Política industrial | Selecció final de texts

1. Política industrial, industrialització i èxit dels països

"… industrialization is a good thing economically, but it involves a costly, risky, and complex process. Many confuse industrialization with the construction of many factories. In fact, it is a capacity-building process with a signifcant intangible aspect; more than hardware, industrialization resembles software. It goes through certain stages and many countries of the world have not been able to proceed to advanced stages. However, as the country progresses towards advanced stages, the economic returns it reaps from industrialization increase.

The observation is that successful industrialization in the modern era has nowhere and never been an accident. It has always been based on some policy that aimed at supporting manufacturing. Currently, we call these 'industrial policies.'"

"Few fully realize that industrialization is a crucial necessity for economic development and requires design and implementation of appropriate policies. Many countries ignore industrial policy or fail to employ it effectively. The outcome is that countries such as Japan, South Korea, Germany, Sweden, China, and Finland stand out as rare relatively recent examples of successful economic development on the back of industrialization. Meanwhile, the majority of countries remain in the middle-income trap, or—if we may call it so—the low-income trap."

"Industrial policy is used to change the production structure of an economy in favour of the manufacturing industry by channelling a government's selected budgetary and non-budgetary resources and by channelling private capital, labour, and entrepreneurs towards the manufacturing sector. Industrial policy, as other 'structural policies,' is designed and implemented in order to improve the long-term growth performance of the economy. In particular, it helps countries surmount the so-called middle-income trap by raising growth performance over the long term. This is made possible by the innovational and growth-inducing nature of the manufacturing sector."

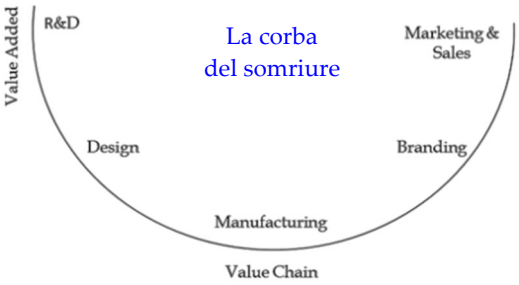
"In the UK, the Industrial Revolution began in the eighteenth century. It was not an accident; what can be identifed as industrial policies had started much earlier. It started at a time when the UK was characterized as a mercantilist, colonizing, hegemonizing, and brutal empire built after the ffteenth century. The Spanish and Portuguese empires preceded Britain with their versions of mercantile, brutal, and hegemonizing histories. However, they could not industrialize, as they ultimately failed to employ industrial policies. They started the twentieth century as poor countries…"

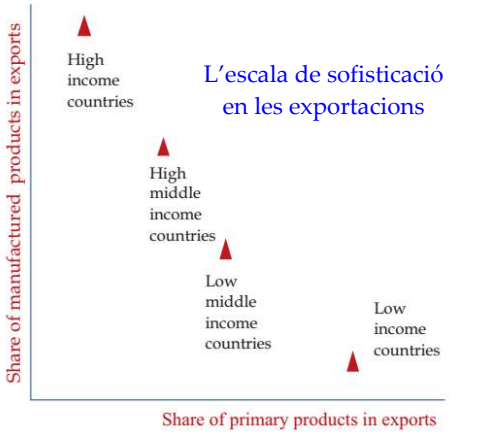
"Britain started to employ policies to achieve industrialization as early as the fourteenth century through import–substitution-type industrial policies. After it built its global empire, its industrial policies aimed at keeping its colonies as suppliers of raw materials (at prices commanded by the British) and the mainland as a manufacturing hub: navigation acts, restricting manufacturing activities in the colonies through its colonial laws, enforcing triangular trade arrangements that gained Britain a monopoly power over its international trade and opening up new markets for its industrial export apparatus by forcing the ('unequal' as East Asians called it) free trade agreements with unprepared and politically and militarily weak markets (such as China). The outcome for Britain was impressive; it indeed became the manufacturing and commercial hub of the world; it collected raw materials at low

prices from around the world and disseminated its manufactured products to its colonies and other markets."

"Today's industrialized nations which experienced their industrial revolutions after the British have all employed industrial policies at different times in their development cycles. This is confirmed by the stories of France, the USA, Japan, Germany, and Russia. In each of them, one or more dominant leaders pushed for economic (and social) reform and industrialization."

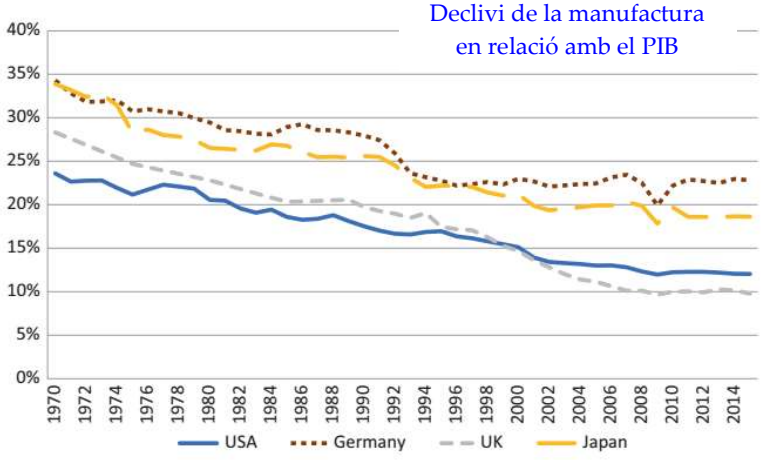
"… manufacturing is the hotbed of productivity, and innovations and services are the hotbed of employment. In our world today, global imbalances are more crucial than ever. They are driven by the major trade deficits of some countries and surpluses of others. A trade surplus of a country drives growth and employment. That 'export-led growth' explains growth in countries such as Germany, South Korea, Japan, and China; without trade surpluses, these countries would have had lower growth rates. On the other hand, trade deficits, in particular caused by 'unnecessary' imports, mean less growth and more unemployment for the importing country than would otherwise occur. As manufacturing constitutes the major part of world exports and imports, the manufacturing sector, then, is vital for growth and overall employment."





