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THE CRITICAL ROLE OF INFRASTRUCTURE IN ENHANCING CZECH COMPETITIVENESS

Catherine Y. Preysner

Introduction

In the 26 years since the Velvet Revolution, the Czech Republic (then Czechoslovakia) has established itself as one of the leading former communist nations. The Organisation for Economic Co-operation and Development (OECD) classifies the Czech Republic as high income with a GDP per capita of $19,845 U.S. dollars in 2013 (compared to U.S. GDP per capita of $53,042). It also has one of the most advanced transport systems in Central and Eastern Europe. However, it is still not yet economically competitive with Western Europe, the region with which the Czech Republic strives to identify. This may be due, in part, to the fact that the Czech Republic was spared from destruction during World War II and thus did not modernize out of necessity. Thus, in order to become competitive with Western European countries like Germany, a country that many other countries strive to emulate, the Czech Republic must continue to renovate and develop itself in a number of areas including infrastructure.

Infrastructure plays an important role in both social and economic development. The density of the transport system, as well as the quality and maintenance of the infrastructure, can determine both the competitiveness of a country and the quality of life of its citizens. Thus it is no surprise that the highest ranked countries in competitiveness also tend to have high infrastructure rankings. Switzerland, for example, is ranked the most competitive country in the world, according to the World Economic Forum’s global competitiveness rankings, and is ranked sixth in terms of infrastructure. According to the Czech Republic Ministry of Industry and Trade, the Czech Republic has the fundamental requirements needed to increase the standard of living of its citizens, and its goal in the near future should be to increase its rank to within the top 20 countries on the World Economic Forum’s Global Competitiveness Index (GCI) (“Back to the Top...,” p. 8). Thus,
as the Czech Republic continues to move away from its communist past in favor of Western competitiveness, it must continue to strive for the best developed infrastructure possible.

In this article I explore the reality of this goal and how infrastructure affects competitiveness. In the first section, I define both competitiveness and transport infrastructure and explain how infrastructure enhances competitiveness. In the second section, I discuss the Czech status quo and current plans for both infrastructure and competitiveness. I also highlight the need for improvements and the consequences of stagnated progress. In the final section, I present both conclusions and recommendations.

How Does Infrastructure Enhance Competitiveness?

In this section, I argue that the Czech Republic cannot yet compete economically with many Western European countries without significant economic growth and that the vehicle for this growth is improving infrastructure. To make this argument, I define various key terms and discuss the relationship between infrastructure and competitiveness. I conclude the section by linking critical determinants of Czech growth, such as exports and trade, to the state of its infrastructure.

Defining Competitiveness

Although the term “competitiveness” is one commonly used in economics, it is necessary to develop a clear and concise definition for it. Competitiveness is often considered synonymous with a country’s productivity or with GDP growth, but this is not entirely correct, although these ideas are interrelated. One frequently used definition of competitiveness is “the ability of a [country] to export more in value added terms than it imports” (Atkinson, p. 2). But with this definition, competitiveness only applies to the economic health of a nation’s trade industry. The World Economic Forum, in “The Global Competitiveness Report 2014–2015,” defines competitiveness as “the set of institutions, policies, and factors that determine the level of productivity of a country” (Schwab, 2014, p. 4). The report continues to state that an economy’s productivity sets the level of its prosperity and determines the rates of return on its investments. Prosperity and the rate of return of investments are drivers of economic growth (Schwab, 2014, p. 4). The World Economic Forum defines 12 pillars of competitiveness: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation. Ranked as the second of the 12 pillars, infrastructure is considered by the World Economic Forum a basic requirement for global competitiveness, along with the other top four pillars. Robust infrastructure minimizes regional disparities, integrates the national market, and connects internal markets to those of other counties (Schwab, 2014, p. 6). Thus, solid infrastructure is important not only to the country itself but also to its neighbors.

