – to describe the transformation of economies as they develop, and the conditions to keep in mind when formulating policies.

The examples below, of Tokyo, the United States, and Western Europe – three of the most prosperous places in the world – illustrate how transformations have occurred along these three dimensions, but not without a measure of sacrifice. It is useful to examine the lessons from successful economies, but policies should be tailored to the special circumstances of smaller, more remote economies. Integration is hardest in regions like Central Asia that are divided, distant from world markets, and lack the economic density provided by a large local economy. For countries such as the Central Asian nations, WDR 2009 discusses promising approaches to regional integration that combine institutional cooperation to make borders less cumbersome, shared infrastructure that connects countries, and special incentives such as preferential access to world markets.

Map 1: Density – why it pays to be close to Tokyo
Economic production per square kilometer in Japan

Source: WDR 2009 team and World Bank Development Research Group based on subnational GDP estimates for 2005. See also Nordhaus (2006).

Density

Tokyo is the largest city in the world where a quarter of Japan's population lives in less than four percent of the nation's land. Visitors can see people being crushed into trains by professional train-packers. Millions of people willingly subject themselves to the unpleasantness of such a crush. A map of Japan's economic density shows why. Tokyo generates about 30 percent of Japan's income, an amount roughly equal to the GDP of Canada. To earn a share of it, people have to live close by. Unlike in Central Asia, where there is low economic density, the most striking feature of the map on the left is the concentration of wealth in Tokyo and Osaka (Map 1).



Map 2: Distance – why Americans must be mobile
Economic production per square kilometer in the United States

Source: WDR 2009 team and World Bank Development Research Group based on subnational GDP estimates for 2005. See also Nordhaus (2006).



Distance

In the United States, each November in the days before the Thanksgiving holiday, about 35 million people travel back to their families and friends. It is the start of winter in some parts of the country, so flights are often delayed or canceled. But Americans live away from friends and family because economic activity is concentrated in a few parts of the country and opportunities are often distant.

Map 2 shows how economic activity is concentrated in a few parts of the United States. To earn a part of this wealth, Americans have to move closer to where it is generated. That is why eight million people change states every year in the United States, migrating closer to economic opportunities. The most striking feature of the map is distance, which is a very challenging dimension for Central Asia.

Division

Across the Atlantic, in Western Europe, another massive movement takes place every day – not of people but of products. One example is Airbus, which makes parts of planes and assembles them in France, Germany, Spain, the United Kingdom, and other countries. In a region that was recently divided by borders that impeded the free flow of people and goods, countries trade with former enemies and citizens move freely to become a better-integrated European Union. As integration has increased, economic divisions have decreased, making specialization and scale possible (Map 3). This sort of economic integration could make the Central Asian economies more productive.

Map 3: Division—what prevents progress in Africa does not in Western Europe
Border restrictions to flows of goods, capital, people, and ideas

Source: WDR 2009 team.

Note: The width of borders is proportional to a summary measure of each country's restrictions to the flow of goods, capital, people, and ideas with all other countries.



HOW MARKETS VIEW THE WORLD

The map of economic geography below, which resizes the area of a country to reflect its GDP, shows the benefits of big cities, mobile people, and connected countries. The United States, Western Europe, and Japan dominate the world's economy. Cities, migration, and trade have been the main catalysts of progress in the developed world over the past two centuries. These stories are now being repeated in the developing world's most dynamic economies.

- Mumbai is not the largest city in the world, but it is the most densely populated. And it keeps growing.
- China is not the largest economy in the world, but it is the fastest growing and may be among the most mobile.
- Southeast Asia is not a political union, but it trades parts of goods back and forth as the EU does.

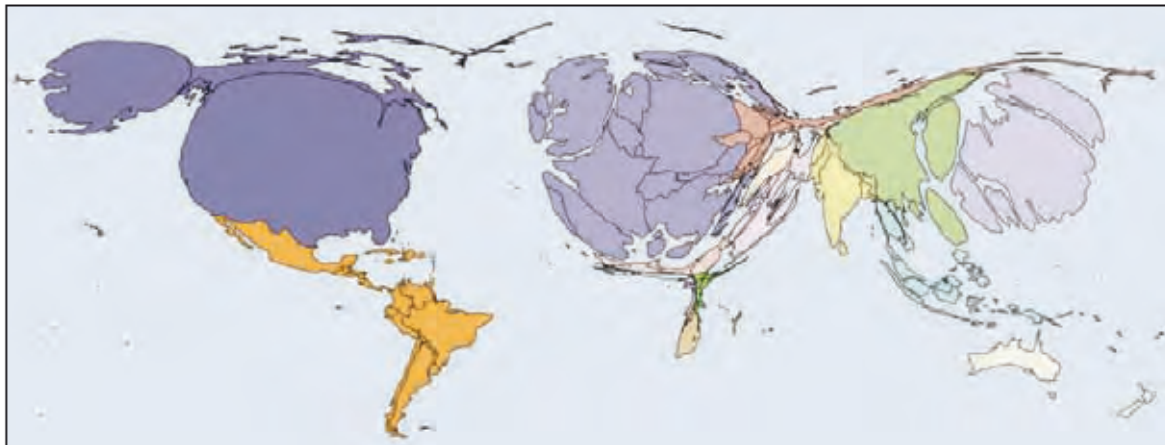
Despite the crush among commuters and in slums such as Dharavi, Mumbai's population has doubled since the 1970s. Since the 1990s, millions of Chinese workers have migrated to get closer to economic opportunity concentrated along the coast. Regional production networks in East Asia are spread far wider than Airbus sites in Western Europe. East Asian countries may not trade airplane parts, but nations that once were enemies now trade parts of cars and computers with the same frequency and speed.

