Strategic Assessment of Euro-Asian Trade and Transportation

Azerbaijan as a Regional Hub in Central Eurasia

Author: Taleh Ziyadov

December 2012
Strategic Assessment of Euro-Asian Trade and Transportation

AZERBAIJAN AS A REGIONAL HUB IN CENTRAL EURASIA*

Author: Taleh Ziyadov

Taleh Ziyadov is Research Fellow at the Azerbaijan Diplomatic Academy (ADA) in Baku, Azerbaijan and the author of the book Azerbaijan as a Regional Hub in Central Eurasia (Baku: ADA, 2012). He holds a Master's degree from the Edmund A. Walsh School of Foreign Service at Georgetown University (Washington, DC) and is currently working toward a Ph.D. degree at the University of Cambridge (UK). His research interests include energy security and transportation issues in the Caspian region and the political economy of transition in resource-rich states. His analytical articles have appeared in various journals and newsletters, including Analysis of Current Events, International Negotiation Journal, Central Asia-Caucasus Institute Analyst, Eurasia Daily Monitor, Turkish Policy Quarterly, and the Moscow Times. His book chapter on Azerbaijan’s role in the East-West and North-South Transport Corridors was published in The New Silk Roads: Transport and Trade in Greater Central Asia by Johns Hopkins University in 2007. He is also co-editor of the book, Beyond Resource Curse (University of Pennsylvania Press, 2012), which examines the policy challenges encountered by major oil and natural gas exporting states. Previously, he served as Deputy Executive Director of the US-Azerbaijan Chamber of Commerce in Washington, DC and as Assistant Dean of Academic Affairs at ADA in Baku.

* This special report is prepared in association with the Caspian Forum 2012 (Istanbul, 5-6 December 2012) organized in partnership by the Caspian Strategy Institute (CSI), the Brookings Institute, the University of California, Berkeley and the University of Cambridge (UK). The report is a succinct version of the recently published book “Azerbaijan as a Regional Hub in Central Eurasia” (Baku: Azerbaijan Diplomatic Academy, 2012).
# Table of Contents

MAP of AZERBAIJAN .................................................................................................................. 3

Introduction .................................................................................................................................. 5
  The Need for a Common Vision for the Future........................................................................... 5
  The Process of Becoming: Central Eurasia Twenty Years Later............................................... 6
  Azerbaijan: Potential Catalyst for Regional Dynamism............................................................... 8
    Looking Beyond Energy ........................................................................................................... 8
    The Need for an Integrated Development Strategy................................................................. 9
    An Overview of the Report ....................................................................................................... 9

Part I  Euro-Asian Trade: The Big Picture ................................................................................. 11
  The Euro-Asian Trade: Overview ............................................................................................. 11
    The EU-China Trade ............................................................................................................... 13
    The EU-ASEAN and the EU-India Trade ................................................................................. 15
    Euro-Asian Maritime Trade and Containerization ................................................................. 17

Part II  Assessing the Present: Transport, Corridors, and Logistics in Eurasia ......................... 19
  The Central Corridor: Transport Corridor Europe, Caucasus, Asia (TRACECA) ....................... 19
    A Limping Leg of the New Silk Road ..................................................................................... 19
    Truck and Container Transit via TRACECA ........................................................................... 20
    Rail Transit via TRACECA ...................................................................................................... 24
    Remaining Challenges .......................................................................................................... 26
  The North-South Transport Corridor (NSTC) ........................................................................... 29
    The Western NSTC Route ....................................................................................................... 34
    The Eastern NSTC Routes ....................................................................................................... 38
  Maritime Transportation and Caspian Ports ............................................................................. 39
  Logistics and Supply Chain ................................................................................................. 42
  Air Transportation ................................................................. .................................................. 51

Part III  Free Economic Zones and Port Development in the 21st Century ............................. 60
  Free Economic Zone Development ......................................................................................... 60
    FEZ Development in Azerbaijan ............................................................................................ 61
    Strategic Planning for FEZ Development .............................................................................. 64
    FEZ Administration and Operation Models ........................................................................... 65
    Challenges in FEZ Development .......................................................................................... 67
  The Alyat Port and 21st Century Port Development ................................................................. 69
    The New Baku International Sea and Trade Port at Alyat ..................................................... 70
    The Alyat Port and Hinterland Development ........................................................................ 71

Part IV  Conclusion: A Path to Success ...................................................................................... 75
  Vision for Azerbaijan: A Bird’s Eye View ................................................................................. 75
    Overview ............................................................................................................................ 75
  Free Economic Zone Concept for Azerbaijan ........................................................................ 78
    PSA-type Legal Regime and FEZ Development ................................................................... 78
    A Marketable Product/Project .............................................................................................. 79
    Stability and Political Support ............................................................................................. 81

Notes ........................................................................................................................................... 83
The Need for a Common Vision for the Future

In 1965, the late Sheikh Rashid bin Said Al-Maktum, the visionary ruler of Dubai, asked his British advisers to draw up a plan for the construction of a port. It took a British engineering firm two years to complete a comprehensive master planning study for the proposed port site, adjacent to the centuries-old Al Shindagah neighborhood in downtown Dubai. Based on the market assessment and future traffic forecasts, the advisers concluded that the new port would need only four berths. Having carefully considered the proposal, Sheikh Rashid demanded that the plan be altered to include sixteen berths instead of four. The British advisers reluctantly complied. The port was finally opened in 1971, and all sixteen berths were oversubscribed by the end of the first year of operation. Further expansions followed, and more berths were built in subsequent years. Sheikh Rashid was convinced that Dubai was bound to become the most important transport hub in the Middle East, and even beyond. Today, the Rashid Port, the Jabal Ali Port and Free Zone, Dubai International Airport, and many other state-of-the-art projects in the Dubai emirate stand as testaments to Sheikh Rashid’s foresight and vision.

In a similar fashion, it was the vision of Lee Kuan Yew, one of the longest-serving prime ministers of the twentieth century, that transformed the tiny city-state of Singapore from a relatively underdeveloped former colonial settlement to a modern and competitive economy and the major distribution hub in Southeast Asia. As early as 1973, just eight years after independence, Singapore was being hailed as “the world’s fourth busiest port,” serving more than 200 shipping carriers and some fifty maritime states. By becoming the region’s oil refining and distribution center, Singapore managed to turn itself into an ‘oil-rich’ state even though it was virtually devoid of any oil of its own. Capitalizing on its strategic location at the crossroads of the major maritime routes between Europe and Asia, Lee Kuan Yew seized every opportunity that came his way. He established an attractive business environment for foreign direct investment (FDI) and pursued an aggressive diversification policy. Today, the country enjoys a strong economy with a high level of FDI, and booming trade, manufacturing, and finance sectors. In 2009, Singapore’s gross domestic product (GDP) per capita exceeded $36,000, up from a mere $395 in 1960.

Even though both Dubai and Singapore have undoubtedly benefited from their coastal locations and the entrepôt trade generated by maritime traffic, the vision of their respective leaders was essential to these cities’ resounding economic success, for without it they would be utterly different places today. The paths taken by Sheikh Rashid in Dubai and Prime Minister Lee in Singapore offer a lesson for every national leader and every country aspiring to make an enduring mark in the world: it is necessary to possess a vision for the future.
Unlike the world’s great seaports, the prominent commercial cities of the Caspian Basin region have historically been land-based hubs. It took months and even years for the ancient Silk Road traders to travel between Europe and Asia, and the Caspian region’s hub cities served as critical regional logistics and distribution centers. Each of them had a number of caravanserais, where goods and ideas exchanged hands, and people and cultures met and mixed. These trading centers were connected with other regional hubs and megacities through a vast network of corridors across Eurasia and the Middle East. The Silk Road corridors were for centuries the source of prosperity for many nations in Central Eurasia.*

Central Eurasia is once again poised to regain its former prominence as a land-based hub between Europe and Asia. By 2030, a tourist will be able to jump on a high-speed train in Istanbul and arrive in Baku the same day; he will even have time to take a free bus tour of Tbilisi en route. He will continue his trip on an express ferry to Turkmenbashy, from where another high-speed train will take him all the way to Urumqi in China. The entire territory of Central Eurasia will be covered with a great infrastructure of highways, railways, airports, and logistics centers that will handle goods and passengers moving between Europe and Asia.

For many countries in Central Eurasia, however, envisioning such future is a complex matter. Political, economic, and social crises caused by the sudden collapse of the Soviet Union have dominated the relatively short history of independence enjoyed by these states. In 2011, they celebrated only the twentieth anniversary of the end of Soviet rule. Memories of wars, unresolved conflicts, economic hardships, and coups still haunt the generation old enough to remember the days of communist control. Fortunately, the most difficult times have been left behind, though a few crucial challenges persist. The countries of Central Eurasia are now at the stage of development where they must complete their political and economic transitions and choose a path that would lead them into the ranks of prosperous developed nations.

The Process of Becoming: Central Eurasia Twenty Years Later

In the 1990s, many people in the resource-rich states of Central Eurasia believed that their respective countries would soon become the “Kuwaits” and “Switzerlands” of the twenty-first century. The abundance of natural resources made this notion so alluring and so palpable that few really thought about the process by which this goal would be realized, if it were to be realized at all. Becoming another Kuwait or Switzerland would have required different development strategies, with a strategic vision supported by the presence of other essential components, such as a business friendly environment, political and economic capabilities, the effective management of revenues from the sale of natural resource and an advantageous location.

In the past twenty years, the regional countries, especially the resource-rich ones, have achieved a great deal. In 2009, the GDPs of Azerbaijan, Kazakhstan, Uzbekistan, and

* Although the term “Central Eurasia” has a number of different definitions, in this report it refers to eight Caspian region countries, namely the three South Caucasus states of Armenia, Azerbaijan, and Georgia and the five Central Asian states of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.
Turkmenistan exceeded $43 billion, $115 billion, $32 billion, and $19 billion, respectively. On the other hand, the combined GDP of the remaining four, more poorly endowed, states—Armenia, Georgia, Kyrgyzstan, and Tajikistan—was less than $30 billion. Azerbaijan and Kazakhstan have attracted billions of dollars in FDI and have completed key energy infrastructure projects that guarantee their future development. A latecomer, Turkmenistan, has started opening its doors to investors only recently, with the great expectations still to be met. The most populous state in the region, Uzbekistan, has chosen a gradual domestic demand-led development path that does not seek external FDI, but it too promises to contribute to the future hub vision of Central Eurasia.

There is no doubt that the chief engine of growth in the region has been the abundant natural resources of Azerbaijan, Kazakhstan, Uzbekistan, and Turkmenistan. The governments of these states, particularly Azerbaijan and Kazakhstan, have been mindful of the perils of resource dependence and have tried to implement policies to minimize potential risks. They also have a strategy as far as development of their energy sectors is concerned. Azerbaijan and Kazakhstan, for example, have used Production Sharing Agreements (PSAs) to attract foreign energy companies and inject the most needed investments into their economies. It was this energy strategy that allowed Azerbaijan and its Western multinational partners to reach agreement on the “Contract of the Century” in 1994 and subsequently to construct the Baku-Tbilisi-Ceyhan oil pipeline in 2005 and the Baku-Tbilisi-Erzurum natural gas pipeline in 2006. Azerbaijan’s energy sector alone has attracted more than $35 billion in FDI. Moreover, the revenues from these two pipelines account for the lion’s share of Azerbaijan’s current state budget and constitute a significant portion of the South Caucasus region’s economy. In short, the resource-rich states are reaping the fruits of energy strategies they conceptualized in the 1990s.

Today, Azerbaijan, Georgia and Turkey have embarked on a new journey that will shape the future energy strategy of the Caspian region and beyond. Whether resource rich or resource poor, however, all countries of Central Eurasia share the same future, and they are bound to find new synergies that will give their region a prominent place on the economic and political map of the twenty-first century. Indeed, each country in the region has its own destiny, and each has reason to hope that one day it will become a prosperous and developed state in its own right, like no other state but itself. To achieve this goal, however, each of them would need a clear vision of itself as an individual state and also as a member of a broader regional framework that could economically, and even politically, unite them by 2030. They will have to cooperate, integrate, and adapt to the rapidly changing world around them and forge a common vision for the years ahead. What is the common vision that one day these mostly landlocked countries might share? Will it be a vision that will make the region a periphery for another central power? Or a geopolitical playground for powers aiming to control the region’s riches? Or will the ancient Silk Road be revived, with the region reclaiming its status as a vibrant commercial hub between major economic blocs such as Europe, East Asia, South Asia, and the Middle East? Whatever the answers to these questions, one thing is clear: international trade will play a central role in the transformation of the region.
Azerbaijan: Potential Catalyst for Regional Dynamism

Azerbaijan is, and will remain, a pivotal state in Central Eurasia, helping to shape a common vision for the region and facilitate its transformation. The country's vast natural resources could act as catalyst for developing its non-oil economy and reviving the non-oil trade of the region—thus restoring Central Eurasia's historical position as a commercial hub along the ancient Silk Road. But for this to happen, Azerbaijan needs to formulate a comprehensive vision to guide its development and lead it to the desired goal.

Azerbaijan is located at the crossroads of major Eurasian land and air transport corridors—a feature that will play a vital part in its long-term success, if utilized properly. Potentially, the country could serve not only as a commercial bridge between Europe and Asia, but also as a major distribution hub in Eurasia. Unlike its energy strategy, however, Azerbaijan's vision for development of its non-oil economy is still a work in progress. Nearly 95% of the country's exports and more than 55% of GDP come from the sale of oil and natural gas—a situation that is unlikely to change in the immediate future. The mid- and long-term prospects of the country are promising, albeit conditioned upon successful development of the non-oil sector.

Looking Beyond Energy

Though many Azerbaijani government officials have repeatedly acknowledged that the country is ideally situated to become a regional transportation hub between Europe and Asia, these statements are yet to be translated into a long-term strategic vision that is coherent and sustainable. Nonetheless, the idea of “wanting to become a regional hub” at least is in place. In fact, a number of transportation and infrastructure projects have already been launched to advance this strategy. Among them is the strategic Kars-Akhalkalaki railway, which will link the Georgian and Turkish rail networks and thus create a rail corridor between China and Europe via Azerbaijan. In addition, the government is investing billions of dollars in modernization of the country's international highways along the East-West and North-South axes in an attempt to better prepare for anticipated land-based traffic through Azerbaijani territory. Moreover, the new state-of-the-art Baku International Sea Trade Port and Logistics Center at Alyat and the new Baku International Airport will both have a central place in the vision of Azerbaijan as a global transport hub. Last, but not least, the government plans to establish Free Economic Zones (FEZs) and invest more than $60 billion in real estate projects in and around Baku, essentially aiming to transform the national capital into the “Dubai of the Caspian.”

These projects will genuinely strengthen Azerbaijan's position in the region and enable it to become a magnet for land- and air-based trade between and among the states of Europe and Asia. Baku will act as a gateway to Central Asia for Europe and a door to Europe for Central Asia and China. It has the potential to become a “hub of hubs” on the Caspian Sea, but this will require articulation of a clear vision today for the Azerbaijan of 2030.
The Need for an Integrated Development Strategy

Close examination of the ongoing and planned infrastructure and transportation projects in the region, particularly in the resource-rich states, would reveal a lack of coherence with regards to a non-oil economy strategy. Important and useful projects are being planned and initiated independently of one another, without the necessary cross-sector and intra-sector coordination. In other words, these projects do not seem to be guided by a unified objective or directed by a cohesive state policy. Unless a clear, integrated “big picture” strategy is set forth today, the development trajectory of Azerbaijan, or of any other country in the region, for that matter, is likely to be halting and subject to chance. This is not to say that Azerbaijan could not achieve high per capita income or social-welfare advancement without such a vision. The “trial and error” approach certainly offers one type of problem-solving strategy. But in addition to being risky, such an approach would consume far more in terms of resources, time, and energy in the long run, and its success would not be guaranteed.

The report you are about to read has been written in the hope of contributing to the vision of the future of Azerbaijan and the Caspian region. It focuses on Euro-Asian trade, transportation and logistics, FEZ, and port development, and draws some lessons for Azerbaijan and other countries in Central Eurasia aspiring to become regional commercial hubs and take advantage of the growing regional as well as continental trade between two major economic blocs, namely Europe and Asia. In particular, it proposes a specific development scheme for Azerbaijan's hub strategy. As is noted throughout the report, the opportunities for Azerbaijan are many, and the realization of this potential will benefit the whole region, not just a single state. This means that for Azerbaijan to achieve its national objectives, it needs to coordinate its efforts with those of neighboring countries in the region.

Most of the states of Central Eurasia are landlocked, and they depend on each other's transportation infrastructure. Building highways, railways, ports, and airports is a necessary part of Azerbaijan's hub strategy, but it is not a sufficient one. Without a bird's-eye approach and a coherent policy, which will view all these projects as components of a single strategy, the transportation and infrastructure projects are likely to have outcomes that will be insufficiently efficacious, because they would lack complementarity. Hence, the compartmentalized mindset has to give way to an integrated vision that will direct each project towards a common goal.

An Overview of the Report

Part I of the present report will give a brief overview of the structure of the Euro-Asian trade and its major players and the means through which this trade is conducted. In particular, it looks at the European Union's commercial relations with a number of Asian states relevant to the future hub strategy of Central Eurasia.

Part II assesses the current state of affairs in the transportation, infrastructure, and logistics sectors of Azerbaijan and Central Eurasia. It illuminates a number of challenges
in these sectors and points to current and potential competition between the Euro-Asian transport corridors such as the Transport Corridor Europe-Caucasus-Asia (TRACECA), which transits via Azerbaijan. In particular, it highlights the importance of establishing an effective trans-Caspian maritime transportation system, which is essential to the success of TRACECA. Part II also stresses the importance of creating a well-connected national and regional logistics network and supply chain that will connect the nodes in the global land-and air-based supply chain via Azerbaijan.

Becoming a transportation and transit hub will not be sufficient for the successful development of Azerbaijan as a non-oil economy. Hence Part III discusses the FEZ and port development in general and identifies best practices that could be applied in Azerbaijan and could help establish a competitive and sustainable non-oil sector. A gradual approach to implementing the hub vision is advocated, one that entails focusing on two projects within the context of the FEZ concept: the new Baku International Sea Trade Port and Logistics Center FEZ at Alyat and the Baku Heydar Aliyev International Airport FEZ.

The core of a successful hub strategy for Azerbaijan must include FEZ development within a Production Sharing Agreement (PSA) type legal framework, as only under such an arrangement can Azerbaijan generate trade and attract FDI on a level that could make a lasting difference in the non-oil economy. This specific vision is outlined in detail in Part IV.
PART I
Euro-Asian Trade: The Big Picture

The countries of Central Eurasia have always acted as a land bridge along the major commercial routes between Europe and Asia. The Silk Road trade brought wealth and prosperity to the region’s inhabitants at different stages in history. The exchange of goods introduced new ideas and technologies, enriching and advancing the development of these societies. The disruption of the ancient trade routes, however, brought suffering and hardship to the region with long-lasting impact. Some regions were gradually able to recover, while others never did. Over time, a number of commercial cities faded away as they lost the prominence they once held in the Silk Road trade, and new vibrant megacities emerged in their places. Euro-Asian trade was the economic backbone of Central Eurasia for centuries.

Today, the majority of this trade bypasses the region, and so do the attendant benefits. Large ships that can carry thousands of containers at a time have replaced the ancient caravans of the Silk Road. Most of the trade between Europe and Asia is conducted by maritime transportation via Suez Canal, which makes up more than 90% of total cargo exchanged between the two continents. The success of Central Eurasian hub strategy largely depends on the ability of the regional states to attract some of this Euro-Asian continental container trade by creating integrated and competitive intermodal transportation and logistics networks across Eurasia.

An assessment of the potential impact of land- and air-based Euro-Asian commerce on the countries of Central Eurasia requires an analysis of its current structure. A closer look at Euro-Asian trade exposes a number of opportunities for the region, including Azerbaijan, and reveals issues and challenges associated with attracting this commerce. This section will examine Euro-Asian trade and its structure in attempt to reveal the bigger picture: whether or not this trade has prospects and whether Central Eurasia can benefit and once again become a conduit, which would allow it to regain its historical position as a commercial hub between Europe and Asia.

The Euro-Asian Trade: Overview*

Since the sharp decline in 2009, world trade has bounced back, with a record-high 14.5% increase in the volume of exports in 2010. The highest ever surge in the volume of exports was recorded in developing economies and the Commonwealth of Independent States (CIS), which together made up of 45% of all exports in 2010. The Asian economies, led by China and Japan, saw the fastest real export growth with 23.1%. The world merchandise exports rose from $12.5 trillion in 2009 to $15.2 trillion in 2010 (up 22%), while exports of commercial services increased from $3.4 trillion to $3.7 trillion (up 8%). Economists

* OSCE 1990 Kopenhag Belgesinin 7.9. bendi, katılımcı devletlerden ‘kanunen gerekli görülen oy sayısını alan adayların usulüne uygun olarak makamlandırılması ve bu adaylara görev süresi sona erinceye kadar bu makamı sürdürüme hakkı verilmesini (…)’ şart koşar.
forecasted more modest growth in 2011 at the rate of 6.5%.⁶

With a population that accounts for 60% of the world inhabitants, Europe and Asia make up about 60% of the world trade and the world Gross Domestic Product (GDP).⁷ The European Union (EU) (27 countries), the United States (US) and China alone make up 45% of world imports and more than 42% of the world exports (2009 data). While the shares of the US and the EU in the world exports shrunk from 18% and 19% in 1999 to 11.8% and 17.1% in 2009, respectively, China’s share than doubled during the same period, from 5.1% to 13.4%.

Likewise, while China’s share in world imports increased from 4.1% in 1999 to 10.6% in 2009, the shares of the US and the EU fell from 26% and 19.5% in 1999 to 16.8% and 17.6% in 2009, respectively (Figure 3, Figure 4). Particularly in the merchandise trade, Europe (including EU27, excluding CIS states) and Asia are dominant players, together accounting for more than 65% of the world merchandise exports.

In 2010, the external trade of the 27 EU countries stood at €2.8 trillion, of which imports to the EU were €1.5 trillion and EU exports were €1.3 trillion.⁸ The US was the major trading partner of the EU, accounting for 15% (€412 billion) of total EU external trade, followed by China (14%, €395 billion), Russia (8%, €241 billion), Switzerland (7%, €190 billion), and the member states of the Association of Southeast Asian Nations (ASEAN) (5%, €147 billion) (Figure 1). About one-third of EU’s external trade was with China, ASEAN countries, Japan, India and South Korea combined.

**Figure 1: EU External Trade: Top 10 EU Trading Partners plus ASEAN countries in 2010 (in %)**

TOTAL: €2.8 trillion

Source: Eurostat data

**Figure 2: Regional Shares in World Merchandise Exports (2000 and 2008) (in %)**

<table>
<thead>
<tr>
<th>Region</th>
<th>2000</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>South and Central America</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Europe</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Commonwealth of Independent States (CIS)</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Africa</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Middle East</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Asia</td>
<td>30</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: International Trade Statistics 2009 (WTO), Chart 6
The EU-China Trade

China is the EU’s major trading partner, and the most important country for the potential land- and air-based Euro-Asian trade via Central Eurasia. Currently, most of China’s industrial output comes from its eastern and south-eastern provinces. As the Chinese economy continues to grow and expand westwards, its north-western Xinjiang province, which borders Central Asia, will start to generate significant volumes of trade. The westward expansion of the Chinese economy will create new opportunities for the countries of Central Eurasia, aiming to increase commercial ties with neighboring Chinese provinces or attract land-based transit traffic to/from Europe.

Over the past ten years, EU-China trade has tripled in value, increasing from €101 billion in 2000 to €297 billion in 2009 and exceeding €395 billion in 2010. China is the EU’s second-largest trading partner after the United States, accounting for 14% of total EU external trade. The majority of China’s trade with the EU is with EU15 countries, which are responsible for 90% of EU27’s total imports from China and 95% of exports to China (both in value and quantity). In fact, seven and six of EU27 countries make up about 82% of all EU imports and exports, respectively. Germany is by far the largest EU exporter to China.
Its exports made up 47% of all EU exports to China (or €53.5 billion in 2010), followed by France (10% or €11.1 billion), Italy (8% or €8.6 billion) and United Kingdom (7% or €8.3 billion). In imports, Germany led with 23% (€63 billion), followed by Netherlands 17% (€49 billion), United Kingdom 14% (€38 billion) and Italy 10% (€28.6 billion) (Figure 5, Figure 6).

In terms of volume, in 2010, a total of 86.3 million tons of goods were exchanged between the EU and China. China exported 53.6 million tons of goods to EU27 countries and imported 32.8 million. EU15 countries accounted for 95% of exports and 90% of China’s imports. Nearly 95% of exports and 89% of imports were transported by sea (Table 1). In terms of value, the total EU-China maritime trade represented 61%, or €244 billion of €395 billion in 2010.

**Table 1: EU-China Trade by Volume and Mode of Transport (in tons, %)**

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EU27 Imports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU15 share</td>
<td>94.1%</td>
<td>94.1%</td>
<td>94.1%</td>
<td>94.1%</td>
<td>94.1%</td>
<td>94.1%</td>
</tr>
<tr>
<td>by Sea</td>
<td>54,387,841</td>
<td>59,785,557</td>
<td>77,151,711</td>
<td>67,184,012</td>
<td>45,118,355</td>
<td>53,586,490</td>
</tr>
<tr>
<td>by Air</td>
<td>39,011,071</td>
<td>50,805,154</td>
<td>68,217,326</td>
<td>59,297,255</td>
<td>39,191,688</td>
<td>47,669,628</td>
</tr>
<tr>
<td>by Rail</td>
<td>755,001</td>
<td>879,138</td>
<td>1,098,632</td>
<td>900,961</td>
<td>810,505</td>
<td>1,087,719</td>
</tr>
<tr>
<td>by Road</td>
<td>314,008</td>
<td>378,733</td>
<td>519,226</td>
<td>452,855</td>
<td>275,426</td>
<td>347,114</td>
</tr>
<tr>
<td>Other*</td>
<td>11,661,699</td>
<td>4,550,018</td>
<td>3,908,002</td>
<td>3,412,963</td>
<td>2,611,214</td>
<td>1,343,631</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>74,060,719</td>
<td>81,226,577</td>
<td>100,426,372</td>
<td>93,349,269</td>
<td>78,192,484</td>
<td>86,349,723</td>
</tr>
</tbody>
</table>

* Others (Unknown, Post, Fixed Mechanism, Inland Waterway, and Self Propulsion)Source: Table is created by the author based on Eurostat data.
The volume of exports to China by air has almost tripled, from 200,049 tons in 2005 to 569,419 tons in 2010, while imports by air rose by 44% between 2005 and 2010. Air trade exceeded €91 billion, making up 23% of the total bilateral trade between the EU and China (Table 2). Again Germany was the major exporter of goods by air. Although the volume of goods shipped from Germany to China by air was only 302,630 tons, less than 1% of total EU exports to China, in terms of value (€13.7 billion) it represented 43% of total air exports and 12% of total EU exports. This suggests that Germany exported high value added products by air, a typical feature of air transportation.

