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Key sectors in the post-communist CEE economies: What does the transition data say?



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ABSTRACT

This paper is the first study dedicated to the extensive examination of the dynamics of key sectors in CEE transition economies based on an application of the WIOD – an extensive database recently launched under the patronage of European Commission, Research Directorate General. We propose a modified approach to key sector analysis which extends applicability of the traditional methodology to the case of examining groups of countries over a period of time. More formally, the research was based on the maximum entropy decomposition of the Leontief inverse applied to the input–output tables covering the period 1995–2011. The results allow formulating the list of sectors, which, more or less, have preserved the status of the key sectors in CEE transition economies. In turn some sectors, especially the manufacturing ones, have significantly derailed while the sector of construction as well as the financial sphere and travel and tourism related sectors, have clearly gained in importance.

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1. Introduction

The main goal of this paper is to analyze how key sectors in CEE evolved over the preceding two decades. In general, the purpose of key sector analysis is to identify the sectors which have the greatest effects on the rest of the economy. The motivation to perform the examination of key sectors in case of CEE transition economies is twofold. First, in case of any group of economies (not necessary the CEE transition ones) the identification and classification of such influential fields might provide the basis for taxonomy of economies as well as contribute to enriching our understanding of the growth and development processes (Ćmiel and Gurgul, 2002). In case of transition economies, however, such an analysis may also provide crucial information on the structural change of an economy during the process of economic transformation. Second, to the best of our knowledge in case of CEE transition economies such an examination has never been conducted so far, most likely due to lack of sufficient amount of detailed data. The recently launched World Input–Output Database (WIOD), which consists of a series of detailed and reliable databases and covers 27 EU countries and 13 other major countries in the world, seems to be the long awaited solution to this problem and allows performing important national and international analyses (Timmer, 2012).

To give a background for the determination of key sectors in CEE economies over the first two decades of transition we will now briefly outline historical circumstances around the transition process at its beginning. In the early 90s the centrally

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planned economies in Central and Eastern Europe (CEE) started their process of transformation into market economies. About twenty five years ago Poland as the first CEE country replaced the authoritarian communists regime by a government elected in partly democratic election. Unfortunately, at that time there was no economic theory on how to conduct the transition process, so it is not surprising that this task seemed to be an extremely hard one. In the first years of transition, the CEE economies were confronted with many difficult economic and social problems. The industrial output, real wages and salaries were dropping while both inflation and unemployment were rapidly rising.¹ Also foreign trade, strongly depending on COMECON, dropped rapidly and at the same time trading on new Western markets was extremely difficult because of low quality of goods from former socialist countries and legal barriers. To better understand the specificity of that moment, it seems reasonable to focus on the case of Poland, which is often called a model transition country where a so-called *shock therapy* was applied.² Reforms conducted in Poland by Balcerowicz,³ called *the Balcerowicz's plan*, were based on the three nominal anchors allowing the authorities to keep the inflation under control. These were: the wage tax, the fixed exchange rate and the high interest rate. Despite the undertaken reforms, many macroeconomic statistics in Poland (as well as in other CEE transition economies) still remained below the recommended levels. The first positive symptoms of economic recovery were observed in trade, and later also in services. Similarly to other CEE transition economies, in case of the sectors of manufacturing, mining, metallurgy, foundry and other branches of heavy industry in Poland, one could notice extreme difficulties in the process of economic transformation, however.

The transition process has also affected basic principles of collecting social statistics by the central statistical offices in CEE, especially with respect to the compilation of input–output (IO) tables. At this place it is important to note that these matrices are fundamental for key sector analysis, thus construction and reliability of the IO coefficients was (and still is) of a great importance. Before the collapse of the centrally planned economies CEE countries were compiling the IO tables according to the material product system (MPS). Since 1995 such tables have been constructed according to the system of national accounts (SNA), which is typical for market economies. Therefore, in order to enable the comparability of the IO matrices coming from different periods the first goal of the central statistical offices in CEE countries after the change of economic system was not only to compile new input–output tables but also to transform the existing MPS-compiled input–output tables from the end of 80s and the beginning of 90s into the SNA system. Since these attempts of conversion from MPS into SNA were, in general, not successful, in this paper we will focus solely on the reliable IO data constructed according to the SNA from 1995 onward. In other words, due to data unavailability and/or unreliability we are not able to focus on the very first years of the transition.

The content of this paper is as follows. Section 2 contains a brief overview of the literature on structural change (and its reasons in CEE transition economies) and key sectors analysis. In Section 3 the discussion on methodological questions in respect to the identification and examination of key sectors is showed. Section 4 presents main research hypotheses examined in this paper. The dataset and the main empirical results are provided in Section 5. Finally, in Section 6 we summarize the major findings and suggest some directions for future research.

2. Literature review

In the recent decades economic transformation and structural changes have been crucial problems not only for Central and Eastern Europe, but for the whole European area (Landesmann, 2000). Beginning with the breakdown of socialism in the former Soviet Union and its satellite states, it led to a complete new economic structure in Europe, finalized by the EU enlargement, with far-reaching economic, political and administrative consequences.

The transition process was based on three main elements (Gros and Steinherr, 2004). First, prices and markets, including foreign trade, were liberalized. Second, most of state assets were privatized, and a new private entrepreneurial culture emerged. Third, reforms were conducted in order to transform the communist institutional framework of the economy into an efficient one required by market economies. This included all the main areas of economic and social activity from the banking sector and financial markets to education and health care.

All of these elements caused a structural change in the economy, including changes in the composition of the set of key sectors. The liberalization of prices in transition economies led to significant changes in relative prices of goods, and hence had impact on demand structure. By opening the economy and trade liberalization, a country's comparative advantages dramatically changed. Therefore, the structural change was inevitable. The best example was the post-1989 shift in Central and Eastern Europe away from heavy industry and towards consumer goods. In the absence of a forced supplies for Soviet military equipment, demand for overpriced heavy industry products significantly decreased and the liberalization of trade led to rise in production for Western European markets of industries with production technologies intensive

¹ At the very beginning of the transition, one could even notice a hyperinflation in CEE; for example, in the first year of the transition the annual inflation rate in Poland reached the level of few hundred per cent.

² This view is often expressed by both the researchers (Lenain, 2000) as well as politicians (recall US President Barack Obama hailing Poland as a model of transition during his visit in Warsaw in 2011 (http://www.huffingtonpost.com/2011/05/28/obama-poland-democracy_n_868434.html)).

³ He is a former Deputy Prime Minister and Minister of Finance, former President of the National Bank of Poland (NBP). He is one of the main architects of Poland's economic reforms initiated in 1989.

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