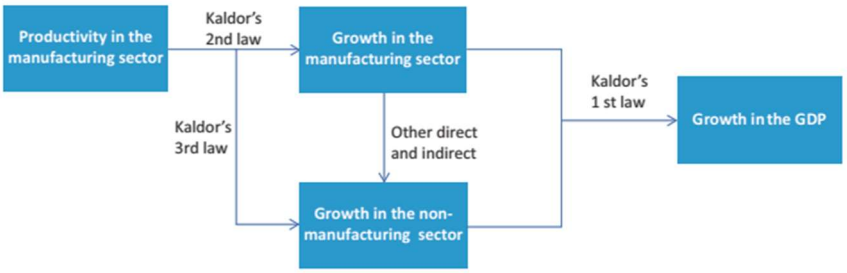
"Overall, industrialization is a capacity-building process that materializes through real manufacturing experience over time. It requires the development of human and institutional skills. It is important to stress that not all manufacturing makes money for the manufacturer. The *smile curve* implies that some manufacturing forms may yield peanuts for the frm and country. However, manufacturing always has positive side effects through linkages to other industries and through learning effects that generate larger impacts on society than on the individual manufacturing firm."

"Sectors are often qualifed as 'strategic,' but from an economic point of view, there is no consensus let alone an analytical study on what makes a sector 'strategic.' (…) Industrialization is possible through the industrial layer of industrial firms and entrepreneurs, industrial labour and managers, and industrial fnance. Industrial policy is designed and implemented by the state on the industrial layer. It is the capacities of the state and the industrial layer that are the key to a successful industrial policy."



Yülek, Murat A. (2018): *How Nations Succeed. Manufacturing, Trade, Industrial Policy, and Economic Development*, Palgrave Macmillan.

2. Les lleis de Kaldor



"Kaldor's three laws have been formulated as follows (order changed purposefully):

• The second law of Kaldor: Productivity drives the growth of the manufacturing sector; also known as Verdoorn's (1949) law.

• The third law of Kaldor: The productivity of the non-manufacturing sector is positively related to the growth of the manufacturing sector.

• The first law of Kaldor: The manufacturing sector is the engine of GDP growth."

Kaldor, N. (1966) 'Causes of the Slow Rate of Economic Growth of the United Kingdom: An Inaugural Lecture', a N. Kaldor (1978): *Further Essays on Economic Theory*, Duckworth.

Thirlwall, A. P. (1983): "A plain man's guide to Kaldor's growth laws", Journal of Post Keynesian Economics 5(3), 345–358.

Verdoorn, J. P. (1949): "On the factors determining the growth of labor productivity", Italian Economic Papers 2, 59-68

Yülek, Murat A. (2018): *How Nations Succeed. Manufacturing, Trade, Industrial Policy, and Economic Development*, Palgrave Macmillan.

"As postulated by the Kaldor-Verdoorn Law, a stable long-run relationship between output and labour productivity exists, whereby output growth determines productivity growth. Market expansion becomes a necessary condition for activating those technological and organisational factors which favour productivity growth."

Deleidi, Matteo; Santiago J. Gahn; Claudia Fontanari (2022): "Autonomous Demand and Technical Change: Exploring the Kaldor-Verdoorn Law on a Global Level", Post-Keynesian Economics Society WP 2212.

3. Etapes estilitzades de la industrialització

Stage I Imported Machinery	Stage IIa Technology Adoption	Stage IIb Technology Adoption	Stage III Imitation	Stage IV Innovation
Mechanization of production. Increased labor productivity through capital deepening	Better use of machinery. Increasing firm and country level productivity primarily through increasing labor productivity at given level of capital deepening	Servicing and Repairing Skills. Increasing firm and country level productivity through, inter alia, • lower repair and maintenance costs • lower down times	Development of new industrial sectors within the country. Generation of new learning-by-doing skills; possible jump effects on GDP in the medium to long run	Generation of TFP growth. Generation of new capital deepening avenues through newly developed machinery and equipment

"… we will define a typical process that has repeated itself over time in different countries. This streamlined version of the industrialization process can be considered to consist of four consecutive stages."

"At the outset of the first industrial revolution, the first industrial machinery was manufactured in the UK and other early industrializing countries. In the process (…) the administrators in the UK were careful in preventing technology transfer to other countries. Skilled masters of textile machinery were not allowed to leave

the country. As the Industrial Revolution progressed however, countries which had not manufactured industrial machinery (…) had the opportunity and necessity to import them from those who manufactured them. The industrialized country benefited from exporting technology-embedded machinery."