Defining Transport Infrastructure and Its Economic Importance

When looking to raise its level of economic growth, one of the first things many countries plan is to “improve infrastructure.” Although this is a good idea, the term infrastructure, and the idea of improving it, are broad and sweeping topics. Projects in transport, energy, water, sanitation, communication, and Internet connectivity can all be correctly classified as infrastructure projects (Authors, p. 1). When most people hear the word “infrastructure” used colloquially, they think of roads, railways, and air transit routes, which are part of a subsection known as transport infrastructure, the part the Czech Republic seeks to improve. According to the European Commission, transport infrastructure is defined as “the fundamental element for smooth operation of the internal market, for the mobility of persons and goods and for the economic, social, and territorial cohesion of the EU” (Drahošová, p. 60). The Czech Republic Ministry of Transport defines it as “the tool used to strengthen competitiveness of countries and their regions as well as a tool for interregional disparities reduction”
(Drahošová, p. 60). The definition given by the Czech Ministry of Transport highlights precisely what the country is attempting to do by improving its infrastructure: strengthen its competitiveness. But how will improvements to road, air, and rail transits do this? More generally, why is transport infrastructure so vital to a country’s economic well-being?

The question “Why is transport infrastructure important?” has a wide range of answers. Historically, a strong transport network is a source of capital for society, allows citizens to be mobile, and connects rural areas to urban centers (“The Socio-Economic Benefits…,” p. 3). The idea of bringing people together is vital not only for social well-being but also for trade and industry. Raw materials must be able to be transported from their origin to manufacturing sites, and finished products must be distributed from manufacturing sites to the public. Thus, roads, railways, and air transit routes are essential to trade and the movement of goods, services, and people. The ability to travel from other countries to the Czech Republic as well as to move internally within the country is important for citizens and tourists alike. Citizens must be able to move within their country to perform their daily tasks, and tourism is a source of income that boosts the economy.

In addition to tourism, the other economic aspects of transport infrastructure are numerous. Transport infrastructure is vital to economic development through both direct effects of increased mobility and indirect benefits of production (“The Socio-Economic Benefits…,” p. 4). The construction of roads themselves creates jobs and requires the purchase of raw building materials, which in turn boost the economy and lower the unemployment rate.

Transit routes are also important to the geographic distribution of wealth within a country. Regions located on or near main transport arteries tend to have higher job densities and are more industrial in nature. Intuitively, it is understandable that businesses must be able to easily access their customers, suppliers, and employees. Unfortunately, an unequal distribution of the country’s transport network is a current concern for the Czech Republic. Known as regional competitiveness, the quality and density of road networks in varying areas can have massive effects on regional economies and thus on the lives of locals. Urban areas with high population densities also tend to have dense transport networks (Drahošová, p. 60). In the Czech Republic, the smaller northern regions tend to have a higher density of roads, whereas the large peripheral regions lack the same volume of interconnectivity, leading to differences in the regional economies. If the Czech Republic hopes to become competitive with Western Europe, this is an area of infrastructure that needs improvement.

Czech Trade and Exports

The Czech Republic strives to be competitive with Western Europe, but can increasing spending to build and improve transport infrastructure actually raise the competitiveness of the country? While moving exports faster and more efficiently will help the Czech economy, increasing exports would do the same. The Czech Republic is a physically small country with an open economy and its own currency, the koruna, which has a floating exchange rate. Both exports and imports of goods and services are expected to grow in the long term. However, the Czech Republic has significant volatility in trade volume and balance (“Back to the Top…,” p. 57). Ranked as the 30th largest exporter worldwide, its top exports include cars (10 percent of exports), vehicle parts (6.8 percent), computers (6.3 percent), rubber tires (1.6 percent), and telephones (1.6 percent), with the top export destinations Germany (30 percent), Slovakia (7.4 percent), Poland (5.3 percent), France (5.3 percent), and the United Kingdom (5.0 percent) (Observatory of Economic Complexity). The substantial percentage of exports to Germany means that the Czech economy is closely linked to the German economy. In fact, the Czech Republic has been dubbed “another German
länder” due to its inter-connection with the German economy (Šlosarčík, p. 22).

