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Second-best optimal taxation of capital and labor in a developing economy

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Abstract

As commercial integration reduces the reliance on foreign trade taxation, raising tax revenue has become a major concern for the governments of developing economies. This paper examines how the tax burden in a developing economy should be distributed between capital income and labor income. We study a two-sector model, where the traditional sector is "informal" and consequently cannot be taxed by the government. In this setup, we find that the optimal (second-best) tax structure in order to raise a certain amount of revenue requires to tax capital income at least as much as labor income, and possibly more.

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1. Introduction

Raising tax revenue is an important concern for the governments of developing economies. Not only are tax revenues small, but the structures of the tax systems differ substantially from what we observe in industrial countries. For developing countries,

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indirect taxation is the main source of government revenue, representing in some cases up to 80% of total tax receipts, while personal and corporate taxes never account for more than 25%. By contrast, in OECD economies, personal and corporate income taxation provide over 40% of tax revenues, while indirect taxation is only 27%; see Tanzi (1987) and Messere and Owens (1989). As developing countries grow, they need to generate larger tax revenues to finance the enhanced public services concomitant with a developed economy. Since indirect taxes are already at a high level, comparable to that in industrial countries, increasing tax revenue will require higher personal income tax rates, thus raising the question of the form that this increase in taxation should take.[1] This paper examines how the tax burden in a developing economy should be distributed between capital income and labor income.

An extensive literature on the optimal taxation of factor incomes in a dynamic setting has evolved. The main message to emerge from this is that in the long run, capital income should not be taxed, thus shifting the burden from factor income taxation toward labor; see Chamley (1985, 1986), Judd (1985, 1999), and Lucas (1990). Indeed, in many developing countries interest income, if taxed at all, is taxed at a rate below the tax rate on labor income.[2] The standard optimal taxation result would imply that this is an efficient tax structure, although, being strongly regressive, it may not be desirable once equity considerations are taken into account.[3] In this paper we show that in contrast to the conventional view, taxing labor income more heavily than capital income may also be inefficient from a growth and welfare standpoint.

We study a two-sector economy with a modern and a traditional sector, in which agents allocate their endowment of time and capital between the two sectors. Both sectors use private capital and labor, with the modern sector having a more capital-intensive technology. In addition, the aggregate capital stock provides an externality that is consistent with an equilibrium of ongoing growth, as in Romer (1986). Consumers are infinitely lived and identical in all respects except for their initial endowment of capital. We derive a macroeconomic equilibrium in which the economy's growth rate, the sectoral allocation of resources and thus the relative size of the two sectors, and the distribution of income, all become jointly determined.

It is often argued that the production structure of the economy, and in particular the degree to which certain activities are commercialized as opposed to black-market or subsistence-oriented, is a major determinant of the capacity of governments to raise tax revenue. To capture this feature of developing economies, we simply assume that all traditional sector activities are informal, and consequently non-taxable by the government. Depending on the country, estimates of the proportion of the male non-agricultural labor force that work in the informal sector range between 15% and 90%, and while the average

[1] The importance of increasing direct taxation has been stressed by a number of studies on tax reform in developing countries, such as Ahmad and Stern (1991). This is particularly important since not only do indirect taxes account for a large fraction of total revenue, but also value added tax *rates* in developing countries are already at a level comparable to those in industrial countries; see Tait (1988).

[2] See Tanzi and Zee (2000).

[3] Jiminez (1986) documents that in most developing countries, the tax system is highly regressive.