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European integration, productivity growth and real convergence: Evidence from the new member states

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ABSTRACT

We estimate the determinants of labor productivity growth in 8 new European Union (EU) member states that joined the Union in 2004. Our focus is on the impact of globalization and EU integration efforts on labor productivity growth. Previous studies test the impact of trade using either exports or trade openness. We also test the impact of imports separately on labor productivity growth. Using panel data for 1995–2006 period, we find that globalization has mixed effects. FDI and exports improve productivity, but imports hurt it. Regarding domestic variables, we find that human capital is the most important source of labor productivity growth in the new member states. There is also considerable adjustment of labor productivity towards EU15 levels, indicating significant "catching up" and hence real convergence. Policy implications of the findings are also discussed.

1. Introduction

Following the breakdown of the former Soviet Union and its communist system in the early 1990s, the countries of Central and Eastern Europe (CEE) have gone through an unprecedented economic and political transformation. Following an initial and unexpected significant decline in economic activity, these countries have achieved significant economic growth starting in the mid- to late 90s. One of the

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interesting features of this growth pattern has been the significant increase in labor productivity. According to the World Bank, during 1999–2004, the growth in labor productivity raised income per capita in CEE countries more than that in employment and population (World Bank Report, 2008). At the same time period, CEE labor productivity has grown at a rate greater than many other emerging and developing countries, including Russia and Ukraine (Rada and Taylor, 2006).

In this paper, we study two related issues for 8 CEE countries that joined the European Union (EU) in 2004, namely: the Czech Republic, Estonia, Hungary, Poland, Latvia, Lithuania, Slovakia and Slovenia. We will refer to these countries as the CEE8 in the rest of the paper. First, we investigate the determinants of labor productivity growth. Second, we test whether there have been some advances in labor productivity level towards that of core EU (i.e., EU15). Given the significant growth in their labor productivity, it is important for policymakers and other stakeholders to understand what factors have driven such growth. As the eventual goal of integration is the increase in standards of living to EU levels, further improvements in labor productivity play an instrumental role in satisfying such an economic (also historical and political) objective. This will facilitate the catching up (or real convergence) of CEE8 countries to the income levels of the core EU members. Evidence on such real convergence has important implications for the design of an optimal policy towards the entire euro zone. Within the new and candidate countries, significant progress toward per capita income convergence is seen as key in securing the political assent of the population to both transition and membership in the EU. For the EU countries, such income growth is important if excessive population movements from the new members to the old are to be avoided and if the EU's budget is not to be strained by transfers to lagging economies. In other words, real convergence has significant fiscal and monetary policy implications (Kutan and Yigit, 2007).

In a broader sense, the main objective of this paper is to better understand the implications of integration and globalization on labor productivity. We also account for the impact of domestic variables, namely, human capital, research development expenditures and domestic investment, which are all closely related to domestic policy-making. Given our objective, we believe that examining the case of CEE8 countries provides a unique study, as the integration efforts have been associated with significant internationalization activities as well. As former communist economies, they not only had to integrate their economies quickly with the West to survive the hardship of the former economic system, but also assumed the task of reaching the EU standards. The experience of these new EU members may provide important lessons for the candidate countries as well as other emerging economies.

Another important feature of our paper is that we test the individual effects of exports and imports on labor productivity separately. Recent literature has mainly focused on exports (Melitz, 2003; de Loecker, 2007) and FDI (Borensztein et al., 1998; Xu, 2000; Javorcik, 2004) to explain productivity changes. There are only a few available studies that investigate the direct impact of imports on productivity and the cross-country evidence on the issue is mixed (Blalock and Veloso, 2007; Kasahara and Rodrique, 2008). To our best knowledge, there is no aggregate country-level evidence regarding the import-labor productivity link for CEE8 countries.[1]

In the next section, we explain our theoretical framework. Section 3 further motivates the study by discussing the evolution of potential factors that might have affected the labor productivity growth in CEE8 countries. We also refer to some related studies that examine the determinants of labor productivity. In Section 3, we describe the data and discuss the estimation and the findings. The last section concludes with policy implications of the findings.

2. Theoretical framework

We borrow our theoretical framework from Bernard and Jones (1996a,b) and Cameron et al. (2005), who show that productivity growth of countries (or industries) is the result of domestic innovation or

[1] The only study that we have found is a recent unpublished work by Halpern et al. (2006), who employ a panel data of Hungarian firms to test the impact of imports on productivity. The paper argues that imports influence labor productivity through a quality and a variety channel and provides empirical evidence supporting that.