Overall, 84 percent of Czech exports go to its neighboring countries, but a lack of knowledge of foreign markets has been cited as a major weakness of Czech industries (“Back to the Top…,” p. 37). The Czech economy is predicted to improve due to growth in export markets and the increased use of Czech exports as intermediary inputs within the German supply chain (“OECD Economic Surveys…,” p. 10). But, although the Czech Republic is pro-export, its neighboring countries are also highly pro-export, which leads to heightened competition as well as potential risks. The Czech Republic is very sensitive to both the trade and consumption trends of its neighbors and fellow EU members. If risks materialize or economic growth slows in Germany and other euro export markets, export growth in the Czech Republic would slow as well. Few Czech companies export outside of the EU, and trade with Germany alone comprises almost half of the Czech Republic’s GDP (“OECD Economic Surveys…,” p. 16). Due to its small physical size and inability to influence its trading partners, the Czech Republic must follow the rules of the larger international trade system (“Back to the Top…,” p. 57). Thus, the Czech Republic’s desire to increase its competitiveness is, in part, dependent on the economic stability of its larger neighboring countries and fellow EU members.

Although expansions of neighboring economies could improve the Czech economy, the most effective economic growth is internal. In the next section I show the current state of Czech infrastructure and the economic impact of neglecting to improve it.

The Czech Status Quo

Although the Czech Republic does want to increase its competitiveness via improving its infrastructure, it is important to discuss what would happen if the country decided to leave its infrastructure in its current state due to budget constraints or other limiting factors. This approach would ultimately dissolve the competitive advantage that the Czech Republic naturally enjoys from its central location in Europe (“Back to the Top…,” p. 4). In short, other European countries would avoid trade routes through the Czech Republic, and it would become a periphery or secondary route as better ones through other countries begin to be utilized more frequently. This would damage trade relations and international relations in general between the Czech Republic and other European countries. Internally, if the Czech Republic chooses not to improve its infrastructure, regional disparities, which are already a significant issue in the country, would continue to deepen. The overall quality of life of Czech citizens would thus decrease.

According to the 2015–2016 GCI, the Czech Republic is currently ranked 31st of 140 countries, with an overall score of 4.7 of 7. This is an improvement from the 2014–2015 ranking of 37th of 144 countries and a 4.5 score of a possible 7. In terms of infrastructure, the Czech Republic is ranked 41st of 140 countries with a score of 4.7 of a possible 7 (Schwab, 2015, p. 166). According to the World Economic Forum’s Executive Opinion Survey, “inadequate supply of infrastructure” is ranked 8th in terms of the most problematic factors for doing business in the country (Schwab, 2015, p. 152). The rankings for quality of overall infrastructure, quality of roads, quality of railroad infrastructure, and quality of air transport infrastructure are 36th, 69th, 22nd, and 29th, respectively, of a total of 140 countries (Schwab, 2015, p. 153).

According to CzechInvest, the Czech Republic ranks second after Austria in terms of European road and rail density with 1.66 km of roads and 0.12 km of rail lines per square kilometer of the country, followed by Germany in third place ("Fact Sheet No. 16..."). Yet although the country has a dense network, especially for its overall size, development and maintenance lag behind. Figure 1 shows the dense network of roads and motorways and the concentration of the network around urban centers.

In addition to underdeveloped transit routes, the Czech Republic lacks quality connections to the European transit network. With no coastline, the Czech Republic has no access to ports except via other European corridors, and the ease of connectivity to foreign ports is one of the key factors in
deciding which routes will be kept operational (“The Transport Policy…,” p. 19). Because the lack of connectivity with Europe is significant, the Czech Republic plans to link Czech road and rail networks to main European routes, improve transport infrastructure quality, and strive to use the most efficient means of financing available (“Back to the Top…,” p. 14). In the next section I further discuss the infrastructure improvements the Czech Republic plans to make, including the Three I’s plan and “The Transport Policy of the Czech Republic for 2014–2020 with the Prospect of 2050” (hereafter, the Transport Policy).

**Current Czech Infrastructure Plan: The Three I’s**

In order to improve its GCI rankings and deal with the issues presented in the previous section, the Czech Republic has established a competitiveness plan and a transport strategy to help guide developments in infrastructure. The current Czech competitiveness plan is nicknamed the Three I’s and focuses on innovation, institutions, and infrastructure. In the plan, the Czech Ministry of Industry and Trade acknowledges that improving infrastructure is fundamental for increasing competitiveness and that the proposed strategies will significantly improve both infrastructure and the standard of living in the Czech Republic (“Back to the Top…,” p. 14). The first objective is to build faster, more comfortable, and more dependable networks to boost the competitive environment. The next step is to leverage the country’s favorable geographic position by aligning business development with the development of infrastructure. Creating a healthy environment for business and trade is a long-term goal (“Back to the Top…,” p. 30).

