Rethinking the Form and Function of Cities in Post-Soviet Countries

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Abstract

Eurasian cities, unique in the global spatial landscape, were part of the world's largest experiment in urban development. The challenges they now face because of their history offer valuable lessons to urban planners and policymakers across the world from places that are still urbanizing to those already urbanized. Today, Eurasian cities must respond to three big changes: the breakup of the Soviet Union, the return of the market as the driving force of society, and the emergence of regional powers such as the European Union, China, and India that are competing with the Russian Federation for markets and influence in its former satellites. Several

methods of analysis indicate an imbalance across Eurasia, implying a need to readjust Eurasia's urban structure. National policies in Eurasia are still preoccupied with spatial equity. But the concentration of economic activity in large cities is fundamental to national competitive advantage: they foster innovation through their diversity of industries—and reduce production costs through their economies of scale. This paper suggests some ideas on how policymakers can harness the economic power of cities to drive national economic development, by focusing on four themes: planning, connecting, greening, and financing cities.

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Rethinking the Form and Function of Cities in Post-Soviet Countries¹

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Introduction

For centuries the Silk Road connected the Far East, the Middle East, and Europe through an extensive network of overland and maritime trade routes. Transport costs were high, but long-distance trade was an integrating dynamic in developing the great civilizations of Arabia, China, Egypt, India, Persia, and Rome. Goods, transported on an east-west axis, included jewels, glassware, spices, medicines, musk and other perfumes, and silk, satin, and other fine fabrics—which, because of high transport costs, were luxuries. In modern times trade in the former Soviet Union was mainly on a north-south axis, with Moscow serving as the main hub.

Through most of the twentieth century, Soviet planning controlled the economies of many nations once located along the Silk Road. Since the fall of the Soviet Union, transport costs have fallen. The transport network for the twenty-first century aims to carry more diverse trade in goods, services, capital, labor, and ideas and information. It encompasses air, rail, and road transportation and telecommunications. When a new “Silk Road” emerges, it will have to be biaxial, in response to opportunities presented by the three most important development stories in the past several decades:

- *The fall of the Soviet Union.* The failure of the Soviet economic model opened the former Soviet Union to market-oriented reforms that stimulated growth and integrated the region into the global economy. Within the region, production and intraregional trade can expand in line with comparative advantage.
- *The rise of the European Union (EU).* Western Europe has risen in prominence, purchasing power, and ease of access. Further, the EU has adopted an explicit policy to deepen its economic ties with Eastern European countries through the European Neighborhood policy.
- *The rise of Asia.* China, Japan, and the Republic of Korea have been the most dynamic growth stories of the past 50 years. They will offer new trade opportunities as they continue to integrate with the world economy. India joined them two decades ago and is also reaping the growth benefits of reforms and new investments.

This paper focuses on the former Soviet Union (Eurasia), excluding the Baltic countries, and addresses two questions: How is the spatial structure of economic activity being reorganized in the face of these changes? How will Eurasia’s economic landscape evolve as its cities are reshaped by migration and trade with the EU and Asia (exhibit 1.1)? These questions are fundamental, since cities are engines of growth. Policymakers can influence the economic landscape over the next 20 years if they carefully rethink the form, function, and connectivity of cities.

The paper provides a framework for rethinking Eurasian cities in a way that supplements today’s main economic centers—Moscow and St. Petersburg—with other vibrant cities along a twenty-first-century “Silk Road.” It looks at how Eurasian cities can diversify by promoting trade, mobility, and scale economies. As a country moves from low to medium to high income, it undergoes a structural transformation from agriculture to industry to services. Traditional agriculture tends to be replaced slowly as agriculture-related activities emerge in response to more demand from urban areas within and outside the country (World Bank 2007a). In these activities—such as storing, sorting, conditioning, packaging, transporting, processing, distributing, and risk management services—internal and external economies of scale drive productivity and the ability to export.

Exhibit 1.1 Population trends in Eurasian cities, 1992-2011

Source: “Eurasian Cities: New Realities along the Silk Road” (2012).

Urbanization results from the spatial transformations accompanying this process (World Bank 2009a). Enabling cities to support this process is challenging, because cities have inertia built-in by their inherited geography and infrastructure. Mobility should increase urbanization, and a more urbanized region will be a more integrated region, trading domestically and externally. As this structural transformation occurs, cities tend to play an increasing role in production and trade. Agriculture modernizes and requires fewer workers, freeing the surplus labor to migrate to cities and participate in the advanced division of labor that is the essence of any city. Cities allow the sharing of private and public production factors, the pooling of labor markets, and the sharing of information.

This process has a cumulative effect, making some cities global players that shape the world economy. Global cities function in four new ways (Sassen 1991):

- As highly concentrated command points in the organization of the world economy.

- As key locations for finance and specialized service firms, which have replaced manufacturing as the leading economic sectors.
- As sites of production, including the production of innovation, in these leading industries.
- As markets for the products and innovations.

Although not all cities can become global cities, the diversity of Eurasian cities suggests that some may become lively nodes of a more integrated region in a globalized world.

This paper examines three key periods: the Soviet past, the transitional present, and the market future. During the Soviet era the location and size of cities were centrally planned in Moscow to fulfill the objectives of successive five-year plans. During the transition market forces within former Soviet republics reinforced the role of cities as drivers of productivity and diversification within the newly established independent countries. While continuing to promote this internal dynamic, policymakers now need to connect these cities through regional and global integration policies to strengthen market forces and complete the transformation of Eurasian cities sustained by a new biaxial Silk Road (north-south and east-west).

