ASSESSING THE DISTRIBUTION AND USE OF INCOME AND CHANGES IN INCOME WITH SOCIAL ACCOUNTING MATRICES

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Abstract

Several different areas of the socio-economic activity of countries, and in particular the distribution of income, can be studied with the use of Social Accounting Matrices (SAMs).

The features underlying a SAM allow for the reading and interpretation of the socio-economic activity of countries, leading to the production of an empirical work that can highlight specific aspects of the reality under study and offers the chance to perform experiments with changes in those aspects. Thus, SAMs can also be used to support policy decision processes.

With the aid of some methodological principles based on the works of R. Stone, G. Pyatt and J. Round, a SAM-based approach to the study of income distribution is carried out, seeking to provide both an empirical and a theoretical description of the socio-economic activity of a country, respectively through a numerical and an algebraic version of a SAM. The algebraic version can also be referred to as a ‘SAM-based model’.

This study uses the nomenclatures of the latest version of the System of National Accounts (2008 SNA).

By including production and institutions accounts in a matrix format, the structural features of a country’s production and income distribution can be worked upon together, making it possible to capture specific networks of linkages and the corresponding multiplier effects, in subsequent modelling exercises.

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A basic SAM is presented, with rows and columns representing accounts. The production accounts are represented by activities (or industries), products (or goods and services), and factors of production. The (domestic) institutions are represented by the current, capital and financial accounts. The rest of the world account represents the “external” part of the (domestic) economy.

Bearing in mind the importance of ensuring the consistency of the whole system, possible disaggregations and extensions to that basic structure are analysed. Aggregates and balancing items that can be identified and calculated outside this matrix format are also presented.

An assessment of a country’s distribution and use of income is presented, by means of the identification of some of the underlying structural features of SAMs. Macroeconomic effects of changes in income are then identified by way of an experiment with a change in the taxes on income and wealth, paid by the households to the government, using a SAM-based approach.

The exposition is accompanied by an example which is applied to Portugal.

Keywords: Social Accounting Matrix; National Accounts; Income Distribution; Macroeconomic Modelling.

1. Introduction

The Social Accounting Matrix (SAM) is a tool that has specific features that can be used to study the socio-economic activity of countries. Such features allow for the reading and interpretation of the reality under study, leading to the production of an empirical work, which not only highlight specific aspects of that activity, but also offers the chance to perform experiments with different interventions with regard to its functioning.

Section 2 outlines how the SAMs can be used to measure and model the socio-economic activity of countries, and also how they can be used as an alternative support for studies being carried out in several areas, as well as for supporting those taking part in the policy decision process. The main features of the SAM-based approach are outlined in Subsection 2.1, by adopting a methodological framework based on Richard
Stone's research and that of his followers, according to which the SAM can describe the activity of countries, either empirically or theoretically, depending respectively on whether it is presented in a numerical or an algebraic version. In Subsection 2.2, a proposal is presented for the development of a basic SAM, together with an explanation of possible alternative taxonomies. In Subsection 2.3, the accounting multipliers are presented as a possible algebraic version of a SAM, to be used in a SAM-based approach.

In Sections 3 and 4, an assessment is made of the distribution and use of income, and also of macroeconomic effects of changes in income, respectively. In the former case, some of the structural features underlying the SAMs are identified, and, in the latter, an experiment based on a change in the taxes on income and wealth, paid by the households to the government, is performed using a SAM-based approach.

Finally, Section 5 summarises and presents some concluding remarks on how SAMs can be useful working tools for assessing the distribution and use of income, as well as, for the analysis of possible macroeconomic effects of changes in a country's income.

Throughout the research, the methodologies are accompanied by an application for Portugal.

2. Measuring and modelling the socio-economic activity of countries with SAMs

2.1. The SAM and the SAM-based approach

The Social Accounting Matrix (SAM) is a square matrix which measures and models the socio-economic activity of a country, depending respectively on whether it is in a numerical or in an algebraic version. In this way, specific aspects of that activity can be studied through a SAM-based approach, thus benefiting from a greater analytical content which is provided by the matrix format, and allowing for the capture of networks of linkages that have not been captured otherwise.