

# **Sustainability of public debt under physical and human capital accumulation in an overlapping generations model \***

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## **Abstract**

I consider the sustainability of public debt by using an overlapping generations model with human capital accumulation (private and public education) and public debt. By admitting that the government can finance public educational expenditure by issuing new public debt, based on this model, I explicitly show (i) the parameter region in which public debt is not sustainable for any initial endowment and (ii) the threshold of initial endowment over (under) which the economy diverges (converges to the steady state). Importantly, the threshold is neutral to the level of human capital. Further, when public debt is sustainable, I analytically show the existence and uniqueness of the long-run growth-maximizing level of each policy variable (i.e., the tax rate and public education/production ratio).

*Keywords:* Human capital accumulation; Public education; Public debt; Sustainability of public debt.

*JEL Classification:* E62; H52; H63; I28

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