The effect of the breakup of an empire on the region's cities

Cities have always been the driving forces of world civilizations. Niniveh was at the heart of the Assyrian civilization, and Babylon was the symbol of the Babylonian civilization. When Peter the Great, third in the Romanov Dynasty, became Russia's ruler in 1696, the influence of Moscow began to expand. Peter strengthened the rule of the tsar and westernized Russia while at the same time making it a power in Europe and greatly expanding its borders. By 1918, the year that saw the end of the Romanov Dynasty, the Russian empire covered a vast territory from Western Europe to China.

As Peter the Great and his successors strove to consolidate their reign over this empire, major social, economic, cultural, and political changes were in the making in the urban centers. Moscow led these changes, followed by St. Petersburg, which was built as a gateway to filter and channel western civilization through the empire. By fostering diversification through connectivity, specialization, and scale economies, these cities started the structural transformation of the Russian empire away from depending on commodities and limited markets in a way that more effectively served local demand (World Bank 2009a). Some of its city-based activities, such as literature and art, became prominent, with the production of such masterpieces as *Crime and Punishment*, *War and Peace*, and the painting "Ivan the Terrible and the Death of his Son" by Ilya Repin. The Soviet era altered this dynamic.

Framework of spatial location during the Soviet era

Although market forces were inherently present during the Soviet era, the state apparatus altered them through each five-year plan (known as Gosplan), with the ownership structure biased toward an almighty state. Three forms of ownership operated (table 1.1):

- Public ownership was vested in the government.
- Cooperative ownership was vested in cooperative associations, whose members were either workers engaged in or consumers patronizing the organization.
- Private ownership was also present.

**Table 1.1 Industrial production in the Soviet Union, by ownership type,
1928, 1937, 1950, and 1960**

(percentage of total industrial production)

Ownership type	1928	1937	1950	1960
Public	69.4	90.3	91.8	97
Cooperative	13.0	9.5	8.2	3.0
Private	17.6	0.2	0.0	0.0

Source: Bergson 1964.

In the early days of the Soviet Union, private producers contributed nearly 20 percent of total production, mainly reflecting farmers' contribution to the economy. The ownership of land, including mineral deposits and forest reserves, became vested exclusively in the government, while individual farmers became inconsequential when the government decided to collectivize wholesale activities in January 1930. This shift became irreversible as the five-year plans became the major policymaking tool of the Soviet Union by 1957 (Bergson 1964).

Production was also organized spatially to consolidate the Soviet Union. The underlying driver of this spatial organization was the attempt to address the mismatch of factors of production in the Soviet Union, in which raw material wealth was most plentiful in Siberia, natural population growth was highest in Central Asia, and industrial plant and skilled labor were most abundant in European Russia. Schiffer (1989) describes Soviet decisions on spatial resource allocation as based on efficiency, equity, and geopolitics.

The efficiency factor suggested that production should be close to raw material and energy sources, the production of manufacturing goods and services (intermediate and final) should be close to urban centers, and economic regions and administrative units should specialize in producing goods in which they had a competitive advantage, while ensuring that local demand for basic consumer goods was satisfied locally. The equity factor implied that economic activities should be evenly distributed throughout the country to maximize labor, infrastructure, and natural resources. The goal was to equalize industrial development across republics and regions, providing the population with comparable standards of living. Production was supposedly located in such a way as to eliminate the social and economic differences between urban and rural areas. The geopolitics factor suggested that the choice of location for production units had to be consistent with the need to strengthen the defensive capacities of the Soviet Union. In the mid-1960s Soviet policymakers also adopted the notion that economic activities should no longer be concentrated in large cities. Later, territorial specialization was defined to include the entire Council for Mutual Economic Assistance (COMECON).

But no planner can ensure that a city will be a successful place to live and work—only the people who live there can do so. What is within the planners' purview is to make it easier for residents and firms to choose among good alternatives, such as moving to a different city or building strong roots locally. Good planning helps ensure that certain socially valued outcomes take place and that individuals' pursuit of well-being does not adversely affect the well-being of others. Good planning is a fundamental tool of efficient local governance—a means of expressing and carrying out public choices about the community's growth and development.

During the Soviet era almost all decisions were made centrally, with almost no powers or major responsibilities devolved to local authorities. Few levers or incentives promoted efficient local governance. Urban officials could not receive signals from the market, so they used planning in a directive rather than corrective manner. The physical development of cities was based not on zoning plans

(which would guide development and indicate only what was not acceptable), but on master plans that dictated what was permitted. Land markets were nonexistent (all land was publicly owned). Housing markets were weak and inflexible (governed by the *Propiska* city permits system, a residence permit and migration recording tool whose use was documented in local police registers—and designed and developed by central authorities). Rental markets were mainly informal. And services and infrastructure were subsidized heavily and coordinated from the center, primarily to serve production processes and citizens as workers in the system.

Impact of the plan on the structure of Soviet cities

The plan affected the spatial allocation of people and activities—at the country level, by incentivizing people to places where markets would not have led them, and at the city level, by neglecting the externalities of urban growth. One of the defining features of the Soviet city was that it was built around a factory. In most cases cities were developed as centers of production. Some cities were run by the industrial enterprises around which they were built. After World War II, Soviet planners pushed urban growth toward the colder areas, in an effort to populate the country’s vast territory (exhibit 1.2). Markets certainly would have favored the growth of already established cities. Several smaller cities in the heartland grew to more than 30 times their original size (Hill and Gaddy 2003).

Exhibit 1.2 Mean surface temperature in the Soviet Union, January 1990

Source: Lydolph 1990.

Within 50 years many Soviet oblasts (second tier administrative subdivision in the former Soviet Union) went from being mainly rural to being at least 70 percent urban (Lewytzkyj 1979). Cities’ growth in these oblasts did not happen organically. Some people were forcibly moved to cities, but most were induced to move by various incentives. The transfers helped colonize empty territory, guard the vast empire’s borders, and exploit rich mineral deposits. The “booming” cities in Siberia often had no rural hinterland and were poorly connected to other urban centers. Food and service delivery were heavily subsidized, and many cities were completely cut off from the outside world in the harsh winter months. The pattern of city development and growth was the opposite of what the market would have dictated—moving inward and away from density (exhibit 1.3).

