

Endogenizing wage profile: Estimating production function with imperfect aggregation of labor input*

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April 22, 2019

Abstract

Japan's wage-age profile has flattened for over two decades. The standard macroeconomic model that assumes the imperfect substitution among labor inputs of different ages fails to replicate this actual wage profile shift. We present the aggregate production function that generates endogenous change in the wage-age profile by the change in labor input share. The imperfect substitution makes the dynamics of wage profile. We estimate the elasticity of substitution of the production function from the structural equations. We find that our estimated model succeeds in tracking the changing of the wage-age profile in Japan.

Keywords: Age-wage profile; Imperfect substitution; Production function.

JEL Classification: E24, E23, J31, E25

*I gratefully acknowledge that Naohito Abe and Ryo Jinnai gave me invaluable guidance. I would also like to thank Akiyuki Tonogi, Hideyasu Sato, Xiangdan Piao, Makoto Saito, and Takeshi Ojima for helpful comments.

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