"Technology can be usefully defined as the relationship of conversion of inputs to outputs. When a firm or country imports foreign machinery in order to increase labour productivity, it actually imports the technology embedded within the machinery developed by the exporter. Importing machinery is an act of 'capital deepening' and leads to an initial jump in the (per hour) productivity of domestic labour (Stage I…), as it changes the production technology; it is a general observation that countries with low capital accumulation record high GDP growth rates when capital deepening occurs. However, it takes time for the full benefts of the new machinery to be reaped, as it takes time for labour to use machinery more effectively.

Over time, the importing country, through its firms and labour force, develops skills to run the machinery more efficiently. This is referred to as the 'adoption' of technology (Stage IIa). Adoption of new technologies can be defned as the use (i.e. not the development) of new and more efficient mappings between quantities of inputs and outputs. Better training of the workforce is considered to increase the speed of adoption of the technology embedded in the machinery. That in turn can lead to further gains in productivity in the frm and the country at a given level of capital stock. This adds to the productivity benefits acquired during the first stage, capital deepening.

A good user of machinery, and thus the embedded technology, is not necessarily also good in servicing or repairing the machinery. Acquiring these skills is a further stage in development and such skills would increase the overall productivity gains from the imported machinery by, for example, reducing downtimes or maintenance/repair costs (Stage IIb). That further complements the productivity benefits from the initial capital deepening. At the same time, it reduces the dependence of the importing country on after-sales services. South Korea's nuclear power programme is a good example of the achievement of Stage III."

"The next possible stage in the industrialization process is 'imitation' (Stage IV…). If this stage is ever reached by a country, firms reverse-engineer some of the imported machinery or products and build similar or slightly different ones. This is a new sector for the country (…) Imitation may unleash a new growth engine for the frm and the country through possible import substitution effects as well as through new skills generation and learning. This is because signifcant learning spillovers are at play at this stage, as knowledge, including manufacturing know-how, is a public good."

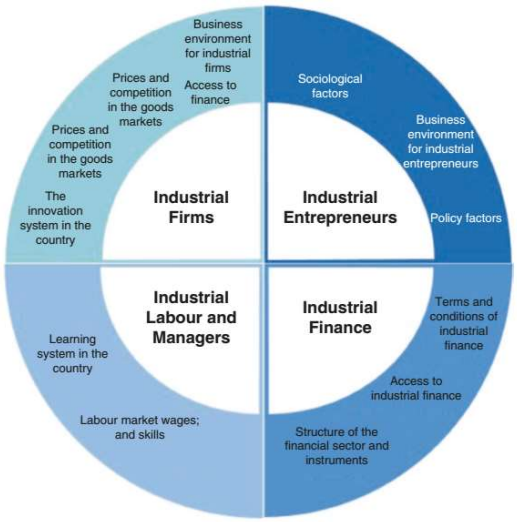
"There is a limited but valuable amount of new learning potential at this stage; the contribution of imitation to technological knowledge is limited and it does not add to global technological knowledge (…) The next and ultimate step in the industrialization process is developing new products (Stage V). This can be either through formal or informal R&D or through incremental innovation (…) This stage requires properly skilled human resources, such as R&D engineers. Countries which have reached this stage have firms at the boundaries of commercialized products. In order to compete globally, they need to develop new products, which is costly but at the same time which provides them with a certain period of pricing power."

Yülek, Murat A. (2017): "On the middle income trap, the industrialization process and appropriate industrial policy", Journal of Industry, Competition and Trade 17(3), 325–348.

Yülek, Murat A. (2018): "Thinking about a new industrial policy framework for Turkey", a Aysan, A. F.; H. Karahan; N. Gür, N.; eds. (2018): *On the path to high income status: Navigating the Turkish economy in unchartered territories*, Palgrave.

Yülek, Murat A. (2018): *How Nations Succeed. Manufacturing, Trade, Industrial Policy, and Economic Development*, Palgrave Macmillan.

4. L'estrat industrial (*the industrial layer*)



"At the receiving end of the industrial policies is the 'industrial layer' composed of industrial entrepreneurs, frms, labour (both managers and workers), and fnance. The quality and quantity of the industrial layer players are a critical success factor for the industrial policy no matter how 'well' it is designed and implemented."

"Other than some abstract consideration contemporary economic literature does not say much about the nature of the industrial production and investment process, its internal and external actors, and the interaction between these actors. The manufacturing activity in economic theory is thus represented by a production function of some simple mathematical form (…) The reality is much more complex, and that is why many countries have failed to industrialize and fall into the middle-income trap. Industrialization process is primarily undertaken by industrial firms. Primary and direct agents of industrialization, they are established and led by *industrial entrepreneurs*. Industrial firms hire workers and managers, seek capital, select manufacturing technologies, build factories, develop and manufacture industrial products, and sell them in domestic and international markets. In the process, the industrial firm acts as part of a national ecosystem which may be called the 'industrial layer' (…) It consists of the industrial entrepreneurs, industrial labour, and industrial finance in addition to industrial firms. It is important to note that the industrial layer is a concept wider than the (regional or local) industrial ecosystem. Typically, an industrial ecosystem, or a cluster, is considered to comprise closely linked networks of supplier firms."

"The scope of industrial policies, thus, should cover not only the industrial frm alone but the entire industrial layer. The quality of the industrial layer is important in that it determines both the overall competitiveness of the industrial sector and the effciency and effectiveness of industrial policies. Industrial policies are likely to fail if designed or implemented without taking into consideration the particular characteristics, weaknesses, and strengths of the industrial layer."