Exhibit 1.3 Size distribution of cities in the Soviet Union, 1939, 1959, 1974, and 1989

Source: "Eurasian Cities: New Realities along the Silk Road" (2012), based on data from Lewytzkij (1979).

In a market economy market forces dictate the size and distribution of cities (World Bank 2009a). People generally follow jobs and other people. Quality of life issues (climate weather, good local services and infrastructure, affordable housing) also motivate people to locate in one place or another. Successful cities (those able to deliver productive employment and a good quality of life for residents) tend to breed more success through circular and cumulative causation; unsuccessful cities endure slow or even negative growth. In successful cities the concentration of people creates a large market, which will attract more businesses, more jobs, more people.

The great differentiator in this equation (what ensures that not all people and businesses end up in one city) is the price of land, which tends to rise in successful cities as more people and firms move there.¹ As the price goes up, it tends to reach a threshold that blocks entry for some people and firms, who relocate to cities that can meet their needs at lower cost. But the falling values of land and property in less successful cities deter potential developers who avoid Eurasian cities. These price signals profoundly influence both the distribution and size of cities in a country. In a market-driven country like the United States, the largest cities are trade outposts situated along the Atlantic and Pacific coasts or on major lakes and rivers, while the interior of the country is less populated.

Although the Russian Federation has a population less than half that of the United States, it has about the same number of cities with populations of 500,000 or fewer (Hill and Gaddy 2003). But it has a much smaller number of mid-size cities. Just 15.5 percent of the Russian population lives in cities of more than 1 million. By contrast, 51.9 percent of the U.S. population lives in such cities. Comparisons with Brazil, a country closer in population size and development level to Russia, are also revealing. Both countries boast two large metropolises: Moscow (10.1 million people) and St. Petersburg (4.7 million) in Russia

and São Paulo (10.3 million) and Rio de Janeiro (6.2 million) in Brazil. But while Brazil has four cities with populations of about 2.5 million, Russia has none in this middle range—St. Petersburg is followed, at some distance, by cities of about 1 million people.

Back to the market: New realities for cities since the breakup

After 1991 many of the industrial enterprises of the Soviet era found themselves with overinflated rosters of workers. As people in industry started losing their jobs, many moved back to the rural areas they originally had come from, eking out an existence by subsistence farming. Capital cities were also preferred destinations for internal migrants looking for job opportunities. But the most important flow was across borders, with workers from Central Asia and the South Caucasus choosing in large numbers to migrate to cities like Moscow, St. Petersburg, and Kiev, and workers from these cities trying to reach Western European cities. For former communist countries as a whole, the share of world value added in manufacturing decreased from 19.3 percent in 1980 to 8.9 percent in 1990 and 2.7 percent in 2001 (Teignier-Baqué 2010). Trade among them also collapsed due to the drop in economic output; the erection of border controls and trade barriers, including export controls; and complications arising from the methods used to resolve payments as new currencies were introduced. The Commonwealth of Independent States (CIS) countries lost their preferential access to their former allies in Eastern Europe, who reoriented their trade toward Western Europe. The loss of these “captive” markets rendered many of the low-quality manufacturing goods produced in the former Soviet Union uncompetitive and unmarketable on world markets.

The dissolution of the Soviet Union was followed by the integration of the ex-communist countries into the world trading system. In 1998 the EU accepted applications from 13 of these countries; on May 1, 2004, 8 joined the EU (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic, and Slovenia). Two more, Bulgaria and Romania, joined on January 1, 2007. At the same time, Russia remained the largest country in the world in area and the largest natural gas producer, the second most powerful country in nuclear capabilities, and the world’s second-largest producer of crude oil. Because of its dominance, it pulled Eurasian countries back into its sphere of economic and political influence, though Georgia has been demarcating itself. These two anchors, the EU and Russia, have been driving the economic and spatial restructuring of Eurasia.

In the end the dismantling of central planning made it possible for the market to become the force driving the relocation of production and people. As the new economic geography and new trade theory suggest, the competitive advantage of leading markets depends largely on how efficient urban centers are (Fujita, Krugman, and Venables 2001). Given increasing returns to scale in production, transport costs, and trade, large urban centers better connected to domestic, regional, and global markets enjoy a self-sustaining agglomeration of economic activities, making it easier to diversify and expand production and exports.

New realities of agglomeration economies

The new economic geography establishes that the internal geography of a country is shaped by the “home market effect,” according to which leading production locales are more productive and thus attract more economic activities, reinforcing the divergence between leading and lagging areas (Fujita, Krugman, and Venables 2001). Openness to trade reinforces this effect, though the impact on the internal geography depends greatly on where the leading market is located. For instance, integration with the United States has led to a relocation of Mexican industry away from Mexico City and toward states along the U.S. border with good access to the U.S. market (Hanson 1996, 1997, 1998). Further, employment has grown more in regions that have larger agglomerations of industries with buyer-supplier relationships, suggesting that integration has made demand and cost linkages important determinants of industrial location.

Closeness to the EU explains the difference in the agglomeration dynamics observed between Central and Eastern European (CEE) countries and the Eurasian countries. After the overthrow of their socialist regimes in 1989–90, most CEE countries rapidly adopted market-based economic systems and redirected their political and economic relations toward the EU. One of the main benefits of the EU enlargement has been the boost in economic activity in both accession countries and member states. Eurasian countries, at the other end of the former communist empire, were exposed to weaker global trade flows. Russia remained the major trading partner for Central Asia, the South Caucasus, and other CIS countries, confining their exposure to the market forces of agglomeration, migration, and specialization to a Russia-centric bloc (Broadman 2005; World Bank 2009a).

