THE STRUCTURE AND EVOLUTION OF PRODUCTION, EMPLOYMENT AND HUMAN CAPITAL IN PORTUGAL

CONTEXT SOÇIO-ECONÓMICO E O CONHECIMENTO SOBRE ECONOMIA

ESTUDO DO ENDIVIDAMENTO DA ADMINISTRAÇÃO LOCAL PORTUGUESA: EVIDÊNCIA EMPÍRICA USANDO MODELOS DE ANÁLISE DE DADOS EM PAINEL

Versão integral disponível em digitalis.uc.pt
The main purpose of this paper is to analyse the structure and evolution of production, employment and human capital in Portugal, using an inter-industry approach. A descriptive analysis of the sector composition of gross output, value added and employment is made, followed by a quantification of changes in relative labour productivity and primary input content of final demand components. Next, the evolution of employment multipliers is quantified, as well as the structure of labour force qualifications by sector. Although remarkable improvements have been achieved in the past, the low educational levels of its workers, on average, remains one the main vulnerabilities of Portugal in the global and knowledge economy of our days. In this context, the main contribution of the paper is the quantification of human capital requirements of final demand changes by component. Using an input-output approach combining sector productivities and labour qualifications, output multipliers and final demand structure, it is possible to quantify the growth in employment by level of qualification resulting from a unitary growth of private and public consumption, investment and exports. This exercise is made for 1995 and 2008, using input-output domestic flow tables from INE and DPP and employment qualifications from Quadros de Pessoal database.

JEL Classification: C57; D67

* We thank the financial support from national funds given by the FCT (Fundação para a Ciência e a Tecnologia). This paper is part of the Strategic Project: PEst-OE/EGE/UI0436/2011
The main purpose of this paper is to quantify the changes in the structure of economic activity, employment multipliers and human capital requirements of final demand components in the Portuguese economy, in the period 1995-2008, within an input-output framework.

The evolution of output, value added and employment structure by sectors in Portugal illustrates the significant changes in the last years, with a relative decline of agriculture, mining and (almost all) manufacturing activities and a reinforcement of utilities, construction and private and public services (Lopes, 2012).

These changes were common to most developed economies due to the globalization process and the emergence of new competitors, mainly China, but in Portugal they were accentuated by the inadequate adjustment to the adoption in 1999 of a strong currency, the Euro (Amaral, 2013). For an interesting analysis of these trends at a regional level see Martins and Barradas (2009).

A negative consequence of this process was the slowdown (in fact, almost the standstill) of average productivity growth, due to the lower efficiency of the sectors that were reinforced after Portugal had begun to prepare for membership in the Economic and Monetary Union (Leão et al, 2011; Reis, 2013). The majority of these sectors are marked by low-skilled labour and weak productivity growth, as is shown in this paper.

Another consequence was the significant increase in external dependency, measured in this paper by the quantification of the direct and indirect import content of final demand components, namely private consumption, investment and exports. The Leontief model is particularly indicated for this analysis, because it pays attention not only to the direct external dependency of productive activities but also to the indirect and induced dependencies associated to the interindustry flows (Leontief, 1951). In Portugal, the import content of final demand has grown significantly between 1995 and 2008.

On top of this comes one of the main structural vulnerabilities of the Portuguese economy, i.e. the low level of its labour force qualifications although remarkable improvements have been achieved in the last decades (see Alves et al, 2010).

An important contribution of this paper is the quantification of the human capital requirements of final demand changes by component. It is an input-output approach combining sectoral productivities and labour qualifications, output multipliers and final demand structure. It allows the quantification of growth in employment by level of qualification resulting from a unitary growth of private consumption, public consumption, investment and exports.

The rest of the paper is organized as follows. In the next section the theoretical and methodological framework is presented and discussed. In section 3, an application to the Portuguese case in two years, 1995 and 2008, is made. After presenting the data sources - input-output domestic flow tables from the Portuguese Statistics Institute (INE) and Departamento de Prospectiva e Planeamento (DPP) and employment qualifications from Quadros de Pessoal – a descriptive analysis of the sectoral structure of output, value added and imports is made, as well as a brief comparison of sectoral productivities in both years. Then, primary input contents of final demand components are quantified, followed by a quantitative assessment of employment multipliers and sectoral employment qualifications. The empirical part of the paper ends with the quantification of employment by level of qualification associated with each final demand component increase. Finally, in section 4 some concluding remarks are made.