A BI-REGIONAL (RECTANGULAR) INPUT-OUTPUT MODEL FOR PORTUGAL: CENTRO AND REST OF THE COUNTRY

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Abstract
Regional Input-Output models aim to quantify the impacts on industry’s outputs, and other economic indicators, of different final demand vectors for goods and services produced in the same or in different regions. These models are well suited for regional economic analysis as they combine inter-industrial and inter-regional economic interdependencies. MULTI2C is a general flexible procedure, developed by a group of researchers from the University of Coimbra, Portugal, that allows for the construction of that kind of models for different geographic configurations.

This work explores the construction of a bi-regional input-output model for Portugal, based on the MULTI2C approach, considering two regions: the NUT II Centro of Portugal and the Rest of the Country. This model considers rectangular matrices with 431 products and 134 industries. Further, it considers different types of households according to their main source of income, i.e., labour earnings, capital income, real estate income, retirement benefits and other social transfers. This modelling framework may be closed with respect to the consumption of different household’s types, but this paper considers as endogenous the labour earnings type. Besides the model structure and the methodological choices for its construction, this work focuses on estimating interregional trade.

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Finally, the model is used to assess the impacts in the Centro region of Portugal, and in the Rest of the Country, derived from a shift in income's distribution in the Centro region, consisting in a reduction of the labour share, compensated by an increase in business investment, which however do not confine to the NUT II Centro of Portugal but, into some extent, spillover to the Rest of the Country.

**Keywords**: Input–Output Models; Household Income; Regional Economics.

1. Introduction

Regional Input-Output models aim to quantify the impacts on industry's outputs, and other economic indicators, of different final demand vectors for goods and services produced in the same or in different regions. These models are well suited for regional economic analysis as they combine inter-industrial and interregional economic interdependencies.

The initial purpose of this work is to build an input-output model for the Centro region (C), Portugal. This model uses 2010 data and analyses the interactions between the Centro region and the rest of Portugal, hereafter designated as “Rest of the Country” (RC). The Centro region is a NUT II located in mainland Portugal, occupying the central part of its territory (between Lisbon and Oporto) and corresponding to 31% (28 405 Km²) of the country's total area. This region has 2.3 millions of residents (22% of the country's total) and its GDP represents about 18.5% of the Portuguese GDP. Next, the bi-regional Centro-Rest of the Country input-output model is explored to assess the impacts in both regions, derived from a shift in the income's distribution in the Centro region, consisting in a reduction of the labour share in this region, compensated by an increase in business investment.

According to the scope and objectives considered, the analysis is organized as follows. Section 2 presents, in sub-section 2.1, the structure of the bi-regional Centro - Rest of the Country input-output model and the main topics considered to build it up; in sub-section 2.2 are explained the main procedures regarding the consideration of different household...