All capitals and leading cities of Eurasia attracted labor-intensive economic activities, but countries closer to the EU experienced the emergence of specialized urban centers along the border region. Cieřlik (2004), looking at the difference in the attractiveness for foreign direct investment (FDI) of various Polish regions, found that regions bordering Belarus, Russia, and Ukraine were less attractive than regions along the European Union-15 (EU15) border of Poland. And Traistaru, Nijkamp, and Longhi (2003) found similar results for the geographic concentration of manufacturing in Bulgaria, Estonia, Hungary, Romania, and Slovenia. They found that other things equal, industries with large economies of scale tended to locate close to large urban centers while research-oriented industries were attracted by regions closer to the EU15. Using regional data for 1996–2000, Brühlhart and Koenig-Soubeyran (2006) also found similar results in their analysis of the structures of wage and employment within the Czech Republic, Hungary, Poland, the Slovak Republic, and Slovenia.

Entrepreneurs prefer to concentrate production when their activities generate increasing returns to scale. By contrast, public policy in Eurasia is still concerned with spatial equity, even after the breakup of the Soviet Union (World Bank 2009b). The same concern is expressed in Kazakhstan, as reflected in the country's territorial development strategy. Most Eurasian countries have designed or are thinking about designing national strategies to facilitate the adoption and coordination of policies for regional and spatial development. Looking ahead, policymakers need to promote the changes that will make Eurasian cities the main drivers of growth in their countries. For this, they need to promote the policies that can unleash the positive externalities of agglomeration economies while containing negative externalities such as congestion and pollution.

New realities of migration

The early years of transition saw high levels of cross-border migration, as populations previously unable to move because of Soviet restrictions relocated to their ethnic or cultural homelands (Mansoor and Quillin 2006). These flows emerged simultaneously with refugee movements resulting from erupting civil and transborder conflicts among the region's newly emergent countries. As conflicts abated and economic reforms took root, economic motivations became the main driver of migration in Eurasia. The result of these trends has been a broad biaxial pattern of migration among the transition economies, with one axis from the western part of the region to the EU and another from the southern to the northern countries of Eurasia. Although most migrants from the poorer Eurasian countries traveled to middle-income Eurasian countries, many also moved west, toward the EU and Turkey, seeking higher earnings. A number of Eurasian migrants spent time in CEE countries or Turkey, hoping to move to Western Europe.

The collapse of the Soviet Union provoked a large-scale repatriation, the most massive of which was that of Russians (table 1.2). Between 1990 and 1994, 1.7 million Russians residing in non-Slavic republics—14 percent of the total Russian population in those areas—moved to Russia. The numbers moving from areas of armed conflicts were substantially higher: 42 percent of Russian residents left Tajikistan and 37 percent left the Trans-Caucasian countries. Repatriations became the norm in the former Soviet Union and were not limited to Russians. In the early 1990s all titular nationalities began to leave Russia for their homelands, though this pattern shifted again in 1993 and 1994.

Table 1.2 Ethnic composition of net migration from Eurasia (excluding Russia) and the Baltics to Russia, 1990–94

(thousands of people)

Ethnic group	1990	1991	1992	1993	1994
Armenians	16.1	10.5	23.6	42.7	60.7
Azerbaijanis	–3.9	–3.8	–2.9	4.7	13.1
Belarussians	19.4	–0.9	–10.6	–5.9	10.1
Estonians	–0.0	–0.1	0.2	0.3	0.3
Georgians	–2.8	–3.1	0.4	6.1	12.5
Kazakhstanis	–2.9	–6.6	–10.8	–6.8	1.1
Kyrgyz	–1.5	–2.1	–2.1	–1.0	0.1
Latvians	–0.4	–0.3	—	0.3	0.3
Lithuanians	–0.8	–0.8	–0.1	0.2	0.4
Moldovans	–2.1	–2.0	–3.0	—	3.2
Russians	199.9	117.7	360.1	419.4	612.4
Tajiks	–0.4	–0.6	0.5	2.9	3.9
Turkmen	–0.5	–1.6	–2.1	–1.2	—
Ukrainians	22.0	–25.9	–64.3	11.0	79.2
Uzbeks	–3.2	–4.5	–2.9	0.3	3.7
Others	49.3	29.0	69.7	80.8	113.4
Total	288.3	104.9	355.7	553.8	914.6

Source: Zaionchkovskaya 1996.

Note: Net migration is the difference between the number of migrants leaving and entering the region. — is not available.

Labor migration to thriving cities is now the most dynamic and large-scale migration flow in Eurasia. The interstate labor migration in the region is estimated at about 6.5–7.0 million, with about 1.5–2.0 million leaving Russia for jobs outside Eurasia, about 3 million entering Russia from the other Eurasian countries, and about 2 million (not including Russians) migrating to other Eurasian countries or outside Eurasia (Teignier-Baqué 2010). Nearly 1 of 3 families in Armenia, Azerbaijan, the Kyrgyz Republic, and Moldova and 1 of 10 in Kazakhstan, Russia, and Ukraine depend on migration-related earnings and remittances by relatives (Teignier-Baqué 2010). In 2007 these remittances amounted to 46 percent of GDP in Tajikistan, 34 percent in Moldova, 19 percent in the Kyrgyz Republic, 9 percent in Armenia, and 4 percent in Azerbaijan (Canagarajah and Kholmatov 2010).

Migration dynamics in Eurasian countries reinforced their connection with Russia's booming regions and with a few other Eurasian leading urban centers, mainly the capital cities. In the world's most dynamic economies people move to maximize the returns to their education and skills (World Bank 2009a). But with their legacy of centrally planned factory-cities and their inefficient facilities, Eurasian countries entered the post-Soviet era with an economic geography that sapped growth (Kontorovich 2000). The location of human and capital resources across regions and throughout the urban hierarchy differed from the patterns in advanced market economies. The movement out of lagging regions has been small relative to the total Eurasian population. The estimated surplus population of Siberia and the Far East remains high, at 17.6 million.² Eurasia has considerable scope for further internal migration to rebalance the location of economic activity and thus increase economic growth and improve social welfare. The leading urban centers of the region are the ideal candidates to attract these new workers.

