

## Chapter 7. The economic geography of Japanese industrialization (1800-2010)

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The proposed paper accounts for the regional dimension of structural change in Japan between ca 1800 and 2010 using quantitative and qualitative information. For the period 1800-1874, we rely on regional studies, some of these quantitative (e.g. Nishikawa 1987), and new tentative regional estimates for 12 regions. For the period 1874-2010, we combine quantitative information at the level of the 47 prefectures, a number of mostly qualitative regional case studies (e.g. Nakamura 2010; Nishitani 1998), and various business history reports focused on a given industry but including some discussion of regional patterns. Our quantitative analysis builds on recent GDP estimates at the prefecture level for the benchmark years from 1874 (Fukao et al. 2015), and informed guesses based on backward extrapolation for 1800 and 1850. Prefecture level estimates of labour force and labour productivity by sector (primary, secondary, and tertiary sectors) have been constructed, along with a breakdown of value added manufacturing into subsectors (food, textile, wood, printing, chemicals, ceramics, metals, machinery, and misc. manuf.) for 1874, 1890, 1909, 1925, 1935, 1940, linked with yearly series from 1955 (and labour force estimates with the same subsector breakdown from 1909).

The paper examines the regional patterns in the development of Japanese industrialisation during six periods from ca 1800 to 2010. Between ca 1800 and 1858, the manufacturing sector experienced a slow expansion in a context of political fragmentation and remained almost exclusively restricted to cottage industry. Between 1858 and 1868, the opening to international trade resulted in regional asymmetric shocks, with some winners in eastern Japan, and many losers in western Japan (the issue of spatial effects usually ignored in study on the impact of the opening; e.g. Bernhofen & Brown 2004); some limited import of technology took place, particularly in treaty ports. In the period 1868-1913, corresponding approximately to the Meiji era (1868-1912), a gradual shift to modern economic growth occurred, with an acceleration of the handicraft based industrialisation across most Japanese prefecture during a first phase lasting until around 1890, followed by a second phase a spatial concentration in urban areas of high productivity manufacturing activities from 1890 to 1912. The period 1914-1965 was a phase of diversification and amplification of the geographical concentration in heavy industry, mostly in suburbs of major urban areas, but intra-sectoral labor productivity gap across prefectures declined substantially, especially in traditional manufacturing activities. In the period of high speed and then sustain growth 1965-1985, driven by the expansion of the manufacturing sector, the spatial dominance of the major urban areas gradually declined. Most prefectures experienced an expansion and diversification of their manufacturing sector. This was associated with intra-industry regional convergence of TFP within the manufacturing sector. During the final phase, 1985-2010, as large firms relocate their factories to other Asian countries a rapid decline of manufacturing in terms of share of total employment and of total GDP occurred, but it was rather homogenous in spatial terms, as opposed to other OECD countries where major industrial regions morphed into Rust Belts.

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