Drivers of Logistics Performance: Case Study

Participating Partner: Sertrans Logistics

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1% cost reduction could increase world income by USD 40 billion.

Improving only border administration and transport and communications infrastructure would lead to an increase of some 4.7% in global GDP, six times more than would result from complete worldwide tariff elimination.
The biggest obstacles to international trade today are physical, administrative and informal restrictions on the movement of goods. Eliminating supply chain barriers have a larger effect on economic growth and competitiveness than removing tariffs. Improving only border administration and transport and communications infrastructure would lead to an increase of some 4.7% in global GDP, six times more than would result from complete worldwide tariff elimination.

Lengthy administrative procedures at border crossing and other delays related to customs compliance requirements can increase transaction costs up to 24% of the value of traded goods. OECD analysis shows that a 1% cost reduction could increase world income by USD 40 billion and that exports potentially benefit at least as much as imports.

Efficiency of transport systems and industry profitability are closely related. The comparative efficiency of a country’s logistics chain has a vital importance in attracting investment and enhancing industrial competitiveness. Empirical studies show that foreign direct investment flows more to areas where transportation systems are more efficient.
The Logistics Performance Index (LPI)

A multi-dimensional assessment of logistics performance, the LPI of the World Bank, is an international benchmarking tool focusing specifically on measuring the trade and transport friendliness of countries, inducing them to realise logistics challenges and opportunities.

The LPI summarises trade and transport performance over six dimensions which capture the most important aspects of the logistics environment. Increasingly respected by policy makers, the LPI has significantly enhanced the dialogue between policy makers and private sector in determining priorities in trade and transportation facilitation. Both collectively and individually, the private and public sector stakeholders have an interest in improving logistics performance, and keeping industry profitable and competitive.

Allowing for comparisons across 160 countries, the LPI is also used by traders to identify challenges and opportunities related to a country's transport infrastructure, logistics competence, and availability of tools and resources for efficient management of supply chains. In this context, the LPI is seen as a major indicator of a country’s business environment and a good criterion for selecting new sites of operation.
What did we do?

We used the LPI and looked behind it to identify the hidden factors that have a critical impact on sector competitiveness, and to understand necessary actions to support the industry in bottleneck areas.

We conducted a policy impact analysis for national freight transport and logistics performance on the basis of LPI dimensions and analysed how implemented policy acts change trade and transport performance on national and industrial level. We developed a knowledge map of policies, strategic interventions and activities that affect trade and logistics performance and which can, in turn, be implemented to enhance logistics performance. We conducted a synthesis of desk research, analysis and qualitative assessments with a case study for Turkey. Desk research covered the collection and analysis of Turkey's trade and logistics performance by reviewing background data on the structure of foreign trade, the level of activity at the major international gateways and land borders and performance of the logistics sector. Qualitative assessment of the trade and transport policy environment was run through a series of meetings with experts, policy makers, associations, and selected companies involved in related trade and logistics services.

We developed a framework which will be elaborated to a generic toolkit for other countries for managing policy changes and suggest future projects to realise opportunities to remove trade impediments.
Turkey's Foreign Trade

World Trade Index

FTA: Free Trade Agreement
EU: European Union

* FTA with Syria has been suspended as of December, 2011
** The Agreement entered into force as of April, 2013
Trade and Transport Performance of Turkey

Turkey is an important logistics centre in Europe due to high values of trade with regional partners. It is considered a critical actor in trade between EU, CIS and Middle East countries. Turkey is an upper-middle-income country with a large population and a diversified economy. The economy grew with an average annual real GDP growth rate of 5% between 2002 and 2013. As such, the Turkish economy is the 17th largest in the world and the 6th largest in Europe.

Over the past 10 years, the total volume of Turkey’s foreign trade has increased nearly 5 times, from $67 billion to $334 billion.

The most significant development in Turkey’s foreign trade policy is the establishment of the Customs Union with the EU for manufactured goods. EU Customs agreement initiated a time period for the legal infrastructure of foreign trade strategy to be made consistent with the EU norms; therefore both import and export regimes have been made consistent with the regulations of the EU by 2002. Today, Turkey’s biggest export trading partner is Germany with almost 14 billion USD, followed by Iraq, UK, the Russian Federation, Italy, and France.
For every 10% increase in the LPI of a typical exporter, bilateral exports increase by more than 69%.