New realities of trade specialization

Trade among the former Soviet republics declined sharply after the dissolution of the Soviet Union, largely reflecting the disruption in production that the transition to a market mechanism caused, which required changes in supply patterns and a shift in output to goods demanded by the market (Havrylyshyn

1994). Another reason was the unnaturally high inward orientation of trade among the former Soviet republics, which caused trade flows with regions outside the COMECON to be much lower than they otherwise would have been. With independence and market reforms, a reorientation of trade to the rest of the world was to be expected. Indeed, seven years after the start of the transition, trade statistics showed that countries in Central Europe and the Baltics had trade-to-GDP ratios similar to those of market economies with comparable size and development levels (Havrylyshyn and Al-Atrash 1998). By contrast, many Eurasian countries appeared to be far less open and were unable to increase the degree of geographical diversification of their exports—a dichotomy confirmed by Broadman (2005).

Recent trade data show that the Russian-centric bloc identified by Broadman (2005) seems to be slowly changing in Central Asia. Indeed, in 2003 the top export destinations for nonnatural resource-intensive products from the Central Asian countries were Europe and Central Asia, including Russia and Turkey (32 percent); the EU15 (27 percent); and China (20 percent; figure 1.1). By 2008 the EU15 had taken the top spot (35 percent), followed by Europe and Central Asia (34 percent) and China (13 percent). While overall exports to Europe and Central Asia remained stable, exports to countries other than Russia and Turkey decreased from 15 to 9 percent. Exports within Central Asia remained low, at 1 percent.

Figure 1.1 Destination of nonnatural resource-intensive exports from the Central Asian countries, 2003 and 2008
(percent)

Source: International Monetary Fund direction of trade statistics database.

The trade structure of Eurasian countries reveals much about their ongoing structural changes. The top three groups of exports from Central Asia countries during 2003–08 were mineral fuels, manufactured goods, and crude inedible materials (table 1.3). In 2008 mineral fuels represented 62 percent of exports from Central Asia, up from 47 percent in 2003. This trade structure differs greatly from that of Southeast Europe, where the top three exports were machinery and transport equipment (25 percent), manufactured goods (24 percent), and textile products (19 percent).

Table 1.3 Trade structure, Central Asia and Southeast Europe, 2003 and 2008

(percentage of total exports, unless otherwise indicated)

Region	Food and live animals	Beverages and tobacco	Crude inedible materials except fuels	Mineral fuels, lubricants, and related materials	Animal and vegetable oils, fats, and waxes	Chemicals and related products	Manufactured goods	Machinery and transport equipment	Textile products	Commodities not classified elsewhere	Total trade (\$ millions)
<i>2003</i>											
Central Asia	6.47	0.32	14.38	47.41	0.03	3.02	23.31	1.75	1.23	2.08	16,730
Southeast Europe	5.58	1.19	6.75	4.71	0.18	6.25	21.54	16.95	35.92	0.94	35,946
Europe and Central Asia	5.19	0.63	5.23	20.39	0.27	6.49	21.79	24.92	12.63	2.48	455,874
<i>2008</i>											
Central Asia	4.36	0.13	8.42	61.70	0.02	3.16	16.69	1.99	0.51	3.03	70,187
Southeast Europe	6.08	1.59	6.88	8.11	0.45	7.50	24.35	24.53	18.56	1.96	94,668
Europe and Central Asia	4.66	0.63	4.54	29.09	0.32	6.80	18.95	23.69	7.10	4.22	1,343,808

Source: United Nations Commodity Trade Statistics Database.

Note: Column headings reflect Standard International Trade Classification categories, revision 3.

Eurasian countries' market potential was assessed by identifying their neighbors' access to the broader trade network through the import and export of intermediate goods. For this estimation the neighbors of countries in Central Asia and the South Caucasus were ranked according to a market potential proxy measured as the neighbor's total trade in intermediate goods, using average trade data for 2003–07 from the United Nations Commodity Trade Statistics Database (COMTRADE). The difference in trade structure and trade direction between CEE countries and Eurasian countries was explained largely by the market potential of their respective neighborhoods.

Many Eurasian countries are landlocked, and their production structure is skewed toward natural resource-intensive goods, making them less likely to attract substantial FDI outside these rent sectors. Diversification could start at the regional level if investors (domestic or foreign) find it profitable to establish production and distribution networks through the import and export of goods and services based on each country's competitive advantage. The *World Development Paper 2009: Reshaping Economic Geography* proposes a policy framework for unleashing these forces, recommending institutions that unite places, infrastructure that connects places, and incentives that target places (World Bank 2009a). Needed institutional reforms involve measures behind the border (macroeconomic stability, business environment, and standards and conformity issues), at the border (goods, services, people, and capital mobility across borders), and between borders (trade and transport facilitation initiatives). And needed infrastructure investments include productivity-enhancing infrastructure (information and communications technology, and research and development-related facilities), mobility-enhancing infrastructure (education/training and research centers), and connectivity-enhancing infrastructure (transportation infrastructure, transport, and logistics facilities). Such improvements can be made if urban centers are better connected to surrounding markets.

Going forward: Rethinking Eurasian cities

Eurasian countries have been through three major changes: the breakup of an empire, which transformed regions of the former Soviet Union into independent countries with sometimes competing interests and cumbersome border-crossing operations; the unleashing of market forces of agglomeration, migration, and specialization, which affected the form and function of settlements within these new countries; and the emergence of regional powers such as China, the EU, India, and Russia, which affected the structure and direction of trade of the new countries.