And what is the payoff? We can also recognize the shapes of China, India, and Southeast Asian countries on the map of the world's economic geography. Contrast these shapes with that of Russia which shows up as a thin silver and not the largest country.

Map 4: How markets view the world

A country's size shows the proportion of global gross domestic product found there. Source: WDR 2009 team using 2005 GDP (constant U.S. dollars).

Note: The cartogram was created using the method developed by Gastner and Newman (2004). This map shows the countries that have the most wealth when GDP is compared using currency exchange rates. This indicates international purchasing power—what someone's money is worth if spent in another country.



CENTRAL ASIA IN 3-D: DENSITY, DISTANCE, AND DIVISION

Central Asia is at a disadvantage on all three dimensions of economic geography – density, distance, and division. It is among the world's most remote and fragmented regions and its economies are small, isolated, landlocked, and dependent on exports of primary products. The World Bank classifies Kazakhstan, with an average income of \$5060, as an upper middle income country, Turkmenistan as lower middle income and Kyrgyzstan (\$590), Tajikistan (\$460) and Uzbekistan (\$730) as low income countries.

Density

Central Asia's combined population is 59 million – about the size of France, Italy, or Thailand. But unlike these countries, Central Asia does not have areas of sufficiently high economic density (Map 5) – the geographic concentration of labor and capital that are correlated with both employment and population density and are the defining characteristic of urbanization. Its urbanization is low at about 40 percent of the population. The largest urban area, in terms of population, in the region is Tashkent with 3.4 million, the 93rd largest in the world.

Distance

Distance is usually a physical measure, but economic distance is what matters for development – the time and cost for goods, services, labor, capital, information and ideas to move between places. Locations close to markets have a natural advantage over distant points. For the past 50 years, by far the largest shares of global economic activity have been concentrated in North America, Western Europe, and Northeast Asia. Being near these markets offers great opportunities: There is a strong correlation between market access and economic growth, but Central Asia is relatively far from any fast-growing region. The problems of distance are compounded by the fact that all the Central Asian nations are landlocked with no direct access to relatively inexpensive water transportation. Uzbekistan is one of only two doubly-landlocked nations (Map 6). Investment in transport infrastructure is costly because of the region's physical geography. Central Asia has a surface



Map 5: Economic density is low in Central Asia

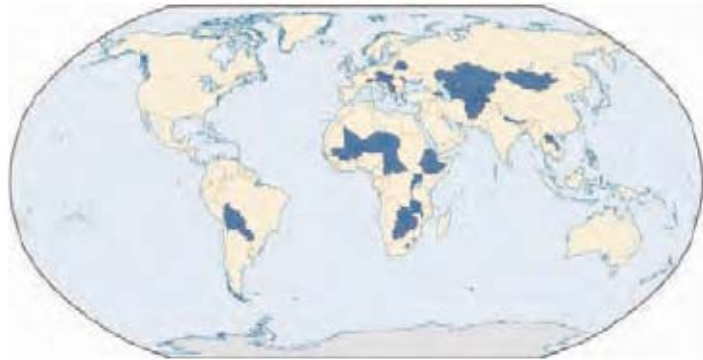
area of 4 million square kilometers, about the size of Europe excluding the former Soviet Union, while its population is spread over an area that is 7 times the size of France or Thailand and 13 times the size of Italy. Its terrain includes high passes and mountains, deserts, and grassy treeless steppes. The surface varies from the second-lowest point on earth (154 meters below sea level) to mountain peaks over 7,400 meters.

