Factors of economic growth in Latvia¹

Olegs Krasnopjorovs

Doctoral Thesis defended on 22 March 2013 at the University of Latvia. 

Summary is available electronically: http://ideas.repec.org/p/pra/mprapa/45500.html
Full text is available at the library of the University of Latvia or upon request.
E-mail: Olegs.Krasnopjorovs@bank.lv; olegkrasn@inbox.lv

Uneven economic growth during recent years raises the question whether any factor of economic growth exists in Latvia aside from economic cycle fluctuations. This Doctoral Thesis assesses long-term economic growth factors in Latvia, using econometric modeling techniques, and solves various problems that arise when such techniques are used for Latvia.

Section 1 constructs a theoretical base for the application of economic growth research methods for Latvia. Based on the neoclassical growth model and its extensions, it analyzes several growth accounting and development accounting frameworks, including regression and national accounts approaches to assessment of the production function, parametric and nonparametric methods to measure the sources of cross-country differences in labour productivity level and growth rate as well as various real convergence concepts, including absolute and conditional beta-convergence, sigma-convergence and club-convergence.

Section 2 estimates the production function for the period 1995-2010 and identifies the main GDP growth factor in Latvia as fixed capital accumulation in the private sector. Moreover, it was found that every euro of public capital in Latvia on average is at least as productive as the euro of private capital. As in any post-transition economy, reliable fixed capital stock data are lacking. Therefore, emphasis was put on the methodological features of statistical data as well as on checking result stability in respect to alternative methods and assumptions. It was found that previous research efforts were likely to underestimate the role of fixed capital accumulation and overestimate the role of total factor productivity (TFP) in Latvia’s GDP growth.

Section 3 uses the non-parametric Data Envelopment Analysis (DEA) method to construct the world production frontier, which includes Romania, Ireland, the USA and Luxembourg. New EU Member States significantly decreased their backwardness subject to the world production frontier since 2000. There is evidence of the capital-biased nature of technical progress, which bears fruit primarily in capital-abundant countries. Moreover, a strong positive correlation was found between capital stock per hour and TFP, so that the role of capital ac-

¹ Publication of this Doctoral Thesis was granted by the European Social fund Project “Support for Doctoral Studies at the University of Latvia”
cumulation in development accounting is greater than the neoclassical model would suggest. Motivated by Basu and Weil’s appropriate technology model, an indirect effect of capital accumulation (allowing use of better technology) was found to be almost as important as direct effect (increasing capital to labour ratio).

Section 4 finds strong evidence of real convergence within the EU by NUTS-0, 1, 2 and 3 regional breakdowns. Annual speed of beta-convergence is about 2% which is broadly in line with earlier findings. Furthermore, the convergence speed depends on how developed a particular region is compared to the country it belongs to. Income convergence between the most developed regions is significantly higher than among medium-developed regions. There is evidence of sigma-convergence within the EU as well, but no evidence of club-convergence: bimodal income distribution in 1995 gradually transforms to unimodal distribution. In Latvia, labour productivity is the main factor of average income growth, while the impact of changes in the participation rate, unemployment rate and average working week neutralize each other in the medium term. Labour productivity growth in Latvia was mostly driven by productivity increase in services, while the contributions of labour productivity rose in the goods sector and employment structural changes were also positive. However, the share of hours worked in high labour productivity sectors remains low compared to the EU-15.