Yülek, Murat A. (2018): *How Nations Succeed. Manufacturing, Trade, Industrial Policy, and Economic Development*, Palgrave Macmillan.

5. Industrialització i política industrial exitoses

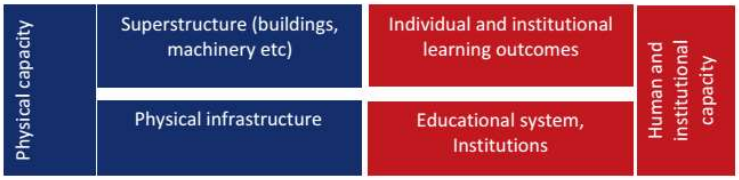


Fig. 10.1 Components of industrial capacity

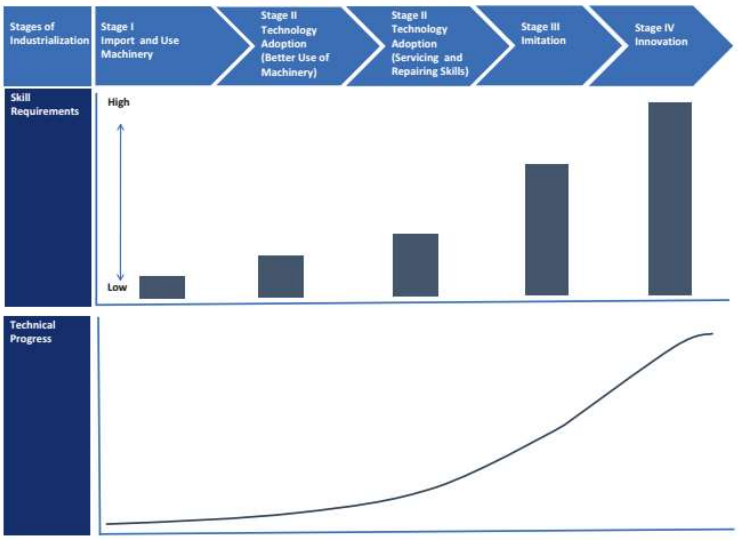


Fig. 10.2 Stages of industrialization, skills, and technical progress

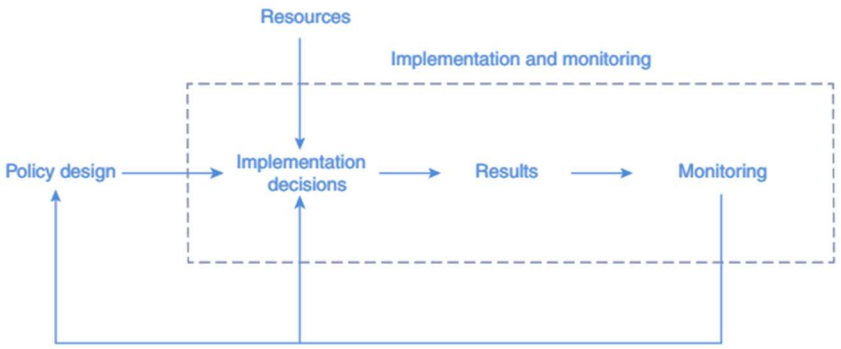
"Within the industrial layer, the industrial frm is a key determinant of successful industrialization.1 Consequently, the design of the industrial policy should consider market failures arising from frm capabilities and should be selectively applied. Industrialization is primarily a process of capacity building (of the industrial layer) with skill accumulation, technical progress, and physical infrastructure and superstructure as key ingredients (Fig. 10.1). Skill requirements rise as industrialization proceeds (middle panel of Fig. 10.2). That is why, in some countries such as Germany and Sweden, vocational education and the manufacturing sector developed in tandem or the former preceded the latter. A successful industrialization process, which consists of forming an internationally competitive industrial layer, goes hand in hand with 'technical progress' (bottom panel of Fig. 10.2) in addition to simple capital deepening and the ensuing factor accumulation, which is only a visual aspect of industrialization, consisting of factory buildings and machinery. Technical progress means getting more outputs from the same amount of inputs in the country."

" … state capacity is more appropriately defned as 'the ability of policymaking authorities to pursue domestic adjustment strategies that, in cooperation with organized economic groups, update or transform the industrial economy." That is very close to the concept of 'developmental state' as minted by economist Chalmers Johnson when explaining the rapid industrialization and economic development in Japan after the Second World War."

"A developmental state does not necessarily mean an autocratic or a statist one. Successful developmental states (mostly in East Asia), while exerting considerable influence on the domestic fnancial institutions, were careful to establish consultation mechanisms with the private sector. In the process, in consultation with the private sector, the (elite) bureaucrats were responsible for policy design, while ruling politicians maintained political stability by providing the bureaucrats with a conducive political and economic environment and conveying them the needs of the social and political groupings.

Maria[na] Mazzucato has extended the developmental state concept, stressing the pioneering role of the state in leading the frms to high-technology areas. Investment in high-technology areas is considered too risky and costly by frms, which are concerned about how to internalize the returns (i.e. how to reap more profts) if successful. Signifcant initial R&D investments are necessary in those areas to achieve returns but success rates are very low. Thus, an entrepreneurial state levels the ground by

funding R&D, enabling the entry of the frms to the high-technology areas by lowering initial private R&D risks and costs. Mazzucato's (…) work revealed that every key technology (…) underlying iPhone's success was funded by the American government (…) Mazzucato's argument is not much different from Adam Smith's, who underlined that where public goods are concerned, lack of state intervention would lead to undersupply. Thus, policies involving state subsidy can efficiently increase the supply of public goods (including of R&D) to the society."