Division

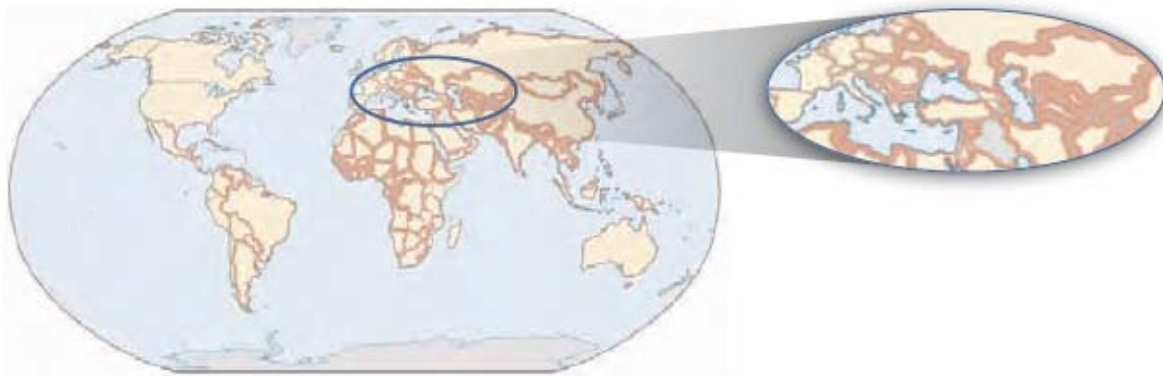
National borders enclose people with shared characteristics and provide a sense of place and belonging. They afford security and stability, yielding considerable economic benefits. Borders delimit territory, but divisions determine the ease with which borders are crossed and a nation's integration within the international community. Divisions may be deliberate or unintended, arising when borders are poorly managed. They range from moderate restrictions on the flow of goods, capital, people, and ideas to more severe divisions triggered by territorial disputes, civil wars, and conflicts between countries.

In Central Asia, divisions or economic borders are "thick" owing to policies which restrict trade and investment (Map 7).

The Eurasian Development Bank finds that non-physical barriers are the most significant obstacles to developing cargo transit. These include cumbersome permit systems, unreasonable delays in crossing borders, various charges and additional taxes imposed by regulatory and local authorities, scheduled and spot-check inspections of cargo weight etc. They cause significant delays which results in loss of money, customer trust and most importantly the loss of the only significant competitive advantage that land transit has over sea transit: speed.