For every 10% increase in the LPI of a typical importer, bilateral imports increase by 54%.
Turkey’s LPI ranking is currently the third highest in the Upper Middle Income (UMI) economies after Malaysia and China. Turkey also ranks ahead of 13 EU countries including Greece, Poland and Bulgaria.

If Turkey’s logistics services were on a par with Malaysia’s, which is the top performer in upper-middle income economies, its imports would increase by 13.80% on average, all else equal, and its exports would increase by 17.99%.

If Turkey manages to improve the LPI score on infrastructure to the level of High-Income OECD countries, the associated impact on the exports is estimated to be more than 29%. A 12% improvement in the customs score, which is sufficient to reach the average of high income OECD countries could result in an increase in bilateral exports of close to 48.26% for seaborne trade.

Reaching the top performer’s (Germany) LPI score in tracking/tracing could potentially increase exports by 52%. The impact of achieving Germany’s score on quality of logistics services would potentially result in 55% higher exports.
Turkey in main Trade and Transport Facilitation indicators

Ranking 30th out of 160 economies in the LPI, Turkey remains above the average of upper middle income economies of which it is a part. Despite the significant increase (~9%) in its overall LPI score from 2010 to 2012, almost no change is observed between 2012 and 2014, resulting in a slight decrease in ranking. However, over the same period the deviation from the average score shrank thus increasing the validity of the final results.
100% of customs transactions have been computerised.

38% decrease in export time variability from 2010 to 2012.

More than $200 000 000 is invested for modernisation of border gates under ‘Build-Operate-Transfer’ arrangements.
The efficiency of customs and border management clearance is one of Turkey’s two lagging LPI components in 2014, yet the country has progressed fastest in this dimension since 2010.

Though border crossing capacities are sufficient on average, they remain under severe pressure during peak season resulting in long delays. This is due to insufficient peak-season capacity for infrastructure and telecommunications. Delays are not only due to inadequate peak-season infrastructure. The multiplicity and diversity of sometimes uncoordinated data and document requests by different agencies increases transaction costs and the risk of making mistakes. The complicated and rigorous customs controls and elevated fines that serve to thwart the corruption of a few actors places high time and money costs on all others.

Even though average clearance times have not changed, Turkey’s customs clearance has improved as a result of a decrease in the variability of clearance times. Simplification and automation of customs procedures, increased productivity gains due to improved IT capability, and investment in improved management and human resources capability have all contributed to this improvement.
The percentage of road investment in GDP has almost doubled in the last 5 years, reaching up to 5.9 billion Euros in 2011.
Turkey’s LPI score in quality of trade and transport infrastructure has significantly improved since 2007. Massive road investment plays a crucial role in increasing Turkey’s infrastructure performance. The percentage of road investment in GDP has almost doubled in the last 5 years, reaching up to 5.9 billion Euros in 2011. International freight forwarders are the direct assessors of logistics performance in the LPI methodology and since they constitute almost 60% of the road freight industry, any improvement in road infrastructure is likely to be reflected directly in the LPI.

Despite the intense infrastructure investments and capacity enhancement efforts in maritime transport, freight handling capacity of the Turkish ports is still restricted by hinterland transport facilities and connections between international ports and manufacturing sites. As port hinterlands are limited, increased throughput causes delays to the movement of goods and increased variability in handling times.
More than 90% of semi-trailers are not craneable and cannot be loaded onto standard intermodal trains.

diesel accounts for over 60% of total freight costs
Turkey has shipping charges as high as the high income economies despite being a middle income country which places it at a disadvantage compared to its regional competitors, particularly over land supply chains.

In comparison with EU, in general facility utilisation rates and operational charges related to logistics services are relatively low in Turkey. However, the cost advantage is surpassed by longer times spent at the ports due to delays and longer and complicated import procedures.

Turkey’s heavily road dominated transport system accounts for high costs of transport and maintenance, congestion, negative impacts on environment and difficulty of providing road safety. High energy costs represent one of the greatest obstacles for road transport and trade network.

Turkey’s current track record in supporting modal equality is below average. At present, no financial and administrative incentives are utilised to empower low cost transport modes. There is no national legal framework or provision that will regulate the national and international intermodal transport or facilitate the transition to lower cost transportation modes.
Turkey’s logistics performance is primarily bolstered by development of the private sector. The sector is getting more internationalized through entry of large European and Asian transport and logistics groups in the Turkish transport market, mostly over acquisition of Turkish companies. Turkish logistics providers are also becoming larger, growing both nationally and internationally. Market entry has been made easier to attract FDI and the sector has also welcomed several leading international firms over the years. This has elevated competition, but also led to the inward transfer of technology and expertise.