The EU-ASEAN and the EU-India Trade

Another important EU trading partner in Asia is the Association of Southeast Asian Nations (ASEAN). Attracting some of the air transit traffic between the EU and Southeast Asia to Central Eurasia is essential for Central Eurasia’s development as a relay hub. Azerbaijan in particular is very well situated to provide a stopover point for transiting cargo and passenger flights from Southeast Asia to Europe and vice versa. For many Southeast Asian countries, Baku provides a shorter route to Europe than Dubai. Therefore, the EU-ASEAN trade structure deserves closer examination.

In 2010, the combined trade of the EU with the ASEAN member countries – Brunei Darussalam, Cambodia, Indonesia, Lao People’s Democratic Republic (PDR), Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam – stood at €147 billion, including €86.4 billion of ASEAN imports to EU and €60.6 billion of EU exports to the ASEAN countries. As with EU-China trade, the EU15 members dominated the trade, accounting for more than 93% of total exchange between the EU and the ASEAN (both in value and quantity). Among the ASEAN countries, the five members (Indonesia, Malaysia, Singapore, Thailand, and Vietnam) represented more than 92% of total EU-ASEAN trade (both in value and quantity).

The volume of EU-ASEAN trade was 54.7 million tons in 2010. Some 91%
of EU imports from and 95% of EU exports to the ASEAN states were carried by maritime transportation. About 493,296 tons of goods were shipped by air, including 228,749 tons of imports and 264,547 tons of exports. In terms of overall trade turnover, maritime transport accounted for 49% ($72.4 billion), followed by air cargo transport, which excluding airmail made up 36% ($53.1 billion). Indonesia was responsible for the majority of goods exchanged between the EU and ASEAN, representing 40% of total traded volume. Meanwhile, despite the fact that Singapore exchanged only 8.5 million tons of goods with the EU, less than 16% of the total volume, it was responsible for 29% ($42.7 billion) of total EU-ASEAN turnover.

With regard to air transportation, Thailand and Singapore together made up more than 50% of the total air cargo exchange between the EU and ASEAN countries, with 134,718 tons (27%) and 120,822 tons (25%), respectively. Malaysia, Indonesia and the Philippines accounted for another 36% of air trade with 84,704 tons (17%), 60,503 tons (12%), and 34,804 tons (7%), respectively. The EU-Singapore air trade was composed of higher value added products. Singapore accounted for 40% ($21 billion) of total EU-ASEAN air cargo turnover, followed by Malaysia with 27% ($14 billion) and Thailand 15% (8 billion).

In addition to China and ASEAN countries, India is the most relevant state that will play a critical role in the future hub strategy of Central Eurasia. This rapidly developing South East Asian economy is a member of BRIC (Brazil, Russia, India and China), representing one of the four largest emerging markets. The country’s GDP exceeded $1.38 trillion in 2009, but due to its huge population, (approximately 1.2 billion) the GDP per capita remains at $1,200. Nonetheless, India is one of the most economically promising countries in South East Asia that will contribute to reviving of the land-based North South Transport Corridor (NSTC) via Central Eurasia.

In 2010, the EU-India bilateral trade was about $68 billion, including $33 billion worth of imports to the EU and $35 billion of EU exports to India. Nearly 94% of this trade was conducted with EU15 countries. Among these fifteen EU members, six

Table 4: Distribution of EU-India Trade by Mode of Transport in 2010 (in € and %)

<table>
<thead>
<tr>
<th>Mode</th>
<th>TOTAL</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Sea</td>
<td>€68 billion</td>
<td>100.0%</td>
</tr>
<tr>
<td>By Air</td>
<td>€64 billion</td>
<td>94.6%</td>
</tr>
<tr>
<td>By Rail</td>
<td>€38.4 billion</td>
<td>56.6%</td>
</tr>
<tr>
<td>By Road</td>
<td>€32.2 billion</td>
<td>34.2%</td>
</tr>
<tr>
<td>Other</td>
<td>€180 million</td>
<td>0.3%</td>
</tr>
<tr>
<td>Source</td>
<td>€2.7 billion</td>
<td>4.0%</td>
</tr>
<tr>
<td>Source</td>
<td>€1.4 billion</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

Table 5: Major Maritime Trade Partners of EU in Asia in 2010

<table>
<thead>
<tr>
<th>Country</th>
<th>in EUROs</th>
<th>in TONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>€244 billion</td>
<td>78.6 million</td>
</tr>
<tr>
<td>ASEAN</td>
<td>€72 billion</td>
<td>50.6 million</td>
</tr>
<tr>
<td>Japan</td>
<td>€53 billion</td>
<td>10.5 million</td>
</tr>
<tr>
<td>India</td>
<td>€38 billion</td>
<td>26.4 million</td>
</tr>
<tr>
<td>South Korea</td>
<td>€33 billion</td>
<td>10.5 million</td>
</tr>
<tr>
<td>TOTAL</td>
<td>€440 billion</td>
<td>176.7 million</td>
</tr>
</tbody>
</table>
billion), Italy 9.7% (€3.4 billion) and France 8.9% (€3.1 billion).

The volume of EU-India trade increased by 45% between 2005 and 2010, from 20 million to nearly 30 million tons. Although air transportation accounted for only 1% of the exchanged cargo in tonnage, in term of value it made up €23 billion, representing 34% of total trade turnover. Moreover, India’s trade with the countries of Northern and Eastern Europe has been steadily growing, offering future opportunities for land transportation, via Azerbaijan along the NSTC. In 2010, about 3.4% of India’s imports and 11.4% of its exports were exchanged between three Baltic States of Estonia, Latvia, Lithuania, plus Finland, Sweden and Poland. This was up from 2.8% and 7% in 2007, respectively. Yet, 95% of this trade was conducted by sea, bypassing land corridors through Eurasia. When the railways of Azerbaijan, Iran and Russia form a continuous link between North Europe and the Persian Gulf, some of this trade could be carried by rail at least twice as fast as by sea.

**Euro-Asian Maritime Trade and Containerization**

While the ancient Silk Road was dominated by land-based trade, whereby goods were moved by long caravans of camels and mules, today it is maritime container transportation that constitutes the heart of EU-Asia trade. Although the shipping time between Europe and Asia ranges between 28 and 40 days, this mode of transportation is the cheapest and the most preferred. It is therefore unsurprising that over 90% of goods exchanged between the two continents are moved in large ocean container liners, which are able to carry up to 15,000 TEU.

The containerization of global trade over the last thirty years has led to a rapid increase in the volume and value of maritime commerce, the number of containers and containerized cargo, and the number of larger ocean container carriers. In 2007, the value of global sea trade was estimated at $7.7 trillion, of which 60% or $4.3 trillion was the share of the liner shipping industry. The global maritime trade has doubled in terms of the total weight of goods handled between 1987 and 2007, from 3.6 billion tons to about 8 billion tons, of which containerized trade was 1.3 billion tons. Today, the number of containers used in international maritime trade exceeds 28.5 million TEU, up from 6.4 million TEU in 1990 and 14.9 million TEU in 2000. By 2015, this number is expected to exceed 40 million TEU.

In 2009, the EU ports processed 3.4 billion tons of cargo, both domestic and international, and
59.4 million TEU (excluding empty containers). Almost two-thirds of the total weight of goods was handled by the ports of the UK, Italy, Netherlands, Spain and France. Out of 59.4 million TEU, about 30% (18 million) originated in or was destined for the EU’s major maritime trading partners in Asia: China, ASEAN countries, Japan, India and South Korea. In 2010, together they accounted for 176.7 million tons of sea cargo exchange, valued at €440 billion (Table 5). China alone (including Hong Kong) was responsible for 19% of EU’s total maritime container trade (in TEU), followed by ASEAN countries with 7% (Figure 7). The container trade is also dominated by six or seven EU states, as demonstrated by the detailed distribution of the EU-China and EU-India container trade (Figure 8, Figure 9).

It is clear that the economic growth of the EU, East and South Asia, Turkey, Russia, and Iran will bring with it increased containerized trade between these markets. Central Eurasia is well placed to transit some of this trade. Despite the positive trend in Euro-Asian containerized trade and the enormous potential that this trade could offer to Central Eurasia, it remains to be seen whether or not the region will be able to seize these opportunities and capture some of this transit trade in the near future. Today, less than 1% of EU-Asia container trade is moved via Eurasia’s various land-based corridors, including the Transport Corridor Europe, Caucasus and Asia (TRACECA) via the South Caucasus, Trans-Kazakhstan Route, Russia’s Trans-Siberian Railways and the Southern Corridor via Iran. Though shorter in terms of shipping time, these land-based corridors are inefficient and expensive compared to the maritime option.

In order to seriously compete with maritime transit services, the Central Eurasian countries need to improve their transport infrastructure and provide more effective cross-regional transport connections, creating a single intermodal Euro-Asian supply chain across Central Eurasia. This requires a comprehensive approach to national and regional infrastructure development, particularly in the railway sector, which holds enormous potential for freight and passenger transport. Part II will outline and discuss these issues in detail, providing a critical assessment of transportation networks, corridors and logistics sectors in Azerbaijan and Central Eurasia.
Tracing many of its ancient paths, today’s New Silk Road crosses Eurasia via a number of transport corridors and routes. There are various rail and road corridors across Eurasia categorized by different international organizations, including UNECE, UNESCAP, ABD’s CAREC and IRU. Each corridor is important in its own right, and each merits an in-depth analysis. However, this report will limit itself to an examination of the central East-West corridor (i.e. Transport Corridor Europe, Caucasus, Asia (TRACECA)) and the North-South corridor via Azerbaijan.

The Central Corridor: Transport Corridor Europe, Caucasus, Asia (TRACECA)

A Limping Leg of the New Silk Road

The Transport Corridor Europe, Caucasus and Asia (TRACECA) program is an EU-led international intermodal transport initiative. It dates back to the May 1993 Brussels conference between three South Caucasus and five Central Asian countries. The program received additional impetus with the signing of the “Basic Multilateral Agreement on International Transport for Development of the Europe-the Caucasus-Asia Corridor”, which took place during a historical summit in Baku in September 1998. Member states established an Intergovernmental Commission (IGC) and the TRACECA Permanent Secretariat, based in Baku. The original signatories included twelve countries: Armenia, Azerbaijan, Bulgaria, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Romania, Tajikistan, Turkey, Ukraine, and Uzbekistan. The 13th member, the Islamic Republic of Iran, joined the TRACECA in 2009, while Lithuania has acted as an observer.

In June 2009, in Cholpon-Ata (Kyrgyzstan), Azerbaijan with four other TRACECA member states (Armenia, Georgia, Kyrgyzstan, and Tajikistan) signed an additional agreement on the “Development of Multimodal Transport - TRACECA”. It was ratified by Azerbaijan on March 4, 2011. This is an important agreement, as the TRACECA route, particularly its Azerbaijani section, involves intermodal transportation by road/rail and sea. Effective coordination between the countries of the Black Sea and the Caspian Sea region, and between the different modes of transportation, is crucial to developing TRACECA into a fast, cost-effective, and reliable multimodal transport corridor. This agreement is the first step in this direction.

In 2007, the trade between the TRACECA member countries accounted for $41 billion, and their combined trade with the EU was $290 billion. Yet, the transit cargo between Europe
and China through the corridor was almost non-existent. Most of TRACECA trade passes through the Azerbaijan-Georgia segment, which is the busiest section in the corridor. Thus far, however, the TRACECA could justifiably be termed an “OILCECA” (“Oil Corridor Europe, Caucasus, Asia”), given that almost 70% of cargo that passes along this route consists of oil and petroleum products. Hence, the success of TRACECA depends, among other things, on increasing and diversifying the type of goods imported/exported between member states in the medium term and also the EU and China in the long term.

The key concerns with the TRACECA route, especially with regard to the shipment of non-oil cargo, are cost and predictability. There are significant delays caused by loading/unloading operations, border crossings, customs clearance, police checkpoints and queues along this route. The route crosses a number of countries, and therefore a number of different border and customs checkpoints. Thus there is a chain of dependency in terms of timing. In many ways, this interdependency is a positive development, particularly for the landlocked countries in the region. However, if the strategies, priorities and transport policies of the bordering states are not synchronized, this interdependence could become an impediment. This problem requires a “bird’s eye view” - not only of the national and regional sections of the TRACECA network, but also of the whole supply chain, from Europe to the Caucasus, and from Central Asia to China.

The most recent ADB CAREC study on six CAREC corridors in Eurasia reveals that CAREC Corridor 2, which starts in the Mediterranean and goes via Azerbaijan to China’s Xinjiang Province, is one of the most unpredictable in terms of timing. When there are no delays, the road transportation along this corridor has relatively high average speed (40.5-49.4 km/h). But frequent delays reduce the average speed to 19.3-16.1 km/h; thus delivery time is unpredictable. The time involved in simply loading and unloading cargo results in loss of more than 12 hours per 500 km of travel. Moreover, CAREC Corridor 2 has one of the worst performances amongst rail transportation routes: the average speed is between 3 to 9 km/h, when calculated across the length of the whole route and the time of delivery. These issues must be taken into account and addressed in a timely fashion in order to improve the efficiency and effectiveness of TRACECA corridor in the future.

**Truck and Container Transit via TRACECA**

Azerbaijan’s 25,000 km of roads and highways play a central role in the transport infrastructure of the TRACECA corridor, providing a strategic land-based transit route between Central Asia and Europe. Nearly 4,577 km of this domestic network are larger national roads, including 1,915 km categorized as international highways, while 14,222 km are smaller local roads. Since 2000, the share of motorways in the total cargo throughput of the country remained consistent, at about 50%. In 2010, 222 million tons of cargo were transported, of which 52% (116 million) went via roads and highways. Passenger and freight transportation via TRACECA alone have contributed $480 million to the State budget in 2010, of which $144 million came from road freight transport, and nearly $77 million from passengers transported by automobiles.
The cargo trade along the Azerbaijani section of TRACECA has increased by 78% since 2000, with an average increase of 6% per year. In 2010, 51.7 million tons of goods were transported along the East-West TRACECA route in Azerbaijan: 21.7 million tons by road (42%), 20.6 million tons by rail (40%), and 9.4 million tons by sea (18%). This brought more than $400 million to the State budget, and accounted for 23% of the country's total cargo transport in 2010. One third of the TRACECA cargo was made up of transit goods, which were primarily oil and petroleum products from Kazakhstan and Turkmenistan. State revenue from the transport of transit cargo in 2010 totaled $151 million - or 37% of the total income from cargo shipments transported via TRACECA.\(^\text{23}\)

Despite the fact that TRACECA is an international corridor and the road transportation is the leading mode in TRACECA trade, most of the cargo transported by road in Azerbaijan was in fact carried domestically. Official Customs data suggests that in 2010, only about 1.3 million tons of cargo taken along the TRACECA route (out of a total 21.7 million) was carried by trucks across the Azerbaijan-Georgia border.\(^\text{24}\) Likewise, the majority of passengers traveling in the East-West direction in 2010 were domestic passengers. The total number of passengers commuted along TRACECA reached 223 million, with 219 million by road (98%), 4 million by railway (2%), and 12,000 by sea (0.01%). The total state income from cargo and passenger transportation via TRACECA was approximately $403 million and $77 million respectively.\(^\text{25}\)

Truck transit is the most commonly used mode of cargo transportation in TRACECA, and it promises to be extremely beneficial for Azerbaijan. Unfortunately, Azerbaijan does not have a large fleet of trucks with Euro 3 or higher standard and the majority of transit trucks running between Europe/Turkey and Central Asia currently bypass Azerbaijan. There are a number of reasons for this, which will be analyzed in detail below.\(^\text{26}\)
The TRACECA trucking route is often used to deliver cargo and freight to Baku and onward to Central Asia and Afghanistan. Shipments to Afghanistan via the TRACECA route have increased in recent years, and could be advantageous for the Azerbaijani trucking industry. Currently, however, most of this cargo is carried by Turkish trucking companies, and they experience countless delays and difficulties along the Azerbaijani section of TRACECA route. This is one of many reasons they choose to avoid this route. In 2009, 36,291 Turkish trucks traveled to Central Asia, Afghanistan, and Pakistan, and only 3% of them (917 trucks) passed through Azerbaijan (on a CASPAR ferry service) (Table 6). In 2010, the total number of Turkish trucks increased to 41,099, but 98% bypassed Azerbaijan, using the Russian or Iranian routes instead.

Turkish trucks use three different routes when traveling to Central Asia:

- **Turkey → Samsun-(ferry to) → Russia → Kazakhstan → Kyrgyzstan (Option 1)**
- **Turkey → Georgia → Azerbaijan-(ferry to) → Kazakhstan → Kyrgyzstan (Option 2)**
- **Turkey → Iran → Central Asia (Option 3)**

It takes approximately 10 days for a Turkish truck to reach Bishkek using either the Russian (Option 1) or Iranian (Option 3) routes. Yet it takes 14-20 days for a truck to reach Bishkek along the TRACECA route via Baku (Option 2). Including total operation costs, the average daily cost of a truck is up to $1,000 per day. The longer the route is, therefore, the more it costs the trucking company. Furthermore, due to unpredictable ferry schedules and delays, a truck spends more time in Baku waiting for a CASPAR ship to Kazakhstan than, for example, crossing from Samsun to one of Russia’s Black Sea ports (Novorossiysk or Kavkaz). On these grounds, the trucking route via Baku is unappealing, and deemed unreliable by many international trucking companies. Of the 41,099 Turkish trucks that traveled to Central Asia, Afghanistan and Pakistan in 2010, only 728 trucks went through Azerbaijan and used a CASPAR ferry service across the Caspian Sea. Although more recently, the number of Turkish trucks going to Central Asia via Azerbaijan has increased,

---

* A loaded T.I.R. truck on a CASPAR ferry is charged $900 from Baku to Aktau. However, the driver also must pay additional fees such as a ramp access fee, a passenger fare and some unaccounted fees, which brings up the total amount to $1300.
the problems associated with delays remain as an important impediment.

It takes 1 ½ days for a Turkish truck to get to the Turkey-Georgia border from Istanbul: a distance of slightly more than 1,300 km. But to cover a distance of less than 1000 km, between the Turkey-Georgia border and Baku, the truck requires 2 ½ days. This also applies to shipments from the Port of Poti (Georgia) to Baku, where the travel time often exceeds 24 hours due to delays at customs checkpoints (mostly on the Azerbaijani side) and stops along the way in Azerbaijan. Transporting a 20 ft container by truck from Poti to Baku (roughly 950 km) can cost up to $1900.29 Similarly, a loaded container truck from the Turkish Mediterranean port of Mersin to Baku would cost $3,500-4,000, and would take about 3.5-4 days (with no delays), and 5-6 days (with delays). The truck should take 1 ½ days to travel from Mersin to the Turkish-Georgian border (about 1150 km), another day to cross Georgia, and a day to reach Baku. But with delays, this journey often takes 5-6 days. Most truckers complain about the wait on the Azerbaijani side of the Georgia-Azerbaijan border, sometimes 4-5 hours, without there being any visible traffic.30

Once in Baku, depending on traffic, the trucks sometimes have to wait 2-3 days for a free spot on a CASPAR ship to Aktau. Although CASPAR has daily trips to Aktau, priority is given to rail freight and containers. In addition, CASPAR mainly operates ferries (rather than Ro-Ro (Roll-on Roll-off) type vessels) between Baku and Aktau. This limits the number of trucks the ship can take: not more than 30-35. There is only one berth (№ 6) at the Port of Aktau, with the capacity to receive a Ro-Ro type ship, and it is almost always busy with grain shipments. Therefore, a regularly scheduled Ro-Ro connection between Baku and Aktau and between Baku and Turkmenbashy is required. Moreover, while the loading and uploading of the ship is done relatively quickly (in less than an hour), it takes about 4-5 hours to complete all the procedural paperwork (border and customs clearance, etc.). Normally, all trucks should be booked and checked-in in advance so that they can board the ship as soon as it is ready for loading. But because there is no certainty about how many trucks will be able to board, the advance check-in is not done, and the trucks are forced to wait at the port entrance, or outside of Baku. With more effective truck flow management and introduction of pre-booking system for CASPAR ships, this concern could be addressed.

Another issue that is worth mentioning involves different regional standards for the maximum allowed weight for a TIR truck. In Azerbaijan, the maximum allowed TIR truck is 37 tons, while in Turkey, it is 42 tons, in Georgia - 44 tons, in Uzbekistan - 40 tons and in Afghanistan between 41.5 and 61.5 tons. The maximum weight for large trucks in Turkmenistan and Kazakhstan is even lower between 34-36 tons and 36 tons, respectively.31 Although there may be justifications for different regulations in different countries, a common approach is needed. Particularly, the Caspian region countries need to adopt complementary policies vis-à-vis this issue. The governments should consider increasing the maximum weight requirement for TIR trucks to about 42 tons and this regulation should not be used as an excuse to stop trucks several times along the journey for random weight checks.

With regard to container shipments, TRACECA officials report that in 2008, container
traffic through the corridor reached 254,000 TEU, up from 186,000 TEU in 2007. But in reality, most of these containers were actually exchanged in the Black Sea, and only a very small number reached Baku, and crossed the Caspian. For example, in 2010, the Port at Poti handled 209,800 TEU (7.3 million tons), of which only 11,000 TEU, i.e. 5%, were sent on to Baku. The Port of Baku declared that in 2010 it processed 9,626 container units (16,521 TEU), some came from Poti, and some from Turkey by truck. Almost all of these containers were NATO containers going to Afghanistan via the Port at Aktau, which reported that it processed 9,455 container units in 2010. This demonstrates that the current level of container traffic through the Azerbaijan-Georgia and Central Asia sections of TRACECA is trivial, and needs to be increased.

As a result of increased government and international investment in infrastructure projects, the quality of roads of Azerbaijan, especially national highways, has improved over the past 6 years. By 2010, loans and financial resources spent on or allocated for the road construction and infrastructure projects, including new bridges and inner-city roads, exceeded $7 billion. About $2.2 billion of this sum came from international donors. Almost all highways of state and international importance are funded in partnership with international organizations. Since 2004, more than 5,500 km of roads and highways have been rehabilitated. Approximately 806 km of these new roads and highways are of national and international importance. International organizations sponsored 460 km of these highways, while 345 km was financed by the State budget. Currently, construction and rehabilitation work is being continued over 870-km long parts of the national highways, including 749 km that is financed by international loans. The construction of the country’s most international highways and roads along the East-West and North-South axes will be completed to international standards by the end of 2013.

Rail Transit via TRACECA

The second major mode of transportation along TRACECA is rail transport. There are two TRACECA rail routes in the South Caucasus linking Europe, the Caucasus, Central Asia and China: the Baku-Tbilisi-Batumi rail link, and the Baku-Tbilisi-Poti rail link. The rail connection between Azerbaijan and Armenia, which had an extension to Turkey, no longer exists, and the line between Armenia and Turkey is outdated and non-functioning. The Baku-Tbilisi-Batumi/Poti railway is connected to the European rail networks via the Black Sea rail ferry service in the West (i.e. Romania, Bulgaria and Ukraine), and the Kazakh and Turkmen rail networks to the East.

From 2012, the Kars-Akhalkalaki railway will link Georgia and Turkey, and the TRACECA rail network will extend overland to South East Europe via Turkey. It will also have access to Turkish ports in the Mediterranean Sea. Together these railways will constitute part of a 7,000 km-long rail link between Europe and Asia. The Baku-Kars-Akhalkalaki railway project will eliminate the missing link in Euro-Asian rail transportation and effectively create a new Eurasian rail corridor through Azerbaijan, Georgia and Turkey stretching from China to Europe. Moreover, the completion of this strategic railway by the early 2013
is expected to boost regional trade and transit traffic via TRACECA. Once finished, the railway will process between 2 and 5 million tons of cargo per year in the short term, and up to 20 million tons of cargo and 3 million passengers annually by 2034.

In 2010, the cargo transported by rail and sea (in both transport and non-transport sectors) via the Azerbaijani section of TRACECA constituted 73% and 80% of the country’s total rail and sea cargo throughput, respectively. Out of 20.6 million tons of TRACECA rail cargo, at least 70% was international shipments moved by Azerbaijan Railways (ADY) (transport sector), with the remaining 30% being domestic rail shipments and other cargo carried by private operators (non-transport sector). International cargo, including transit, stood at 14.4 million tons of the transport sector, of which more than 10 million tons were oil and petroleum products. In general, oil and petroleum products shipped by rail in the East-West axis accounted for 53% of total TRACECA rail cargo in 2010.38

The Boyuk Kesik border crossing point between Azerbaijan and Georgia is among the main rail junctions of TRACECA and Azerbaijan’s key rail gateway to Europe with the largest rail cargo throughput. According to the official data by the ADY, in 2010, about 13 million tons of freight was moved by ADY via the Boyuk Kesik rail border crossing, of which 10.9 million was the outgoing traffic. About 93% (10.1 million tons) of all outgoing cargo was oil and petroleum products, of which transit oil was 6.6 million tons. The incoming traffic was split between imports (1 million tons or 51%) and transit (979,300 tons or 49%). The transit rail cargo accounted for 7.2 million tons or 66% of total cargo throughput at Boyuk Kesik, followed by exports with 3.7 million tons or 34%. In general, the rail transit cargo via TRACECA’s Azerbaijan section accounted for 87% of total transit goods carried by ADY in 2010.39

With respect to the Central Asia connection, an analysis of the current and potential alternative rail links between Istanbul and Dostik (at the Kazakh-Chinese border) shows that the shortest rail links are through Turkmenistan and Uzbekistan. The second and third shortest railways pass through Armenia, which are currently not in use due to the territorial conflict with Azerbaijan. If the Armenia-Azerbaijan conflict is resolved, which does not seem imminent at the moment, these two countries would have enormous potential as transportation routes between the two countries provide the shortest routes to the Mediterranean Sea ports of Turkey, and alternative access points to Iran, Iraq and Syria. Although the rail link via Turkmenistan is the shortest route, it is not currently the most efficient. Turkmenistan’s rail track capacity is weak, and it is short of locomotives. Both of these issues lead to delays. Over the last few years, however, the Turkmen government has prioritized Euro-Asian transport projects, and it seems to be addressing these issues. The Ministry of Railways has worked to renovate and expand the country’s locomotive fleet, it rail wagons and its rail platforms. In particular, Turkmenistan is focusing on the rehabilitation of its existing railways in the East-West direction and the construction of a second railway

* The State Statistics Committee of Azerbaijan divides transportation statistics into “transport sector” and “non-transport sector” data. The “transport sector” statistics are reported by the enterprises whose sole business is transportation of goods and passengers, while the “non-transport sector” data comes from the enterprises (mostly private) that are not in the transportation business but who transport their freight directly without involving the services of a third party (this does not include agriculture sector).
to Afghanistan, which will connect the cities of Atamyrat and Imamnazar in Turkmenistan with the Afghan town of Akina. These projects, along with further investment in the rail sector, could make Turkmenistan the preferred transit route for shipments to and from Afghanistan and China.