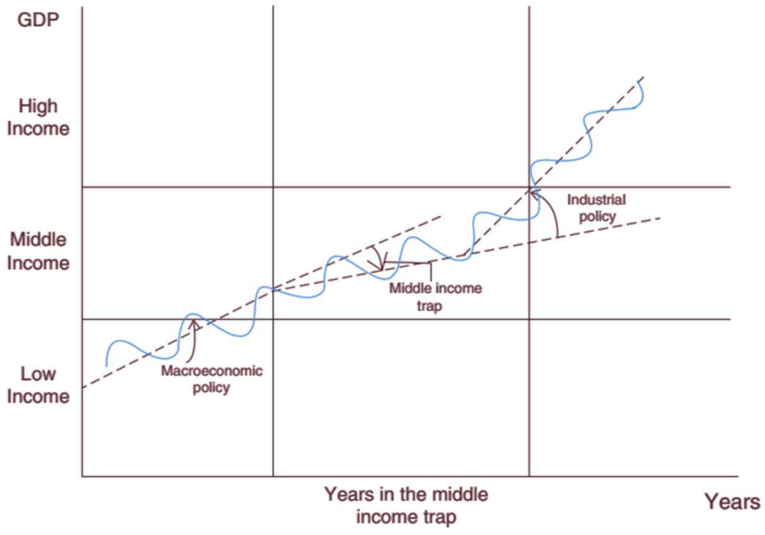


"It is arguable that the magnitude of the steering capacity of the state can determine or at least signifcantly influence the pace of economic development. In particular, the success of industrial policy in different countries in the recent or distant past has a lot to do with state success. In East Asia, Sweden, and Germany, among others, state capacity has arguably been one of the main defning factors of successful economic development."

"The quality of the steering capacity depends on the quality of both the policy design and the implementation (…). The results that are achieved determine the 'developmental impact' of the resources employed. The effectiveness (the level of satisfaction with the results obtained) and the effciency (results obtained in relation to the resources employed) are determined by the steering capacity of the state. Things often do not go as planned due to many reasons: design mistakes, inadequacy of inputs deployed, insuffciency of the implementation capacity, and so on. Therefore, the quality of monitoring, which is also an important component of steering, is crucial. Monitoring may lead to corrections in the implementation or, more substantially, reforms in policies."

"In developed economies, industrial policy is back in the policy agenda. In the EU, for example, after retreating between 1990 and early 2000s, industrial policy reclaimed an offcial position in the policy agenda in 2002 with the objectives of reviving productivity and growth and increasing competitiveness. Following the global fnancial crises, the EU's industrial policy effort intensified as growth further diminished."

"In developing countries which need growth to catch up, unnecessary imports cause slowdown (…) The costs of slowdown are higher in developing countries than in developed ones, as it impedes the needed catch-up process. Worse, if the import-led slowdown is systemic and sustained, then the developing country risks falling into the middle-income trap, which is a critical impediment to sustained growth."



"In many developing economies, the growth of per capita GDP has been quite volatile and its average value in the long run remains relatively low. As empirical studies have demonstrated, a typical growth

path for relatively successful low-income countries helps them reach the middleincome threshold, but then they slow down, keeping the country in the middle-income levels for protracted periods of time."

Yülek, Murat A. (2018): *How Nations Succeed. Manufacturing, Trade, Industrial Policy, and Economic Development*, Palgrave Macmillan.

6. El fracàs del desenvolupament a Àfrica

"Africa's 'lost quarter century,' along with the economic meltdown of the former Soviet Union and Eastern Europe in the transition to a market economy, possibly ranks as among the worst economic disasters since the Industrial Revolution. The lost quarter century was a period not just of deindustrialization but also of declining per capita income."

"… much of the growth in Africa since the turn of the century is attributable to booming commodity prices and hydrocarbon discoveries. But there are many instances in various parts of the world of resource-rich countries mismanaging their wealth, demonstrating that an abundance of resources and booming prices are no guarantee of success."

"The period of Africa's severest economic decline, from 1980 to 1995, was an era of a multitude of reform programs reflecting external advice and conditionalities based on a brand of economics that came to be labeled the 'Washington Consensus' (WC). These policies reflected what became the dominant orthodoxy in economics: neo-liberalism (…) For the unabashed proponents of the Washington Consensus, the problem was not that the policies were mistaken but that they needed to be intensified and implemented better. The failures of policies also gave rise to a search for other ingredients of successful development, going beyond the Washington Consensus— including notably a focus on 'governance.'"

"Policies have to be designed to be able to be administered by governments with particular competencies. The failure to do so was certainly central to the failure of the WC policies. But policies should also have aimed to strengthen competencies; instead, many of the WC policies actually worked in the opposite direction."

"… economics does not have much to offer as solutions to states that are failed or mired in armed conflict; but it is too simple to blame economic failure on political failure. The former also contributes to the latter."

"The continuing controversies arise in part from the difficulties of establishing indisputable causal links between economic policies and outcomes. Reform programs may fail because of their inherent weaknesses (bad policies, or at least policies inappropriate to the circumstances of the economy), because they are not adequately implemented, or because of unanticipated exogenous shocks, and it is often difficult to parse out the relative role played by each of these."