Chambers of Commerce and industry associations also take active roles in the development of the sector and the improvement of service quality. Several successful projects are accomplished by these associations, such as BALO project (see Box 1) and build-operate-transfer model for modernization of border gates (see Box 2). International Transporters Association (UND) offers consultancy, certification, and training services for its members on a wide range of topics such as legislations, insurance, finance, institutionalization, and safety and security.
In the last couple of years, Turkey has experienced...

- Increased utilization of computerized border clearance systems.
- Introduced e-government services and e-signatures to facilitate government approvals.
- Improved telecommunications services to support logistics.
- Encouraged development of CIT service providers to support the logistics operations.
- Promoted companies for utilization of state of the art tracking and monitoring systems.
- Developed public information platforms for sharing trade and logistics data.
The ability to track and trace shipments is Turkey’s strongest point in its LPI performance and has shown a consistent and remarkable improvement since 2010. This has lifted Turkey from the 56th to the 19th place in this LPI dimension since 2010. At present, Turkey performs better than many other high-income countries for tracking and tracing in the LPI.

This has largely been due to the widespread use of information and communication technologies (ICT) in public and private institutions. ICT provides a convenient way of improving tracking and tracing by gathering, organising and distributing information on products, services and trade regulations. Several companies use the internet as an exchange mechanism for planning the supply chain with their partners. Major freight transport service providers provide information on their services, schedules and rates that can be easily accessed.
In 2012, 90% of the trucks carried on Slovenia-Italy rolling highways heading North were registered in Turkey.

World Bank sources indicate that a one-day delay in delivery times causes a 1% decrease in the volume of trade.

In 2012, 90% of the trucks carried on Slovenia-Italy rolling highways heading North were registered in Turkey.

4-6 days waiting times by trucks in major Slovenia-Italy rolling highways.
Turkey’s performance on timeliness of shipments in reaching destination is relatively low in comparison with the score of regional competitors. The score has experienced a significant decrease since 2010.

The need to reroute due to political instability and war in neighbouring countries has been a major source of delays. In addition, the current practice of differentiated access rules for infrastructure and markets leads to the use of suboptimal routes, some of which are limited by capacity restrictions. This results in increased delivery times and shipment costs.

In order to transit through Austrian territory, Turkish trucks must use the two rolling highways (tracks running truck-carrying trains) originating in Slovenia and Italy. In 2012, 90% of the trucks carried on Slovenia-Italy rolling highways were registered in Turkey. Due to capacity constraints in those corridors, transporters often experience long waiting times during peak hours.
Drivers of Logistics Performance

• Turkey’s customs clearance has improved as a result of decrease in the variability of clearance times

• Massive road investment plays a crucial role in increasing Turkey’s infrastructure performance in the LPI...

• ...on the other hand, Turkey’s heavily road-dominated transport system results in high transport costs

• Port hinterlands are limited

• Turkey’s logistics performance is primarily bolstered by the development of the private sector

• External factors and political risks increase shipment costs and decrease on-time performance
Drivers of Logistics Performance

Simplification and automation of customs procedures, increased productivity gains due to improved IT capability, and investment in improved management and human resources capability have all contributed to customs improvement.

International freight forwarders are the direct assessors of logistics performance in the LPI methodology and since they constitute almost 60% of the road freight industry, any improvement in road infrastructure is likely to be reflected directly in the LPI.

High energy costs represent one of the greatest obstacles for road transport and trade networks. Particularly for long-distance trips, diesel accounts for over 60% of total freight costs.

Freight handling capacity at Turkish ports is still constrained by underdeveloped hinterland transport facilities and connections between international ports and manufacturing sites.

Chambers of Commerce and industry associations also take active roles in the development of the sector and the improvement of service quality.

The need to reroute due to political instability and war in neighbouring countries has been one of the major reasons for delays in delivery times.
Variability is one of the main factors of efficiency of the customs and border clearance.

Capacity management plays a vital role in infrastructure efficiency.

Intermodal transport systems, including good access to roads, terminals and seaport channels ensure a high-quality transport infrastructure.

A successful and powerful private sector is the leading factor in providing high quality logistics services.

Resilience-improving policies and investments are necessary.
Policy Actions

There is a core set of policies which can improve customs performance. These include simplification and automation of customs procedures, efficient risk management, optimal use of information and communications technology, effective partnership with the private sector, and increased cooperation and transparency.