The Kazakh segment of the TRACECA railway network has the potential to become the shortest route, if the Kazakh government completes the planned railway from Beineu to Shalkar. This rail extension will reduce the distance between Dostik and the Port of Aktau by 485 km, and cut delivery time to 10-11 hours, by avoiding the Makat-Kandiagash segment of the Kazakh railways, because of its heavy traffic considered to be one of TRACECA’s bottlenecks. The projected annual capacity of the Beineu-Shalkar railway is an estimated 12 million tons. The Kazakhstan government has scheduled the construction of this railway between 2016 and 2020.

Remaining Challenges

Generally speaking, the TRACECA rail corridor and its alternatives have so far failed to become the preferred route for cargo trade between China and Europe. As mentioned above, CAREC Corridor 2, which overlaps with the TRACECA route, has one of the worst rating for rail speed (the average speed is 9 km/h with all delays and stoppages en route). This, of course, has a knock-on effect for delivery time. The corridor is also relatively expensive in comparison with other rail corridors in Eurasia, and far more costly than maritime transportation, which is by far the cheapest. For example, along the Azerbaijan-Georgia segment alone, a freight forwarder charges between $1,300 and $1,500 for shipment of a 20 ft container from Poti to Baku, with an additional $350-400 for a CASPAR ferry transfer to Turkmenbashy. Thus it costs around $1,650-1,900 to ship a 20 ft container just from Poti to Turkmenbashy, which is more expensive than shipping the same container by sea from Castellón (Spain) to Poti ($1,725), from Shanghai to Rotterdam ($1,200-$1,400) or from Bandar Abbas to Rotterdam ($650).

The distance between Poti and Baku is just over 960 km, but it takes as long as 4-5 days for a rail freight shipment to go from Poti to Baku. Similarly, it can take up to 2 days for a train to go from Yalama, near the Azerbaijan-Russia border, to Baku, though the two cities are only 200 km apart. One of the reasons for the length of these journeys is the redistribution method or shunting services for wagons, containers and platforms provided by Georgian and Azerbaijan Railways. On the TRACECA route, all the cargo in Poti that is destined for Baku, Tbilisi or Eastern Georgia and Central Asia is taken to Tbilisi by train for further redistribution. A single train would often carry between 52-64 wagons or railcars of different type. This means that if the train has not reached its maximum carry load, it will stop in every regional station (i.e. Samtredia, Kutaisi, Zestafoni, Khashuri), where additional wagons would be manually attached to the train. Moreover, because both in Azerbaijan and Georgia the trains, wagons and platforms are old, their brakes are frequently checked, which takes additional time. Hence, a distance of about 300 km from Poti to Tbilisi is covered only in 10-12 hours.
In Tbilisi, the freight is redistributed, and wagons and containers for Baku or Central Asia are taken to Azerbaijan in a separate train. This is generally a day-long procedure, and a regular freight train service cannot cross the Azerbaijan-Georgia border in less than two days. Only special shipments (i.e. NATO containers for Afghanistan) are able to cross the border in less than 2 days, but even they cannot get to the Port of Baku in less than 4 days. Like in Georgia, in Azerbaijan trains with general cargo may stop en route at Ganja and other cities before reaching a major shunting station at Bilajari, near Baku. Here the cargo is once again sorted and distributed, which takes an additional day.

Average rail speed also impedes speedy delivery of cargo. The old rail infrastructure in Azerbaijan and Georgia means that trains are frequently forced to slow down to make turns, cross bridges or pass through residential areas. Particularly in Azerbaijan, where the quality of railway track is considerably lower, trains are forced to slow down at a number of unmanned road crossings where the train's speed gets down to 5 km/h, and also to avoid derailments that could cause oils spills. In 2010, the average speed of freight trains was 29.1 km/h in Azerbaijan, 30-35 km/h on Georgia's Poti-Tbilisi section and 25-30 km/h between Tbilisi and Gardabani (Azerbaijan-Georgia border). By contrast, intermodal trains in North America have an average commercial speed of 51-52 km/h. In addition to a freight transportation, trans-regional passenger trains between Azerbaijan and Georgia have frequent stops and passport control procedures at the border, sometimes lasting for up to 3 hours.

Both the Azerbaijani and Georgian governments are investing in the modernization of national railway networks, and will soon be able to reduce the travel time for journeys between Baku and Poti or Tbilisi. Some of the abovementioned issues, especially with respect to the railway traffic, are addressed through the State Program on Improvement of Railway Systems in 2010-2014, signed by President Aliyev on 6 July 2010. It aims to increase the competitiveness of ADY and help the company rebuild its outdated fleet. This document highlights the railway sector’s short- and mid-term objectives and investment schemes up until 2014. If it is adhered to, this program will eliminate the majority of the outstanding issues in the railway sector and bring the country’s railway system up to international standards. Specific actions include: the ADY will be subject to further corporatization reforms in order that it can adequately respond to the demands of the market economy, and prepare for increased traffic via Azerbaijan; the railways along the TRACECA and the NSTC routes will be modernized; the electric lines will be upgraded to a 25 kV alternate constant current; and the ADY fleet will be substantially renovated (by rehabilitating existing wagons, tank cars, depots and more than 50 locomotives, and by purchasing additional 50 AC electric locomotives, tank cars for oil, dry cargo wagons and new equipment).

As far as the Georgian segment of the railways is concerned, under new regulations the length of a freight train in Georgia will not exceed 35-40 wagons, which will speed up the transit time and avoid frequent stops. The Georgian Railways LLC has implemented several rail improvement initiatives, including the “Tbilisi Railway Bypass project” and “Batumi to Tbilisi - in 3 hours”. In January 2012, the Georgian Railways completed the
modernization of some segments of its railways connecting Tbilisi to Poti and Batumi. The upgrades currently allow passengers to travel between Tbilisi and Poti in 4 hours 45 minutes, and between Tbilisi and Batumi in 5 hours 15 minutes, with the aim to reduce the duration of the trips to 3 hours by July 2013. However, to become a reliable, fast, and cost-effective section of the TRACECA corridor, the Poti-Baku rail link should be viewed as a single, uninterrupted route. This requires freight express block train services that can go between Poti and Baku in under 20 hours. The long-term aim should be a high-speed rail freight service that can complete the journey in fewer than 12 hours.

The new high-speed rail links between the United Kingdom, France and Italy could serve as a model for long haul rail freight operation. In January 2011, a container freight company, DFDS, ran its first 28 platform train from Daventry (UK) to Novarro (Italy). This 1,427-km long journey starts in the UK, crosses into France via the Channel Tunnel, goes through Switzerland, and finishes its journey in Italy. The total journey time is approximately 32 hours 22 minutes, which includes three locomotive changes as well as stops at the border crossings. Without temporary and procedural stops, the train's average speed is over 50 km/h for the entire route (the speed through the Channel Tunnel goes up to 120 km/h). Despite the length of the journey, DFDS offers competitive rates. Shipping a 20 ft container from the UK to Italy would only cost about €928 one-way. For further examples of high-speed freight infrastructure, one can look to the multimodal freight train between Scotland and Paris, which covers just over 900 km in less than 9 hours, traveling at an average speed of 121 km/h (excluding stops). The US passenger carrier AMTRAK briefly offered a coast-to-coast express freight service for express cargo. This service took just 66 hours to cover some 5,000 km, compared to the 5-6 days needed by trucks. The travel speed was between 125 and 145 km/h.

To achieve such efficiency, Azerbaijan, and other regional countries, should realize further progress in transforming their state-owned rail companies into commercially viable entities and allow private operators, which could share the cost of rail stock, maintenance, and operation. In the short term, Azerbaijan, Georgia and Turkey should consider improving the efficiency of their railway infrastructure, railway operators and general rail operations. These countries should adopt a common rail strategy on transit tariff policy, offering a single fee for shipments between Azerbaijan, Georgia and Turkey. The involvement of private companies should be encouraged. Private investment would make the use of railway stock more efficient, in addition to distributing operation costs, currently the exclusive burden of ADY. Azerbaijan, Georgia and Turkey also need to improve passenger transportation. Currently, rail passengers traveling between Georgia and Azerbaijan spend 17 hours on the train, including a 2-3 hour wait at the border for passport control. The introduction of a Baku-Tbilisi express passenger train (using the current rail tracks) could reduce this time and make the journey a much more attractive option. In line with Eurostar practice (London-Paris-London), passport control could be completed prior to the departure of the train in Baku or Tbilisi.

* Spain’s newly reformed state-owned company, RENFE, provides a useful model for the restructuring of ADY.
The long term development vision should include the separation of freight and passenger rail tracks along TRACECA, by allowing private or public-private joint ventures to construct and operate a new rail expressway (using a standard European gauge) linking Azerbaijan, Georgia and Turkey. This would open up new opportunities for high-speed passenger and freight transportation in Central Eurasia. Given low passenger turnover and low levels of container and non-oil cargo traffic, this might seem premature. However, it is never too early to consider potential innovations and start planning in advance; the future of overland freight and passenger transportation lies in intermodal trains and high-speed railways. On the eastern shore of the Caspian, China already has plans to extend its massive and rapidly growing high-speed rail network to connect Urumqi in the North-West province of Xinjiang with Kyrgyzstan, Kazakhstan, Uzbekistan and Turkmenistan. Azerbaijan, Georgia and Turkey can lead efforts on the western shore of the Caspian.

Last, but not least, Azerbaijan and other countries along TRACECA need to address the issue of rail transport interoperability. There are currently two different legal regimes that governing international rail transport between Europe and Asia. These are CIM (Uniform Rules concerning the Contract of International Carriage of Goods by Rail), used mostly in Europe, and some parts of Middle East and North-West Africa, and SMGS (Agreement on International Freight Traffic by Rail), applied primarily in the CIS and China. Both legal regimes are exercised during preparation of a consignment note (i.e. shipping document). Although there are some countries that accept both CIM/SMGS systems, including Albania, the Baltic States, Bulgaria, Hungary, Iran, Poland, and Ukraine, the majority of countries use only one of the two. Hence, if cargo is shipped from a SMGS country (i.e. China) to a CIM country (i.e. Germany), the carrier has to prepare two consignment notes – one for the SMGS country and another one for the CIM country – essentially writing the same information twice and delaying the shipment time. More recently, the International Rail Transport Committee (CIT) and the Organization for the Collaboration between Railways (OSJD) have jointly developed a common electronic CIM/SMGS consignment note, which is the first step towards a single legal regime for Euro-Asian transportation.

The North-South Transport Corridor (NSTC)

The North-South Transport Corridor is another ancient route that has connected the South Asia with North Europe for centuries. Historically, this route was used by European, Russian, Indian, and other foreign traders. Between the late seventeenth and early eighteenth centuries, Indian traders became dominant players in the North-South trade. Under the Safavid dynasty (1501-1722), the number of Indian traders scattered across the empire ranged from 10,000 to 20,000. The territory of present day Azerbaijan hosted a number of caravanserais dedicated to Indian traders, especially along the route from Ardabil (Iran) to Shemakha and Baku. In the late seventeenth century, up to 200 Indian merchants lived on the outskirts of Shemakha, which was at the time Azerbaijan’s main trading hub, with 20 Indian caravanserais in the city as of 1703. Baku, too, hosted Indian merchants who exported Azerbajani silk. These traders played an important role in managing the commerce between Russia and South East Asia through the territory of present day Azerbaijan and
Iran. Today, in the middle of Baku’s Old City, there stands a Mogul caravanserai, a legacy of the once active North-South trade with India.

The cities of historical Azerbaijan exported a diverse range of products along the North-South axis and also acted as a major ‘hub and spoke’ center for the region. Silk, oil, salt, fish, horses, jewelry, and natural dyes were among Azerbaijan’s main export products to Europe, India, the Middle East, and Central Asia. These goods were transported by land and by sea (the Caspian). Records show that in 1639, a group of Indian merchants sailed from Astrakhan to Derbent (Republic of Dagestan, Russia) and Shemakha carrying Russian goods such as animal fur, fur coats, leather, cloth, copper, and caviar. From Shemakha, the goods were usually taken by caravans overland to India via present-day Afghanistan or to the port of Bandar Abbas in Persian Gulf from where they were carried by ship to the Port of Surat in India.

The agreement to establish the modern-day international North-South Transport Corridor (NSTC) was first signed between Russia, Iran, and India in Saint Petersburg in 2000. Subsequently, Azerbaijan, Armenia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkey, Ukraine, Belarus, Oman, Syria and Bulgaria (as an observer) joined the agreement. Azerbaijan officially joined the project in September 2005. The NSTC’s original route was designed to utilize the Russian and Iranian ports in the Caspian Sea while crossing from Russia to Iran, particularly the ports of Astrakhan and Ola in the north and Anzali and Amirabad to the south. As new members joined the agreement, two alternative land-based routes were added. Currently, there are three alternative transport routes in the NSTC.

The first and original route is the central NSTC route that starts in Helsinki, Finland and goes through St. Petersburg to the Russian Caspian ports of Astrakhan and Ola, at which point it crosses the Caspian Sea to the Iranian ports in the south Caspian (primarily Anzali and Amirabad, but also Nowshahr). From Iran, the route continues to India through Iran's Persian Gulf ports of Bandar Abbas (Shahid Rajaee SEZ) and Chabahar. There is also a possible land-based route from Iran to India across Pakistan, but this option is unlikely to be used in the short term. The second or the western NSTC route traverses along the western shore of the Caspian Sea crossing Azerbaijan and going to Iran and India. This is potentially the fastest and shortest land-based route linking St. Petersburg and Helsinki to Bandar Abbas by road and rail. However, it has a missing rail link between Azerbaijan and Iran (the Qazvin-Rasht-Astara segment), which will be discussed in detail later. The third, eastern, NSTC alternative goes across Russia, Kazakhstan and Turkmenistan along the eastern shore of the Caspian Sea to Iran and India (with possible extension to Afghanistan and Pakistan). This route has until recently had a missing rail link between Kazakhstan, Turkmenistan and Iran, which was completed in 2011.

All three alternative routes are intermodal, which is to say they use more than one type of transport mode for cargo shipments. For example, a container loaded in Mumbai, India

---

* The term “Port of Bandar Abbas” encompasses the Port of Shahid Rajaee, as it is now known in Iran. A few years ago the Iranian government gave the port of Bandar Abbas Special Economic Zone (SEZ) status, requiring shippers to indicate “Shahid Rajaee SEZ” next to the Bandar Abbas name.
arrives at the port of Bandar Abbas on a ship, from where it is transported to the Iranian ports on the Caspian by rail or by truck. Once it arrives, the container is taken by ship across the Caspian Sea to the Russian ports of Astrakhan or Ola. There, the container is loaded back on rail or truck and transported to its final destination. Since there is no rail connection between Azerbaijan and Iran, container transfers via Azerbaijan are possible only by truck-rail arrangement, whereby a container is taken to Astara city (Azerbaijan) by truck and then transferred to rail track and sent to Russia/Northern Europe. This is an expensive option, which is why it is not currently used. It takes approximately 7 to 10 days (5-7 days with 2 drivers) for a loaded truck to arrive in Baku from the Port of Bandar Abbas and costs about $2,400.55

The current annual container trade between Europe and countries of the Middle East and South Asia is estimated at 3.5 million TEU. The NSTC’s goal is to capture some of this market and take cargo overland via Iran, the South Caucasus/Caspian Sea/Central Asia, and Russia. In order to achieve this, the NSTC first needs to become a reliable, speedy, and cost-effective intermodal land and transport bridge between the markets of Russia/Northern Europe and India/South Asia. This in turn is conditional on the willingness of the founding members, Russia, Iran and India, to use this route in their freight operations and on the successful integration and harmonization of transport networks in the countries along the route. Experts have long argued that the NSTC will cut the delivery time of cargo from Mumbai to Northern Europe/Russia to 17-19 days, dramatically shorter than the 28-42 days required for traditional ocean shipping via the Suez Canal and the Mediterranean Sea.

In 2008, while preparing the feasibility report on the western NSTC route via Azerbaijan, the International Union of Railways (UIC) conducted a simulation study. For the study, experts measured the distance and transit time for a loaded container from Delhi, India to Helsinki via the proposed NSTC route, assuming that the Azerbaijan-Iran rail segment was up and running. According to these findings, it would take about 19 days and 20 hours to ship a container from Delhi to Helsinki, and 17 days and 13 hours from Mumbai to St. Petersburg (Table 7). This is considerably shorter than the alternative route via the overcrowded Suez Canal and the Mediterranean Sea. Nonetheless, out of the 19 days and 20 hours, terminal transshipments and border crossings reportedly took 7 days and 18 hours, or 39% of the total transit time, which is a significant disadvantage for the NSTC. Moreover, the delivery time is only one component of freight operations, and the shipment cost is often more important than the length of voyage.

Rail transportation may be ‘greener’ than other modes of transportation, but it is also more expensive. A rail line traversing 6,000 km is bound to be expensive, unless the rail operators of Azerbaijan, Russia and Iran take special measures to lower transit tariffs and provide additional incentives for freight forwarders to use this route. If the NSTC is to be a competitive corridor that can attract major shipments between Europe and Asia, particularly from India, the NSTC countries (especially Azerbaijan, Russia, and Iran) should

* A direct sailing in 18 knots from Mumbai to Rotterdam has duration of 15 days. But due to the sailing schedules a normal trip takes from 24 to 31 days. From Rotterdam to St. Petersburg, the normal duration is one day. The dwell time in Rotterdam (the time the container stays at the port) is from 3 to 10 days, which means that shipping from Mumbai to St. Petersburg usually takes (24-31 + 3-10 + 1) 38-42 days (Courtesy of Stig Nerdal, UIC expert).
work together to establish a unified approach for the reduction of rail tariffs, streamlining of customs procedures, minimization of border delays, and the speedy shipment of cargo from Bandar Abbas to St. Petersburg. They should view the NSTC as a single supply chain rather than various individual components of national rail networks.

The NSTC's chance to become a preferred option for cargo transportation (at least between member states) will increase as trade between the NSTC members grows. In 2010, the trade turnover between Russia and India was $4.5 billion, and $3.7 billion between Russia and Iran. Both Russia-Iran and Russia-India trade were dominated by Russian exports, accounting for 94% of total bilateral trade for Iran and 79% for India (2009 figures). Although the initial goal of increasing bilateral commerce between Russia and India to $10 billion by 2010 was not realized, due to the slowdown in global economic activity in 2008, the parties have recently set a new target of $20 billion by 2015. The increased Russian-Indian trade is important for the long-term viability of the NSTC, since most of the goods traded between the two countries could be shipped via the NSTC. Russia's annual exports to India are estimated at 20 million tons. In 2008, Russia exports to India consisted of power station equipment, fertilizers, chemical products, minerals, plastic goods and wheat. Imports from India were mainly machinery and pharmaceutical goods - the latter accounts for 4.1% of Russia's total pharmaceutical market.

Trade between Iran and India reached $14 billion in 2010, up from $12 billion in 2009. About 90% of this trade, however, is made up of Iran's oil exports, $12 billion in 2010. India imports about 21 million tons of crude (about 400,000 bpd) from Iran annually. The countries plan to double their current bilateral trade to $30 billion by 2015. Iran is also interested in creating more favorable conditions for India to access the CIS market via Iranian territory. Annual shipments of goods from India to Russia are estimated at 5 million tons. These are shipments that currently bypass the NSTC.

India is key to the long-term success of the NSTC. Its rapidly growing trade with European and Scandinavian countries presents a valuable opportunity to the NSTC. Indian exports
to the EU-27 have increased from about $8.8 billion in 1996 to $40 billion in 2008-2009.* India’s total trade with the EU-27 was $82 billion in 2008-2009, before decreasing to $75 billion in 2009-2010. Trade with five Scandinavian countries was $6.6 billion in 2008-2009 and $5.6 billion in 2009-2010 (Figure 11). The dynamic of this trade was driven by India’s imports from Norway, Finland and Sweden, which accounted for 65% of the total trade with Scandinavian countries in 2008-2009 and 62% in 2009-2010.

Figure 11: Indian Trade with Scandinavian Countries (2008-2009/2009-2010) (in mln $)

<table>
<thead>
<tr>
<th>Country</th>
<th>2008-2009</th>
<th>2009-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iceland</td>
<td>16.23</td>
<td>16.10</td>
</tr>
<tr>
<td>Norway</td>
<td>1,514.40</td>
<td>1,136.26</td>
</tr>
<tr>
<td>Denmark</td>
<td>1,061.11</td>
<td>1,172.79</td>
</tr>
<tr>
<td>Finland</td>
<td>1,484.53</td>
<td>1,219.02</td>
</tr>
<tr>
<td>Sweden</td>
<td>2,519.19</td>
<td>2,066.77</td>
</tr>
</tbody>
</table>

Source: Ministry of Commerce and Industry, Government of India

Indian trade with Central Asian countries was about $519 million in 2008-2009, and $482 million in 2009-2010. Trade with other CIS countries (excluding Azerbaijan) and the Baltic states of Estonia, Lithuania and Latvia was $8.7 billion in 2008-2009 and $7.4 billion in 2009-2010. Of this, trade with Russia and Ukraine alone made up 85% in 2008-2009 (63% and 22% respectively) and 87% in 2009-2010 (62% and 25% respectively). Indian experts predict that by 2015, India’s combined trade with the EU-27, CIS, Iran, Afghanistan and Pakistan could reach $600 billion. Goods from India destined for Northern Europe and Russia could potentially enter from the Iranian ports of Bandar Abbas and Chabahar, and travel to their final destinations along one of the three NSTC alternatives.

Another longer term option would be to use existing and potential highways and railways through Afghanistan to connect Central Asia with Pakistan and India. By road, the distance from Almaty to the Bandar Abbas port of Iran is more than 4,000 km, while the distance from Almaty to Islamabad is 1,790 km; 3,240 km to Port of Karachi; 2,590 km to New Delhi; and 3,940 km to Calcutta.

As far as Azerbaijan’s commercial relations within the NSTC are concerned, Azerbaijan-Iran bilateral trade is relatively low (about $500 million), but the two states envisage an increase to a $10 billion in the near future. The trade turnover between Azerbaijan and Russia, on the other hand, was $1.9 billion in 2010, of which $774 million were exports to Russia.

---

* The Indian financial calendar runs from April to March. Therefore, the data for 2008-2009 covers the period from 1 April 2008 till 31 March 2009 and the data for 2009-2010 covers the period from 1 April 2009 till 31 March 2010.
and $1.1 billion were imports to Azerbaijan. Russia has been rated among Azerbaijan’s top three foreign trading partners over the last 6 years (2nd in 2010). Trade with India hit the $2.5 billion mark in 2008, but this was largely due to India’s increased imports of Azeri oil that year, which accounted for more than $2 billion of the total trade. In 2009, the trade was about $322 million, increasing to just over $330 million in 2010. Azerbaijan’s other important NSTC trading partner was Ukraine, which imported $889 million worth of goods from Azerbaijan (mostly oil) and exported goods worth $465 million.

The annual trade turnover of Iran with the Central Asian republics is about 3.5 million tons. The volume of goods shipped by Central Asian republics to the Persian Gulf via Iran is estimated at 1.5 million tons. In 2008, Kazakhstan trade with Iran was $3 billion and Iran ranked second among Turkmenistan’s foreign trade partners. With the construction of the Kazakhstan-Turkmenistan-Iran rail link, annual trade turnover along the NSTC is expected to exceed 20 million tons in the medium term. Some Russian experts claim that Iran could earn as much as $100-120 million for each 1 million ton of transit cargo passing through its territory via the NSTC.

Today, the total cargo traffic along the NSTC is estimated at 6 million tons (though it reached 10.2 million tons in 2004), of which more than 90% is Russia-Iran trade. Most of this trade is conducted through the Russian and Iranian Caspian ports, while the volume transiting via the western land route through Azerbaijan is considerably smaller, accounting for only about 1 - 3% of the total trade. For example, in 2007, the total export of Russian goods to Iran accounted for 5.5 million tons, while Russia only imported 34,000 tons of Iranian goods. In general, Russian exports consisted mainly of ferrous metals, timber, minerals, charred coal, and petroleum products. Iranian imports are primarily non-ferrous materials and food products.

In the first half of 2010, the volume of cargo shipments between Russia and Iran along the NSTC reached 3.2 million tons, of which 2.1 million (66.1%) were Russian exports, 190,000 (5.9%) Russian imports, and 900,000 (28%) transit shipments. Almost all of this trade was conducted via maritime transportation in the Caspian Sea. The majority of exports are transported by ship from Astrakhan and Ola to the Iranian ports of Anzali and Amirabad, thereby bypassing Azerbaijan. Hence, while the potential of Azerbaijan as a transit country is great, the country is not currently a significant transit location along the NSTC, at least for Russian goods destined for Iranian or the Middle Eastern markets.

The Western NSTC Route

Azerbaijan acts as a key land bridge between Russia and Iran on the western NSTC route. This route connects the rail and road networks of Russia, Azerbaijan and Iran along the western shore of the Caspian Sea. It is the shortest and potentially the fastest land-based corridor, in comparison to the other 2 NSTC routes.
The western NSTC route: Highways

In 2010, Azerbaijan opened a section of a modern highway linking the capital city of Baku to Samur, at the Azerbaijan-Russia border. The total length of the Baku-Samur section (M1 road) is 208 km, and there is only a 56 km section that remains unfinished. This 4 lane asphalt-concrete surface highway will be completed in 2012. It will also have a new M1 extension to Yalama, which will shorten the distance between Baku and the Azerbaijan-Russia border by 10 km. Additionally, in 2010, a Baku bypass road was completed, allowing transit cargo trucks and freight to move in the North-South direction without entering the city. Additional work is currently being carried out in the 'Southern Road Corridor', a 243-km section between Alyat and Astara (M3). The Asian Development Bank (ADB) completed a number of studies on this road in 2005 and 2006, including a feasibility and technical assessment. A 221-km long segment of the Alyat-Astara highway is currently being modernized and the construction is jointly financed by the Azerbaijani government and international organizations. Once completed, the entire route from the Azerbaijan-Russia border to the Azerbaijan-Iran border will meet international standards, enabling fast and comfortable transit along Azerbaijan's segment of the NSTC.