"… one lesson of the failed programs in Africa is that reforms need to be mindful not just of the second-best dilemma but also of the absorptive capacity of the country—not only governmental capacity but also the ability of agents to digest and respond to a myriad of changes."

"Moreover, no set of reforms is ever perfect. Any successful implementation process must entail learning about both what is working and what is not. Successful reform programs thus must create institutional frameworks for learning and adaptation. In addition, to be sustainable, reforms have to have 'political buy-in.' They cannot be seen to be imposed by outsiders, especially when those outsiders lack legitimacy as a result of a conflict of economic interests or a colonial heritage. Conditionality was, as a result, often counterproductive."

"… perhaps the most notable case of combining fast and slow reforms is that of China; its success stands in marked contrast with the 'shock therapy' of the former Soviet Union (…). In China the initial focus was predominantly if not exclusively on agriculture, and subsequently on two-track price reforms and creating Township and Village Enterprises. Only later did it engage in large-scale privatizations. As another example: it first invited foreign firms only in joint ventures; much later, it allowed foreign financial firms to enter, and then only with extensive restrictions, and it still has not fully liberalized its capital accounts. In the case of the other mega country, India, a different sort of gradualism may have worked (…) The issue is thus not one of how fast or how slow, but one of priorities and sequencing given the country's capacities for implementation, the transactions and opportunity costs of any set of policy measures, and the country's ability to assimilate information about the successes and failures of each policy measure and to adapt the policies in response. An approach that allows for experimentation and flexibility with successes scaled up and failures quickly abandoned is an important ingredient of success."

"The question of why the neo-liberal reforms did not work as expected led to a renewed interest in institutions (…) The failure of the 'good policies' of 'getting prices right' prompted those multilateral institutions and aid donors advocating such policies to turn their attention to an institutional agenda. There is a large literature on the development state emphasizing the role of the state in successful development (…) This literature notes the important role the state played in creating institutional mechanisms for interventions that accelerated development. What constitutes good institutions, how they are created, and how institutional deficiencies are addressed are vital for developmental success, but there are no easy answers."

"Belatedly, as the failure of the WC policies became evident, blame was shifted to deficiencies in public governance. These concerns led to the emergence of a particular agenda of institutional reforms in Africa under the label of 'good governance' (GG). This agenda was based on a particular view of the relative roles of the state and markets. It assigned what Meles Zenawi (…) refers to as a 'night-watchman' role for the state, confining it to what is required to make markets work better (…) The GG agenda has been used to promote a particular view of which institutions are important for development and how they should be designed: a view that is embedded in neo-liberalism and its precepts on the relative roles of the state and markets, and a view that gives short shrift to other institutional arrangements, such as the role of cooperatives and other not-for-profit institutions. This view is profoundly ahistorical. It sees flawed public institutions as hindrances to markets performing in the way neo-liberalism presumes them to. It neglects attention to institutions that improve on or substitute for markets (for example, by addressing market failures). An influential argument for the importance of the standard GG agenda is based on astatistical relationships between growth and governance as measured by the standard indicators."

"What is needed is not a simplistic one-size-fits-all GG agenda, but a pragmatic one that is tailored to the particular stage of development, the key issues confronting economic management at that stage, and the particular circumstances of the country. The so-called developmental states of East Asia, as well as those in which development occurred before World War II, intervened successfully in ways that required governance capacities other than simply those adumbrated under the GG agenda. The growth-enhancing governance reforms that we advocate here prioritize those capabilities that facilitate *learning*, in particular via industrial policies (…). Africa's experience highlights the importance of not neglecting such policies. Markets on their own typically do not manage structural transformations well. This is true even in developed countries, but even more so in developing countries. What is needed are industrial and trade policies that promote learning."

"In one sense, industrial policies are unavoidable: all countries have industrial policies whether they know it or not. Public expenditure (for example, the location of highways and the design of the education system) and regulatory and legal regimes (for example, bankruptcy law) affect the utilization of resources. Our concern here, however, is narrower: we are concerned with the deliberate actions intended to promote particular kinds of activities, especially those that have come to be referred to as learning, industrial, and technology (LIT) policies (we will use that term interchangeably with the more familiar 'industrial policy'). Such policies are directed at improving the dynamic capacities of the economy. Allocating a given amount of resources at a point in time in a way that is consistent with static efficiency, as desirable as it may seem, may actually impede development and growth. These phenomena and the associated societal transformation depend on learning in all of its forms—including closing the knowledge gap that separates developing and developed countries."

"… there may be a conflict between policies that enhance static efficiency and those that contribute to learning (…) Striking the right balance is at the core of success in achieving growth and development. The neo-liberal WC policies paid no attention to learning, seemingly unaware of the potential conflict, and thus failed to strike the right balance. Patent laws illustrate the trade-off: they restrict the availability of knowledge, a public good, and confer monopoly power, thus entailing static inefficiency, but the rationale for these 'distortions' is that the resulting loss in static efficiency will be more than offset by the dynamic gains from investment in new technologies that they encourage."

