

## **Introduction**

The road infrastructure is considered to be a key prerequisite of social and economic development of any country. The expansion and upgrade of the road network is vital to increase economic performance. Hence, poor road infrastructure poses hindrance to foreign investments in countries depending on them in terms of their economic performance and competitiveness enhancement. The expenditures on the road infrastructure trace the GDP development with a certain delay (Ivanová, Masarová, 2013). For example China has made large scale road infrastructure investments since 1990s. According to China Statistical Yearbooks, the total length of roads in China has more than doubled since 1990, reaching 2.6 million kilometres by 2008. The total length of expressways has increased from 147 km in 1988 to over 50,000 km in 2007, ranking second only to the United States. At the same time, China's GDP grew by about 9% per year, while GDP per capita increased by 8% annually. There is a common view that the infrastructure investments have played an important role in sustaining the rapid economic growth of China (Li, 2013). Transportation investment effects are composed of distributive and generative effects that induce a change in the spatial distribution of economic activities between regions and an increase in the economic value. Such effects can be disaggregated into short term effects during the construction phase and long term effects during the operation phase of the transportation project. During the construction phase, the investments stimulate final demand, but generate little effect on the economic behaviour of users. During the operation phase, the supply of transportation services has a positive impact on regional economic growth by increasing the production of goods and services at a lower average production cost. The regional impacts of transportation costs and new road development of the Trans-European Transport-Networks using a static model for more than 800 regions. The reduction in transportation costs through road development could reduce the income disparity between regions. Kim and Hewings (2009) analysed the long-run regional effects of an increase in total factor productivity in the transportation sector, resulting in the development of the Multisectoral and Regional/Interregional Analysis. It found that all of the highway projects have positive effects on GDP and export growth as well as regional equity in terms of wage and employment of population (Kim, Hewings, 2009). In Sweden was the relationship between economic growth and traffic describe in analyses in SIKKA (2005). The results indicate that the time series of traffic and GDP are not cointegrated and hence that traffic and GDP will not converge to a long-run equilibrium relationship after short-run deviations from each other.

Therefore, GDP and traffic do not share a stochastic trend in addition to the deterministic trend exhibited by both time series (Krüger, 2012). The European Union average debt was about 85% of GDP in 2012. That is why Germany and the majority of EU countries have undertaken austerity measures. Nevertheless, even as constraints on spending and borrowing have grown, many governments have been emphasizing the importance of infrastructure in assisting economic growth. A number of countries have explicitly recognized this as part of their stimulus packages (Yanushevsky, 2013). Investment in transportation infrastructure may also help to reduce the impact of the crisis through its immediate effect of job creation, while building the basis for achieving fast-paced growth when the crisis subsides. Thus, at the present time, when the global economic crisis has created substantial uncertainty concerning global investment, and is expected to lower growth and raise the debt-to-GDP ratio, advancement of infrastructure projects through the private sector may provide a solution for securing long-term growth, while providing low-risk investment channels for the financial sector (Lavee, Beniadi, Solomon, 2011). Whereas transport infrastructure affects GDP after five years, other infrastructure seems to induce short-run demand effects. As transport infrastructure has a larger and longer-lasting effect on GDP, these infrastructure projects seem to have especially induced, or at least enabled, the integration of markets which were regionally and functionally separated before. (Sturm, Jacobs, Groote, 1999).

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