Azerbaijan has two main border crossing and customs check points along the western NSTC route: Samur in the north (Azerbaijan-Russia border) and Astara in the south (Azerbaijan-Iran border). At the moment, the Yalama border crossing point is mostly used for rail traffic, but it will soon be linked to the main M1 highway to Baku. The car and cargo traffic through Astara and Samur border crossings has increased significantly over the past few years. Today, the Astara border crossing point with Iran is the busiest and largest in the country, in terms of volume of cargo transported by trucks. In 2010, this border processed a greater volume of truck and motor vehicle transported cargo (in tons) than the Red Bridge border crossing with Georgia, which is the main gateway for East-West traffic. More than 66,500 trucks crossed the Azerbaijan-Iran border in 2010, carrying 1.3 million tons of cargo. About 37% of this cargo was transit freight. On the other hand, more than 68,400 trucks crossed the Azerbaijan-Georgia border, transporting just 945,000 tons of freight, only 13% of which was transit cargo. Another 39,000 trucks crossed the Azerbaijan-Russia border, transporting approximately 710,000 tons of cargo, including 33% of transit freight.

The cargo turnover at the Astara border crossing point was dominated by imports (with over 43,200 trucks carrying 700,000 tons; 54% of total turnover), followed by transit freight (18,950 trucks; 480,000 tons; 37%) and exports (4,400 trucks; 120,000 tons; 9%). Around 245,000 tons of transit cargo (51%) was registered as outgoing transit, while 215,000 tons (49%) counted as incoming transit. Meanwhile, most of the freight processed at the northern Samur crossing consisted of exports (13,500 trucks; 307,500 tons; 43%), with the rest made up of transit cargo (12,110 trucks; 232,000 tons; 33%) and imports (13,200 trucks; 170,000 tons; 24%).

As demonstrated by the transit cargo statistics for the Samur and Astara border crossing points, the western NSTC route is underutilized. The main reasons for this are high transit
costs, delays at the border, national restrictions on the number of trucks permitted to enter a country, as well as general difficulties encountered by truckers when crossing the Azerbaijan-Russia and Azerbaijan-Iran borders, and while traveling through Azerbaijan. The lack of proper logistics services at border points and in the country exacerbates existing problems with transit time (this issue will be discussed in length under Logistics section). Given these considerations, with the completion of the North-South highway linking Samur and Astara, Baku needs to develop a strategy that would transform this road into NSTC’s most reliable, most cost-effective, most comfortable and fastest trans-Azerbaijan highway.

**Figure 12: Trucks and motor vehicle cargo traffic at Azerbaijan’s main border crossing points in 2010 (in tons)**

![Traffic Chart](chart12.png)

*Source: State Customs Committee of Azerbaijan*

**Figure 13: The number of trucks crossing Azerbaijan’s main border crossing points in 2010**

![Truck Traffic Chart](chart13.png)

*Source: State Customs Committee of Azerbaijan*
The western NSTC route: Railways

Under the Soviet Union, more than 3 million tons of freight per year were transported by rail to Iran and the Middle East via Azerbaijan. The city of Julfa, which is situated at the Azerbaijan-Iran border in Azerbaijan's exclave autonomous republic of Nakhichevan (NAR), acted as a major logistics center for the region, and was the biggest hub in the NSTC. About 150 trains passed through Julfa to Iran every day, carrying about 270,000 tons of cargo. The Soviet wagons and containers did not travel far into Iran, but were unloaded and reloaded just across the Azerbaijan-Iranian border, in the Iranian Julfa – a city with the same name as Azerbaijan's Julfa, just across the border. Distribution of goods within Iran and further transit was mainly carried out by Iranian logistics companies.

To reach Julfa in the NAR, the Soviet railway had to travel across a small strip of Armenian territory. During the war between Armenia and Azerbaijan in the 1990s, this rail link was destroyed, and could no longer be used for the North-South cargo transit. Furthermore, Armenian occupation of parts of south-west Azerbaijan meant that Azerbaijan lost 240 km of its national railway network, including a 132 km rail segment that runs along the Azerbaijan-Iran border. Today, all the railways in the occupied territories have been looted, and the tunnels blocked. While rebuilding the Baku-Armenia-Julfa section of the railway may be relatively easy in practical terms, the fate of this railway, or what is left of it, is dependent on the resolution of the Nagorno-Karabakh conflict between Armenia and Azerbaijan.

Once it was cut off from the main rail networks along the NSTC, Julfa’s significance as a transit hub diminished, and so did Azerbaijan’s importance as a rail transit country. Russia’s total railway cargo exchange with Azerbaijan, Turkey and Iran was 32.3 million tons in 2007, 26.1 million tons in 2009, and 17.4 million tons for the first eight months of 2010. Azerbaijan’s share in this cargo exchange with Russia has remained steady, at about 20%; Iran’s at 17%. According to official statistics from ADY, Azerbaijan’s total rail cargo traffic along the NSTC was about 5.7 million in 2010, which accounted for 25% of the total rail cargo carried by ADY in 2010. Of this, 4.8 million tons were incoming cargo (92% imports, 8% transit) and 859,600 tons (95% exports, 5% transit) were outgoing cargo. Transit cargo destined for or originated from Iran was negligible. The majority of Russian rail cargo for Iran is transported via ships across the Caspian Sea, rather than by rail via Azerbaijan, primarily due to the lack of a rail connection between Azerbaijan and Iran.

Discussions on the construction of a rail link between Azerbaijan and Iran through Astara began in the 1990s, but the political and geopolitical considerations of the 1990s meant that Russia and Iran prioritized the development of the central NSTC route via the Caspian Sea, effectively bypassing Azerbaijan. Only in the mid-2000s did the parties realize that a rail link between Azerbaijan and Iran was crucial, given that it is the shortest and most viable alternative among all the NSTC routes. Yet its construction has been delayed due to geopolitical rather than financial considerations.
The western NSTC railway route from Helsinki to Azerbaijan ends 8 km short of the Azerbaijan-Iran border, and then re-starts in Qazvin, Iran and continues all the way to Bandar Abbas port in the Persian Gulf. Of the missing 375 km along the Qazvin-Rasht-Astara (Iranian)-Astara (Azerbaijani) section, 367 km is in Iran, including 195 km between Qazvin and Rasht and 172 km between Rasht and Astara (Iranian). The remaining 8 km would be constructed in Azerbaijan, between Astara (Azerbaijani) to the Azerbaijan-Iran border.

Experts consider the western NSTC rail route as the best option for Euro-Asian railway transportation in the long term, particularly between Northern Europe and South Asia.\(^91\) The annual freight traffic of the planned NSTC railway via Azerbaijan is estimated at 9 million tons by 2015, and 20 million by 2030.\(^92\) It is believed that with the construction of the Qazvin-Rasht-Astara railway, delivery time will be reduced by 50%, and transportation costs by 30%, in comparison with alternative routes.\(^93\)

The 2008 feasibility study by Russian Railways estimated the construction costs of the Rasht-Astara segment at $408 million. The project proposed a JV between Russian, Iranian and Azerbaijan railways, to invest in, build, and operate the Qazvin-Rasht-Astara railway. On 8 February 2011, the heads of Azerbaijani, Russian, Iranian and railways signed a trilateral agreement, establishing a JV to build and operate this rail link. The parties also agreed on the electrification of the Qazvin-Rasht-Astara railway. Two additional MoUs were signed between Iran and Azerbaijan and Iran and Russia.\(^94\) According to the agreement, the Rasht-Astara railway will be constructed through the build-operate-transfer (BOT) scheme, which will be valid for 15 years. The $408 million investment required for the project will be provided by the national banks of the three countries, along with other regional banks, mostly Russian.\(^95\) A Russian-Iranian MoU calls for closer cooperation between the two countries on railway construction and technical support and electrification of Tehran-Bandar-Abbas railway link by the Russian side.\(^96\) Despite all these developments the construction schedule of this rail connection is uncertain and likely to be affected by geopolitical considerations of actors involved, mainly Iran and Russia.

The Eastern NSTC Routes

The eastern land segment of the NSTC lies along the eastern shore of the Caspian Sea, crossing Kazakhstan, Turkmenistan and Iran. As with the western NSTC route, this land corridor also has a Soviet railway connecting Kazakhstan to Iran via a longer route through Uzbekistan and Turkmenistan. Due to frequent problems at the border crossing points in Central Asian countries, moving cargo by rail from North to South has not been a preferred option. In 2007, Kazakhstan, Turkmenistan and Iran proposed building a railway connection from Uzen (Kazakhstan) to Kizylkaya-Bereket-Etrek (Turkmenistan) to Gorgan (Iran), to run along the eastern shore of the Caspian Sea. It will be 600-700 km shorter than its Soviet counterpart. The total length of the proposed rail link is 951 km (146 km in Kazakhstan, 723 km in Turkmenistan, and 82 km in Iran).\(^97\) The railway was completed in December 2011.

In March 2010, an Iranian company, Pars Energy, started the construction of the 257km segment of the Turkmen railway between Bereket and Etrek stations and the Turkmen-Iranian border.
The construction of this segment is being funded by the Iranian side, thanks to a loan from the Islamic Development Bank (IDB) and long-term credit from Pars Energy. The total cost of this segment will reach $696 million, including the cost of a planned locomotive depot near the Etrek station. The 466 km northern segment between Bereket and the Turkmen-Kazakh border is being built by the Ministry of Railway Transport of Turkmenistan. The cost of the Kazakh and Iranian sections of the railways are $430 million and $185 million, respectively.99

From Gorgan, the railway links up with the main Iranian track going to the Port of Bandar Abbas. The Iranian government has recently given the green light for a new rail project to connect Gorgan with Mashhad (in the east), going from there directly to the Port of Chabahar. A 1,350 km railway project to link Mashhad and Chabahar began last year. The financing for the Mashhad-Gorgan line was approved in December 2010, and construction is expected to start soon.100

It is estimated that initially, the Uzen-Bereket-Gorgan railway will handle 3-5 million tons of cargo per year, gradually increasing to 10 million tons by 2016.101 Iran’s annual trade turnover with Central Asian countries is estimated at 3.5 million tons, most of which is crude oil. In addition, every year approximately 1.5 million tons of cargo is shipped from Central Asia to the Persian Gulf via Iran.102 The Uzen-Bereket-Gorgan line will allow Iran to import goods and mineral resources from Russia, Kazakhstan and Turkmenistan more cheaply. It will also enable Russia, Kazakhstan, and Turkmenistan to access the Persian Gulf by rail more directly. Kazakhstan in particular, is interested in using this railway to export its grain to Iran and other Persian Gulf and North Africa buyers. Compared to transporting grain by road, which has been the least efficient means of getting grain to the Persian Gulf,103 the railway will be quicker and cheaper.

A comparison of the western and eastern NSTC rail routes suggests that the eastern NSTC route from Kazakhstan to Iran via Turkmenistan is ahead of its counterpart, since it has already been completed, while the construction schedule of the Qazvin-Rasht-Astara railway is not yet confirmed. Currently, these two rail links are not in direct competition as they serve different markets. On the other hand, the Uzen-Bereket-Gorgan railway may face competition from other rail routes going from China to the Persian Gulf, and from the Caspian maritime routes going from Russian ports to Iran via the central NSTC. Azerbaijan’s hub strategy depends on the effective use of the NSTC as much as the East-West corridors. Hence, Baku should facilitate the construction of the railway linking Astara (Azerbaijan) and Rasht (Iran), as this would lay the foundation of the future intermodal land-based North-South supply chain from India to Europe.

**Maritime Transportation and Caspian Ports**

Since Azerbaijan does not have a land border with any of the Central Asian states, maritime transportation via the Caspian is of key strategic importance. Azerbaijan is also a landlocked state and its access to the Caspian Sea makes it necessary to develop intermodal transport infrastructure integrating the sea and land transport modes. It acts as a sea bridge linking Europe and Asia, and provides a crucial multimodal junction in the supply chain along the
TRACECA route. As such, maritime transportation via the Caspian Sea affects the entire Euro-Asian supply chain via Azerbaijan.

The Caspian Sea is the largest inland sea in the world. It is surrounded by five littoral states: Azerbaijan, Iran, Kazakhstan, Russia, and Turkmenistan. These countries are the main maritime traders in the Caspian region. There are ten major ports in the Caspian Sea, not including the region’s smaller ports: four belong to Iran (Anzali, Amirabad, Neka, and Noshahr), three to Russia (Astrakhan, Makhachkala, and Ola), and one each to Azerbaijan (Baku), Kazakhstan (Aktau) and Turkmenistan (Turkmenbashy). In addition to bilateral trade, the great proportion of trans-Caspian trade consists of transit shipments of oil and petroleum products. More than 80% of cargo processed at Azerbaijan’s Caspian ports and terminals is made up of transit goods. According to official statistics, 11.7 million tons of cargo were shipped via ports and terminals of Azerbaijan in 2010, of which 9.5 million tons were transit shipments.104

In 2010, the Caspian ports together handled a total of 56.4 million tons of cargo (Table 8), of which 11.7 million tons (21%) was processed by Azerbaijan’s ports and terminals. Kazakhstan’s port of Aktau processed the most Caspian cargo, 23% of total Caspian cargo traffic, followed by Azerbaijan and Iran (21% each), Russia (19%) and Turkmenistan (16%). Trade was dominated by oil and petroleum products, which together exceeded 31 million tons, more than 55% (65% not including the Iranian ports) of the total Caspian cargo exchange. About 16 million tons of non-oil cargo (63% of total non-oil cargo) was transported in the North-South direction between Russian (24%) and Iranian (39%) ports. The three ports of Azerbaijan, Kazakhstan, and Turkmenistan processed only about 9.3 million tons (37%) of non-oil cargo, against 24 million tons (77%) of oil and petroleum products.

<table>
<thead>
<tr>
<th>Ports</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astrakhan</td>
<td>3,674</td>
<td>4,000</td>
<td>5,009</td>
</tr>
<tr>
<td>Makhachkala</td>
<td>6,400</td>
<td>5,274</td>
<td>5,000</td>
</tr>
<tr>
<td>Ola</td>
<td>892</td>
<td>775</td>
<td>800*</td>
</tr>
<tr>
<td>Aktau</td>
<td>11,300</td>
<td>13,951</td>
<td>12,814</td>
</tr>
<tr>
<td>Baku</td>
<td>5,385</td>
<td>5,131</td>
<td>5,672</td>
</tr>
<tr>
<td>Azerbaijan’s Other Ports &amp; Terminals</td>
<td>6,513</td>
<td>8,100</td>
<td>6,042</td>
</tr>
<tr>
<td>Turkmenbashy</td>
<td>8,409</td>
<td>8,684</td>
<td>8,960</td>
</tr>
<tr>
<td>Anzali</td>
<td>4,999</td>
<td>6,578</td>
<td>6,909</td>
</tr>
<tr>
<td>Amirabad</td>
<td>998</td>
<td>1,858</td>
<td>2152</td>
</tr>
<tr>
<td>Nowshahr</td>
<td>1,474</td>
<td>1,468</td>
<td>1241</td>
</tr>
<tr>
<td>Neka</td>
<td>4,111</td>
<td>4,908</td>
<td>1,828</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54,155</td>
<td>60,727</td>
<td>56,427</td>
</tr>
</tbody>
</table>

Source: Table compiled by the author based on the available data from Ports of Baku (Azerbaijan); Aktau (Kazakhstan); Astrakhan, Makhachkala, and Ola (Russia); Turkmenbashy (Turkmenistan); Anzali, Amirabad, Nowshahr, and Neka (Iran).

* The Port of Ola’s annual cargo throughput for 2010 is an estimate based on available data from the first six months.
Caspian Sea shipping is done by fleets from each of the five littoral states. The Caspian Shipping Company of Azerbaijan Republic (CASPAR) is the dominant shipping operator. As of January 2011, CASPAR’s fleet consisted of 80 vessels, including 43 tankers, 9 ferries, 2 RO-RO type vessels, and 26 dry cargo ships (total 484,486 DWT). In 2009, CASPAR transported 13.2 million tons of cargo, of which 9.9 million tons were carried by tankers (crude oil), 1 million tons by dry cargo ships (only 60% shipped in the Caspian Sea), and 2.3 million tons by ferries. In 2010, cargo shipments increased to 13.5 million tons, including 7.6 million tons carried by tankers and 1.1 million by dry cargo ships.\(^{105}\) On average, 75% of the total cargo shipped by CASPAR is made up of crude oil and petroleum products from Kazakhstan and Turkmenistan.

Over the past seven years, CASPAR has bought 10 new tankers with larger tonnage capacities, and 2 ferries (each able to carry 52 wagons and up to 100 cars). 7 of the 10 tankers are with 13,500 DWT (the biggest tanker type in the Caspian Sea), 2 with 12,000 DWT, and one with 7,600 DWT.\(^{106}\) The cost of this was 202.4 million AZN ($253 million), of which 107.8 million AZN ($135 million) came from CASPAR, and 94.6 million AZN ($118 million) from the State Budget of Azerbaijan.\(^{107}\)

CASPAR tankers mainly carry oil and petroleum products from Turkmenistan to Baku and Iranian ports, while its ferries operate on the Baku-Turkmenbashy-Baku and Baku-Aktau-Baku routes. Dry cargo vessels move small volumes of ferrous metals in from Baku to Iran, clinker from Iranian ports to Baku, containers from Baku to Aktau and Turkmenbashy ports, and ferrous metals, grain and coke (mineral) from Aktau and Makhachkala ports to Iran.\(^{108}\)

In addition to CASPAR, the State Oil Company of Azerbaijan (SOCAR) has its own Caspian Sea Oil Fleet (Kaspmornefteflot), which has more than 256 vessels, with total overall deadweight of about 84,000 tons and a ship repair facility. Most of SOCAR’s vessels are involved in servicing offshore platforms, transporting oil, drilling and other oil and gas related operations. Due to the termination of the swap operations at the Port of Neka, SOCAR tankers have recently been shipping Turkmen oil (mostly produced by Dragon Oil) from Alaja jetty to Azerbaijan, where it is shipped to the world markets via one of the westward pipelines.

Other ship operators in the Caspian include Kazmormerflot (Kazakhstan) with a 20 strong fleet, including 3 oil tankers with 12,000 DWT, 3 with 13,000 DWT and one with 13,500

---

\(^{105}\) Source: Author

---

**Figure 14: Total CargoHandled by Caspian Ports in 2010 (in %)**

- Azerbaijan Ports: 21%
- Kazakhstan Ports: 19%
- Turkmenistan Ports: 21%
- Russian Ports: 16%
- Iranian Ports: 23%

*Source: Author*
DWT, as well as 8 ferries with 3,600 ton capacities, and 5 towboats. The Iranian fleet consists of 15 ships belonging to the Khazar Shipping Lines Company. Six of the vessels are above 5,000 DWT. Of these, 4 general cargo ships (6750 DWT) were built between 2006 and 2008 at Russia’s Volgograd shipyard. The annual cargo transported by Iranian ships is estimated at around 2 million tons.

Since the Caspian Sea is essentially a large lake with no direct access to ocean, its ports differ from other open sea ports – not necessarily in their technical characteristics but in their role as ‘nodes’ in the global supply chain network. In the future, the most successful Caspian ports will be those that can transform themselves into efficient and effective intermodal transshipment and distribution hubs. In addition, the Caspian ports are posed to compete with each other for hinterland influence, which will be discussed in detail in Part III. This consideration is relevant to the new Alyat port, which will have great potential, but will also face a number of challenges from its contenders in the region.

**Logistics and Supply Chain**

In the twenty-first century, the independent development of different modes of transportation in isolation from each other and without integrated logistics and supply chain management is no longer an option, particularly for countries aspiring to become regional hubs. Today’s customers in London and other European capitals buy white and red grapes in a single sealed package without wondering much about how these grapes, one kind from South Africa and another from Chile, ended up together, or how they have managed to stay so fresh and delicious. All this is possible thanks to an advanced global supply chain and logistics network, which will be discussed in this section.

The ancient Silk Road caravans used to travel 35-40 km per day, stopping en route at small caravanserais to re-supply. While the travelers rested, the camels were fed and the caravan was made ready for the next morning. In today’s terms, these small caravanserais were the motels of the ancient Silk Road, offering value added logistics services. It was every 120 km, a 3-4 day journey, that the caravan would reach a local trading town, which would have larger caravanserais where merchants could trade and exchange goods. These local trading centers were in turn connected to regional hubs and megacities, forming a vast trading network across Eurasia. History recalls very few Chinese who traveled all the way from China to Venice, and very few Europeans who ended up in China. It was in the regional hubs and megacities in Central Eurasia and the Middle East where the real action took place, where goods and ideas exchanged hands, and people and cultures met and mixed.

The Silk Road caravans used an apparently simple yet effective supply chain that was set up along the entire route between China and India to the Middle East, Africa and Europe. The local caravanserais and regional hubs constituted the backbone of this ancient supply chain, providing essential services from board and lodging to marketing and security. Some of the caravans were state sponsored, others belonged to private entrepreneurs. Similar to the interstate block trains today, the ancient caravans had set schedules and dedicated routes. It
was a multifaceted operation that involved caravans stretching for several kilometers, and it was this vast network that made it possible to travel safely through the enormous Eurasian territory, across various states and principalities. In addition, a number of ancient routes were multimodal corridors involving intermodal transportation, such as land-sea-land.

Throughout history, the territory of the present day Azerbaijan has hosted a number of important caravanserais and big regional trading centers on. These included regional hub cities like Mingachevir and Qabala (during the Caucasian Albania), Barga and Ganja (during the Islamic Caliphate), Shaki, Shamakha, Nakhichevan and Baku (in the Middle Ages). The territory of Azerbaijan was famous for the production of silk, natural dyes, animal (fish) glue, oil and salt, as well as carpet weaving and jewelry making. The Azerbaijani cities and caravanserais acted as commercial nodes along both the East-West and the North-South axes. The management of caravans and caravanserais was a lucrative business, making their owners ‘logistics oligarchs’ of their time.

As in the past, the logistics business remains lucrative today. The logistics industry of the European Union plus Norway and Switzerland was estimated at about €836 billion in 2006, of which €189 billion or 21% belonged to Germany alone. Some 40% of the total turnover was provided by logistics service corporations, while the remaining 60% came from domestic activities of other economically active companies. In neighboring Turkey, the size of the combined transportation and logistics industry has tripled since 2002, now estimated to exceed $85 billion, of which $35 billion is the share of logistics service supplier market. It has grown on average 20% per year over the last 5 years. It is estimated that the Turkish logistics sector will be worth $120 billion by 2015. In Azerbaijan, the logistics sector is still in its infancy, but it has great potential. The concept of logistics is relatively new to Azerbaijan, and most people, including government officials and ordinary businessmen, do not fully understand exactly what it is. For many, a logistics center is nothing more than a warehouse whose sole purpose is to store goods.

In 2010, the World Bank Logistics Performance Index (LPI) ranked Azerbaijan 89th out of 155 countries with an overall score of 2.64. For comparison, Latvia’s LPI was 3.25, Turkey’s 3.22, Kazakhstan’s 2.83, Uzbekistan’s 2.79, Russia’s and Georgia’s 2.61 and Iran’s 2.57. The ranking is done across 5 sectors: Customs, Infrastructure, International Shipments, Logistics Competence, Tracking & Tracing, and Timeliness, with the 1 as the worst performance for the given sector, and 5 as the best. Azerbaijan’s LPI rankings for each sector are as follows: Customs (2.14), Infrastructure (2.23), International Shipments (3.05), Logistics Competence (2.48), Tracking & Tracing (2.65), and Timeliness (3.15).

Another World Bank publication, Doing Business 2011, rates Azerbaijan 54th out of 183 countries, up from the 100th place in 2006. However, there are 9 components that make up the final position, and for the Trading Across Borders component, Azerbaijan is ranked 177th. Azerbaijan requires 9 separate documents to process exports from the country, while the average for Eastern Europe and Central Asian states is 6.4, and 4.4 for OECD countries. It takes much longer to complete export and import procedures (43 and 46 days
respectively), compared to Eastern Europe or Central Asian states, where exports/imports take 26.7 and 28.1 days on average. For OECD countries, these figures are 10.9 and 11.4 days. Moreover, Azerbaijan is an expensive country for container export and import. It costs on average $2,980 to export and $3,480 to import a loaded 20 ft container from/to Azerbaijan.1 In comparison, the fees levied on an outgoing (i.e. export) 20 ft container from Eastern Europe or Central Asia, and OECD countries are $1,652 and $1,059, respectively, while they are $1,845 and $1,106 for an imported 20 ft container. Most trucking firms in Azerbaijan complain about delays while loading/unloading goods and clearing customs inside Azerbaijan. This procedure often takes place in the customs premises, and trucks sometimes spend up to 2 days here in order to complete import or export procedures. Furthermore, due to the dearth of logistics services (i.e. bonded warehouses at the border), international trucks have to wait until all goods are cleared and collected by the client(s).

This is a serious issue that is diminishing the competitive advantages of companies operating in Azerbaijan, by adding extra stock costs. When running a business, companies try to reduce costs by keeping low inventory, as overstocking entails extra expense. For example, in Western Europe, where the supply chain system is well developed, a retail store would keep only the minimum required level of stocks, secure in the knowledge that it can order more when needed. In Azerbaijan, however, many firms have to overstock, because customs regulations make it more expensive to order partial shipments by truck than to ship a full loaded truck. Therefore, many firms end up shipping full-truck loads of goods, where in fact they only need half of that - or less. Subsequently, the firm has to stock unused products in its own warehouse or elsewhere. All of this means additional expense for the firm.

However, if there were well-integrated logistics centers and bonded warehouses (a.k.a. customs warehouses)** at Azerbaijan’s major border crossings, this problem would be resolved, at least partially – partially, in the sense that having a bonded warehouse is a just one component in the supply chain, and there needs to be an efficient and effective logistics network within the country, and logistics companies that are linked to this network. These and other issues will be analyzed in greater depth below.