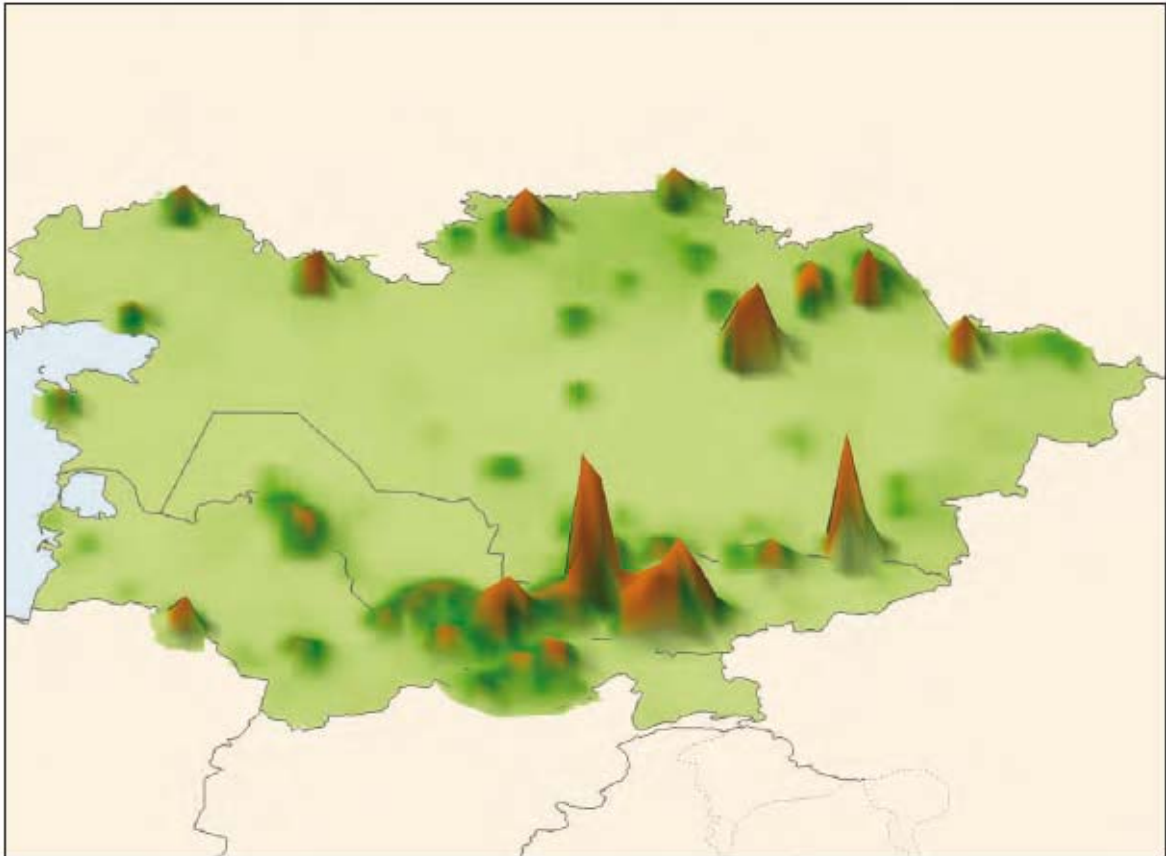


Map 6: Landlocked nations



Map 7: Economic borders are high in Central Asia

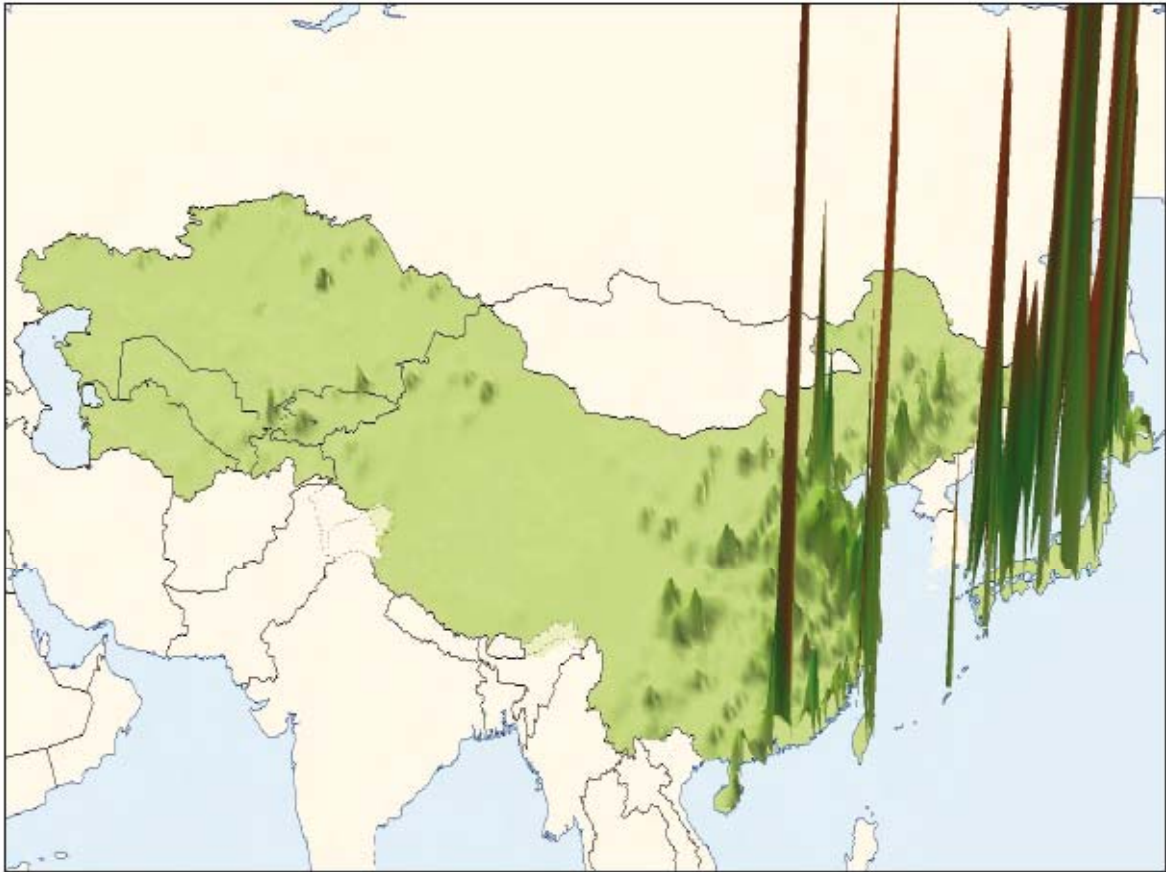
CENTRAL ASIA'S DISTRIBUTION OF PEOPLE AND PRODUCTION



