

Fiscal Limit and Space under Demographic Shift^{*}

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Abstract

In this paper we analyze the implications of demographic shift for an economy's fiscal limit through lens of fiscal space, defined by budgetary room between the current and maximum tax revenues. We formulate a stochastic dynamic general equilibrium, overlapping generations model to map out fundamentals-based fiscal limit and space. We calibrate the model to Japan and US data and illustrate how the size of fiscal space is greatly dependent on the underlying demographic factors. Our quantitative results imply that the fiscal space and limits in advanced economies will shrink sharply by the mid of 21st century as their population ageing accelerates. In particular, our model calibrated to Japan indicates that the increase in dependency ratio from around 40 percent in 2010 to over 70 percent in 2040 will leads to a contraction in the capital-labor fiscal space by around 36 percent. The fiscal limit will be reached when factoring in the increased fiscal cost of age-related commitments. Our findings highlight the urgency of fiscal consolidation as well as implications for conducting monetary policy in an era of long-term fiscal stress.

JEL Classification: E62, H20, H60, J11

Keywords: Demographics, Laffer Curve, Fiscal Limit, Sustainability, Overlapping Generations, Dynamic General Equilibrium.

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