** Logistics Market: Domestic vs. International**

Domestic cargo transportation constitutes a major share of the transport sector in Azerbaijan. In 2010, in the transport sector of Azerbaijan, nearly 134 million tons of cargo was transported by rail, road, sea and air combined. More than 20 million tons of cargo carried by road along the TRACECA route was domestic freight. Similarly, out of the 22.2 million tons of cargo that traveled by rail, more than 3.6 million tons were moved within Azerbaijan.116 There are no detailed statistics available on the type of domestic cargo, but

---

1 “Cost measures the fees levied on a 20-foot container in U.S. dollars. All the fees associated with completing the procedures to export or import the goods are included. These include costs for documents, administrative fees for customs clearance and technical control, customs broker fees, terminal handling charges and inland transport. The cost does not include customs tariffs and duties or costs related to ocean transport. Only official costs are recorded” – See the Methodology section of the Doing Business 2011.

** A bonded warehouse is a secured facility supervised by customs authorities, where dutiable landed imports are stored pending their re-export, or released on assessment and payment of import duties, taxes, and other charges (Source: businessdictionary.com).
fuel, construction materials, and agricultural products are some of the major freight types.

Azerbaijan is home to nine different climate zones, ranging from dry to subtropical, which create favorable conditions for the production of a wide variety of fruits and vegetables throughout the year. Establishing an effective local and national logistic network would provide Azerbaijan's agriculture sector with a cold-chain logistics centers that would better enable the country to preserve market crops, fruits and vegetables year round. In addition, small and medium enterprises (SME) could make use of the services offered by logistics firms in transporting their products and goods domestically and regionally. More importantly, without a solid domestic logistics and supply chain network Azerbaijan's international hub strategy is likely to be deficient, as the two concepts are directly linked and reinforce each other (see Part III for detail discussion).

As far as international transportation is concerned, Azerbaijan has already become a relay (transit) hub, especially in the East-West direction. Some 82% of the 9.4 million tons of cargo moved via TRACECA by sea transport and 40% of the 20.6 million tons carried by rail were transit cargo. While other successful relay hubs offer value added services to transit freight through intermodal transportation and handling services, this area is underdeveloped in Azerbaijan. Multimodal transportation (switching between different modes of transportation) is rarely used, and when it is, its application is far from ideal and in fact, among the most inefficient transportation methods.

For example, a greenhouse company in Shamkir city in the west of Azerbaijan has two alternative road transport options for shipping its vegetables and fruits to Moscow. It can ship them in a modern refrigerated truck that meets international standards and is permitted to enter Russia. This option is more costly, but the cargo is delivered to its final destination without major problems in about 7 days. The second option is cheaper and involves multimodal transportation, albeit not in the most efficient and desired way. The cargo is placed in Azerbaijan-registered KAMAZ trucks, which go all the way to the Azerbaijan-Russia border, only stopping to get a customs clearance near Khachmaz in North Azerbaijan. Because older trucks, including the Russian-made KAMAZ, do not meet the emissions standards set forth by Russia or Azerbaijan, vehicles registered in Russia or Azerbaijan are not allowed to cross into the other state's territory. Hence, the loaded Azerbaijan-registered KAMAZ truck that has carried fruits and vegetables all the way from the Shamkir greenhouse must end its journey at the Yalama border crossing point, and unload its cargo into rail wagons there. The rail wagons then travel few kilometers across the Azerbaijan-Russia border. There, the cargo is loaded back onto another KAMAZ truck, but this time a Russian-registered one, but otherwise very similar to its Azerbaijani counterpart. The cargo is then carried by the Russian KAMAZ to its final destination in Moscow. The whole journey takes about 7 days. About a day is given up to border crossing and customs procedures.

This is a vivid example of a logistical nightmare that results in delays in delivery time, increases transportation costs, and often causes damage to fragile goods (such as fruits and
vegetables). Therefore, it is vital that Azerbaijan either alone or jointly with Russia builds a logistics center or a bonded warehouse at the Azerbaijan-Russian border, which could eliminate the need for truck-rail-truck transfers and reduce the cost and time of truck-to-truck transfers. The logistics center, private or public-private JV, will facilitate both intermodal transfers and transshipments, which will result in more time-efficient border crossing procedures.

In addition to a logistics centers at Yalama in the north, Azerbaijan should consider establishing an efficient network of logistics centers along its border checkpoints with Georgia at Red Bridge/Boyuk Kesik to serve the East-West traffic, with Iran at Astara and Julfa to serve the North-South traffic, as well as by the Azerbaijan-Turkish border in Nakhichevan. These logistics centers should be linked to other major centers in Ganja, Yevlakh, and Baku (Map 1). They will function as regional “dry ports” and could offer value added services including warehousing, groupage, packing, labeling, cross-docking to facilitate road-rail inter-modality, and customs clearance. Eventually, they will become regional distribution centers and form a vast national logistics network linked to the proposed International Logistics Center (ILC) at Alyat.

The measures described above will facilitate economic development across Azerbaijan's regions, strengthen the capacity of domestic producers by providing them with competitive

Map 1: Possible Locations for Logistics Centers in Azerbaijan

Source: TRACECA. Adopted from TRACECA’s “International Logistics Centres for Western NIS and the Caucasus” report.
logistics services, and reduce transportation costs for many enterprises in the oil and non-oil sectors. In the short term, it will require the establishment of an Azerbaijani logistics company (in which the State can become a shareholder) and an effective national logistics network, which is long overdue. This company could manage the network of logistics centers within Azerbaijan by offering cost effective services to domestic and international clients. Currently, about 70% of trade in the non-oil sector is concentrated around the capital city, Baku, with the remaining 30% shared out among the regions. Baku also acts as a major distribution center for the regions, since almost all imports arrive in Baku and are subsequently re-distributed to the regions. If Azerbaijan was to import 1.5 million of consumer goods by truck, it would mean 500,000 tons (30%) would then have to be transported to various parts of the country. However, there is currently no logistics firm in Azerbaijan with the capacity to re-distribute 500,000 tons of goods in effective and efficient manner. The creation of the national logistics company would strengthen the domestic logistics market and help synchronize the supply chain activity between the inland dry ports and the Alyat ILC in the future.

**Alyat International Logistics Center (ILC) and Euro-Asian Supply Chain**

Unlike Azerbaijan’s border and inland dry ports, the new International Logistics Center (ILC) at Alyat will play a pivotal role in international multimodal transportation and the Euro-Asian supply chain via Azerbaijan. However, its success in the logistics market is dependent on Azerbaijan's policies on border and inland logistics zones. In other words, a strong domestic and regional logistics network and logistics market must be sufficiently developed in order that it can provide a foundation for the Alyat project. The port will act as a major logistics hub in the Caspian region, serving European and Asian markets, as well as being part of an extensive international logistics network linking Europe and Asia.

To appreciate the importance of logistics management and to distinguish between a warehouse (which is what logistics centers are often branded in the region) and a state-of-the-art international logistics center, one must understand the concept of the supply chain. The supply chain is a sophisticated process that involves a number of distinct actors and elements, including different modes of transportation, which enable goods and materials to be moved from their production site or place of origin to the end-users across various locations.

![Figure 6: A node-link system](Source: UNESCAP)
a chain or a network. It is therefore unsurprising that there is no single definition for the supply chain system.\textsuperscript{119} Today, the structure of supply chains is seen to be “moving away from centralized and vertically integrated companies with a single manufacturing site to geographically dispersed networks with the collective aim of creating customer value.”\textsuperscript{120}

The goal of creating customer value guides the effective synchronization and harmonization of all supply chain activities along the entire chain, from the production factory to the customer’s home. In this process, logistics services play a critical role, and logistics centers in particular act as fundamental connections between each node in a “node-linked system”\textsuperscript{121} (Figure 15). Hence, logistics services play a crucial role, facilitating the “door-to-door” transaction. Logistical centers offer various value added services, from warehousing and consolidation to labeling, packaging and distribution.

The technical study of the Alyat ILC sponsored by TRACECA was completed in 2010. It envisages several components within the ILC site in the new port at Alyat, including: Truck Port with T.I.R. parking; Customs Services and Bonded Warehousing Area; Container Terminal and Container Service Centre; Warehousing Complex with general and temperature guided storage areas; and Settlement Areas for Logistics Intensive Industries and Trade.\textsuperscript{122} TRACECA estimates that the Alyat ILC could handle about 1.7 million tons of cargo per year, plus an additional 530,000 tons of freight per year after the completion of the Kars-Akhalkalaki railway.\textsuperscript{123} The ILC will be located within the grounds of the new port, covering an area of 50 ha. Since the new port is being built at the major railway juncture connecting the North-South and the East-West rail lines in Azerbaijan, the ILC will also have a rail access.

It is important, however, to view Alyat ILC as more than just a regional logistics center offering storage services. As it will be later demonstrated, the success of the new port at Alyat will depend on the conceptual model that is chosen for the development of the new port and the Free Economic Zone (FEZ). This study advocates an integrated and flexible model for the Alyat ILC, which would not only serve as a multimodal transit logistics hub but become a major consolidation and distribution center in Central Eurasia providing
a wide-range of value added services. In other words, instead of becoming one node in the supply chain, Alyat ILC should aim to become the major consolidation/concentration/distribution center in the region, serving the markets of the South Caucasus, Central Asia, Iran, South Russia, and Turkey (Map 2).

The approach should go beyond building a single logistics facility with minimal involvement of international operators. Instead, within the Alyat Free Economic Zone, the Azerbaijani government should aim to establish a dedicated “logistics zone” or “logistics village” – a kind of Silicon Valley for logistics firms – where all logistics firms and logistics service providers can set up their regional offices and build their businesses. This process should start now, by establishing bonded warehouses or ‘mini logistics zones’ at Azerbaijan’s border crossing points, preferably operated by the private sector or jointly in private-public partnerships. The private sector is likely to invest in and build these facilities, without requiring a great deal of state investment. For international transit, these zones should be customs-free and could act as local consolidation/re-distribution points. These mini-logistics zones will eventually become ‘nodes’ in the Azerbaijani and regional supply chain. Offering customs clearance at the border and an option for international trucks to leave their cargo at the bonded warehouse for subsequent delivery by a local firm will surely make the whole process more efficient, as well as helping local firms to reduce their stock expenses. In the future, these mini-logistics zones could be given a status of customs-free areas and linked with the Alyat FEZ, which is likely to happen by default.

The Alyat ILC should also be linked to other Caspian ports via high quality maritime connections through the new port at Alyat, offer speedy and competitive intermodal road and rail transport services from Alyat to Georgia, Iran, Turkey, Russia and South East Europe, and provide freight airlift services from Baku Heydar Aliyev International Airport (and in the long term from the International Airport at Alyat).

In the East-West direction, the Port of Poti in the West and the Ports of Aktau and Turkmenbashy in the East will be Alyat ILC’s major commercial and logistics partners. Since the Port of Poti and the New Port of Baku at Alyat are connected by land, Azerbaijan and Georgia should think of way to create a reliable and sustainable “Baku-Poti Transit Freight Corridor” between the two ports and FEZs. The two countries have already signed an MoU to start running scheduled block trains between Poti and Baku. However, as mentioned above, this issue requires a systemic and comprehensive approach that would not only deal with one problem in the Poti-Baku supply chain, but would address all issues, including the speed of trains, the cost of shipments, the number of platforms and containers available en route, the connections between the Black Sea ports and Poti as well as Baku and other Caspian ports, and so on. More importantly, the “Transit Freight Corridor” between Baku and Poti should not be exclusive, but should also aim to connect the two Free Economic Zones at Poti and Alyat, which should include both the port and the ILC. The operation of this corridor could be managed by a private logistics company.

Across the Caspian to the east, the Ports of Aktau and Turkmenbashy will be nodes in
the logistics chain linked to the Alyat port in Azerbaijan. The logistics centers at Aktau and Turkmenbashy are scheduled to start operations in 2012 and 2015, respectively. The TRACECA feasibility study estimates that by 2016, the traffic through the logistics center at Aktau will reach 1.2 million tons while at Turkmenbashy it will be 1.9 million. Since crossing the Caspian Sea involves maritime transport, a “Caspian Transit Corridor” will have to be set up to link the Alyat ILC and the logistics centers at Aktau and Turkmenbashy. This would involve creating an effective, reliable and competitive road/rail-sea-road/rail transit system via Azerbaijan, Georgia, Kazakhstan, and Turkmenistan. Azerbaijan will have to address the maritime segment of this international transit corridor, as CASPAR is the main operator of trans-Caspian shipments, and currently, its services are far from being adequate or competitive.

As far as the North-South axis is concerned, the consolidation points of the logistics chain along this corridor are located in Russia and Iran. Therefore, if the goods are shipped from Iran to Russia or from Russia to Iran, they would most likely be stored and handled in one of Russia’s or Iran’s Caspian ports without entering the Alyat ILC. But Azerbaijan should further develop Samur and Yalama border crossing points in the north and Astara in the south to capture some of the North-South traffic. If the Port at Alyat becomes an integrated FEZ, within which the Alyat ILC will be based, there is greater chance that the North-South traffic will also use the logistics services at Alyat. Until then, the Astara terminal near the Azerbaijan-Iranian border will be the major intermodal dry port in the south of Azerbaijan along the NSTC.

## Air Transportation

Air transportation is the fastest alternative, albeit the most expensive one, to the maritime bulk transport between Europe and Asia. The maritime industry ships far more goods and freight around the world, including liquids such as oil and LNG. It is the dry cargo component of the maritime cargo, particularly container traffic, which is comparable to the air cargo. The modernization and expansion of container ships (some ships now can carry more than 15,000 TEU on board) have enabled the maritime transport sector to become the most cost effective and preferred mode of transportation over the past 50 years. However, the aviation industry has also been evolving. Today, long-haul freighter fleets around the world utilize efficient wide-body aircrafts such as Boeing 747-400 and Airbus A380, and more efficient and superior new generation aircrafts like the Boeing 747-8F and Airbus A380F will enter the market in the near future. Therefore, air transportation will retain its dominant position amongst other transport modes, and will continue to offer new opportunities for countries interested in attracting more passenger and freight traffic.

Airbus estimates that the world’s fleet of passenger and cargo airplanes will increase from 14,980 in 2006 to 33,000 by 2026, while air traffic will nearly triple. In addition, more than 90% of the world’s existing aircraft fleet will be replaced by more eco-friendly planes. Most of the orders for new planes will come from the Asia-Pacific region (31%), followed by North America (27%), and Europe (24%). Airbus forecasts deliveries to the Commonwealth of
Independent States (CIS) at 656 aircrafts, or 3% of the total orders. Meanwhile, Boeing forecasts that the world freighter fleet will grow both in number and in terms of the payload capacity of the freight aircrafts. The number of cargo airplanes will nearly double from the 1,948 aircrafts in 2007 to 3,892 aircrafts in 2027, and international air traffic and air freight will grow at an average annual rate of 5.8% and 5.9%, respectively.

Azerbaijan's landlocked status is probably the most irrelevant factor when it comes to air transportation. The country is situated in an ideal location in terms of the international air traffic network, and is in a particularly attractive position for air shipments between Europe and Asia. It is within a 3 ½ - hour flight of about 45 countries. What distinguishes Azerbaijan from most other landlocked and ‘ideally located’ hubs is the fact that it is also a major producer of oil and jet fuel – a strategic commodity sought and valued by all air companies. Baku possesses all the necessary and desired ingredients for becoming an air hub for refueling long-haul European and North American flights to Asia or vice versa. This section will examine the air transportation sector of Azerbaijan (both passenger and cargo) and look at trends and opportunities in the air freight market.

**Passenger Traffic via Azerbaijan**

In 2010, the world’s airports served more than 3.3 billion passengers, including 1.6 billion passengers flying on international flights and 1.7 billion domestic passengers. International passenger traffic was concentrated in European airports (51%), followed by Asia/Pacific (23%), North America (11%), Middle East (6%), Africa (5%) and Latin America/Caribbean (4%).

Out of 1.6 billion international passengers, more than 2.1 million have arrived in and departed from Azerbaijan, mostly Heydar Aliyev International Airport in Baku (IATA code: GYD). Serving as Azerbaijan’s main international gateway, Baku airport is the busiest airport in the South Caucasus and the leading international airport in Central Eurasia in terms of international passenger traffic. In 2010, it served destinations in Europe and Asia with 43 international routes connecting 25 countries, and an average 226 weekly flights. There are five regional airports in Azerbaijan that support international traffic, but with limited route networks: Ganja, Gabala, Lankaran, Nakhichevan, and Zakatala.

Azerbaijan Airlines (AZAL, Azerbaycan Hava Yolları) is the national aircraft carrier. The company is a member of the International Air Transport Association (IATA) and a
part of Azerbaycan Hava Yollari Closed Joint Stock Company. It represents about 40% of Azerbaijan's total airline market, followed by European and Russian carriers (27% and 22% respectively).\(^{128}\) In 2009, the company had 24 scheduled international routes serving a number of European, Asian and Middle Eastern cities. Flights to 5 destinations (Moscow, Istanbul, Dubai, Tbilisi, and Ankara) constituted about 72% of AZAL's international traffic. Currently, AZAL operates 17 of its own direct flights, which will be expanded to 24 flights by the end of 2011. In addition, there are 7 flights operated jointly with other international carriers. In 2011, the company signed two additional code sharing agreements with Air France and BMI for flights to Paris and London.

The number of international passengers to/from Azerbaijan exceeded 2.1 million in 2010, of which 83% or 1.8 million arrived at and departed from GYD and 17% (374,639) to/from Azerbaijan's remaining three regional airports. In 2008, the GYD airport processed more than 2 million passengers on domestic and international flights. Total passenger traffic at GYD dropped slightly in 2009 to 1.9 million passengers, but picked up again in 2010 with nearly 2 million passengers.\(^{129}\) AZAL carried 39% of all passengers on international flights at GYD in 2008, 33% in 2009 and 39% in 2010.

Table 9: Domestic and International Traffic at Baku (GYD) Airport (in # of passengers and %)

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrived</td>
<td>1,023,303</td>
<td>964,549</td>
<td>997,118</td>
</tr>
<tr>
<td>Departed</td>
<td>1,002,113</td>
<td>961,426</td>
<td>986,553</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2,025,416</td>
<td>1,925,975</td>
<td>1,983,671</td>
</tr>
<tr>
<td>of which carried by AZAL (domestic &amp; international)</td>
<td>1,304,611</td>
<td>1,083,578</td>
<td>933,608</td>
</tr>
<tr>
<td>in percentage</td>
<td>64.4%</td>
<td>56.3%</td>
<td>47.1%</td>
</tr>
<tr>
<td>of which carried by AZAL internationally</td>
<td>797,686</td>
<td>630,081</td>
<td>763,989</td>
</tr>
<tr>
<td>in percentage</td>
<td>39.4%</td>
<td>32.7%</td>
<td>38.5%</td>
</tr>
</tbody>
</table>

Source: Created by the author based on data from AZAL

In the short term the upwards trend in passenger traffic is likely to continue. In 2011-2014, the average growth rate in passenger traffic is estimated to be between 7.2% and 7.5%.\(^{130}\) Boeing notes that passenger traffic at the GYD airport will more than double in the next 20 years, exceeding 5 million passengers by 2030. However, given the past trend and ongoing projects (i.e. the expansion of the current airport and developments in the tourism sector), this study predicts that the GYD airport is likely to hit the 5 million passenger level much earlier, around 2020. This would require, among other things, liberalizing the visa regime and implementing a proactive tourism development strategy.

In 2010, the most commonly taken flight routes were Baku-Moscow-Baku (accounting for 31% of AZAL's international flights in 2009), Baku-Istanbul-Baku (17%) and Baku-Dubai-Baku (12%). The Baku-Moscow-Baku was one of the most competitive routes, with five different airlines flying every week, but about 60% of all passengers flying between Baku and Moscow were carried by AZAL.
In 2008, the company introduced transfer flights to various European destinations from Baku, which signaled a move to turn the GYD airport into a relay passenger hub in the region. Thus, for example, the busiest flight connections in 2008 were flights from Tehran to London, Paris, Tbilisi and Kyiv via Baku. Other popular connections have been Dubai-Baku-Aktau, Urumqi-Baku-Tbilisi, Tbilisi-Baku-Moscow/Dubai, Istanbul-Baku-Urumqi, and Baku-Kabul transfers. The latter flight, while popular, was discontinued due to security issues in Afghanistan.

AZAL’s major challenge has been an insufficient number of aircrafts able to open new routes, especially long-haul transatlantic flights. To address this issue, the Azerbaijani government has ordered nice new aircrafts to boost AZAL’s fleet and strengthen its air traffic network. In 2011-2012, the company received several new aircrafts that helped increase the frequency of existing routes and add new regional destinations. With the arrival of another Boeing 767 in 2012, the company will start its direct long-haul flights to Beijing and Bangkok, and by 2015 to New York. More intercontinental flights will be added in 2014 or 2015, when AZAL is expected to welcome two new generation super-efficient Boeing 787 Dreamliners to its fleet. These flights will be supported by convenient transfer connections for AZAL’s regional flights to Tbilisi, Tehran, and European and Central Asian cities. With new aircrafts AZAL could potentially double its traffic in the medium term.¹³¹

The world’s leading carriers usually have a network comprised of 100-150 airports. This allows them to move high number of passengers using hub-to-hub operations. In 2006, about 20% of international passengers flying between Europe and Asia chose a connecting flight, despite available direct flights, and connecting traffic grew twice as fast as non-stop traffic between 2005 and 2009.¹³² Connecting traffic will continue to rise despite the fact that some 70 new non-stop flights between Europe and Asia (mostly between China, India and Europe) will be opened by 2017.¹³³

In 2009, Baku acted as a stopover destination for only nine West European and five Asian hub routes, while for Dubai these numbers were, respectively, 23 and 44, for Doha 19 and 35, and for Tehran 15 and 15.¹³⁴ With its expanded fleet, AZAL’s network expansion strategy should focus on strengthening its hub connections and become preferred stopover destination. This means going beyond the Caucasus and Caspian region (and particularly opening to South Asia and Southeast Asia) and making Baku one of the main connecting points for international airlines, and a connecting hub for passenger traffic destined for Central Eurasia. This may be possible if Azerbaijan creates an attractive business environment for global air companies with a range of aviation services and turns Baku into vibrant and one of the most sought-after cities in the region. In addition, AZAL should continue to expand its connectivity both with major hubs and several global airline carriers operating flights to those hubs (not just one airline partner per hub route).

To accommodate growing international passenger traffic, a new passenger terminal is being built at the Baku airport. The new terminal will cover an area of 53,000 m² adjacent to the existing airport. Once completed in 2013, the new international terminal will be able to handle
an additional 3 million passengers. Despite these positive developments, AZAL is yet to establish itself as an international player. For this, the company will have to become profitable without relying on government subsidies, which have sustained it since its inception. In its turn, the Azerbaijani Government must set clear medium and long-term priorities for the company in line with the country’s overall hub development strategy, and ensure that these priorities are implemented in due course. One of these priorities should be to have a set road map for the company’s entry into one of the global airline alliances. This process by default will make AZAL more competitive and open new opportunities in the form of long-term partnerships with prominent international and regional airlines. Moreover, as Azerbaijan becomes increasingly integrated into the Single European Sky (SES) initiative of the European Commission (EC), AZAL should prepare for increased competition from other airlines.

The restructuring of Turkish Airlines provides a useful frame of reference for becoming if not a global player, a dominant regional actor in international aviation. Turkish Airlines, which was barely staying afloat until 2003, has been transformed into a leading European carrier. After being privatized in 2006, the airline embarked on an aggressive reform strategy, leading to Star Alliance membership in 2008. Turkish Airlines is currently Europe’s fourth-largest full-service airline in terms of passenger volume, and its fleet will exceed 200 aircrafts in 2015, up from 64 in 2003. It expects to carry 40 million passengers in 2011. While AZAL does not need to set such ambitious targets, it still needs to move from being a government-dependent national carrier to becoming a world class regional airline with a more efficient, profitable, and accountable structure.

Air Cargo Traffic via Azerbaijan

Azerbaijan’s strategic location between Europe and Asia along with its abundant oil supply provides an ideal environment for the development of Baku into a connecting hub for international airfreight carriers. The air cargo traffic between Europe and Asia constitutes a significant part of the world’s air cargo exchange. In 2007, the Europe–Asia market made up about 19.4% of the world’s air cargo traffic in ton-kilometers, and 9.7% in tonnage. It has grown at an average of 13.1% per year since 1992, and 9.7% per year between 1997 and 2007. This includes 2.5 million tons of westbound traffic from Asia to Europe, which
has averaged at 14.4% per year since 1995, and 1.4 million tons of eastbound traffic from Europe to Asia, which has grown 7.6% annually (Figure 17). Boeing believes that the upper trend in the Europe-Asia air cargo traffic growth will continue between 2008 and 2027 at an average rate of 6.5% per year.\(^{138}\)

In the eastbound direction, the top four goods categories were general industrial machinery, express packages, electrical machinery and apparatus, and miscellaneous manufactured goods. They accounted for 38.4% of the total. In terms of westbound traffic, apparel, miscellaneous manufactured goods, office machines and computers, electrical machinery, and express packages made up 66.4% of all cargo. The shipments of documents and small packages have been among the fastest-growing types of cargo. Due to increased transportation of business samples, legal documents, and other expedited small packages, traffic of this type of cargo has grown at an annual rate of 10.9% (in daily shipment counts) since 1993.\(^{139}\)

The increase in future Euro-Asian airfreight traffic will depend on international as well as continental GDP growth, since the two are closely linked. In 2007, the economies of Japan and China made up of approximately 75% of Asia’s overall economy, of which Japan’s share was 50.5%\(^ {140}\). While the GDP growth rate in the EU and Japan will remain relatively small in the short term (between 1.3% and 2.2%), China will continue to grow at an average rate of over 8% per year.\(^ {141}\) This upward trend will present new opportunities for Azerbaijan, which could provide transit services for flights from China and Southeast Asia to Europe.

Most EU destinations are within 4-5 hours flying distance from Baku, while the flight time from Baku to most cities in China and Southeast Asia is between 5 and 8 hours. Compared to Dubai, Doha, and other Middle Eastern hubs, Baku offers a shorter, more cost effective, and ‘greener’ connecting route between China and Europe. For example, a Boeing 747–400F type aircraft flying from Shanghai to Frankfurt will burn on average 21 tons less fuel if it uses Baku as its connecting point instead of Dubai (Table 10). This would mean that the aircraft will emit about 66 tons less CO\(_2\) into the atmosphere per one-way trip from Shanghai to Frankfurt. Hence, key European and North American airports would have a more direct connection to Southeast Asia and China through Baku.