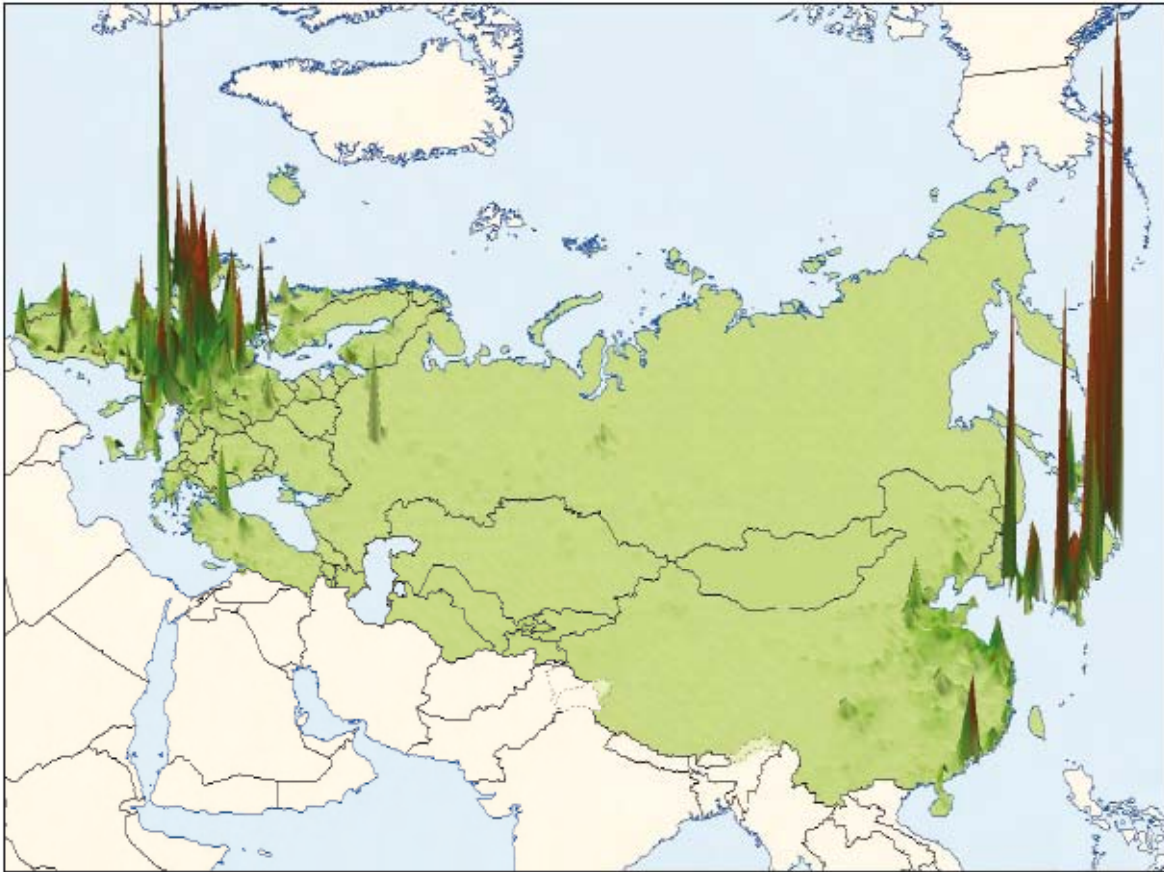
CENTRAL ASIA'S WESTERN NEIGHBORS



CENTRAL ASIA'S EASTERN NEIGHBORS



CENTRAL ASIA IN PERSPECTIVE



POLICIES TO PROMOTE GROWTH IN CENTRAL ASIA

World Development Report 2009 describes policies to foster growth with a more inclusive development in an environment of unfavorable economic geography. The principle: economic integration of places that are not doing well with places that are doing better, locally, regionally, and internationally. The instruments: common institutions that unify, well-placed infrastructure, and coordinated interventions to assist the least fortunate and strengthen the incentives for regional cooperation. These are of special significance in Central Asia where development is limited by low economic densities, long distances and deep divisions (Map 8 and Map 9).

Nations do well when they promote transformations along the dimensions of economic geography: higher densities as cities grow, shorter travel distances as workers and businesses migrate closer to denser areas, and fewer divisions as countries lower economic borders and enter world markets to take advantage of scale and trade in specialized products. Transformations along these three dimensions – density, distance, and division – are essential and should be encouraged. They can improve neighborhoods, and better neighborhoods will facilitate investment, trade, and factor mobility in a cycle of prosperity.

Individually, Central Asian countries do not have sufficient skilled workers, local financial capacity, or markets to sustain clusters of suppliers and complementary services. Regional integration is an instrument to overcome these constraints. The goal is to boost countries' supply capacity by providing regional public goods and taking advantage of specialization. For example, road

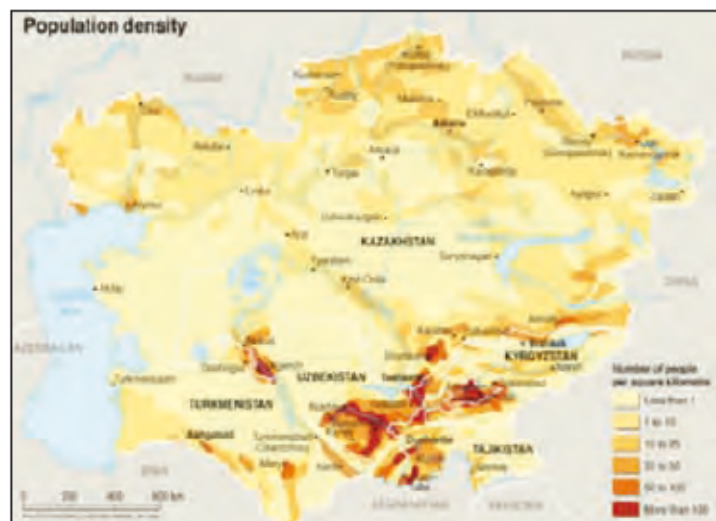
upgrades could increase trade by half, exceeding the expected gains from tariff reductions or trade facilitation programs of comparable scope.

