

A Microfoundation of the Harrod-Okishio Investment Function

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Abstract

The Harrod-Okishio investment function was proposed by Nobuo Okishio. It typically causes unconditional instability in macroeconomic models, owing to its characteristic of determining the difference in the time, rather than the level, of the accumulation rate (investment per capital stock). Futagami (1989) is the only study that attempted to establish a microfoundation for this function, but not within the typical framework of mainstream economics. Matsuo (1992) and Ishiguro (1991, 1995) introduced regressive expectations into the conventional model of dynamic maximisation of the sum of the present value of net cash flow using the Uzawa-Penrose adjustment cost function of investment, but they derived functions that determine the level of the accumulation rate. In this study, we introduce the new adjustment cost function of investment suggested by Eguchi (2011), Hayashida et al (2022), and Yasuoka et al (2023) into Matsuo's (1992) framework and successfully derive the Harrod-Okishio investment function using the variational method.

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