

Education Services and Reallocation of Government Expenditure

Topic: Input-output analysis for policy making II

Author: Lorenzo Toffoli

Co-Authors: Claudio Socci, Maurizio Ciaschini

Education Services and Reallocation of Government Expenditure

Maurizio Ciaschini*, Claudio Socci*, Lorenzo Toffoli+1

*Department of Economics and Law, University of Macerata

+Department of Economics and Finance, Catholic University of Milan

Expenditure on education, beyond being a source of short run changes in output and GDP levels, can contribute to the accumulation of human capital, which is of critical importance in determining a country productive capacity and productivity. General government indicators reveal that in 2010 U.S. National defense expenditure as a percentage of GDP is three times higher than the OECD average and that only Israel exhibits a higher value. Moreover, National defense expenditure accounts for sixteen percent of total outlays in the 2014 proposed U.S. Federal budget. Recent studies on the U.S. economy suggest that a relocation of Federal funds from investments in National defense to the education system can have an overall positive or recessive impact on output and GDP levels depending on the way in which the funds reinvested are distributed between capital and current expenditure. Furthermore, short run effects can be accompanied by medium and long run benefits due to the enhanced productivity stemming from efficient expenditure on education. The aim of this paper is to design and evaluate balanced budget policies that foster the U.S. education system by relocating Federal funds from investments in National defense to the education system. National defense expenditure in capital account is reduced by one percent over a period of five years. The education policies proposed differ in the way in which saved funds are reallocated. Funds can be expended in capital or current account, can be partitioned between public and private education industries, between market and non-market education services or by education level. The research first focuses on changes in income of the institutional sectors, then compares output changes occurring in education and non-education spheres. Finally, on the basis of the changes in the production of human-capital related services, the increase in the stock of human capital is estimated by a cost-based approach. A suitable framework for conducting this kind of analysis is a dynamic extended multisectoral model where final consumption depends on the institutional sectors income level of the previous period and investments react to institutional sectors income changes. While traditional multisectoral analysis is purely static and doesn't deal with the complexity of evolving systems, the introduction of structural relationships that link variables belonging to different time periods allows for multisectoral economic dynamics. The model proposed is based on the Social Accounting Matrix (SAM) approach and the economic process is represented as a circular flow. In this framework it is possible to account for direct, indirect and induced effects produced by the policy proposed.

Keywords: Expenditure education, Government expenditure, Dynamic extended multisectoral model

JEL codes: I28, C67, E16, E62

1Corresponding author. E-mail address: lorenzo.toffoli@unicatt.it. Dipartimento di Economia e Finanza, Università Cattolica del Sacro Cuore, Largo A. Gemelli 1, 20123 Milano, Italy.