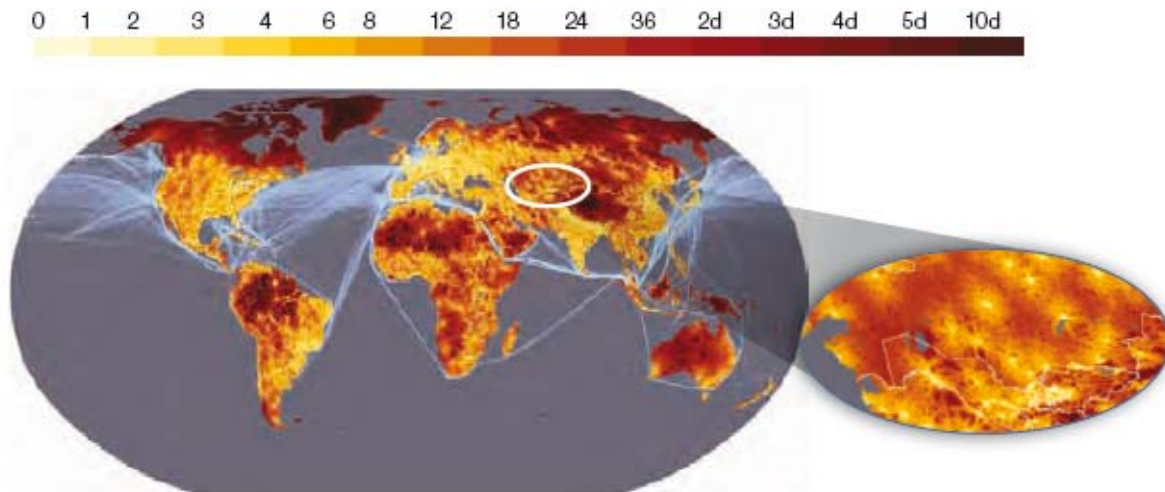
International integration is hardest for countries in regions that are divided, distant, and lack the economic density of a large local economy: Central Asia; Central, East, and West Africa; and the Pacific Islands. For these regions, three types of instruments are needed: regional institutions that help thin borders, regional infrastructure that connects countries, and incentives – such as preferential access to world markets with liberalized rules of origin, aid for social service delivery that creates portable skills, and support for infrastructure to improve market access.

Regional integration means more than preferential trade access between neighbors. It includes a number of steps that can be taken on the way toward full global integration,

Map 8: Population concentrated in the south and dispersed in the north

Source: UNEP/GRID-Arendal, 2003, Population density, Central Asia. UNEP/GRID-Arendal Maps and Graphics Library. Available at http://maps.grida.no/go/graphic/population_density_central_asia





Map 9: Vast distance and high transport costs. Travel time to major cities (in hours and days) and shipping land density.

SOURCE: Balk, D., Pozzi, F., Yetman, G., Deichmann, U. and Nelson, A. 2004. The distribution of people and the dimension of place: methodologies to improve the global estimation of urban extents – http://sedac.ciesin.columbia.edu/gpw/docs/UR_paper_webdraft1.pdf. Working Paper, CIESIN, Columbia University, Palisades, NY, pp 31. and available at <http://bioval.jrc.ec.europa.eu/products/gam/index.htm>

regional infrastructure investment to the liberalization of regional labor markets. The WDR cites three principles:

- Start small. Regional integration begins from narrow areas of cooperation that benefit all nations. The European Union started as an agreement on coal and steel in six countries. For Central Asia, the water and energy nexus as well as the development of railway and automobile transport infrastructure are crucial.
- Think globally. Regional integration should not promote isolation but should help countries gain access to world markets that they could not achieve on their own. Larger countries may be able to choose between unilateral global integration and regional integration. But small, low income, or landlocked countries need one to achieve the other. For example, shared regional infrastructure hubs – such as transportation corridors – give countries access to previously unreachable world markets.

- Compensate the least fortunate. Concentration of economic activity and increased density, which follows regional integration when firms specialize and increase scale in production in fewer places, is inevitable and desirable. But it means that some areas will gain more than others – at least initially. As people migrate to leading regions, they spread the benefits by sending remittances to their homes. But explicit compensation schemes may be desirable to improve access to social services and basic infrastructure in lagging areas.

Central Asian nations have institutions that can be instruments of stronger regional integration. Regional integration can take many forms, from formal treaties regulating aspects of economic exchange and cooperation to informal, de facto integration that follows from the private sector-led deepening of economic ties. Over time the Central Asian nations can mutually benefit by cooperative approaches to more contentious issues such as water and energy resources (see Box 1)

developing coordinated transport networks, and reducing cross-border costs and improving the business environment to spur investment and encourage greater commercial ties.

Regional cooperation and integration in Central Asia can advance in a more efficient manner, with involvement of Russia, China, and the European Union, and perhaps also that of the US and India. An extroverted regionalism should frame Central Asian integration within the broader

Eurasian integration. An illustration of such benefits could be seen in the electric power market. The Eurasian Development Bank finds that export potential of electricity from Central Asia is under-exploited. Creating a common electric power market and developing transborder infrastructure will unleash such potential, and all of the Central Asian countries could gain as exporters and transmitters of electric power to such countries as Russia, China, Iran, India, Afghanistan, and Pakistan.