The Czech Ministry of Transport has established the Transport Policy with a main goal of determining its priorities for the development of transport infrastructure. In its opening lines, the policy states, “failure to address transport problems may result in large direct and indirect losses for the whole society”
(“The Transport Policy...,” p. 9). The document continues to address some of the infrastructure issues concerning the accession of the Czech Republic into the European Union (EU) in May 2004. According to the document, a favorable geographic location gives the Czech Republic a comparative advantage, allowing it to become an important logistic hub in Europe (“The Transport Policy...,” p. 9). Due to its location, the Czech Republic receives a lot of pressure from the EU to have a strong infrastructure, but it receives EU funding as well. This brings up one of the main concerns addressed in the Transport Policy, which is discussed in detail below.

The section of the Transport Policy entitled “Creating Conditions for the Competitiveness of the Czech Republic” lists the first major concerns about the country’s location. The most favorable routes from Western Europe to Russia are through the Polish lowlands, and most favorable routes from Western Europe to the Balkans are along the Danube River. Thus, only transit routes of lesser significance lead through the Czech Republic, and this is a major concern. The Czech Republic does not want to become a periphery nation. Thus, the Transport Policy states that a measure the Czech Republic wants to take is to make the European Commission’s Trans-European Transport Network (TEN-T), a multi-modal infrastructure project refining and developing the entire European network both North-South and East-West, a priority because of its international significance. In addition to an international context, the policy addresses internal areas of concern, namely differences among individual regions of the Czech Republic.

For a country to increase its competitiveness, it is important that the individual regions of the country develop together in a uniform fashion that creates cohesion among them. According to Drahošová (p. 58), the transport infrastructure is not distributed evenly among the regions. She states that “higher density of transport network is typical for smaller regions in the northern part of the Czech Republic while large and/or peripheral regions are lagging behind” (Drahošová, p. 58). In general, the density of the transport network is dependent on the urbanization of the region, so the best networks tend to be in more highly populated and urban regions of the country. For example, the Karlovy Vary, Usti, and Liberec regions, which border Germany, are known for their engineering industry and good international transport connections. The Central Bohemia and South Moravia regions are also noted as having highly developed transport infrastructure, including international airports, and are home to Prague and Brno, respectively, two of the Czech Republic’s major cities. Located slightly left of the center of the country, Prague is a major transit hub, with transit routes tapering off into the more peripheral regions of the country. Thus one objective of the Transport Policy is to modernize and secure high-quality access to the transport infrastructure system for all regions of the country. This “no region left behind” mindset is an attempt to avoid disparities in regional economic performance that would not only hinder the country’s international competitiveness but also create internal tensions and lower the standard of living of Czech citizens in less connected regions.

In this section I have explored the current plans for infrastructure improvements in the Czech Republic. However, it is important to also explore the infrastructure of the Czech Republic’s trading partners and of fellow EU members. In the next section I discuss Czech infrastructure as a part of a larger EU network.

Infrastructure in the European Union

In the same way that regions of a country are connected economically, countries are also connected economically, especially those in the EU. On May 1, 2004, the Czech Republic, along with Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia, became a full-fledged member of the EU. The accession had been anticipated since 1993 when EU member states became the largest investors in the Czech Republic and the EU itself held more than a 65 percent share of Czech foreign trade (“Czech Republic and the European Union”). After obtaining full EU membership in 2004, the political, regulatory, and economic environments in the Czech
Republic underwent extensive changes. The share of Czech foreign trade to the EU increased to 85 percent by 2009, with Germany emerging as the dominant export target (Šlosarčík, p. 22). Initially the Czech economy experienced growth, an increase in labor costs, and an increase in the value of the Czech koruna. However, Czech transport services faced new complications linked to the location of the Czech Republic on major transport corridors within the EU. As discussed by Šlosarčík (p. 24), the increased haulage exceeded the capacity of the Czech transport infrastructure and resulted in significant construction and maintenance costs. In response to the rising costs, the Czech Republic introduced a toll system based on distance travelled by each vehicle on certain roads. It was unpopular to charge for goods and services that previously had no cost to the public, but the toll system is still in place in the Czech Republic. All vehicles over 3.5 tons are required to pay for passage on any motorway in the country that requires a toll.

