

Interconnected Worlds of Electronics: Global Production Networks and East Asia

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Abstract

Based on detail empirical material for a forthcoming monograph contracted with Stanford University Press, this presentation aims to describe and explain the transformative shift in global electronics from the earlier techno-national world of Silicon Valley to a new world of highly globalized electronics production by the 2010s centered on East Asia. In this world of Global Asia, the competitive success of East Asian national firms and economies since the late 1990s has been built on their strategic coupling with global production networks, driven by organizational and technological innovations that make possible these spatially dispersed networks of industrial production on a global scale. I call this more recent phenomenon the “interconnected worlds” of global electronics. This transformative shift in global electronics towards today’s interconnected worlds can be understood in relation to three arguments in this paper. First and prior to 1990, electronics used to be part of the techno-national development in advanced industrialized countries and most innovations and production were nationally based in the US, Western Europe, and, later, Japan. In this techno-national world, national governments in advanced industrialized economies competed fiercely against each other in the race to technological advancement and market dominance in two key segments of the electronics industry: computers and semiconductors. Second, while the internationalization of electronics manufacturing had occurred as early as the 1960s, its magnitude, depth, and complexity did not accelerate until the 1990s due to significant deregulation and trade liberalization and the growing capabilities of domestic firms in East Asian economies and, since the 2000s, in China. The earlier world of techno-nationalism in global electronics began to change after 1990 when the internationalization of electronics production towards East Asia gathered pace dramatically. Third, the interconnected worlds of global electronics have truly emerged by the 2010s through broader technological and organizational innovations enabling the emergence of global production networks in the different segments of the electronics industry. By 2018 and in all segments of global electronics, American, Japanese, and European OEM lead firms had worked closely with their East Asian partners and competed against each other in different markets and product categories worldwide. To end the presentation, I will consider some future prospects of global electronics in the post-Covid-19 world economy.

Keywords: global production networks; interconnected worlds; electronics industry; East Asia; post-Covid 19 world economy