Box 1: Sharing Water Resources

The Central Asian nations are linked by the Syr-Darya and Amu-Darya Rivers. Kyrgyz Republic and Tajikistan, with over 80 percent of the regional water resources, use the rivers for hydroelectric power, and the water is the source of irrigation in Kazakhstan, Turkmenistan and Uzbekistan where over 80 percent of the region's irrigated land is concentrated.

When the region was part of one country with a planned economy, water distribution, energy exchanges and fuel and energy supply in the republics were relatively efficient. The central government effectively managed interdependence and mutual complementarity of irrigation and energy. Independence, though, has introduced new divisions and fueled conflicts among the now-sovereign nations.

The demand for the water has exceeded available resources for a long time, and the deficit is likely to worsen due to growing population, industrial development, and expansion of irrigation. There are large-scale plans to develop hydro energy, so competition for water is expected to increase, and interstate relations may become more strained.

Downstream countries need water for agriculture in the summer, but upstream countries tend to withhold it for electricity production during winter. There are water shortages in the summer, and when several reservoirs are drained simultaneously, it can cause flooding and water logging. This is a source of significant conflict between the upstream and the downstream countries. Water use in the upstream countries not only affects downstream agriculture but also related

sectors: food, light industry, etc. Resolving the issues of water and power resources has huge economic, ecological, political and international importance for preserving stability, economic well-being and ecological security. Tajikistan and Kyrgyz Republic would like to develop hydro energy further, but they do not have the resources to finance new hydro projects and are forced to seek external financing. The regional conflict over water use deters external investment in such projects. There are many examples across the world of successful cooperation in regulating water resources to the benefit of all participants.

Source: Eurasian Development Bank, *Water and Energy Resources in Central Asia: Utilization and Development Issues, Industry Report*, April 24, 2008

COMMON INSTITUTIONS: DOING BUSINESS

The World Bank's Doing Business project provides objective measures of ten dimensions of business regulations and their enforcement across 183 economies. The latest ranking, *Doing Business 2010*, found that Singapore had the best business environment. The rankings for Central Asia are mixed: Kyrgyz Republic was 41st, Kazakhstan was 63rd, Uzbekistan was 150th, Tajikistan was 152nd, and Turkmenistan was not ranked. Kyrgyz Republic has been cited among the top ten reformers during the last two years. In 2010, Tajikistan also figured in this list.

In terms of economic geography, one of the most important *Doing Business* indicators is trading across borders. Cross-border costs are frictions that yield no benefits: they raise the costs of imports to consumers and producers and lower the returns from exporting. They make nations less competitive and more isolated. If cross-border costs can be reduced, Central Asia will effectively be drawn closer to its trading partners.

Table 1 shows measures of selected aspects of importing and exporting and compares them to the international leader in trading across borders, Singapore, and to the average for Eastern European and Central Asian nations. As the data and ranks – as low as 182 among 183 nations – show, Central Asians are greatly disadvantaged by delays and high costs. The times and costs to trade from Central Asia are double or triple the average for Eastern Europe and Central Asia. All of these indicators could be improved by better policies, procedures, and infrastructure. The low ranking in Table A shows that 85 percent of the world's economies do better than even the best Central Asian nation, and only one trails the worst.

Table 1: Doing Business 2010 -- Cross Border Trade

Region or Economy	Doing Business 2010 Ranking	Exporting			Importing		
		Documents (number)	Time (days)	Cost per container (US\$)	Documents (number)	Time (days)	Cost per container (US\$)
Eastern Europe & Central Asia	6.5	6.5	27	1,582	7.8	28	1,774
Singapore	1	4	5	456	4	3	439
Kazakhstan	182	11	89	3,005	13	76	3,055
Kyrgyz Republic	154	7	63	3,000	7	72	3,250
Tajikistan	179	10	82	3,150	10	83	4,550
Turkmenistan		not rated					
Uzbekistan	174	7	71	3,100	11	92	4,600

CONNECTIVE INFRASTRUCTURE: TRADING ACROSS BORDERS

According to the Eurasian Development Bank's study, The EurAsEC Transport Corridors, trade between the European Union and the Asia-Pacific Region is projected to reach \$1 trillion in the next few years, and only one percent of the cargo travels through Europe-Asia Economic Community (EurAsEC) transport corridors. The rest is transported by sea which offers lower costs and high standards of service. Sea transport will continue to be the dominant mode, but land transit offers a significant competitive advantage – it could be two or three times faster than ocean shipping. EurAsEC states are not making the most of their transport potential.