There are other strategies that may be less costly and more efficient than capacity extension in transport infrastructure. Among these are flexible transport systems, better resource allocation, and higher utilisation of existing infrastructure.

A public policy focus on modal equality should ensure that each mode competes based upon its inherent characteristics. Cost savings and quality improvements in intermodal connections and handling are therefore vital instruments for enhancing the competitiveness of intermodal transport.

Along with efficient port operations, well-functioning hinterland connections to other modes are essential in maintaining competitive transport networks.

Numerous government actions help the private sector to develop logistics competencies.

The public and private sectors should work together and share data and information in order to enable organisations to better understand and quantify logistics risks. This will improve network risk visibility, and in turn, will facilitate the development of proactive and effective actions.
Increased private sector participation to provide and maintain public infrastructure

Modernisation of Border Gates

Around 40% of Turkey’s foreign trade is conducted through the country’s land border gates. Modernising ineffective and inefficient border crossings has become one of the most important goals of national reconstruction policies. Meeting this goal, however, has been delayed due to lack of financing.

Customs and Tourism Enterprises (GTI) programme was established to modernise border gates using a ‘build-operate-transfer’ model, in partnership with the Turkish Chambers and Commodity Exchanges (TOBB). The “build” stage covers the modernisation of border gates, the reconstruction of physical and telecommunications infrastructure, building supporting facilities, and administering advanced technological equipment. In the “operation” stage, GTI operates commercial services including food and beverage stores, banks, souvenir shops, gas stations, duty-free stores, and also helps carry out cleaning and maintenance. Administrative processes and procedures such as customs clearance and inspection of travel documents are undertaken by government institutions and bodies. At the end of the concession period, the modernised facilities will be transferred back to the public sector in the “transfer” stage.

As a result, border waiting times have been substantially reduced, queues have been shortened, and vehicles and passengers pass through four times more quickly than before. The technical improvements that accompanied the modernisation of border crossing infrastructure has also improved security as well as control over smuggling and human trafficking.
The Grand Anatolian Logistics Organisations Project (BALO)

To increase the accessibility of Anatolian manufacturers to European markets, Turkey initiated a combined railway project to transport goods from Anatolia to Europe in 2013. The Great Anatolian Logistics Organisation (BALO), is established with the goal of increasing share of railway transport in international trade. The main project partners are the Turkish Chambers and Commodity Exchanges (TOBB) and the Association of International Forwarding and Logistics Service Providers (UTIKAD) amongst a number of other business and industry associations.

The BALO project aims at facilitating trade to and from Europe by reducing freight transportation costs while increasing service quality. According to the scheme, Anatolian exporters’ containers are brought to Bandırma port by block trains. From there, they travel to Tekirdağ by container ships, and are then shipped to their final destinations via European ports under a cooperation agreement established with Austrian Railways. Three block trains depart per week each with a capacity of 1200 tonnes per train. The project cuts transport costs by up to 50% and decreases the cost difference between western and eastern regions of Turkey to 125-200 USD per container. BALO has an online tracking system which allows real time monitoring of the freight cargo on the route which helps to improve traffic performance.
The CPB is a global network of companies from across all transport modes and closely related areas like energy, finance, IT, who understand the opportunities and challenges to transport and want to work with the ITF to improve policy analysis and advice by adding a corporate perspective to the process. The CPB provides a unique avenue for participating in the debate on the challenges and trends facing global transport, and bringing issues important to businesses to the attention of policy makers, key transport stakeholders in ministries, the business community, and international organisations.

The work started in early 2014 and there are currently four projects underway:

• Autonomous Driving: Regulatory Issues
• Urban Mobility: System Upgrade
• Mobility Data: Changes and Opportunities
• Drivers of Logistics Performance: Case Study

This is a background document, with the final report due January 2015.

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ABOUT THE INTERNATIONAL TRANSPORT FORUM

The International Transport Forum at the OECD is an intergovernmental organisation with 54 member countries. It acts as a strategic think tank with the objective of helping shape the transport policy agenda on a global level and ensuring that it contributes to economic growth, environmental protection, social inclusion and the preservation of human life and well-being. Until 2007 the organisation was known as the European Conference of Ministers of Transport (ECMT), then its geographic reach was widened and it became the International Transport Forum.

The International Transport Forum manages the Multilateral Licences for international road haulage on the European continent.

The transport policy related work of the International Transport Forum rests on three pillars

• Annual Summit
• Research Centre
• Corporate Partnership Board

CORPORATE PARTNERSHIP BOARD (CPB)

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