Looking ahead, the form and function of these cities need to be rethought to take advantage of market forces. The main issues are enhancing their connectivity to domestic and external markets to take advantage of the new biaxial Silk Road—and changing how they are financed to allow other Eurasian cities to complement Moscow, St. Petersburg, and Kiev as the anchors of this region in world markets.

Rethinking the form and function of cities

After years of central planning, one of the main characteristics of Eurasian cities is the misallocation of land. Land in and around Soviet cities had two major idiosyncratic characteristics: it was centrally owned, thus preventing local stakeholders from responding flexibly to local dynamics, and its value was not factored into city development decisions. Cities other than Moscow could not adjust to a sudden influx of migrants by building new housing, by virtue of the *Propiska* system. Yet people in the Soviet Union found their ways to regional centers, altering the equilibrium between urban infrastructure and city dwellers. As economic prospects in only a few Eurasian cities continue to attract an increasing number of workers, it will be important to rethink the form of cities by revisiting their planning.

Most Eurasian cities did not have suburbs—not necessarily a bad thing, as compact development has benefits that far outweigh sprawl. But older urban centers, with traditions of growing organically, developed beyond the municipality itself. They tended to be surrounded by villages that provided some of the food needs of urban dwellers. As cities grew, so did these satellite developments.

In contrast to most Eurasian cities, Baku followed an organic growth pattern. In 1918 the city was fairly compact, with a population of 313,000 (exhibit 1.4). As it grew, satellite villages and towns started to develop around it. Some of Baku's rural communities have been swallowed by the expansion of the city, and new ones have formed farther out. This is how most cities, especially large ones, develop. For most cities there exists a close relationship and interdependence with adjacent rural areas that often goes beyond simple trade. For example, rural land is often converted to allow city expansion, and the labor force in rural areas fills the demand in the city's growing economic base.

Exhibit 1.4 Development of Baku, 1918, 1940, 1960, and 1980

Source: "Eurasian Cities: New Realities along the Silk Road" (2012).

Note: Black areas represent built-up urban areas.

The planning of Eurasian cities should reflect this organic growth, allowing land and housing markets and urban infrastructures to adequately respond to the migration of workers to economic densities as countries move along the structural transformation from agriculture to industry to services. For this to happen, strong local institutions and supporting national institutions are needed.

Modern planning suggests that where no clear reason for government intervention exists, decisions on land use should be left to land purchasers, with the government protecting some key locations, such as parkland, cultural heritage buildings, and social service provision centers. Local authorities should work with the central government to solve all property issues in order to reduce the costs of land transactions as much as possible. Land use regulations and building codes also need to be modernized and enforced. Using public infrastructure strategically will guide land development in response to market needs. To revitalize the housing market in booming Eurasian cities, it will be important to develop rental housing markets, support homeowners associations, create and enforce rules for the use of public spaces, and offer incentives for façade improvement and maintenance.

The functions of Eurasian cities also need to be rethought. The rural settlements, towns, and cities of a country coexist, delivering different services to firms and people. Rural settlements tend to engage in agricultural activities. Towns engage in the nonfarm activities that increase the marketability of agricultural products in urban areas and outside the country. Cities permit the sharing of private and public factors of production, the pooling of labor markets, and the sharing of information. The diversity of cities favors an advanced division of labor allowing specialization in various activities.

The greening of cities is now an integral component of their competitive advantage. As such, the authorities of Eurasian cities as well as national authorities need to address city pollution appropriately (exhibit 1.5). Green spaces help cool air during summer, reduce greenhouse gas emissions and air pollution (they are one of the most effective carbon sinks), conserve energy and reduce storm water runoff, and add to quality of life. Safe, efficient, and environment-friendly public transportation is also important for a city's competitiveness. To compete with cities worldwide in attracting skilled workers—which cities must do as urban economies become the driving force of production and trade—policymakers need to improve the livability of Eurasian cities, at least the leading ones. Protecting the stock of urban green space, reducing industrial pollution, making public services infrastructure more efficient, and reducing, reusing, and recycling waste are key investments for Eurasian cities, as they can help them to attract more sophisticated workers and firms. This in turn will facilitate the structural transformation of Eurasia from an inward-looking region to one connected to global value chains in key industry and service sectors.

Exhibit 1.5 Pollution in former Soviet Union cities, 1992 and 2004

Source: “Eurasian Cities: New Realities along the Silk Road” (2012).

Rethinking the connectivity of cities

By expanding to what was then-called Turkestan (covering what are now the five Central Asian countries) in the nineteenth century, the Russian empire's main goal was to solidify its positions in the south to stop British expansion. Later the economic significance of the region started to rise, with Turkestan becoming an important producer of cotton when the American Civil War started driving up the price of cotton. The empire also implemented cotton industrial projects in the region, including improvements in hard infrastructure. One of the key improvements was the launch of the Trans-Caspian Railway in 1880, from Krasnovodsk to Samarkand, which it reached in 1888, and on to Tashkent. In 1906 another railway—the Trans-Aral Railway—started to operate on the route from Orenburg to Tashkent.

Russia understood the strategic importance of linking an east-west rail axis to the north-south connection. In March 1891 the future Czar Nicholas II inaugurated the construction of the Far East segment of the Trans-Siberian Railway, completed in 1916. Its main route originated in St. Petersburg at Moskovsky Vokzal and ran through Moscow, Chelyabinsk, Omsk, Novosibirsk, Irkutsk, Ulan-Ude, Chita, and Khabarovsk to Vladivostok through southern Siberia. The Chinese Eastern Railway was constructed as the Russo-Chinese part of the Trans-Siberian Railway. It connected Russia with China and provided a shorter route to Vladivostok.