During 2008, investment in infrastructure across the EU fell sharply after having increased significantly since the mid-1990s (“Infrastructure in the EU…,” p. 5). European infrastructure tends to be above average on a world-wide scale, but private investment has fallen in the past ten years (Authers, p. 1). However, both public investment and private investment in EU infrastructure are projected to again increase with the creation of the TEN-T network. The TEN-T is projected to require approximately 26 billion euro by completion in 2020 (“Infrastructure in the EU…,” p. 17). This new policy aims to standardize and equalize the transport systems in the member states and create a smoother functioning of the internal market. The TEN-T’s nine core network corridors, planned for completion by 2030, include three that will pass through the Czech Republic: the Rhine-Danube, Baltic-Adriatic, and Orient/East-Med corridors.

The Rhine-Danube corridor will utilize the Main and Danube rivers to link Strasbourg and Frankfurt to Vienna, Bratislava, Budapest, and the Black Sea via routes through southern Germany. An important branch will stretch from Munich to Prague, Zilina, and Kosice and will end at the Ukrainian border (“Infrastructure–TEN-T–Connecting Europe”). It will pass via rail through the Czech cities of Prague, Ostrava, and Přerov. The Baltic-Adriatic corridor will consist of a 2,400-km long trans-European road and rail line that will unite Poland’s Baltic ports to those on the Adriatic Sea. The Czech cities of Brno and Ostrava will be part of this corridor, which will ultimately allow the Czech Republic to more easily access both the Baltic and Adriatic seaports. This increased access to seaports could help boost Czech foreign trade. Finally, the Orient/East-Med corridor, which will link the North, Baltic, Black, and Mediterranean Seas, will also give the Czech Republic improved access to ports. It will pass via rail through Prague, Kolin, Pardubice, and Brno.

A majority of the TEN-T projects that are routed through the Czech Republic incorporate the building or the upgrading and maintenance of railways in the country. But the Czech Republic has plans of its own to improve its railways since their increased capacity and quality are a precondition of competitiveness (Kušnir, p. 2). According to the Czech Ministry of Transport, the current railroads in the Czech Republic are not being used to their potential and are not competitive with highways. The rail network is extremely dense with respect to the size of the country, but the rail lines are generally considered more convenient for freight and regional services than for long-distance passenger travel. However, TEN-T policies predict an increase in competitiveness of the railway due to the construction of high-speed lines operating at 200 kph or more (Kušnir, p. 6). Another important priority is the connection of the Prague airport, Ruzyně, to the railway. Not only is the connection a requirement of the TEN-T but also Ruzyně is the only large airport located in Prague that is not connected to a railway line.

In this section I have highlighted the need to both maintain and upgrade the existing network in the Czech Republic within the TEN-T network. But projects require money, which leads to the question, “How will the Czech Republic fund the needed improvements?” In the next section I discuss this question.
Czech Infrastructure Funding

The majority of the TEN-T priorities will be submitted for co-financing by the EU. All submitted projects are required to meet the TEN-T requirements as well as comply with the EU’s Transport Policy (Kušnír, p. 12). European co-financing may be used for TEN-T initiatives, but it may not be used for other initiatives (e.g., repairs and new construction of Czech infrastructure that are not linked to the TEN-T network). According to the Transport Policy, in order to maintain, develop, and operate the Czech Republic’s transport network, stable financing at 2.5–2.6 percent of GDP is required (compared to 6 percent on healthcare, 0.7 percent on unemployment benefits, and 1.9 percent on research and development) and the public sector is responsible for supplying the funding of both maintenance and expansion (“The Transport Policy...,” p. 44). This is no easy task because infrastructure projects tend to outlive the governments that establish them (Authers, p. 4), and it can be difficult to predict political decisions and budget changes 10 to 15 years in the future. Another major issue in obtaining funds for infrastructure projects is that projects require a majority of their funding upfront, but it can take decades to see the results (Authers, p. 6). Delays in attaining sufficient funds thus cause overall project delays.

