

The Effects of Barriers to Technology Adoption on the Japanese Prewar and Postwar Economic Growth

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Abstract

Despite the modernization of the late 19th century, Japan's per-capita GDP had staggered around one-third of that of leading economies until the Japan's miracle took place after World War II. To explain the prewar stagnation and postwar miracle, we propose a hypothesis that barriers to technology adoption existed in the prewar period, and examine the hypothesis by building a dynamic model with endogenous technology adoption. The barriers, which we identify from data on relative price of investment, explains about one-fourth of a gap in per-capita GDP between Japan and leading economies in the prewar period. The postwar removal of the barriers stimulates technology adoption and generates the observed transitional dynamics of the relative price of investment, explaining about one-fourth of the catch-up attained in the postwar period. We argue from historical perspective that the barriers have to do with government stance, financial frictions, institutions, competitive environment, and world economic and political stability.

Keywords: Barriers to technology adoption; Relative price of investment; Japan's growth miracle

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