The evolution of the national and regional transport and communications systems in the former Soviet Union countries was closely linked to the geographic, economic, and political developments that shaped the Soviet era. It led to a hierarchical network of cities that were more evenly distributed by size than in other countries. In the post-Soviet era the proximity to the EU market and the increased integration favored the emergence in CEE countries of urban centers closer to Western Europe and reinforced economic diversification in the capital cities. By contrast, agglomeration dynamics in Eurasia were attenuated by the long distance to leading world markets, which favored the consolidation of capitals and a few other leading cities, supported by the extension of public transportation. This agglomeration is not a handicap. Around the world, leading cities play a key role in production and trade by delivering a range of services, sustaining economic activities. Leading cities tend to be well connected domestically and externally—and tend to offer the most diversified production.

Small countries far from world markets, which make up part of Eurasia, face the stiffest challenges to economic growth and need a clear vision and strong commitment to cooperative solutions. These countries need to join “natural” groupings in which all participants support the objective of deep integration and adopt strategies for institutional cooperation and regional infrastructure (World Bank 2010). Enhanced regional cooperation could create a policy environment conducive to connectivity infrastructures, such as road corridors and broadband networks. A regional connectivity network depends on the functioning of the links and nodes in individual countries. Regional cooperation is thus vital.

As Russia has reoriented its economy from plan to market, spatial efficiency has improved. Between 1989 and 2004 almost all new firms chose to locate near Moscow and St. Petersburg, the gateways to international markets (Brown and others 2008). The sectoral composition of the economies of Moscow and Saint Petersburg is more diversified than that in other locations, and the two cities are better positioned than others to lead Russia's diversification. Russia took a major step toward economic integration when it recently joined the World Trade Organization (WTO). Although special economic zone initiatives have failed to foster diversification, a new generation of special economic zones could provide a better business environment for foreign firms—if they are designed to promote agglomeration economies, are less distortionary, and are better planned to stimulate investment in promising sectors.

By comparison, East Asian economies have become integrated through a dense array of regional production networks. These supply chains started with outsourcing by Japanese multinationals in the 1980s, as wages and land costs in the dense production area of Tokyo grew prohibitive for competitive manufacturing (Gill and Khadaroo 2007). Economic congestion in Japan; Hong Kong SAR, China; Korea; and Taiwan, China, has resulted in spillovers—first to middle-income countries in Southeast Asia and

then to China, as the barriers of economic ideology were reduced. Recently, supply chains have centered on China with its massive assembly operations in Guangdong and Shenzhen. As China has matured, it too has become an exporter of intermediate goods and capital equipment. Because they are landlocked, most Eurasian countries are at a large distance from the booming Chinese eastern coast. But the Xinjiang Uygur region in western China, with its nearly 21 million inhabitants, is an immediate gateway to China that is available particularly to leading cities in Central Asia.

India's rise is also an opportunity for Central Asian countries. With its domestic market of more than 1 billion people, India is attracting an increasing share of industrial and service activities that may have some spillover effects in Eurasian countries if adequate regional and global integration policies are pursued by both India and these countries. However, stormy relations in South Asia after the end of British colonial rule in 1947 prevented the region from taking advantage of its market size: more than a fifth of the world's people. It took four decades before trade volumes between India and Pakistan passed those of the early 1950s (Nabi and Nasim 2001). In 2004 the two countries engaged in a "composite dialogue" on peace and security issues, including terrorism and drug trafficking, confidence-building measures, economic and commercial cooperation, and friendly exchanges in various fields. On a broader regional basis the South Asian Association for Regional Cooperation is a forum to discuss development challenges, such as collaboration in energy production and water basin management. The greatest challenge for India, the largest country by far in South Asia, is to take the lead in promoting a common agenda (World Bank 2007b).

The competitive advantage of neighborhoods with big countries such as China, India, and Russia is the size of their markets, the breadth of their human capital, and the volume of remittances they receive. Economic activities generating substantial economies of scale benefit from being concentrated in countries with leading areas that have strong agglomerations and better market access (Antweiler and Treffer 2002). This tendency creates tensions, as most investment will go to these countries, usually the largest in the region. The challenges are to balance political and economic concerns between leading and lagging countries—and to ensure spillovers of direct and indirect benefits to lagging areas. Facing these challenges of division and distance requires institutions that can ensure policies and governance that promote trade, factor mobility, and regional growth and infrastructure. The result will be to connect lagging and leading countries, link regional economic centers, and favor regional production networks that are better integrated with the global economy.

Rethinking the financing of cities

Planning, connecting, and greening Eurasian cities will require finance (see table 1.4 below). In the transition era, funding for infrastructure maintenance declined dramatically, affecting the availability and reliability of services. The problem was heightened by the fact that the connective infrastructures were designed to cater to several republics that are now independent countries, sometimes with competing interests. The challenge is to find the resources to maintain, rehabilitate, and operate these large infrastructures. Several countries and cities are trying to develop cost-recovery mechanisms for the road transport sector. One focus is on road tolling, though work is being done on road funds, which have been instrumental in enhancing the sustainability of road maintenance financing elsewhere, notably in Africa.

The system for financing cities—and the infrastructure connections among them—have undergone a substantial transformation since the breakup of the Soviet Union. Although railroad transport continues to be the backbone of the long-distance transport system and to be largely self-financing, competition from trucks, buses, and private automobiles is slowly eroding the market share of rail transport, reducing the scope for cross-subsidies to loss-making business lines such as rail passenger transport. A large expansion in highway traffic has increased pressure for funding road network upgrading and maintenance. Private cell phone companies are now largely filling the gaps in the former landline-based telephone service.

Several Eurasian countries have encouraged more private sector involvement in transport and other infrastructure investments, reflecting the global trend that started in the 1990s. But private sector investments have been largely concentrated in a few countries, namely Armenia, Kazakhstan, Russia, Ukraine, and Uzbekistan. Over time most investment has gone to Russia, though the single largest project was for the railway concession in Armenia. Most private sector investment projects in transport have been in two sectors, airports and seaports. This is not surprising, as these are the modes where most progress has been made in liberalization—and where revenue streams are easier to capture.

