How Do Taxes Affect Human Capital? The Role of Intergenerational Mobility

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This paper investigates how explicitly modeling the intergenerational transmission of human capital modifies the effects of tax policies obtained from standard life-cycle models. The main finding is that the intergenerational persistence of human capital is not an important determinant of the steady-state and transitional effects of several commonly studied tax policies. Conventional life-cycle models closely approximate the predictions generated by models with realistic intergenerational mobility properties. However, intergenerational persistence can substantially magnify the effects of policies that distort job training investment. *Journal of Economic Literature* Classification Numbers: H2, J24.   © 2001 Academic Press

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1. INTRODUCTION

Human capital accounts for a large share of total wealth in industrialized countries (Davies and Whalley, 1991). Two sources of investment contribute to human capital growth: formal education and training, and the transmission of human capital from parents to children. Empirical research suggests that the latter is an important source of skill formation (Heckman, 1999). Estimates of intergenerational mobility, surveyed in Mulligan (1997), show that up to 60% of the variation of earnings and educational attainment is transmitted from parents to children. Family background characteristics are often found to be among the most robust predictors of educational attainment (Hanushek, 1986).

Still, as pointed out by Heckman (1999), existing research has focused mainly on formal education and training, while the intergenerational transmission of human capital has received far less attention. In fact, standard life-cycle models typically abstract from intergenerational persistence by treating the human capital endowments of young adults as exogenous.[2] It is therefore unclear whether the answers to macroeconomic questions, such as the effects of tax policies on human capital formation, are sensitive to this abstraction.

This paper investigates how explicitly modeling the intergenerational transmission of human capital modifies the results obtained from standard life-cycle models. I develop a dynamic general equilibrium model of human capital formation that combines the features of a conventional life-cycle model with a theory of the intergenerational transmission of education and ability along the lines of Becker and Tomes (1986; hereafter BT). The model is parameterized to account for selected data characterizing the intergenerational persistence of education and earnings in the Panel Study of Income Dynamics. Numerical simulations are used to investigate the effects of several tax experiments commonly studied in the literature. The predictions of the baseline model are compared with a version of the model that abstracts from intergenerational persistence, in which case it reduces to a conventional life-cycle model.

The analysis identifies two conditions under which models with different degrees of intergenerational persistence yield similar outcomes: either the tax experiment under study does not strongly distort postschooling human capital investment, or the intergenerational transfer of human capital takes place early in life. If either condition holds, then the steady-state tax elasticities of aggregate output and human and physical capital, as well as measures of earnings inequality, are nearly invariant over a wide range of intergenerational persistence. This finding continues to hold if parents are altruistically linked to their children. A similar result is found for the transitional dynamics following an unannounced, permanent tax change: A conventional life-cycle model yields trajectories of major aggregates that are similar to those obtained from a model with realistic persistence. However, for policies that strongly distort postschooling human capital investment, a conventional life-cycle model yields substantially different outcomes if the transfer of human capital occurs relatively late in life. Examples of such policies include job training subsidies or income taxes when job training investments are nondeductible.

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[2]Prominent examples include Davies and Whalley (1991) and Heckman, Lochner, and Taber (1998). A related literature studies tax policies in the context of infinite horizon models, in which intergenerational issues do not explicitly arise; see, for example, Lucas (1990) and Trostel (1993).