### Table 10: Comparison of Jet Fuel Usage on Flight (Boeing 747–400F) from Shanghai (PVG) to Frankfurt (FRA) via Baku (GYD) vs. Dubai (DXB) (in tons)

<table>
<thead>
<tr>
<th>Flight Legs</th>
<th>Max Payload *</th>
<th>Trip Fuel at Max Payload</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVG-GYD</td>
<td>116.5 tons</td>
<td>approx 104.3 tons</td>
</tr>
<tr>
<td>GYD-FRA</td>
<td></td>
<td>approx 48 tons</td>
</tr>
<tr>
<td>PVG-DXB</td>
<td>118.5 tons</td>
<td>approx 105.4 tons</td>
</tr>
<tr>
<td>DXB-FRA</td>
<td></td>
<td>approx 68 ton</td>
</tr>
</tbody>
</table>

Baku Cargo Terminal & Silk Way Airlines

Baku Cargo Terminal (BCT) is Azerbaijan’s main international cargo terminal for both domestic and international cargo traffic. It is a private company owned by “Silk Way
Holding,” which is a conglomerate of 23 firms, most of which are in the aviation business. Silk Way Holding also owns Azerbaijan’s leading air freight company and the BCT’s chief partner, Silk Way Airlines. The terminal is located near the GYD airport, covering 12,800 m² with a monthly traffic capacity of 30,000 tons. The total apron area is 163,000 m², which can handle 4 Boeing 747s or 4 AN124s, and 7 IL76 type aircrafts.

The BCT started operations in 2005 and since then, it has remained the largest and most technologically advanced terminal in the CIS. Currently, the daily freight turnover at the BCT is between 160 and 200 tons, which goes up 400 tons during high season. Nonetheless, the cargo throughput remains below of its 1,000 ton daily maximum capacity. The majority of cargo (80%-85%) handled at the BCT is transit cargo, while the remainder is made up of imports to Azerbaijan. Exports are minimal at the moment. Silk Way Airlines and Cargolux are the BCT’s two principal partners. Other partners include ATLAS Air, Evergreen Airlines, PolarAir, Lufthansa Cargo, Volga-Dnepr Airlines, JetEx Flight Support, Antonov Airlines, and Polet Cargo Airlines.

Silk Way Airlines has a fleet of 7 Ilyushin IL-76s, 2 IL76-TDs, 3 Antonov AN-12, and one recently acquired Boeing 747-400F. The company offers scheduled and charter flights to over 50 destinations worldwide, including Afghanistan, Iraq, and West Kazakhstan (Map 10). Starting next year, it will offer scheduled direct all-cargo services to the United States on Boeing 747-400F aircraft.

Another of the BCT’s major partners is Cargolux. Cargolux is Europe’s largest and the world’s leading all-cargo airline. It operates 11 Boeing 747-400Fs, 2 Boeing 747-400BCFs, 1 wet-leased Boeing 747-400SF and 1 wet-leased Boeing 747-200SF. In 2011, it is scheduled to receive new Boeing 747-8F aircraft, and an additional 11 airplanes are on order. The company has been instrumental in helping to design and set up the existing BCT facilities. In fact, the BCT is an exact replica of the Cargolux terminal in Luxembourg. The company makes 32 weekly flights via Baku, and up to 56 flights per week during high season.

Boeing estimates that by 2030 the air cargo traffic via Baku will exceed 500,000 tons. This target could potentially be achieved much earlier, but the BCT has yet to recover from a
decline during the 2007-2009 period. In 2006, the BCT handled its largest volume of cargo to date, 75,000 tons. Since then, cargo traffic has declined, also as a result of the global economic slowdown. In 2010, the volume of cargo saw a slight recovery with 39,500 tons processed, 23.8% more than 2009, though still below the 2006 level.

In the meantime, another regional airport, the Navoi International Cargo Airport in Uzbekistan, operated by Korean Airlines, has seen strong and steady growth. In 2010, it handled more than 50,000 tons of cargo, up from 19,000 tons in 2006 (Figure 18). The airport plans to triple its cargo traffic in 2011, aiming to reach 160,000 tons. Although Navoi airport is mainly served by Korean Airlines, providing freight services between Europe and South Korea, it is nevertheless one of Baku’s potential competitors.

Today, Baku’s major competitor in international transit traffic between China and Europe is the Almaty International Airport. It already provides services to a number of international carriers, including Baku’s key partner, Cargolux. The airport boasts Central Asia’s largest multimodal freight terminal. Since October 2009, Cargolux and Lufthansa Cargo have been flying via the Almaty International Freight Terminal on average 10 times and 9 times a week respectively. In addition, Air China Cargo has used the terminal for Shanghai-Almaty-Dubai flights. Like Azerbaijan, Kazakhstan is rich in oil, which gives the Almaty Airport a competitive advantage against other airports in Central Asia in offering affordable fuel for transiting air freighters.

Although Cargolux flies via Baku three times more often than via Almaty, there are several reasons the company chooses to land in Almaty. First of all, there are concerns about fuel price and availability. The Baku airport faces intermittent shortages of jet fuel when there is high air traffic/demand and lack of supply. This happens when the refinery cannot provide enough jet fuel to the airport, which in turn cannot guarantee jet fuel for international transit flights. On such occasions, a regularly scheduled Cargolux flight is forced to re-route and refuel in Almaty. If the fuel supply is interrupted for several days, this sends a negative signal to air cargo carriers, which need predictability, reliability, and sustainability. The logic is simple: if you do not keep your client happy, the client is likely to take his business somewhere else.
Challenges and Opportunities in Air Business

The Azerbaijani government needs to prioritize jet fuel production and ensure that the Baku airport can always supply extra jet fuel, and, crucially, supply it at a competitive price. Secondly, it is quicker to fly between Shanghai and Luxemburg via Almaty, but, on flights to southern locations and Southeast Asia, Baku is a preferred option (faster than either Almaty or Abu Dhabi). Thirdly, there are bureaucratic difficulties at the customs office at the Baku airport, which create additional hurdles for the carrier. It is vital to simplify, streamline, and automate bureaucratic procedures at the airport to retain current carriers and attract new clients.

In terms of its broader strategy, the BCT should diversity its client portfolio, as relying exclusively on one or two carriers is not a sustainable business solution. But to achieve this entails addressing several issues that go beyond the range of what the BCT can do on its own. First of all, Azerbaijan needs to create a suitable environment for air carriers, including offering affordable and competitive fuel prices and aviation services, and eliminating bureaucratic hurdles and delays during stopovers. In order to achieve Baku Airport’s hub status, a common strategy needs to be clearly defined and implemented by all public and private parties, including SOCAR (the fuel provider), the customs agency, and other relevant ministries that deal with trade facilitation. Without a coherent strategy, the BCT will remain underutilized, despite its state-of-the-art facility and professional staff.

Secondly, if Baku is to become a hub for refueling stops and international transit traffic, the government needs to develop dedicated mid- and long-term strategies for jet fuel production and jet fuel marketing. Azerbaijan’s refining capacity and production of jet fuel will have to be improved ( refineries updated, if necessary) in order to accommodate the growing air traffic via Baku. Fuel is one of the few inducements that the Baku Airport can use to attract international traffic and to retain them afterwards. Unless Baku manages to significantly reduce jet fuel prices (for example, in April 2011, the jet fuel price at the Baku Airport was higher than at other regional airports), all of the efforts to use jet fuel to attract international transit traffic could be futile. Yet, the fuel factor should only constitute the ‘incentive’ part of the hub strategy, since Azerbaijan still needs to generate value added activity inside the country and around Baku and Alyat. This could only be possible if the government manages to attract and keep major international air, freight, mail carriers, as well as global developers and operators in multimodal logistics and transportation industry.

Thirdly, Azerbaijan’s air hub strategy should be a crucial and integrated part of the country’s broader hub strategy, and expanded to include a multimodality component. This would require creating a cohesive, efficient, and predictable supply chain network involving air, rail, road, and maritime transport modes and logistics networks within the country and region. This will be particularly important in the medium term (i.e. after 2015) when the Alyat port becomes operational, and in the long-term when the price of container shipments by rail from China or India to Baku are reasonable enough to allow rail/sea/air transfers to Europe via the Baku airport and in the future from the International Airport at Alyat.
The air cargo business thrives on trade, especially trade of high-value goods (given that it is the most expensive mode of transportation). TRACECA project forecasts higher demand for the use of airfreight services in Baku due to increasing high-tech industrial activity and the growing number of international JVs. \(^{149}\) However, Azerbaijan's non-oil sector remains weak, and more than 95% of the country's exports are oil and natural gas, which cannot be transported by air. Azerbaijan's other exports are primarily low-value agricultural products that need to be transformed into high-value added products by creating a competitive industry for perishables. Such an industry does not exist today. Furthermore, in the Caspian region, the main producers and exporters of goods which might eventually be transported by air are concentrated in Kazakhstan and Uzbekistan. Both of these countries have their own airports (Amlaty and Navoi) and themselves aspire to becoming hubs. Therefore, for Azerbaijan, the success of air transportation and the air hub strategy essentially depends on two interdependent schemes:

(1) attracting international cargo traffic to and via Baku, and gradually becoming a regional air hub for international passenger and cargo airlines;

(2) generating trade by establishing a Free Zone at the Baku Airport. The next chapter will examine in depth the concept of the Free Economic Zones and Port Development introducing an integrated hub development approach.
Free Economic Zone Development

The Free Economic Zone (FEZ) is an essential economic tool available to resource-rich countries, including Azerbaijan, to develop their non-oil economies. The economic development necessary to Azerbaijan’s Central Eurasian hub vision is dependent on a comprehensive and integrated FEZ development policy, which should include the new Alyat project and Baku Heydar Aliyev International Airport. Thus, this report will treat FEZ as a critical component of Azerbaijan’s hub strategy as well as an economic device to generate revenue and diversify economy. The few successful FEZ cases around the world were not significantly different in terms of policy foundation when compared to their unsuccessful counterparts. What made a difference, among other things, was the FEZ legal and regulatory structure and how this structure was implemented. The integrated approach outlined here may require the Azerbaijani government to re-examine Azerbaijan’s current FEZ policy and legal framework, and adapt it to support the larger hub vision proposed by this study.

Most developing states around the world have used Free or Special Economic Zones as a way to stimulate the growth of national economy, modernize infrastructure, generate new employment opportunities, introduce economic reforms, and attract Foreign Direct Investment (FDI) and “know-how”. Although references to city-specific free zones go back to the 18th century, and can even be found in city records from Ancient Greece, ‘modern’ free zones did not appear until the 20th century. The past sixty years, in particular, have seen a dramatic increase in the number of modern zones. In 1979, there were 344 trade zones with tax-free regime, freeports, and other special economic zones in 72 countries around the world, processing about $1.3 billion out of an estimated $100 billion of total world trade. In 2008, in developing and transition countries alone, the number of economic zones exceeded 2,300, including 443 zones in Central and Eastern Europe and Central Asia.

As the number of different economic zones grew, so did the range of their activity. The World Bank and UNESCAP provide a list of definitions for the various types of economic zones. Recognizing this diversity, the current study uses the term “Free Economic Zone” (FEZ) to refer to a specifically designated geographic area that is administered and regulated by a special legal and regulatory regime. Here, therefore, the term “FEZ” is used as an umbrella term to encompass most zone types, including special economic zones (SEZ), free trade or specialized zones (FTZ), export processing zones (EPZ), freeports, but excluding industrial cities and single factory schemes.
This section focuses on FEZ and Port Development. The first part will examine the FEZ development process in Azerbaijan, followed by an assessment of the different types of FEZ, their features and management models, concluding with an outline of good practice guidelines for successful FEZ development policy. What makes for successful FEZ development? Why do so many FEZ fail? Which factors influence the outcome of a FEZ's implementation? What FEZ models are relevant for Azerbaijan? What are the challenges in FEZ development?

FEZ Development in Azerbaijan

The reasons for setting up a FEZ vary from country to country, and between developed and developing nations. Most developing countries are concerned with economic and infrastructure issues, which they intend to address through FEZ policy. FEZ policy often includes “import and export duty exemptions, streamlined customs and administrative controls and procedures, liberal foreign exchange policies, and income tax incentives – all meant to boost an investment’s competitiveness and reduce business entry and operating costs.” An additional stimulus for developing countries is the relative ease and speed of setting up a FEZ in a geographically confined area, compared with extending the same legal, financial, and infrastructure services across the entire country. Madani and others have listed 4 broad justifications for establishing FEZ, including supporting wider economic reforms in the country, combating unemployment, trying out innovative policies, and attracting FDI. In general, FEZ is one of many means available to governments that want to introduce new economic reforms on a more gradual basis.

Over time, the traditional notion of FEZ development as a way to stimulate the economy and increase export-oriented growth in an isolated area has evolved and expanded. Today, many FEZs provide a platform for “two-way trade”, facilitating the “liberalization and modernization of the host economy… [and] integrating zones into the domestic economy.” This has been accompanied by the introduction of a wide range of services and activities at FEZs, beyond their traditional manufacturing and processing focus. These services include logistics services, warehousing, transshipments, consolidation, labeling. Most notably, there has been a boom in privately operated and developed FEZs, which in 2008 accounted for 62% of all zones in developing and transition countries.

In Azerbaijan, the topic of establishing a FEZ has been on and off the government agenda since the mid-1990s. The country’s strategic location at the crossroads of major trade links and the need to develop the non-oil sector were among the main reasons for encouraging the FEZ development. The establishment of a FEZ would allow Azerbaijan to capitalize on its current free trade agreements with Georgia, Ukraine, and Turkmenistan, and eight out of nine of the official CIS member states (except Armenia). The country already benefits from the EU’s Generalized System of Preferences plus (GSP+) arrangement and GSP incentives

* “The EU’s Generalized System of Preferences is a trade arrangement through which the EU provides preferential access to the EU market to 176 developing countries and territories, in the form of reduced tariffs for their goods when entering the EU market. There is no expectation or requirement that this access be reciprocated. It is implemented by a Council Regulation applicable for a period of three years at a time. For the period 2009–2011, 16 beneficiary countries have qualified to receive the additional preferences offered under the GSP+ incentive arrangement.” (From the EU Commission)
offered by countries like the US, Canada, Japan, South Korea, and Turkey. It is also a member of the Economic Cooperation Organization (ECO), which plans to establish its own ECO Free Trade area by 2015. Therefore, in terms of trade facilitation and non-oil sector development, creating a FEZ seems the logical next step for Azerbaijan.

The Ministry of Economic Development (MED) and its Azerbaijani Export & Investment Promotion Foundation (AZPROMO) have been the leading advocates of FEZ establishment. They have developed a number of proposals over the past 6 years, the first of which they released back in 2005. Amongst the proposed locations for an industrial and export processing zone were Sumgait (an industrial town near Baku), Siyezen (a town in the north of Azerbaijan), the Absheron Peninsula, and the area surrounding the Sangachal Terminal, Azerbaijan’s major oil and gas processing plant. More recently, with the new port construction at Alyat, the MED was allocated by the government up to 100 ha of land for developing a FEZ within the Alyat port territory (50 ha in the first phase, with additional 50 ha available for expansion).

The Ministry of Communications and Information Technologies (MCIT) has also been investigating FEZ development, focusing on the information technology aspect. In 2007, the Ministry commissioned Booz Allen Hamilton (BAH), a leading US consulting firm, to study the possibility of setting up a Regional Innovation Zone (RIZ) in Azerbaijan, looking particularly at the information and communications technology (ICT) strategy. In the summer of 2007, the company completed its comprehensive report, which favorably assessed Azerbaijan’s potential to establish a RIZ. A year later, Silk Way Holding in conjunction with a Dubai-based consulting firm developed a plan for a FEZ at the Baku Heydar Aliyev International Airport. Both private and state investors have demonstrated interest in developing the FEZ concept.

President Aliyev himself has shown personal interest in Free Zone development, reflected by two separate visits to Dubai’s Jabal Ali Free Zone (2006 and 2010). Shortly after his 2006 visit, he signed a Presidential decree (№ 538) on March 6, 2007 calling for the establishment of a FEZ in Azerbaijan. The Cabinet of Ministers was given a month to prepare FEZ legislation and to produce the necessary legal and regulatory documents. The Ministry of Economic Development (MED) was asked to identify the priority areas for the proposed FEZ. Given that the draft FEZ law needed to liaise with all relevant government ministries and state agencies, as well as the private sector, the entire process was not completed until April 2009. The FEZ law underwent a number of revisions before it was finally signed by President Aliyev on April 14, 2009. It went into force in June 2009.

While the FEZ law adopted by Azerbaijan provides a ‘special legal regime’ that would govern the activities of the national FEZ, it falls short of a Production Sharing Agreement (PSA), which is a type of legal regime that Azerbaijan has successfully used to promote its oil and gas projects such as the Azeri-Chirag-Gunashli (ACG) oil and the Shah-Deniz natural gas fields. Current FEZ law has been drafted within the framework of existing institutional arrangements, without providing for the same level of flexibility offered by a PSA regime.
Since signing of the FEZ law in 2009, government agencies have taken measures to address technical issues, such as drafting procedures for tax payments and paperwork for registering FEZ residents. The MED was assigned to act as the regulatory body for the proposed FEZ and it has even drawn up detailed guidelines and a tender announcement for the selection of an international operator for the FEZ.

Although these developments are encouraging, and certainly constitute the first steps in the right direction, they are not in themselves enough for the successful development of a FEZ. The original goal of the FEZ law was to create a broad legal and regulatory regime that would be sufficiently flexible to allow the government to establish a number of different types of FEZs with different investment sharing options: free trade zones, export processing zones, industrial towns, and any other type of zone that requires special terms and privileges. In addition, the ideal legal framework would set out in detail the role and scope of private sector involvement in the development of the site. Currently, private investment is restricted to the operational phase. Furthermore, the current FEZ law and its subsequent provisions, including the guidelines for selection an international operator, refer to a specific FEZ. However, the actual location of this FEZ remains unclear. The government officials mention the area near the new Alyat Port, but this is not made explicit. The further issue is the lack of a complete marketable plan, which should include a master plan, market assessment, and financial analysis of the proposed FEZ. Without these studies no serious international private operator would consider investing into FEZ in Azerbaijan.

According to the text of the law, the proposed FEZ will be a combination of manufacturing-oriented export processing zone and a service-oriented zone, which is rather a narrowly defined specialization. A FEZ based on transshipment or hub operations – one of many areas that the Alyat FEZ could focus on – will be a different enterprise, with different needs, investment levels, labor requirements, from a FEZ that specializes on export-promotion, manufacturing or assembly. The government could easily facilitate export production by ensuring that existing national laws are enforced. The point here is that, if the purpose of the planned FEZ is to stimulate exports from Azerbaijan, this could be done without creating a dedicated fenced area - by simply adopting Single Factory EPZ scheme, which would not even require an international operator. On the other hand, if the goal is to attract foreign investors/manufacturers into the FEZ either for re-exporting or manufacturing, then it is necessary to consider the size of the potential regional market, the incentives being offered, and why foreign investors would choose Azerbaijan over alternative regional FEZs, most of which have more flexible FEZ regimes with better terms, privileges, and tax breaks.

Fiscal incentives offered by FEZs around the world are increasingly similar, and investors are no longer attracted by FEZs that cannot offer the essential conditions for profitability. Moreover, a number of Caspian region countries (with more competitive domestic markets and larger populations than Azerbaijan) have already set up their own FEZs, and are

---

* “The EU’s Generalized System of Preferences is a trade arrangement through which the EU provides preferential access to the EU market to 176 developing countries and territories, in the form of reduced tariffs for their goods when entering the EU market. There is no expectation or requirement that this access be reciprocated. It is implemented by a Council Regulation applicable for a period of three years at a time. For the period 2009-2011, 16 beneficiary countries have qualified to receive the additional preferences offered under the GSP+ incentive arrangement.” (From the EU Commission)
interested in promoting them, which means that re-exports from the immediate region would be difficult. International experts have identified additional drawbacks in Azerbaijan's FEZ concept, including a lack of clarity with regard to infrastructure and administrative services in and outside of the FEZ, as well as a high-risk and uncertain business environment for a long-term private investment. In short, the current approach to FEZ development is likely to generate limited benefits for the national economy, and play only a marginal role in Azerbaijan's larger scale hub strategy.

**Strategic Planning for FEZ Development**

Establishing a FEZ does not guarantee economic success. In fact, the majority of FEZs around the world have failed to generate their anticipated results. Most of these failures were caused by poor design and inadequate preparations. The prerequisite for a successful FEZ is rooted in strategic planning at a national level. This means that any government interested in establishing a FEZ first of all needs to have a clear idea about the country's overall vision (which should include a medium and long-term plan through 2030 and beyond) and in what ways this vision might be achieved through the proposed FEZ scheme. In addition, the government should comparatively evaluate the potential benefits of FEZ versus possible gains from other national projects, and determine how much investment FEZ development warrants. Moreover, it must decide in advance on the level of private sector involvement it will seek, in the investment/development as well as the operation phases. In the absence of a coherent vision for the future, these factors have yet to be considered fully.

Based on these considerations, the government should then determine which type of FEZ it should establish, how much money should be spent on it, what inducements it should offer to attract first-tier international private sector developers and operators, where the zone should be located, and who should run it. These steps are all part of strategic planning, which usually include the following components:

- Market Assessment
- Policy and Legal/Regulatory Framework Assessment
- Site Assessment
- Conceptual Master Planning
- Environmental and Social Policies Assessment
- Economic Analysis
- Financial Analysis
- Implementation Planning

The strategic planning should have a specific goal: to generate a solid, clearly thought out, and marketable plan that achieves the following: 1) quantifies expected economic and financial benefits; 2) defines anticipated level of private sector participation; 3) outlines FEZ implementation phases and risk mitigation plans; and 4) sets institutional, legal, and regulatory guidelines and guarantees for the zone's development. This plan is a complete package that includes location benchmarking (assessing the country's competitiveness
FEZ Administration and Operation Models

Good practice FEZ development models are based mainly on public-private partnership (PPP) arrangements and usually give a fairly clear idea of how the regulatory authority will operate separately from the ownership, development and operation functions. The PPP models for FEZ are very similar to the arrangements in the port industry. Within the institutional framework, there are a number of players that play distinct roles in FEZ development process:

- **Regulator:** Responsible for planning and administering the FEZ regime; designating FEZ sites, licensing/permitting developers, operators and enterprises; coordinating public agency inputs; monitoring performance; ensuring compliance.
- **Developer:** Owner or a separate entity under a contractual arrangement with the owner to physically develop the site, including financing, designing and constructing the FEZ infrastructure and facilities.
- **Operator:** The owner or under contractual arrangement with the owner, responsible for day-to-day management of FEZs, leasing/sub-leasing plots of land or buildings to enterprises, and provision of facilities and services.
- **Enterprise/Resident:** Licensed/permited to establish business operations within the FEZ. Can be the owner, developer, operator or a separate entity leasing/sub-leasing a plot of land or building within the FEZ.\(^{162}\)

### Table 11: Examples of Public-Private Partnership in Zone Development

<table>
<thead>
<tr>
<th>Country/Zone</th>
<th>Role of Public Sector</th>
<th>Role of Private Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaza Industrial Estate,</td>
<td>Finances all external infrastructure as well as factory shells; provision of land on</td>
<td>Finances all internal infrastructure and zone management</td>
</tr>
<tr>
<td>West Bank and Gaza</td>
<td>long-term lease basis</td>
<td></td>
</tr>
<tr>
<td>Aqaba Industrial Estate,</td>
<td>Finances all external infrastructure; provides land on long-term lease basis</td>
<td>Finances all internal infrastructure and zone management</td>
</tr>
<tr>
<td>Jordan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subic Industrial Estate,</td>
<td>Finances all external infrastructure; provides land on long-term lease basis; equity</td>
<td>Finances all internal infrastructure and zone management</td>
</tr>
<tr>
<td>Philippines</td>
<td>stake in industrial estate</td>
<td></td>
</tr>
<tr>
<td>Tan Thuan EPZ, Vietnam</td>
<td>Provides of land on long-term lease basis and gives right of way development rights on</td>
<td>Finances all internal and external infrastructure and zone management</td>
</tr>
<tr>
<td></td>
<td>access roads</td>
<td></td>
</tr>
</tbody>
</table>

*Source: The World Bank (FAIS) Study (2008)*

There is a direct relationship between the role and risks taken by the private sector in the FEZ development and the duration of commitment to the project. Four general PPP models are listed below, ranging from the lowest to highest levels of private sector involvement.

- **Management Contracts (5-10 years):** Public sector pays the private sector to manage the FEZ under a specific agreement, usually with some revenue sharing arrangements.
- **Leases (10-20 years):** Private sector pays public sector to use FEZ facilities (e.g. land with infrastructure connections) under an agreement which sets out specific terms of use.
- **Concessions (20-30 years):** Private sector owns and operates the FEZ under agreement with public sector and transfers assets back to public sector at end of the agreed term (i.e. Build-Operate-Transfer (BOT) arrangements).
- **Joint Ventures (open ended):** Assets contributed by public sector and cash contributed by private sector into a special purpose vehicle to develop FEZ.\(^{163}\)

In the past, the state agency that was responsible for setting up a FEZ was also responsible for its development, management, and administration. The increased level of private sector participation in FEZ development over recent years has transformed the government’s traditional role in the process. Today, many governments prefer to lease the FEZ land and/or infrastructure to a private company that will act as a zone developer or operator, investing in infrastructure and superstructure facilities within the FEZ premises. In these cases, the government acts as a regulator or shareholder, providing essential infrastructure services outside of the FEZ area (i.e. roads, railways, electricity, water, etc.), collecting rent, and conducting its regulatory duties via a special state agency or cooperation, a ministry,
zone-specific management board, or investment promotion enterprise. To become internationally competitive, some of the most successful public bodies working on FEZ development have transformed themselves into state-backed corporations, which are run like private companies. This is because privately run enterprises tend to be more competitive and perform better globally, while public agencies are prone to be burdened by bureaucratic requirements, and less efficient. The popularity of this innovation is likely to increase in the future, as more and more governments establish development corporations.