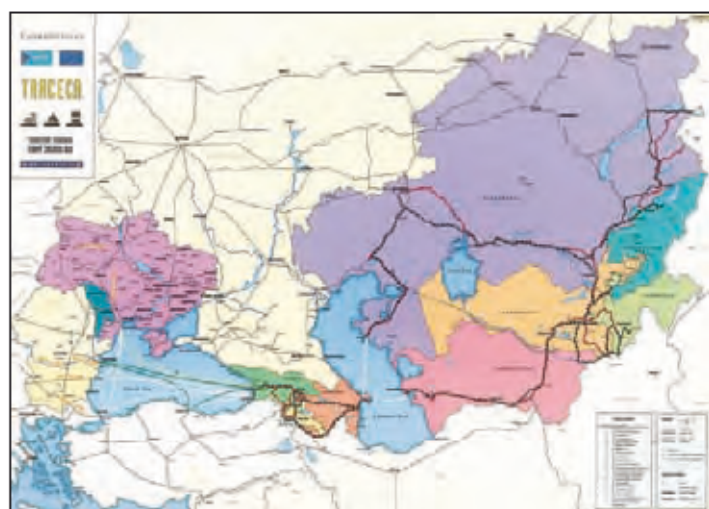
EurAsEC countries have significant strategic potential for freight transit. EurAsEC has motorway and railway corridors running east-west and north-south, and new corridors are being constructed. Analysts estimate that potential transit capacity today is about 220 million tonnes. This is expected to increase to 400 million tonnes by 2020, 290 million tonnes of which will originate in EurAsEC countries for transport on to third countries.

To handle these volumes of cargo, the transport infrastructure must be modernized to reduce the physical and non-physical barriers. Physical barriers include the poor state of motorways and railways, e.g., obsolete rolling-stock; roads that do not meet international standards; border crossings and logistics centers with low capacity. Non-physical barriers include cumbersome permit systems, unreasonable delays in crossing borders, various charges and additional taxes imposed by regulatory and local authorities, scheduled and spot-check

inspections of cargo weight, etc. The non-physical barriers are the more significant obstacles and cause serious delays in cargo delivery. Lost time costs money, erodes customer trust, and negates the only competitive advantage land transit has over sea transit.

There are two complementary ways to reduce these barriers: (1) integrating national transport systems, by adopting uniform legislation, standards, and procedures; and (2) coordinating investment policies among nations to accelerate service improvements. Given their geographic position and national economic interests, Central Asian nations and their neighbors have a direct interest in the Eurasian integration and transportation is a priority sector. These improvements would help to overcome the obstacles to development imposed by geography. They would stimulate growth by lowering distances and reducing divisions.

Map 10: The existing and emerging international transport corridors in Central Asia



TARGETED INCENTIVES: REGIONAL COOPERATION

Central Asian nations face common problems which could be solved more effectively with coordinated solutions, but there may already be too many disjointed agreements. Here are existing regional bodies with overlapping memberships and mandates:

- The Commonwealth of Independent States (CIS) comprises twelve post-Soviet countries including all of Central Asia.
- The Eurasian Economic Community (EurAsEC), founded in 2000, comprises Belarus, Kazakhstan, Kyrgyzstan, Russia, and Tajikistan (Uzbekistan's membership was suspended in 2009).
- The Shanghai Cooperation Organization (SCO) comprises China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan.
- The Collective Security Treaty Organization (CSTO) comprises Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan.
- The Central Asia Regional Economic Cooperation Initiative (CAREC) comprises Azerbaijan, China, Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan.

Map 11: Central Asia: Regional integration to scale up supply, global integration to scale up demand



In addition there are the Economic Cooperation Organization (ECO), comprising ten states, including all of Central Asia, and the Special Programme for the Economies of Central Asia (SPECA). According to the Eurasian Development Bank's System of Indicators of Eurasian Integration, the weakness of the regional integration in the post-Soviet space is a reason for integration at the sub-regional level, which is related to interactions within separate groupings of post-Soviet nations. From the first days of independence Central Asian nations sought to establish an effective integration scheme to facilitate economic development and to realize the geo-political and transit potential of the region. Integration projects included the Central Asian Union, which later evolved into Central Asia Economic Community, and transformed into the Organisation of Central Asian Cooperation, and then merged with the Eurasian Economic Community. Integration in the region demonstrates specific patterns. As shown in the System of Indicators of Eurasian Integration, the level of integration in electric power trade, agriculture (trade in cereals), and education is notably higher in Central Asia than in the CIS as a whole. However, due to various reasons, e.g., disputes over shared resources, political priorities in nation-building, and limitations to informal interactions in the border regions, the overall dynamics of regional integration in Central Asia were negative during the last decade.

Many countries are in the midst of World Trade Organization (WTO) accessions, and these could help because the WTO has rules on regional trade agreements. The countries could further benefit from

improved trade and transport facilitation and behind-the-border reforms to attract FDI and accelerate global integration. Regional forums for business communities could offer suggestions to improve trade and related policies.

The region loses an estimated three percent of GDP annually because of poor water management. Agreements could allow oil and gas resources to reach international markets more efficiently. Many environmental problems remain from the Soviet era such as radioactivity from abandoned uranium mines and dangerous remnants of biological and nuclear tests. Regional organizations could be rationalized around the themes of trade and transport facilitation, water, energy, and environmental management to develop long-term plans while engaging with civil society and independent experts. The international community could help to strengthen institutions and establish clear mandates and targets.

Map 12: Trans-Asian railway network.

Produced by Kazakhstan transport and communications research institute (NII TK), with English translation by Eurasian Development Bank.