Changes have also occurred in the systems used to finance infrastructure services within cities, including the urban road network, water supply, sewerage, district heating, housing maintenance, and public transport transit. These services are generally the responsibilities of subnational governments. In the Soviet era, funding levels for subnational governments were determined largely through intra-party negotiations. In general, that system has been replaced by more objective and mechanical systems of subnational finance, though more so in some countries than in others. Even cities that have benefited from such reforms find themselves fiscally constrained, however, and unable to raise revenues from the most appropriate source—the consumers of urban services themselves.

Big cities in Eurasia have access to broad-based personal income taxes, but tax rates are low. These cities do not benefit from equalization transfers. And they bear enormous responsibilities in social sectors such as education, health, and the social safety net. Because an increase in central government transfers is not an option (given more urgent needs in smaller cities), it is important to find ways to make the people pay—through benefit taxes, tariffs, and fees—for using some types of urban infrastructure. Given the low rate of personal income tax in the former Soviet Union, there is room to increase these revenue sources to generate more funds for the needs of larger cities. Property tax, supposed to be the largest tax source for cities, could be revamped to simplify its administration and broaden its base. And tariffs and fees could be increased to approach cost-recovery levels, particularly for water and public transportation in large cities.

Table 1.4 Issues that cities face in the former Soviet Union and ways forward

Period	Planning	Connecting	Greening	Financing
Soviet past	Master plans instead of zoning and central planners instead of urban planners; cities built around industrial areas and land misallocated	Hierarchical structure oriented toward Moscow, with limited horizontal links among lower order centers	Cost of externalities not considered in public policies; broad access to public transport; high rates of access to water and sanitation; recycling programs	System based on plan targets and intra-party negotiations; tariffs highly subsidized
Transitional present	High ownership rates and weak rental markets, with misallocated housing stock and missing or poorly enforced city planning regulations	Institutions established to manage connectivity infrastructure and develop sector plans, but progress moving at different pace across the region	Reduced pollution as firms went bankrupt; collapse of recycling systems; deterioration of public transit	Move to modern subnational finance with transparent systems of revenue sharing and equalization transfers, with some countries moving faster than others
Market future	Collaborating between local and central government to solve property issues, modernize land use regulations, and use public infrastructure development strategically	Promoting a few cities well connected to world markets by road, rail, air, and telecommunication links; developing regional institutions for corridor management and interstate cooperation on connectivity issues	Preserving positive features of the former Soviet Union; enforcing existing regulations; improving livability by building cities for people and taking care of the environment	Increasing personal income tax rates; enforcing payment of housing maintenance fees; increasing water tariffs; expanding metering and raising of public transport tariffs; for big cities, exploring public-private partnerships for large connectivity projects

Source: "Eurasian Cities: New Realities along the Silk Road" (2012).

Conclusion

Looking ahead, three interrelated policy instruments are required to ensure the full participation of Eurasian cities in world markets:

- *Develop institutions to help integrate these cities into the world economy.* The most propitious change would be the accession to the WTO of the Eurasian countries that are not yet members, not just for the trade benefits but also for the related domestic economic and judicial reforms. Beyond that are opportunities to build institutions to improve the investment climate, strengthen the rule of law, and make national borders easier to penetrate by reducing trade barriers.
- *Improve infrastructure to connect to world markets.* Eurasia's trade facilities were built primarily around natural resource exports and intra-regional trade. With the reorientation of markets, imports and exports can be facilitated by improving the infrastructure for integration with the EU, China, and India. Such improvements include seaport and airport development, construction of roads to Western Europe, and development of transshipment options through the Black Sea and Far East.

- *Concentrate incentives to attract capital and knowledge.* Special economic zones are a good starting point if they are designed to foster agglomeration economies and diversification rather than to provide rent-seeking opportunities to well-connected businesspeople. They also need to be more specifically targeted spatially so as to support the reform agenda. Useful lessons can be drawn from countries that successfully developed such zones, such as China, Malaysia, and Mauritius. Their experience suggests that successful zones can become strong catalysts for economywide change in just 15 years, rapidly transforming the entire economy (Farole and Akinici 2011).

As the *World Development Paper 2009: Reshaping Economic Geography* illustrates, Eurasia (excluding Russia) is a 3D region— a region with low *density*, long *distance*, and many *divisions* (World Bank 2009a). Securing accessibility to leading regional markets such as China, India, and Russia is thus critical. All three policy instruments suggested should be thoroughly applied: key institutions should be developed to unite the countries, key connective infrastructures should be established between domestic and regional markets, and targeted interventions should be undertaken to compensate countries for short-term losses from this deepened economic integration.

Policymakers at the highest levels in these countries should put accessibility at the top of their agendas. Indeed, the economic geography challenges facing 3D regions call for a bolder regional integration agenda to overcome economic divisions between trading partners, reduce the distance to major regional markets, and boost economic density domestically. If integration succeeds, the “home market effect” should help the region’s major cities capture most of the benefits of agglomeration, attracting increasing return to scale activities from other leading cities in the short and medium terms. With the largest cities in the region—outside of Moscow and St. Petersburg—Kazakhstan, Ukraine, and Uzbekistan should play a leading role in the cross-country implementation to secure accessibility to regional markets, thus balancing the unevenness of short-term gains from regional integration and securing long-term survival and success.

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Notes

1. Other centrifugal forces (congestion, pollution, crime) also influence city growth, but they are to some extent determined by land availability and values.
2. These are the "extra" people compared with population densities in Canada's remote frontier regions, where the economic geography has been largely market driven (Mikhailova 2005).