Challenges in FEZ Development

Although best-practice FEZ models are available to governments, the success of the FEZ initiative is never guaranteed. Set-up and development is challenging, especially for developing countries operating within complex political and economic institutional frameworks. There are additional factors (i.e. internal and external) that are necessary to the effective development of a FEZ:

- **Vision:** As highlighted throughout this study, the vision for the FEZ and the country as a whole should be at heart of any integrated FEZ development process. Without a clear vision about what the FEZ policy should achieve, how its design and implementation can support the country’s grand strategy, and which political, legal, and economic measures are required to sustain the project, the FEZ initiative is doomed to fail.

- **Location:** Location is the key to a successful FEZ, particularly for integrated FEZ projects that incorporate seaports and airports. The FEZ site, as well as the host country itself, should be situated near major international and regional markets and transport corridors to reduce transportation and operational costs. In terms of FEZ development, Azerbaijan benefits from a favorable location, right at the crossroads of various major Euro-Asian transport links and networks.

- **Stability:** The political and economic climate in the host country should be stable and predictable, to allow a constant influx of FDI and trade. The stability requirement applies also to the government’s FEZ policy and the FEZ legal regime, which should be consistent and sustainable. Azerbaijan’s record with PSAs in the energy sector serves as a good precedent here.

- **Infrastructure:** Good infrastructure services inside and outside of the FEZ are vital for companies investing in FEZ. This means not only the physical infrastructure within the FEZ but also the services provided externally: gas, electricity, and water supplies; road, rail and airport access, availability of multimodal transport; an adequate logistics network, etc.

- **Market Size:** The size of the national and regional markets and the distance from growth economies influence foreign investors’ involvement in the FEZ, particularly if they are from manufacturing or semi-manufacturing industries.

- **Human Capital:** FEZs specializing in low value added production tend to be labor intensive, which means that manufacturers seek out cheap labor. This type of FEZ is more competitive in high-population countries (i.e. China or India) where labor
wages are considerably lower. High value added production, however, requires a more specialized labor force. In small countries, including Azerbaijan, highly educated and specialized personnel, staff, and management is in strong demand, and it will take time to build up this human capital. The FEZ development should act as a catalyst for this process.

- **Economic Factors:** Macroeconomic stability and financial support from the government are necessary conditions for the success of the FEZ, particularly for FEZ projects with PPP arrangements. The infrastructure services outside of the FEZ are typically provided by the government, and they require vast investment for construction and maintenance. A well-designed FEZ policy will better equip the resource-rich developing states to do well in FEZ development and attract higher levels of FDI.

- **Political Support:** The foremost important factor in the FEZ development is probably political backing. This is particularly relevant in developing and transition countries, including Azerbaijan, where institution building is still work-in-progress and where some competence areas of state agencies overlap or conflict. A government that has managed to lift this issue from the ‘ministerial level’ to the national level, steering clear of interest group politics or internal government squabbles tends to outperform any government that has succumbed to internal pressures or failed to give adequate support to the FEZ project. Many FEZ projects have encountered internal resistance to the changes and reforms required for their future success, and the only way to keep things going was to obtain the backing of the country’s leader. A pertinent example here is the creation of Jordan’s Aqaba SEZ in 2001, which would not have been possible without the personal involvement and support of King Abdullah of Jordan. He navigated the bureaucratic hurdles put in place by his own government, ensuring that the Aqaba SEZ followed the best practice model, with liberalized and flexible regulations and a low tax and multi-sector development scheme. By 2006, the zone had already attracted investments of $7 billion, exceeding the original goal of $6 billion by 2020.167

Azerbaijan and its neighboring states have a number of advantages when it comes to the objective factors listed above. However, success will come only when there is an integrated approach to FEZ development and sufficient attention is accorded to strategic and political considerations. Without direct backing and support from the president of the country, FEZ development in Azerbaijan would likely remain a “ministerial level” exercise and will not make the necessary transition to national, regional and international levels. Moreover, as a country aspiring to join the World Trade Organization (WTO), Azerbaijan needs to design its FEZ policy in line with WTO rules and regulations.

The best practice model for an integrated FEZ policy in Azerbaijan would require a flexible and sustainable PSA-type legal regime under the political patronage of the president. This would allow the government to set up any type of FEZ at any location across the country, regardless of the zone’s size or specialty; to choose more than one developer and/or operator for each zone depending on the zone’s feature and specialization area; to set up
a state-backed FEZ corporation that could participate in FEZ regional development and international competition; to apply different PPP investment models to each zone based on the specific needs and priorities of the state; to share the cost of FEZ construction with the private sector; and to create efficient and effective regulatory mechanisms and guarantees for FEZ administration and non-oil sector FDI inducements. These and other issues will be discussed in depth in Part IV.

The Alyat Port and 21st Century Port Development

Azerbaijan’s grand hub vision should include an integrated FEZ development model that encompasses all of its ports, airports, logistics centers and other strategic transport and non-transport projects. Many governments around the world have assigned their ports FEZ status in an attempt to increase their competitiveness and to develop them into regional hubs. Among the regional ports, the Port of Poti in Georgia, the Ports of Anzali and Amirabad in Iran and the Port of Aktau in Kazakhstan have already obtained free/special economic zone status. The Port of Turkmenbashy will likely receive FEZ status in the near future, while the Port of Ola in Russia will receive this status in the future. It is important to note that in many ports the FEZ status covers a large area which often includes the port itself. One of the areas currently being considered by the Azerbaijani government is a 100 ha area within the 400 ha territory of the Alyat port. This is a fairly small area in comparison with the SEZ area at Aktau, which covers 2,000 ha, or the FEZ area at Anzali that is 3,200 ha.

The idea of moving the Port of Baku from its current overcrowded spot in central Baku to a new site near Alyat is not a new one. The official decision was finalized on October 18, 2007 with Presidential decree № 2443. It assigned the relocation task to the Ministry of Transport, to be assisted by other relevant agencies. The Ministry of Transport has managed the process well. It has worked with a renowned international engineering and environmental consultancy firm, Royal Haskoning, to come up with an excellent feasibility study for the port and its phased development. The construction of the new port was marked with an inauguration ceremony attended by President Aliyev in November 2010.

There is no doubt that the port at Alyat is on its way to becoming a forerunner amongst Eurasian seaports. The purpose of this section is not to re-evaluate the planning process of the Alyat port development, but to focus on a conceptual framework for port development and reform process in general and examine current port forms, functions, and management models. The section will conclude with an assessment of the future role of Alyat port as part of Azerbaijan’s hub strategy in conjunction with other economic projects such as FEZs. For a full analysis of the vision for Alyat port, and its potential role within the country’s grand hub strategy, there are a number of questions that need to be asked. Does Azerbaijan need a state-of-art port in the Caspian Sea? What purpose will or should the new Alyat port serve in Central Eurasia, and Azerbaijan in particular? How will the port be built and who should run it? What other steps besides the construction of the new port should the government take to fix the maritime transportation problems in the Caspian Sea? Where does the new Alyat port fit in the bigger picture of Azerbaijan’s hub development strategy?
The New Baku International Sea and Trade Port at Alyat

Given the developments the global port sector has seen over the last twenty years, the new Baku International Sea Trade Port at Alyat is being constructed at a time when new technologies and innovations are being introduced to port management. Consequently, Alyat has the opportunity to become one of the most advanced ports in Central Eurasia. This ideal does of course involve challenges, and bungling the development process could produce undesirable outcomes. There are plenty of historical examples, such as the Port of Damietta (Egypt) in 1970s, when a port was built and fully equipped, but ended up sitting without business for years. It is vital to plan the port development with a long-term perspective and consider issues that are directly influencing the port’s trade and traffic performance, which is the maritime transportation service in the Caspian Sea.

The Alyat port will be located on a 400 hectare plot, near the coast town of Alyat, about 70 km south of Baku. Of this 400 ha, 100 ha have been allocated to the Alyat International Logistics Center (ILC), and a further 50-100 ha for the development of the FEZ. The port’s site offers natural protection against waves and longshore drifts by the Gil Island a few kilometers offshore, which means that the construction of a breakwater is not required. The construction work is planned over three phases, and the initial phase (Phase I) has already begun. When the Phase III is finished, Alyat will be the largest non-oil cargo processing port in the region, capable of handling about 25 million tons of freight and up to 1 million TEU annually.168

Phase I of the construction is estimated to be completed by 2015, allowing for a gradual transfer of facilities from the existing Port of Baku to its new site at Alyat, without causing major disruption to maritime operations. Some of the equipment will also be modernized. During this phase, dredging work will be carried out to create a 7.5 km long, 160m wide and 7.6m deep two-way navigation channel, allowing any type of vessel in the Caspian Sea to call at the Alyat port.169 Other aspects of Phase I will include building rail and road access to national transport networks; a number of terminal facilities, including a multi-berth Ferry Terminal and Cargo Terminal; an inset harbor basin for cargo/multi-purpose berths, a Ro-Ro berth and small craft berthing facilities; quayside and landside rail facilities; a container terminal and freight station, warehouses, and administrative buildings.170 Upon the completion of Phase I, the port will be able to handle 10 million tons of general and dry cargo and about 40,000 TEU; in Phase II, this will increase to 17 million tons of cargo and 150,000 TEU.

The port’s strategic location along the East-West and North-South corridors will allow for the transit of containers and general cargo to and from West Europe, Central Asia, China, the Middle East and South Asia. The Azerbaijani government is investing in Phase I on its own. The estimated cost is $760 million, though this is likely to rise. However, it will seek private partners for the construction and operation of the international logistics center

---

* Today, the Port of Damietta in Egypt is one of the leading container ports in the Eastern Mediterranean. But when it was built in 1970s, it was for a long time referred to as a ‘white elephant’, due to its failure to attract any business. It was only when the Scan-Dutch shipping company decided to change its port of call from Cyprus to Damietta that the port business began to flourish and grow (See World Bank Port Reform Tool Kit – Module 3, p. 71).
(through a JV or BOT arrangement) and the development of subsequent phases of the port. As mentioned previously, the new port at Alyat is expected to be a Landlord Port, with an international operator.

The regional ports of the twenty-first century provide services that transcend “the interests of local users, and [benefit] business and communities located beyond regional and national borders.” Although the new port at Alyat is a part of the national transport strategy, its development resembles the development of a stand-alone project. In other words, to the world, this port appears to be just another regional port, despite the new and exciting promise it holds. In fact, the Alyat port should be viewed in a broader international context taking into account other national or regional infrastructure and logistics projects, and also, crucially, as a part of global supply chain and the FEZ development. This global view will be presented in Part IV.

The Baku International Sea and Trade Port at Alyat, as a single FEZ regime, should constitute the core of Azerbaijan’s hub strategy. This is not a peripheral development, and its centrality needs to be acknowledged. This step would raise the stakes in the project, and provide the impetus necessary to turn Baku, and Azerbaijan, a major Central Eurasian commercial and transit hub. In addition, the port development in the Caspian region necessitates regional cooperation not only between the five Caspian states, but also between the Caspian ports themselves. Today, the major problem that is impeding the effective development of the East-West trans-Caspian trade and creation of a competitive regional supply chain is an inefficient maritime transportation service. This sector is in urgent need of government attention. The solution of this problem must be found before the Alyat port is completed and should be synchronized with improvements at the Ports of Aktau and Turkmenbashy.

The Alyat Port and Hinterland Development

Ports handle two main types of cargo: a) import/export cargo destined for or originating from the home country, and b) a transshipment cargo that passes through the port and brings additional revenue in the form of handling and logistics service fees. In other words, import/export cargo is primarily linked to the domestic economy, while transshipment cargo goes beyond the national boundaries and includes freight that comes to the port via all modes of transport from a third country. Traditionally, ports have served as catalysts for economic development, by boosting national capacity for import/export activity. This was particularly true for countries that could generate sufficient demand within their national boundaries. But over time, especially with increased levels of private sector involvement, ports have started to focus on transshipment cargo and logistics services, thus looking and serving beyond the national hinterlands.

Figure 19 illustrates a conceptual model of port development through different strategies. Today, major international ports such as Hong Kong, Singapore, and Rotterdam, are endeavoring to hold their central positions, by offering a diverse range of services. The developing ports are aiming to move from a single segment (i.e. involvement in only import/
export or only transshipment) into the overlapping area, in order to diversify and increase their market share and value added services. However, not every port can provide all three services simultaneously. For example, the Port of Dalian in China, which is located far away from major global shipping routes, but is close to the regional ones, has chosen to concentrate on logistics services, given that its reach extends to the territory of far eastern Russia and Mongolia. The Port of Gioia Tauro in Italy, on the other hand, is situated along the busiest maritime corridors in the Mediterranean Sea, a key advantage that has made it a large transshipment port. A few smaller countries, such as Singapore and the Netherlands, have managed to move into the overlapping cluster by creating business friendly environment at and attracting trade to their hinterlands and, as a result, engendering freight volumes far larger than their domestic industry could possibly offer.173

The current Port of Baku may be considered a transshipment port, since both the oil and non-oil trade is dominated by transit freight. It has some of the characteristics of a dry port,* located in the middle of the landlocked countries but with access to the Caspian Sea, which is essentially an enclosed body of water. This feature is likely to impact the Alyat port, and in the start-up years, the major part of its operations will probably be transshipments. While there is nothing wrong with becoming a relay hub - which is in fact the first step in Alyat port’s hub strategy - in the medium term the port needs to act as regional intermodal hub and spoke center and long term diversify its services if it wants to move into the middle of the diagram on Figure 19. This would entail expanding its activity in the region, strengthening the logistics services at the port and beyond, and generating trade within the Alyat FEZ by attracting FDI and local and regional companies. It would also mean increasing land-based trade via Eurasian corridors, particularly TRACECA and the NSTC, and inviting major global operators and shipping carriers to the region. The Alyat FEZ strategy outlined in Part IV could play a decisive role in the process.

According to UNESCAP, a port hinterland is “the land area located in the vicinity of a port such as immediately nearby or within the port boundary and functioning interactively and closely with a port by providing various business activities, whether or not the hinterland is

* A dry port is an inland intermodal terminal directly connected to seaport(s) with high capacity transport mean(s), where customers can leave/pick up their standardized units as if directly to a seaport (from Violeta Roso’s “The Dry Port Concept”).
within the administrative jurisdiction of the port authority."175 Since ports act as connection points for maritime and land transportation, the level of trade activity in its hinterland and foreland (i.e. countries with which the port conducts commerce by ship) corresponds directly with the port’s economic performance.

Some academics have drawn a distinction between the ‘main hinterland’ and the ‘competition margin hinterland,’176 with the former “an exclusive area where a port has a monopolistic position in drawing cargo” and the latter as “a competition area where more than two ports compete for cargo”177. The port’s main hinterland may include logistics centers, warehouses, consolidation and distribution centers, business offices, intermodal terminals, and other industrial or commercial enterprises. Further expansion of the port’s hinterland brings it into convergence with the extended hinterlands of other ports, whereby competition areas are created.

A hinterland analysis of the Caspian region reveals a number of ports likely to be competing for influence. In the Caucasus, the Alyat port will have a converging market area with Poti and Batumi in Georgia, Makhachkala in Russia, and in the future, with the Port of Astara in Iran. In the larger Central Eurasian region, the number of potential competitors increases to include all Caspian ports, and some of the Black Sea ports too (Figure 20). Although each of these ports has its own main hinterland in which it retains the monopoly, these main hinterlands cannot on their own generate significant non-oil trade. In light of these considerations, the goal of the Alyat port should be to significantly increase the output of its main hinterland via FEZ and ILC activity, to expand its competition margin hinterland, and to integrate the country’s inland freight distribution and logistics centers with the port through an efficient and competitive multimodal regional supply chain network.

The objective of the port hinterland expansion is to attract more cargo from the new regions and provide their primary import and transit cargo gateway. Currently, Azerbaijan’s trade is dominated by exports of oil and natural gas, and the volume of non-oil exports is still fairly

Figure 20: Hinterland Concept for the Alyat Port

Source: Author
trivial. Exports to Central Asia or East Asia that would require port services are negligible. Even if Alyat's hinterland was to include the entire South Caucasus, the east-going regional exports to Central Asia or China would not be sufficient (at least initially) to significantly impact Azerbaijan's non-oil economy. That is why in parallel to hinterland expansion, Azerbaijan should investigate global and regional containerization and transshipment trends, to ensure that the Alyat port is developing in line with the modern demands of container transshipment business.

Moreover, the Alyat port needs to become the largest 'logistics zone' in the Caspian region, offering comprehensive logistics services to Alyat FEZ residents and international clients, serving as major regional intermodal distribution hub. It is important to note that many manufacturers now prefer to put the final touches on their products at the distribution centers or in FEZs near consumer markets, which makes an even more compelling argument for the provision of value added logistics services at the Alyat FEZ. This would not only generate significant non-oil trade for the Alyat Port and Azerbaijan, but would establish it as a regional logistics leader with all three services (import/export, transshipment, and logistics). This long term strategy would place the Alyat port in the middle of the diagram on Figure 19.
Vision for Azerbaijan: A Bird’s Eye View

Planning in the twenty-first century involves building strategies to address the challenges of the next 20, 30 and even 50 years. Domestic issues can no longer be tackled without looking beyond national borders – without considering the increasingly interdependent nature of the global marketplace and all its various influences. In today’s globalized world with its complex interactions, it is inevitable that the countries of Central Eurasia will find new synergies through which they can develop and secure their positions in the international economic and political arena of the future.

Azerbaijan has and will continue to play a key role in the region in making this transformation happen. Its vast natural resources will stimulate the development of its non-oil economy and revive non-oil trade in the region, thus restoring its historical position as a commercial hub along the ancient Silk Road. By 2030, the country could become a prosperous regional hub in Central Eurasia, but for this to occur, Azerbaijan needs to set out a comprehensive strategy for sustainable development.

As demonstrated by this study, successful hub development requires an integrated approach that by taking a ‘bird’s eye’ view will respond to the Azerbaijan’s main national, regional and global priorities. Building highways, ports, and airports is a necessary part of this strategy, but that alone is not enough. Numerous countries have invested in infrastructure projects only to find them sitting idle for decades. This section discusses specific issues surrounding the Free Economic Zone (FEZ) concept, and the development of the Port of Alyat and the Baku Heydar Aliyev International Airport and outlines the proposed hub vision for Azerbaijan.

Overview

Automobile engineers understand that to produce a state-of-the-art vehicle they must go through a meticulous process that begins long before they reach the factory production stage. Everything starts in an office surrounded by initial concept sketches. During this process, many sketches and models are eliminated, modified, or updated. Engineers design additional two-dimensional and three-dimensional models and do ergonomics analyses and much more before the first prototype is built. They have to consider every tiny detail to ensure that all 4,000 or more parts in the automobile work flawlessly, and enable it to function as a coherent unit. There can be no car without the concept sketch or an initial idea.

The Azerbaijan of 2030 or 2050 will be the product of today’s concept sketches. Central Eurasia will produce the “Dubais” and “Singapores” of the twenty-first century, and Azerbaijan has
the potential to be the region’s focal point, the “hub of hubs”. The necessary trajectory for Azerbaijan requires a coordinated effort at the national level, certainly, but also at the regional level. Nationally, the government needs to align all its major development projects under a single objective. This means that the two key projects – the Port of Alyat and Baku International Airport – should be incorporated into the FEZ concept, which in turn must be constructed on a flexible and effective legal framework. This approach will produce two marketable projects that could result in a “Contract of the Twenty-First Century” in Azerbaijan’s non-oil sector, similar to the “Contract of the Century” signed in the energy sector in September 1994.179 

At a regional level, Azerbaijan needs to harmonize its transport strategy with that of neighboring states, particularly Georgia, Turkey and the Central Asian countries along the East-West axis, and Russia and Iran in the North-South direction.

Azerbaijan’s current export revenue per capita is about $3,000, of which only $150 is derived from the non-oil sector.180 Nearly 95% of the country’s exports and more than 55% of GDP is revenue from oil and natural gas sales – a trend that is unlikely to change dramatically in the immediate future. Azerbaijan plans to attain a “higher income country” status by 2025 or 2030 with a GDP per capita of $12,000-15,000.181 

The question is: What share of this figure will be generated by non-oil sector revenue in 2030? Ideally, it should be more than 60%. Yet to attain this level of revenue diversification, the country first needs to develop and sustain a solid non-oil economy.

In 2010, Azerbaijan hosted the First High Level Forum on long-term sustainable development strategy in close association with the World Bank. There were a number of eminent foreign government and private sector representatives who together with the top economic policy makers from Azerbaijan discussed possible ways to achieve the above objective. The forum highlighted the fact that the country has two potential development strategies: either foreign or domestic demand-led growth. A country with a population of only 9 million in 2011 and an estimated 10.7 million by the mid-2050s182 cannot possibly generate large enough domestic demand to achieve the targeted level of GDP diversification by 2030. Therefore, Azerbaijan should pursue the foreign demand-led non-oil GDP growth strategy, which essentially equates to FDI driven growth.

The forum set out three pre-conditions for attracting FDI:

(i) a stable macroeconomic and fiscal environment with low inflation rate in the short term, and a fiscally sustainable economy without significant levels of debt in the long term;
(ii) an attractive and competitive business culture that would bring non-oil investors and developers to Azerbaijan instead of taking their investments elsewhere;
(iii) a highly skilled and competitive human capital.183

In addition, the Forum stressed the importance in revisiting the traditional role of the government, which should not only act as a regulating body, but also as a facilitator in attracting FDI, and then sustaining and expanding investments. In fact, Azerbaijan started working
towards these targets back in the 1990s to develop its oil and gas sector when it signed the “Contract of the Century” with the world’s leading energy companies. This experiment was extremely successful, generating more than $35 billion in FDI, not to mention the transfer of know-how and modern oil extraction technology and substantial revenue for the State budget. The Azeri-Chirag-Gunashli field alone received more than $20 billion in FDI since 1994. Azerbaijan’s economic achievement in the oil sector is the legacy of the agreements signed in 1990s. So what were the factors behind this success?

First of all, the Caspian oil has been an attractive product, promising potentially high returns on investment. Secondly, the oil sector has been governed by a dedicated and flexible legal regime, via the Production Sharing Agreements (PSA). The PSAs in Azerbaijan have force of law and prevail over any other effective or future conflicting or inconsistent national laws. In general, a PSA is a legal contract used mostly in the mineral or oil and gas industries, when the government and the PSA partner(s) (e.g. a multinational energy company) agree to jointly develop a resource field and share the costs and profits. Often, the energy company takes on the role of investor/developer, while the government acts as a regulator and collects royalty fees. The way the profits are divided varies from PSA to PSA, but it is mostly determined by the company’s share in the project and the amount of investment it has provided. Under PSAs, Azerbaijan secured the investment it needed to develop its energy sector, while the foreign companies received legal guarantees for their long term investments.

Thirdly, the negotiation process ran under the direct supervision of the head of the state at the time, President Heydar Aliyev. This demonstrated the government’s commitment to the agreements in question, and increased investors’ confidence. The country also achieved relative macroeconomic and political stability after the ceasefire agreement in 1994, which brought an end to the active phase of conflict between Azerbaijan and Armenia. This was essential to bringing in FDI. Finally, the oil sector was a small and isolated segment of the national economy, and this made it possible for the government to better regulate the implementation and enforcement of the PSAs.

These factors could be grouped into four basic components which together constitute the framework for the development of Azerbaijan’s energy sector:

1. a valuable product or project (i.e. oil field);
2. an attractive and competitive business climate culture that would bring non-oil investors and developers to Azerbaijan;
3. political and economic stability and high level of political support for the project on the level of President; and
4. technical and regulatory capacity of the Government.

Based on these factors, this study suggests an analogy through which to analyze Azerbaijan’s FEZ concept that should constitute the backbone of its grand hub vision.
Free Economic Zone Concept for Azerbaijan

The core of a successful hub strategy for Azerbaijan must include FEZ development, on the basis that FEZs are prerequisites for generating trade and attracting FDI. Part III emphasized that current FEZ law in Azerbaijan falls short of the PSA legal framework, effectively utilized by Azerbaijan to promote its oil and gas projects. The FEZ policy being pursued at the moment is unlikely to attract multi-billion level FDI to Azerbaijan. The proposed FEZ zone lacks proper financial and market assessments (i.e. strategic planning) and does not offer competitive incentives. In the absence of a PSA-type legal framework, Azerbaijan's FEZ activity will be limited to domestic production, and have a limited impact on the non-oil economy. Hence, Azerbaijan's FEZ concept needs to be re-evaluated and updated.

PSA-type Legal Regime and FEZ Development

A PSA-type legal regime is key to successful FEZ development in Azerbaijan. Although the non-oil sector may not be as attractive or compelling as the oil sector, given the right strategy and incentives, it could still bring in high levels of FDI - and not only investments of several million dollars, but multi-billion dollar ventures across various sectors of the non-oil economy. A serious first-tier investor or a developer would not consider investing such amounts in Azerbaijan without solid guarantees and without a deserving project, just as the energy firms in the 1990s would not have invested in Azerbaijan's oil sector without a PSA and without proof of oil reserves in the contracted fields. Therefore, a PSA-type legal guarantee is fundamental in this process.

In addition, past experience shows that unless the project is promoted at the highest political level (i.e. presidential level), it is likely to fail or underperform. This is primarily due to the competing or conflicting interests of ministries and state agencies, or other interest groups within the country. For example, the reason why a FEZ has never been established in Azerbaijan, despite a number of viable proposals, is that the proposed projects were promoted by particular state agencies or ministries, which gave rise to intra-governmental competition. A FEZ project cannot succeed if it is not pursued at a national level and overseen directly by the president (at least until it is fully established and functioning), which will help avoid the politics of interest groups and/or intra-governmental scrapping. The PSAs in the energy sector have been relatively successful in overcoming these challenges. As such, a PSA with presidential backing is an effective political and economic tool.

Unlike Azerbaijan's current FEZ law, a broader and more flexible PSA-type FEZ law would not require changing national legislation every time there is a call to offer tax breaks or investment incentives. For instance, under the current FEZ law, the government cannot offer tax holidays, because it would require an amendment to tax law. Although the ideal solution would be to amend Azerbaijan's tax law to allow for the application of certain tax exemption regimes and incentives for FEZs, this may be a politically challenging exercise at the moment. Hence, changing the legal structure of the FEZ law from its current version to a PSA-type law would enable the government, at least in the short term, to draft tailored
contracts for specific projects, and better plan for the gradual expansion of the FEZ regime to other parts of the country without requiring changes to national law. Expanding the FEZ regime to different parts of the country is desirable in the long term, but taking into account the realities on the ground, this study recommends a gradual approach, allowing the government to first experiment with two projects (i.e. the Alyat project and the Baku International Airport FEZ), developing them and then gradually applying the FEZ regime to other projects and areas of the country.