The current Czech transport infrastructure financing system incorporates funds from a variety of sources, with varying stability. Direct sources of funding include tolls on roads and fees for railway use, which are not always popular. Budgetary sources consist of the road tax, an allocated portion of the mineral oil excise tax, and funds received from the state budget. Debt sources include issued bonds and loans from the European Investment Bank (“Transport Sector Strategies...,” p. 173). The last source of funds is subsidies from the EU, which are used mostly for specified TEN-T projects. According to the Czech Ministry of Transport, “The main cons of the current financing system include an insufficient amount of resources for developing [transport infrastructure], the instability of the system, and the difficulty in making medium-term and long-term predictions” (“Transport Sector Strategies...,” p. 173). Unknown future political decisions play a large role in the funding of infrastructure projects, making it difficult to adequately predict the allocation of funds.

Solutions to securing adequate funding for initiatives include maximizing EU funding with careful analysis of priority projects, increasing the tax on fuels and oil from 9.1 percent to 25 percent, subsidies of 0.3 percent of GDP from the national budget, increased debt financing, and increased charges for road users (“Transport Sector Strategies...,” pp. 175, 196, 200). While charging vehicles to use major roadways will help secure funding, measures must also be implemented to protect secondary roadways from overuse due to the bypassing of tolled routes by cost-conscious drivers. Roads in the Czech Republic are classified as Class I, II, or III, with Class I roads already utilizing distance-based charging (“The Transport Policy...,” p. 45). Extending distance-based or time-based charging to Class II and III roads may also help raise funds.

Roadways are not the only aspect of Czech infrastructure that will require improvement, and it is a goal of the Transport Policy to create a system of harmonized pricing in both road and rail networks to eliminate intermodal competition and ensure that each mode of transport carries the same cost burden (“The Transport Policy...,” p. 45). This is a vital implementation because heavy tolling on roadways could lead to overuse of railways, which would increase rail maintenance costs. A proposed initiative is to introduce charges on railways for the noise pollution induced or caused by the trains (“The Transport Policy...,” p. 47).

Another major issue within the scope of funding infrastructure projects is the allocation of funds once they have been obtained. If there is a shortage of funds, maintenance and repairs should take precedence over new construction (“The Transport Policy...,” p. 47). It is important to adhere to this policy because choosing to fund new construction first would leave maintenance and repairs on...
the list of infrastructure needs. The longer maintenance and repairs are put off, the greater the breakdown of the network and the more funding required to fix it. Thus, allocating funds to first repair the existing network and then build new sections is an appropriate strategy. But is the strategy working?

Is the Competitiveness Plan Working?

The Czech Ministries of Industry and Trade and of Transport have established both the Three I’s plan and the Transport Policy and have addressed the issues of funding and funds allocation, but how effective have they been? In working to maintain and improve their infrastructure, the ultimate goal of the Czech Republic is to increase the country's competitiveness. However, there have been no studies published to date analyzing the effectiveness of the Three I’s plan or the Transport Policy due to their fairly recent conception. There is a clear link between good infrastructure and increased competitiveness, as seen by the inclusion of infrastructure as one of the World Economic Forum's 12 pillars of competitiveness, but measuring competitiveness can prove a difficult task. Many factors can affect competitiveness, and to credit improvement to a single pillar is unwise. By looking at trends in global competitiveness rankings, however, I can assess the direction that Czech competitiveness is heading and credit or blame infrastructure improvements as one of the pieces responsible.

For the past 26 years, the International Institute for Management Development (IMD) has published a World Competitiveness Yearbook ranking for 60 global economies from most to least competitive. The four factors considered in the rankings are economic performance, government efficiency, business efficiency, and infrastructure. These four factors are further broken down into 20 sub-factors, including basic infrastructure, which equates to the definition of transport infrastructure. Over the period 2010–2015, the overall competitiveness ranking of the Czech Republic has ranged from 29th to 35th.

