Chapter 1
Industry Policy and Strategic Industries in Complex OECD Economies

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ABSTRACT

This chapter examines the renewed prominence of industrial policy in complex OECD economies facing technological disruption, geopolitical tensions, and climate imperatives. The author analyse how governments identify and support strategic industries through theoretical frameworks spanning neoclassical, structuralist, evolutionary, and complexity economics perspectives. Through comparative case studies across different national contexts, the chapter highlights how economic complexity analysis informs capability-building and diversification strategies. The author evaluate varying implementation approaches shaped by institutional environments and economic philosophies, concluding with policy implications for effective industr strategy design. Key recommendations emphasise evidence-based selection criteria, ecosystem-oriented approaches, competition maintenance, and international coordination. The chapter argues that successful industr policy requires adaptive governance that balances visionary direction with pragmatic flexibility to foster innovation, resilience, and sustainable growth.

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INTRODUCTION

Industry policy has re-emerged as a prominent tool in advanced economies in response to recent economic shocks and transitions. A series of crises—from the 2008 financial downturn to the COVID-19 pandemic—coupled with rising geopolitical tensions and urgent climate imperatives, have prompted many OECD governments to reconsider active industrial strategies (Millot & Rawdanowicz, 2024). Broadly defined, industrial policy refers to government measures—financial, regulatory, or otherwise—aimed at boosting or reshaping specific sectors or activities, rather than relying solely on economy-wide policies (Warwick & Nolan, 2014). Within this realm, strategic industries denote sectors deemed crucial for national economic security, future competitiveness, or societal welfare, often including high-technology and defence-related fields, critical infrastructure, and emerging industries with large spillover effects (Chang, 2002; European Commission, 2020).

This renewed interest marks a departure from the laissez-faire orthodoxy of past decades. During the neoliberal era, especially in the 1980s-1990s, many OECD nations downplayed industry policy, viewing market forces as the best arbiter of resource allocation (Pack & Saggi, 2006). However, the rise of China as a state-driven economic powerhouse, fragilities exposed by global supply chain disruptions, and the pressing need to drive digital and green transformations have together "brought back" industrial policy to the policy agenda (Aiginger & Rodrik, 2020). The United States has recently implemented massive industrial support programmes, including the 2022 CHIPS and Science Act to reshore semiconductor manufacturing, partly in response to strategic competition from China (Millot & Rawdanowicz, 2024). The European Union released a new industrial strategy in 2020, emphasizing technological sovereignty, sustainability, and resilience (European Commission, 2020).

At the same time, the context of economic complexity means that industrial policy today must grapple with highly networked, dynamic, and knowledge-intensive systems. Advanced economies are complex in the sense that they produce a wide variety of sophisticated products requiring extensive technical know-how and interdependent supply chains (Hidalgo & Hausmann, 2009). Complexity theory teaches that such economies behave as complex adaptive systems—with nonlinear interactions, emergent structures, and unpredictability (Arthur, 2013). This presents a fundamental challenge: identifying truly strategic industries is non-trivial, as sectors with the greatest impact on growth and innovation are often those that catalyse many others via linkages and spillovers (Hausmann et al., 2014); moreover, policy interventions must be agile and systemic, coordinating multiple domains and allowing for learning and adjustment, rather than relying on top-down planning alone (Aiginger & Rodrik, 2020).