PSAs are narrowly defined contracts between two or more parties, and they apply to a specific project for a specific time period. The government could prefer to sign a PSA for each individual FEZ project. The ideal FEZ structure, however, would be an umbrella law encompassing all FEZ activities. In this way, the government could choose to draft a single PSA-type FEZ law, covering all FEZ activities and to be used as a reference framework. Contracts for individual FEZ projects would operate under this law, with specific articles relating to the particular project activities. Either of these options would work within the terms of the strategy this study proposes, though given the challenges and potential risks of introducing the FEZ concept in Azerbaijan, the former option may be more suitable in the short term.

A Marketable Product/Project

With the adoption of a PSA-type FEZ law, Azerbaijan would need to identify projects to attract non-oil FDI. This study recommends focusing on two projects that could generate significant FDI in the non-oil sector and raise the stakes in Azerbaijan’s FEZ development. These two initiatives are the Alyat project and the Baku International Airport FEZ project. The two projects are directly linked to Azerbaijan’s grand hub strategy, and constitute its two essential components.

The Jewel of the Caspian: The Alyat Project

The Alyat project currently includes three separate initiatives: the Alyat port, the Alyat International Logistics Center (ILC), and the Alyat FEZ, each requiring up to 100 ha of the total 400 ha available for the whole project (the area could be expanded if necessary). To increase the value of the Alyat project, these three stand-alone projects need to be consolidated into a single project. Thus, instead of having a separate FEZ near the port and logistics center, the entire area should be assigned FEZ status and governed by the PSA-type FEZ legal regime described above. In the long term, the area should also include an airport, which will be critical in promoting Alyat as an intermodal transportation hub in Central Eurasia.

The Azerbaijani government could do due diligence in the Alyat project, to include the comprehensive strategic planning process described in Part III (market assessment, financial analyses etc.). This could be conducted by an international financial organization with experience in FEZ development. It will allow the government to produce a solid marketable business and value proposition for the Alyat project, which it could then promote under a
PSA-type scheme, similar to the energy agreement signed for the development of the Azeri-Chirag-Gunashli oil field.

The PSA-type scheme would involve an investment partnership whereby investors and developers would own shares proportional to their investments in the project. This could be done by creating the Alyat FEZ Development Corporation (ADC), or a consortium of investors similar to the Azerbaijan International Operating Company (AIOC) consortium in the energy sector. The government can keep the majority of shares if it wishes to do so. Its shares could be held by a specifically created state agency for FEZ activity and a national FEZ and logistics corporation, or in combination with other government agencies, banks or corporations like Azerbaijan Investment Company (AIC). The investment project could be managed by the ADC’s Board of Directors, which would entail the members acting as representatives for investment partners, with each allocated a number of seats proportional to the size of the investment.

Figure 21: Possible Organizational Structure of FEZ Concept for Azerbaijan

The Board of Directors of Alyat FEZ could be the management body of the project, while a state agency for FEZ development under the President could act as a regulatory and administrative body (Figure 21). The Board would be able to make decisions on the project’s development strategies and on choosing the operators for the FEZ, Alyat IFC, and the Alyat port. Investment in the port should be encouraged, and potentially, additional dedicated terminals should be built and operated by global shipping companies or international stevedores. The concessions and development strategies to be adopted for a particular segment of the Alyat project could be determined by the Board.
Eurasian Aviation & Logistics Hub: Baku International Airport FEZ

The second FEZ project could be the Baku International Airport (BIA) FEZ project. The Air Transportation section in Part II demonstrates Baku’s capacity to become Central Eurasia’s major air hub. This potential could be realized if additional incentives and value propositions were created at the BIA. The best way to create such incentives would be to establish a BIA FEZ over a large area (about 850 ha) adjacent to the current airport.

The previous feasibility study conducted by a Dubai-based company in 2008 identified the potential for increased traffic and trade at the proposed FEZ. It also evaluated the investment options and revealed the project’s high-level profitability, with an estimated payback period of 11 years. The BIA has a competitive advantage in terms of its location, and it could be transformed into an intermodal logistics and air transshipment hub for many European and Asian airlines. The BIA FEZ, meanwhile, could attract significant FDI and businesses involved in transit shipments and trading, particularly in the export and re-export of perishable agricultural commodities.

The Alyat FEZ and the BIA FEZ projects could be managed under a single PSA-type legal framework, or two specifically designed PSAs. The organizational structure of the BIA FEZ could be similar to the Alyat project with a public-private partnership model. The investing partners could set up the BIA FEZ Development Corporation (BIADC), which would manage and develop the zone (Figure 21). The two zones would complement one another, since the Alyat FEZ would not have its own airport during the initial years, while the BIA FEZ would benefit greatly from intermodal trade generated in or transiting through the Alyat FEZ. This means that the development of these two projects would have to be closely coordinated, so that they complement one another and support Azerbaijan’s grand hub strategy.

Stability and Political Support

In addition to the PSA-type legal regime and a marketable product/project, a first-class FEZ project would require a third component, which is actually the most critical of all three: political and economic stability and political support for the project on the level of President. As Part III demonstrates, introducing new initiatives and reforms in developing and transition countries is not always universally welcomed. The process of establishing the Aqaba FEZ in Jordan is a clear example how difficult this process can be. It is also a useful example of a project that could not have succeeded without the personal involvement and support of the ruler of Jordan, King Abdullah.

Governments that have failed to sustain economic and political stability have also failed in their FEZ initiatives. There are countless examples of such failures in Africa (e.g. Democratic Republic of the Congo). It is therefore vital that countries aspiring to host FEZs have stable economic and political climates and friendly business environments. These are preconditions for FDI and sustainable FEZ development. The success of a FEZ project depends on the level of political will. A FEZ project without proper political backing ends up being an incidental
economic exercise with limited impact or, at worst, a complete failure. Such initiatives cost the state hundreds of millions of dollars and produce scant results. In most transitional economies, including Azerbaijan, this political will often rests with the president. If the FEZ project is not prioritized by the president and given unconditional support, its development will likely be undermined by other internal actors.

In sum, an integrated FEZ concept that includes a flexible and sustainable PSA-type legal framework, the two FEZ projects mentioned above, and presidential backing is more likely to succeed than several stand-alone and unsynchronized projects. All of the projects in the transportation and logistics sector should be brought in line to form a united hub strategy for Azerbaijan 2030. Such strategy will genuinely strengthen Azerbaijan's position in the region and enable it to become a magnet for global trade in Central Eurasia. It will also allow the country to achieve its set goal of becoming a modern, developed, and diversified economy by 2030.
Notes


4. Ibid.


6. Ibid.


8. See the official website of the Trade section of the European Commission, available online at http://ec.europa.eu/trade/


13. Ibid.


15. For more information about the TRACECA project visit http://www.traceca-programme.eu/en/traceca/


18. This is from the most recent draft of “CAREC Corridors Performance Measurement and Monitoring (CPMM): Annual Report (January 1 to December 2010),” which was still in drafting stage when this study was concluded.


20. A 1-3 km/h average speed is shown in the CAREC CPMM (April 2009 to March 2010) report, while 9 km/h is mentioned in the latest CAREC CPMM (January-December 2010) report.


22. From the data provided by the State Statistics Committee of Azerbaijan.


24. The State Statistics Committee of Azerbaijan does not have detailed data on what proportions of the total cargo shipped along the TRACECA route are international or domestic. The data provided by the State Customs Committee of Azerbaijan suggests that the total cargo turnover transported by trucks at the Azerbaijan-Georgia border was 1.3 million tons, carried by more than 66,500 trucks.


26. This information was obtained by the author through a number of interviews with trucking companies in Azerbaijan, particularly the interview with Mr. Anar Rzayev, Director of Van der Wal – Azerbaijan.

27. From an interview with Turkish truckers at the Baku port on January 19, 2010.

28. This is from the official statistics of the national association for transport companies in Turkey (UND); courtesy of Mr. Marc Abeille, an EU expert, and the ”Motorways of the Seas – Black Sea and Caspian Sea I” project.

29. Information provided by the Port of Poti.

30. From an interview with Turkish truckers at the Baku port on January 19, 2010.

31. See IRU study, “Road Haulage from Europe and China to Afghanistan,” (Moscow, 2009), p. 11.


33. The information was provided by the Port of Poti authorities.

34. See the official website of the Port of Aktau at http://www.portaktau.kz/

35. By 2008, 5,375 km of local roads and more than 225 km of national roads were constructed and partly and fully rehabilitated. See the Annual Report of the Ministry of Transport of Azerbaijan (2008).

36. From the interview with the Senior Advisor at the Ministry of Transport of Azerbaijan, Azer Aliyev. See Trend.az, ”2012-ci ilin sonuna dek Azerbaycan magistral yollarin tikintisini ve yeniden qurulmasini basta çatdiracag (in Azerbaijani) – (By the end of 2012, Azerbaijan will complete the construction and rehabilitation work on its highways,” March 3, 2011.

37. For detailed discussion of these routes and see their lengths see Taleh Ziyadov, “Azerbaijan” in Frederick S. Starr, ed., The New Silk Roads: Transport and Trade in Greater Central Asia, (Washington: Johns Hopkins University – Central Asia-Caucasus Institute, 2007).

38. From the official data provided by ADY.

39. The official data from Azerbaijan Railway JSC (ADY). There may be some inconsistency in rail cargo statistics, which stems from two different sources: the State Statistics Committee and the Azerbaijan Railways JSC (ADY). Some of discrepancy is due to the use of ‘transport’ and ‘non-transport’ sector data by the State Statistics Committee. The official ADY data only covers the ‘transport’ sector.
40. From the presentation of the Kazakhstan representative at the First TRACECA Investment Forum in Brussels on 12 October 2010.


42. Data is provided by the Georgian Railways.

43. Data is provided by the Georgian Railways.

44. The average speed of regular trains in the Western US states is about 40 km/h, which is similar to the average speed recorded in Canada. Information on average commercial speeds is provided by Harral Winner Thompson Sharp Klein, Inc (Maryland, US). Courtesy of Jan Tomczyk.

45. From the State Program on Improvement of Railway Systems in 2010-2014 (in Azerbaijani) signed by President Aliyev on July 6 2010. See also the World Bank Rail Trade and Transport Facilitation Project (2008-2013), available online at http://web.worldbank.org/

46. Information provided by the Georgian Railways.

47. For more information visit Georgian Railways LLC. website at http://www.railway.ge/

48. The data was provided via an email survey by DFDS. Calculations are based on the DFDS data provided. The train leaves Italy at 20:23 and arrives in the UK the following day at 04:45, which gives a journey time of 32 hours and 22 minutes, with an average non-stop speed of about 44 km/h. However, the train stops at the border crossings and 3 times for an engine change, once near London and twice en route in France or Switzerland. If the stoppage time, presumably more than 4.5 hours in total, was deducted this would give us about 28 hours of actual travel time with an average speed of more than 50 km/h.

49. For 28 platforms in each direction, a round trip price is approximately €52,000. If we divide €52,000 by 28 and then by 2, we will get a rough price for a 20 ft container each way, which is €928.

50. See “Dispelling commonly held myths and setting the agenda for rail freight” booklet by FreightonRail.com. Available online at http://www.freightonrail.org.uk/PDF/MythsBooklet.pdf


52. From the presentation of and discussion with Mr. Erik Evtimov, Senior Legal Advisor & Project Coordinator at International Rail Transport Committee, during the 5th Session of Group of Experts on Euro-Asian Transport Links in Tashkent, Uzbekistan on November 1-2, 2010.


54. Ibid. pp. 42-43.

55. From interview with Azerbaijani freight forwarders.

56. Speaking at the Business Forum “Strategic Partnership 1520: Caucasus Region” in October 2010 in Baku, VP of Russian Railways, Vadim Morozov, stated that the number of container turnover between Europe and countries of the Middle East and South Asia is increasing and the railway link in the North-South axis is underutilized. See Gudok.ru, “Steel Throw to the South” (in Russian) - (Стальной бросок на Ю), October 25 2010.

57. RIA Novosti, "Russian-Iranian trade turnover hits $3.7 bln", February 20 2010.

58. Based on data from the IMF Direction of Trade Statistics database (reported by the Governments of India and Islamic Republic of Iran). The reports of the Russian Federation put the annual trade with India at $6.3 billion and with Iran at $3 billion in 2009.

60. This is according to Head of International Department of Iranian Railways, Abbas Nazari. See Trend.az, "Azerbaijan, Russia and Iran sign agreement to establish JV on North-South project," February 8 2011.

61. RIA Novosti, “Russia-India trade to reach $10 bln by 2010 - deputy PM,” December 3 2008.


63. The Tehran Times, “Iran to continue crude supply to India,” January 18 2011.

64. According to the statement made by Iran’s Minister of Economic Affairs and Finance, Dr. Seyed Shamsodin Hosseini, at a seminar held in New Delhi in July 2010. See Indiaserver.com, “Iran Proposes Investment Protection Treaty With India, Plans For Increasing Bilateral Trade,” July 8 2010.


67. Ibid.

68. These calculations are done based on the data from the Ministry of Commerce and Industry, Government of India, courtesy of Dr. Gulshan Sachdeva.


72. This is official data from the State Statistics Committee of Azerbaijan. Also see News.az, "Azerbaijan-Russia trade grows $103m in 2010”, January 18 2011.

73. According to IMF Direction of Trade Statistics database (as reported by the Government of Azerbaijan).

74. The State Statistics Committee of Azerbaijan.

75. Ibid.

76. Gudok 1520, “Iran Marches through the Corridor” (in Russian) – “Иран идёт по коридору”, April 21 2010.

77. Ibid.

78. According to Iranian Ambassador to Kazakhstan, Ramin Mekhmanparast, the trade turnover between the 2 countries has seen a four-fold increase, reaching $3 billion in 2008. He said that the countries aim to increase this trade to $10 billion in the near future. See the online version of “Nash Mir” newspaper, “Trade Turnover between Iran and Kazakhstan has increased by four times” (In Russian) – “Торговля между Ираном и Казахстаном выросла в четыре раза”, February 10 2010.

79. Ibid. According to Director of Iranian Railways, Abbas Nazari, with the completion of the railway link from Uzen (Kazakhstan) to Qizilqaya, Bereket, Ertek (Turkmenistan) to Gorgan (Iran), the annual cargo flow will exceed 20 million tons.

80. For example, see Sergei Mikheev, “Corridor ‘North-South’ – Guarantee of Strengthening Russia’s Position in the Caspian” (in Russian) – (Коридор «Север-Юг» - Залог Укрепления Российских Позиций На Каспий), Politcom.ru, May 28 2010.

82. See also Alexander Polishuk’s commentary, “Cooperation of Russian Federation and Iran in the area of transportation” (in Russian) – “Сотрудничество между РФ и ИРИ в области транспорта” available online at http://www.vkimo.com/node/850


84. The UIC feasibility study (2008) concludes that the NSTC route through Azerbaijan is not only shortest, but also the quickest and economically competitive option in Euro-Asian transportation if managed and further developed. See the feasibility study by the International Union of Railways (UIC) titled “The New Caucasus Route”, October 3 2008.

85. These are official figures given to the author by the State Customs Committee of Azerbaijan.

86. From the author’s interviews with the former Azerbaijani railway employees during the Soviet Union who were familiar with the Julfa border crossing point.


88. This is according to VP of Russian Railways, Vadim Morozov, who spoke at the Business Forum “Strategic Partnership 1520: Caucasus Region” in October 2010 in Baku. See Echo-Az.Info, “Investments into new railway from Iran to Azerbaijan are estimated at $408 million” (in Russian) – “Инвестиции в строительство новой ж/д линии из Ирана в Азербайджан оцениваются в $408 млн”, October 12 2010.

89. Ibid.

90. This is based on the author’s calculations from the data provided by the State Statistics Committee of Azerbaijan and Azerbaijan Railway JSC (ADY). These numbers reflect the total cargo that is carried by ADY, excluding domestic shipments and cargo carried in the East-West direction along the TRACECA route.

91. For example- see the feasibility study by the International Union of Railways (UIC) titled “The New Caucasus Route”, 3 October 2008, courtesy of Stig Nerdal, Project Manager for international corridors, UIC.


93. According to the Head of International Department of Iranian Railways, Abbas Nazari. Trend.az, “Azerbaijan, Russia and Iran sign agreement to establish JV on North-South project,” February 8 2011.


95. Trend.az, “Azerbaijan, Russia and Iran sign agreement to establish JV on North-South project,” February 8 2011


97. Gudok.ru, “Iran Marches through the Corridor” (in Russian) – (Иран идёт по коридору), March 5 2010.


102. According to Head of International Department of Iranian Railways, Abbas Nazari. See Gudok.ru, “Iran Marches through the Corridor” (in Russian) – “Иран идёт по коридору”, March 5 2010.

103. Grain shipments by road from Kazakhstan to Iran via Turkmenistan have been the most inefficient mode of transport, because these shipments are expensive and may get delayed en route (at border crossing points) for 40-45 days. See for example Gudok.ru, “Grain for Iran” (in Russian) - “Зерно для Ирана”, December 28 2009

104. The data is from the State Statistics Committee of Azerbaijan.

105. From an interview with CASPAR’s Head of Department on External Economic and Commercial Relations, Mr. Ilham Mamedov. See also Interfax.ru, Caspian Shipping Company Expects Growth in Cargo Transportation by 2% in 2010 (in Russian) – “Каспийское морское пароходство в 2010 г. ожидает роста грузоперевозок на 2%”, March 5 2010.

106. Interview with CASPAR’s Head of Department on External Economic and Commercial Relations, Mr. Ilham Mamedov (January 18 2011).

107. Interfax.ru, “CASPAR” Plans to Open New Dry Cargo Terminal By April (in Russian) – (“Каспар» планирует к апрелю ввести в строй сухогрузный терминал), March 5 2010.

108. Interview with CASPAR’s Head of Department on External Economic and Commercial Relations, Mr. Ilham Mamedov.


110. From an interview with an Azerbaijani historian, Dr. Goshqar Goshqarli, a member of the Academy of Sciences of the Republic of Azerbaijan.


113. This information is estimations made by Prof. Dr. Mehmet Tanyaş, the founder and head of Turkish Logistics Association (LODER), based on Deloitte’s “Transportation & Logistics Industry Report 2010” report.


115. Visit the official website of Doing Business at http://www.doingbusiness.org/

116. Data provided by Azerbaijan Railway JSC (ADY).

117. From an interview with a manager of the Shamkir Greenhouse facility.

118. “A dry port is an inland terminal directly connected to seaport(s) with high capacity transport mean(s), where customers can leave/pick up their standardized units as if directly to a seaport” see Roso, V. and Lévêque, P. Dry Port concept for seaport inland access with intermodal solutions, Masters Thesis, Chalmers University of Technology, Gothenburg (2002), p. 50. Cited in the UNESCAP study Logistics Sector


122. From the presentation by Mr. Akif Mustafayev, TRACECA's Azerbaijan’s National Secretary, at the First TRACECA Investment Forum in Brussels on 12 October 2010.

123. See Progress Report III - Annex 5 Feasibility studies for the selected projects (Azerbaijan: ILC at the New Baku International Sea Trade Port at Alyat) as a part of TRACECA's “International Logistics Centres for Western NIS and the Caucasus in Armenia, Azerbaijan, Georgia, Moldova, Ukraine” program, July 2010, pp. 73-74.

124. This information is from the summary of the TRACECA feasibility study for the proposed logistics centers at the Port of Aktau and the Port of Turkmenbashy, which has been completed within the TRACECA program “International Logistics Centres/ Nodes Network in Central Asia.”

125. See Airbus’s “Global Market Forecast 2007-2026” Report


128. From an interview with Mr. Jamil Manizade, Deputy Executive Director of Azerbaijan Airlines. Also visit the official website of the Azerbaijan Airlines at http://www.azal.az

129. Statistics on passenger traffic provided by Azerbaijan Airlines.

130. Based on IATA Airline Industry Forecast 2010-2014.

131. From interview with Mr. Jamil Manizade, Deputy Executive Director at Azerbaijan Airlines.

132. For connecting flight data between Europe and Asia see Airbus’s “Global Market Forecast 2007-2026” Report, p.22. For comparative growth of connecting vs. non-stop traffic see presentation Airbus’s “Global Market Forecast 2010-2029” by John Leahy, CEO of Airbus.

133. Ibid.

134. These are estimations by ALG based on information from ATI and OAG databases. Courtesy of ALG.

135. For example, in 2010, Azerbaijan’s Cabinet of Ministers wrote off AZN 99 million ($124 million) debt generated by AZAL. Since the company is a state-owned carrier all aircrafts are also purchased and given to AZAL by the Azerbaijani government. There is not much AZAL can contribute to purchases of new aircrafts, unlike for example CASPAR, which shared some costs when ordering new oil tankers for the company. AZAL can become profitable if it is run and operated like a private company, even if the majority if its shares are owned by the State.


137. Ibid., p. 77.

138. Ibid., p.8.
139. Ibid., p. 78.
140. Ibid., p. 79.
142. The calculation is based on Boeing 737-400 model where the combustion of 1kg jet fuel yields 3.15 kg of CO$_2$ see Jardine, C.N., A Methodology for Offsetting Aviation Emissions, Oxford: Environmental Change Institute, 2006).
143. See the official website of Baku Cargo Terminal at http://www.bct.az
144. From the interview with the BCT Director, Mr. Ilqar Alakbarov on December 1 2010. Also visit the BCT site.
145. See official website of Silk Way Airlines at http://www.silkway-airlines.com/
146. See official website of Cargolux at http://www.cargolux.com/
147. This information is from an interview with Cargolux representative in Baku, Mr. Bulent Ilhan. Courtesy of ALG.
148. See official website of the Almaty Airport at http://en.alaport.com/
149. TRACECA “International Logistics Centres for Western NIS and the Caucasus” report.
150. There are divergent accounts on the first modern free/special economic zone. Some scholars point to freeports that were established in the US in 1930s, while recognizing that these zones were only allowed to offer storage and warehousing services, not manufacturing (see Kenneth O’Brien, “Setting up and Operating Freeports” in Freeports, eds. Eamonn Butler and Madesn Pirie, (London: The Adam Smith Institute, 1983)). Others suggest that the first free zone was established in Puerto Rico in 1951 (see Chungjin Kim, “A Study On The Development Plan Of Incheon Free Economic Zone, Korea: Based On A Comparison To A Free Economic Zone In Pudong, China”, Master Thesis, University of Oregon, May 2007), while the World Bank study points to the SEZ established in Ireland in 1959 (See Special Economic Zones: Performance, Lessons Learned, and Implications for Zone Development, (Washington, DC: World Bank, April 2008), pp.2-3). Yet, the “Colón Free Zone” in Panama was established three years prior to the duty-free zone in Puerto Rico in 1948, which means it could be considered the first modern free economic zone.
151. For detailed discussion on different types of FEZs and their economic impact see Herbert G. Grubel, “Toward a Theory of Free Economic Zones,” Review of World Economics, Volume 118, Number 1, pp. 39-61.

158. Ibid.

159. From an interview with Gökhan Akinci, Global SEZ Product Leader at International Finance Corporation (IFC) in Washington, DC (October 15 2010) and his “Strategic Planning (National Level)” presentation delivered in Cairo, Egypt; May 24, 2010.


161. Ibid.

162. Ibid.

163. Ibid.


165. Many successful global operators are either privately owned or state-backed cooperations.

166. For example, the instability in FEZ regime of Russia’s Kaliningrad exclave had a negative effect on investment in the region throughout the 1990s. Only after Russia’s 1998 economic crisis and the introduction of several SEZ laws did the situation stabilize. Consequently, by 2006, the Kaliningrad SEZ accounted for the output of 80% of TV sets, 84% of vacuum cleaners, 12% of foreign brand cars, 5.7% of furniture, 19.3% canned meat and 33% of canned fish across the whole Russia. See Vladimir Kuzin, “The role of the special economic zones in attracting foreign investment to the Kaliningrad region,” *Baltic Rim Economies*, Issue 2, April 30, 2008.


168. This and subsequent data is provided by the Ministry of Transport of Azerbaijan and Royal Haskoning firm.

169. This includes 4.7m deep draught Ferries; 5.2m deep draught General Cargo Ships; and 5.6m deep draught Ro-Ro vessels. From the “Port Master Plan: New Baku International Sea Trade Port” report prepared by Royal Haskoning (March 2010).

170. Ibid.


172. UNESCAP & KMI study, p. 17.

173. UNESCAP & KMI study, p. 18.

174. The definition of the dry port was cited in Leveque, P., Roso, V., *Dry Port concept for seaport inland access with intermodal solutions*, Master thesis, Department of Logistics and Transportation, Chalmers University of Technology (Göteborg, Sweden, 2002). For more detailed discussion see Violeta Roso, The Dry Port Concept, Doctor of Philosophy Thesis, Department of Logistics and Transportation, Chalmers University of Technology, (Göteborg, Sweden, 2009).


176. According to Dr. Jean-Paul Rodrigue, see UNESCAP & KMI study.

177. UNESCAP & KMI study, p. 14.

179. On September 20 1994, the Azerbaijani government and a consortium of 11 international energy companies signed a 30 year Production Sharing Agreement (PSA) to develop Azerbaijan’s three major oil fields named “Azeri”, “Chirag”, and “Gunashli.” This agreement came to be known as “Contract of the Century” signifying its importance and future impact. Since the signing of the agreement more than $20 billion have been invested for exploration, development and production at the three fields. The “Contract of the Century” was the first PSA signed by the Azerbaijani government and foreign energy firms.

180. From the interview with Emin Huseynov, Director of Center for Research and Development at the Central Bank of Azerbaijan (January 11 2011).


183. From the interview with Emin Huseynov, Director of Center for Research and Development at the Central Bank of Azerbaijan (January 11 2011).


185. For example, Article 23.1 of Production Sharing Agreement on The Exploration, Development and Production Sharing for the Shah Deniz Prospective Area in the Azerbaijan Sector of the Caspian Sea states: “Upon approval by the Parliament of the Azerbaijan Republic of this Agreement, this Agreement shall constitute a law of the Azerbaijan Republic and shall take precedence over any other current or future law, decree or administrative order (or part thereof) of the Azerbaijan Republic which is inconsistent with or conflicts with this Agreement except as specifically otherwise provided in this Agreement.”

186. For detailed discussion see Kirsten Bindemann, “Production-Sharing Agreements: An Economic Analysis,” Oxford Institute for Energy Studies, October 1999

187. This is the major oil field in Azerbaijan, which combines three nearby fields into one, that has been developed by a consortium of foreign energy companies and SOCAR under a PSA. See Note 4.