Although there was a decline in the rankings from 2010 to 2013, the Czech Republic has improved its ranking consistently since 2013, the year the Czech Ministry of Transport set out the Transport Policy. “Back to the Top: The International Competitiveness Strategy for the Czech Republic” was published in 2011. Thus, it would appear that since the adoption of the Three I’s, the IMD World Competitiveness Ranking of the Czech Republic has increased due to the increase in spending on infrastructure. However, despite the improvement from 33rd in 2014 to 29th in 2015, the Czech Republic is still ranked notably lower than such Western European countries as Austria (26th), Belgium (23rd), the United Kingdom (19th), the Netherlands (15th), Germany (10th), Sweden (9th), Denmark (8th), Norway (7th), and Switzerland (4th) (International Institute for Management Development).

As noted previously, another key source for global competitiveness rankings is the GCI. The World Economic Forum has been publishing these rankings for more than 140 countries since 2004. The rankings are based on the 12 pillars of competitiveness (discussed previously). Over the period 2010–2015, the Czech Republic has been ranked between 31st and 46th. Although the rankings are based on somewhat different factors than the IMD rankings, the trend in Czech competitiveness over the past five years is similar. There occurred a decrease in ranking from 2010 to 2013 with steady improvement from 2013 to 2015, with the highest ranking the current one (31st). Western European countries with high rankings in 2015 include Austria (23rd), France (22nd), Luxembourg (20th), Belgium (19th), Denmark (12th), Norway (11th), the United Kingdom (10th), Sweden (9th), the Netherlands (5th), Germany (4th), and Switzerland (1st) (Schwab, 2015, p. 7).

The GCI also breaks down its rankings by pillar, allowing some insight into the relationship between infrastructure and overall competitiveness. The Czech infrastructure rankings over the period 2010–2015 have remained relatively constant between 36th and 41st. Over this period the actual scores assigned to Czech infrastructure for 2010–2015, out of a possible 7, ranged from 4.70 to 4.87. Again, these are relatively constant. According to the
most recent data available for the year 2015, the Czech Republic is ranked 41st with a score of 4.70. For comparison, other Western European countries that ranked higher than the Czech Republic in terms of infrastructure include Denmark (22nd, 5.54), Belgium (21st, 5.55), Sweden (20th, 5.56), Luxembourg (17th, 5.66), Austria (15th, 5.71), the United Kingdom (9th, 6.03), France (8th, 6.04), Germany (7th, 6.12), Switzerland (6th, 6.20), and the Netherlands (3rd, 6.30).

It is important to note that the most competitive, or most highly ranked countries overall, also tend to have high infrastructure rankings. For example, Switzerland is ranked 1st overall and has an infrastructure ranking of 6th with a score of 6.2. Germany is ranked 4th overall, and the Netherlands is 5th overall. Although they are not Western European countries, the top two countries in terms of infrastructure are Hong Kong SAR (6.69) and Singapore (6.49), which are also ranked 7th and 2nd, respectively, in overall competitiveness. As these numbers show, good infrastructure is an important component of competitiveness.

**Conclusion**

The Czech Ministry of Transport considers the development of transport infrastructure both a cost and a benefit. It requires funding but is also a tool for strengthening the economy and increasing competitiveness (“Transport Sector Strategies...,” p. 179). Although the Czech Republic has consistently improved its overall competitiveness rankings in the past three years, it still has a long way to go before it is comparable with the leading Western European nations. Its infrastructure rankings appear to have stagnated recently, and the current Czech competitiveness plan, the Three I’s, as well as the Transport Policy, could help to give the Czech Republic the boost it needs to increase its competitiveness. As seen in the correlation between the infrastructure rankings and the overall competitiveness rankings of Western European and other countries, highly competitive nations tend to have high scores in terms of infrastructure, making the Czech Republic’s goal of increasing competitiveness by improving infrastructure a reasonable one. As the Czech Republic continues to implement the Three I’s plan and the strategies outlined in the Transport Policy, it should continue to increase its competitiveness in Western Europe and worldwide markets, thus making it a country to watch in the coming years.
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