"The proponents of the Washington Consensus focused on the risks and failures of attempts to promote learning with industrial policies. They suggested that such policies were inevitably costly and invariably doomed to failure. Indeed 'industrial policy' acquired such bad connotations that it could be said to have become unmentionable in polite company. Countries embarking on such policies have struggled to find other names. But recent years have provided a strong theoretical basis for such policies in the market failures inevitably associated with learning and structural transformation. Moreover, there have been notable historical successes of such policies—not only in East Asia, but even in the United States. Africa's experience shows the enormous price of neglecting the pursuit of these policies."

"There are, of course, good theoretical reasons why LIT policies are desirable. They focus on learning, especially by infant industries and economies (which are so prototypical in Africa); they address externalities, knowledge spillovers, coordination failures, and deficiencies in risk and capital markets. They are not or at any rate need not be about picking winners and losers (…) One of the major risks of

LIT policies that its critics have emphasized is that such policies are vulnerable to capture and corruption. But such risks are by no means the preserve of LIT policies, as illustrated by the fact that central banks in the advanced industrial country were 'captured' by the financial sector they were supposed to regulate. Indeed the agenda of liberalization and privatization in Africa, as elsewhere, that was argued for on the basis that it would limit the scope for capture and corruption, was actually 'captured' and became the source of enormous corruption in many countries, both in the developed and the developing worlds."

"Indeed liberalization and privatization have arguably been a major source of corruption; major contributors to the high level of inequality that marks many African countries and a major impediment to development and growth. Mineral rights have been sold to foreign firms in processes that have given rise to corruption and have been totally divorced from any benefits of learning, technology acquisition, or spillovers that might have emanated from the development of these resources. The fact that there have been some 'failures' in industrial policies is no more a reason for eschewing such policies than the failures in macro, monetary, and financial policies that were so evident in the run-up to the 2008 crisis are an argument against having macro, monetary, and financial policies. In the aftermath of the 2008 crisis, we have sought to learn from those failures. So, too, should we seek to learn from the failures of industrial policies. Whilst LIT policies have risks, they also have rewards."

"Perhaps in no other area did the reform programs of Africa's lost quarter century ignore the lessons of success in development, especially of East Asia, more extensively than in finance. The analysis of the extraordinary success of East Asian economies has shown the vital role played by interventions by the state in finance (…) The East Asian countries employed a variety of forms of intervention that enhanced the stability of the financial system and thereby savers' confidence in it, and that lowered transactions costs. These were highly effective in mobilizing savings (…) Ensuring access to long-term credit at moderate real rates, sometimes through development banks, promoted long-term investments that are so essential to sustainable growth. Development banks in East Asia and elsewhere have played an important role in encouraging the kind of economic transformation based on learning and the LIT policies (…) The presumption of the neo-liberal economists was that development banks, being public institutions, couldn't work (…) They ignored the successes and focused on the failures. Not surprisingly, the response of the WC reform program was not to reform development banks to improve their efficiency and efficacy but to dismantle them. As with all areas of reform and good economic management, the issue is one of learning the lessons of successes and failures."

"As Africa seeks economic transformation for sustained growth, its policymakers need to reverse the tendencies of WC reforms, which, on the one hand pay too little attention to the benefits of learning, to critical issues of pacing, sequencing, and to the development of state capacity, including the capacity to implement reforms; and on the other hand place too much faith in markets as efficient, stable, and developmentally transformative."

"In Latin America, as in Africa, the WC policies led to a dismantling of industrial policies. In recent years, the region has faced the challenge of rebuilding the capabilities for designing and implementing industrial policy—(…) the 'planning function' of the state—after their evisceration during the heyday of the Washington Consensus. As such, Latin America and Africa can learn from each other. Among the

lessons for Africa from the recent revival of industrial policies in Latin America (…) are those that relate to:

(1) The strategic management of FDI to enhance technology transfers (…);

(2) Building capabilities for learning in the management of public procurement;

(3) Setting up government programs to promote the creation of start-ups;

(4) Development banks for channeling fnance to production, development, and innovation (…);

(5) New forms of partnerships with the private sector to match funds and encourage innovation and production;

(6) Channeling natural resource rents toward economic transformation (in particular through the creation of public funds for innovation and transformation);

(7) Investing in strengthening relevant state capabilities, recognizing that the sequence of first getting the institutions and then the policies 'right' does not make much sense because they co-evolve."

Noman, Akbar; Joseph E. Stiglitz; eds. (2015): *Industrial Policy and Economic Transformation in Africa*, Columbia University Press.

7. El model japonès de desenvolupament i de política industrial

"The extraordinary economic growth, technological accomplishments, and bulging trade surpluses of Japan have been a source of admiration and envy the world over (…) With the diffusion of growth to Korea, Taiwan, Southeast A'iia, and China, the 'Japanese model of economic development' seems to be spreading across Asia. When China released a new industrial policy in 1994, Chinese officials reported that they had 'devoted considerable research to the industrial policies of the Ministry of International Trade and Industry (MITI)'. For more than a decade Malaysia's leaders proclaimed their determination to 'look East' for inspiration. Japanese officials pushed the World Bank to modify laissez-faire approaches and promote Japanese industrial policy as a model for developing countries, particularly in Asia. When financial crisis hit Asia in 1997, many governments resisted the neo-classical prescriptions of the IMF, preferring the more gradual and hands-on approach to economic affairs pioneered by Japan.

The most controversial aspect of Japanese-style industrial policies was targeting or 'picking winners'- attempts by government to promote promising industries by restricting imports and providing low-interest loans and tax breaks. Another major theme was combining competition with cooperation. Government and business were seen as cooperating in the face of foreign competition, forming a kind of 'Japan, Inc.' In the 196os the Japanese government also encouraged cooperation within business groups to fend off potential foreign purchasers. Especially striking was the emphasis on promoting cooperation among competitors."

"Japanese firms established cartels to facilitate cooperation in production, pricing, investment, and mothballing of excess capacity. The government often encouraged electronics and machinery firms to create research and development (R&D) consortia to develop, standardize, and diffuse new technologies. The government also encouraged standardization of new product formats and

communication protocols. In some cases, industrial policy attempted to improve coordination among upstream suppliers and downstream assemblers."

"Many accounts of industrial policy in Japan argue explicitly or implicitly that cooperation among competing firms on such issues as cartels, consortia, and standardization is common and successful."

"Collective action plays a large and growing role in industrial policy (...) For decades after the transition to export-led growth, both Korea and Taiwan remained highly statist. Formal and informal protection against imports remained strong. Both countries (but particularly Korea) monitored and restricted incoming foreign investment. Both countries (but particularly Taiwan) made strategic use of state-owned enterprises and quasigovernmental research institutes (...) In both countries, interest in collective action increased while statism decreased, but the balance was still on the side of targeting. The Japanese case is more complex. Into the early 198os protection and promotion were ubiquitous in Japan as well. Even in autos, Japan's most competitive industry, tariffs were not eliminated until 1978, and only in 1983, after great pressure from the United States, did Japan drop its expensive and time-consuming requirement for inspecting imported cars one by one rather than on a sample basis (...) In promising but not yet competitive industries, such as satellites, biotechnology, and supercomputers, as well as weak industries, such as paper and pulp, protection and promotion continued into the 1980s and even 1990s, and were reduced partially and only under relentless pressure from the United States."

"From the mid-196os, the relative importance of promotion and protection swung decisively in favor of the latter (...) The relative decline of promotion did not mean industrial policy was irrelevant after the mid-tg6os or even the early 198os. More important than active arm-twisting was the creation and manipulation of market structures that gave firms incentives to compete in ways consistent with the government's vision of the competitive future of the Japanese economy. An obvious example was brokering mergers in such industries as steel and paper to create more oligopolistic industry structures (...) The methods used by the government and its surrogate Industrial Bank of Japan to shape markets often centered on collective action: encouraging concentration and cooperation, accepting and even promoting cartels and entry controls."

"In sum, while promotion of collective action was not the whole of industrial policy, it long played an important role in Japan both in coordinating the activities of existing industries and in shaping markets. It complemented protectionist and promotional activities. Those forms that required strong sanctioning by the government (...) However, as the significance of protection and promotion declined, the relative weight of collective action in industrial policy increased."

Noble, Gregory W. (1998): *Collective Action in East Asia. How Ruling Parties Shape Industrial Policy*, Cornell University Press.

8. Diversificació econòmica i política industrial per al creixement

"Economic diversification is at the core of both structural transformation and development, and there is a need to shed new light on the policies required to achieve it. A rich literature shows that sustained growth, and the improvement in living standards it brings about, are associated with a process of economic diversifcation (...) This is typically described as the transition from agriculture or mining

toward a wider range of sectors, more sophisticated products, and higher-quality varieties of goods and services. Such diversifcation is driven by many factors, including infrastructure, education, fiscal and monetary policies, as well as technology and social development (…) The challenges associated with climate change (…) and rising automation require a renewed effort to promote diversification to achieve high and sustained growth. A successful diversification strategy should tackle both broad policy failures and sector-specific market failures. The emergence of new, modern sectors hinges on the presence of effective government institutions, a favorable business environment and investment climate, and credible macroeconomic policies. Policy failures, which are not necessarily sector-specifc, may include a burdensome regulatory framework, high tariffs on critical inputs, an overvalued exchange rate, inadequate infrastructure, or an insufciently skilled workforce."

"Industrial policy is typically justifed by the presence of sector-specific externalities, where the benefts of addressing them outweigh the costs and risks of the proposed intervention. For a targeted sectoral intervention to raise welfare, it must address an externality. In addition, the externality must not be amenable to resolution through neutral means, such as a better defnition of property rights. The intervention must also pass a cost-benefit test, which considers alternative uses for public funds."

"Industrial policy should be designed not just to tackle the underlying market failures, but also to mitigate the risk of government failure, including through government capture. Several principles may help minimize this risk. First, demanding accountability for the support received, for instance by meeting specific performance targets such as export market shares, with a corresponding willingness to cut losses. Second, maintaining competition, including by supporting sectors rather than specific firms, and by focusing on export orientation. These were often key characteristics of the East Asian growth miracles, in sharp contrast with the import-substitution strategies pursued in other developing countries, where high tariffs led to monopolies and to an inability to innovate or compete internationally, even after decades of support. Third, using independent, appropriately qualifed experts to select projects for public support (…) Fourth, complementing any interventions with reforms to control corruption."

"Some strategies may also help reduce informational uncertainty. First, since costs are easier to establish than benefits, governments should at a minimum analyze how much money is at risk if the uncertain benefits fail to materialize. Second, proposals can often be pre-screened with back-of-the envelope calculations to establish whether they are likely to meet any cost-beneft standard. Third, existing and new interventions should bear the burden of proving their merits; this gives those who stand to benefit from policies the incentive to generate data on their relative benefits. Relatedly, the private sector should be involved from the outset in the decision-making process. