

# **Child Allowance, Public and Private Education, Endogenous Fertility, and Human Capital Accumulation**

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## **ABSTRACT**

Evidence suggests that the burden of educational expenses contributes to Japan's declining birthrate. Publically funded child allowances and subsidies of educational investment in the form of providing free high school education are thought to relieve these problems, but taxes finance these policies, and excessive taxation might prevent to improve fertility rate. If that is the case, government policy must choose between expanding child allowances and investing in public education. Earlier studies that analyze child allowances in a model with endogenous fertility (Groezen, Leers, and Mejidam, 2003; Fanti and Gori, 2009) disregard public and private educational expenditures and human capital accumulation. Although Gamlath and Lahiri (2018) use a variable elasticity of substitution (VES) education production function and introduce substitutability between public and private educational expenditures, they do not consider endogenous fertility.

This study builds an overlapping-generations model featuring endogenous fertility and human capital. We introduce childcare subsidy and public educational expenditure financed by income taxes, and assume that education production function takes a variable elasticity of substitution (VES) form. We analyze the effects of education policies—expanding child allowances and investing in public education—by income tax increase or reduction.

**Key words:** *Human Capital, Endogenous Fertility, Overlapping-Generations, Childcare Subsidy, Educational Expenditures, Income Tax, VES Production Function.*

**JEL Classification:** H24, H31, H52, I25, J13, O15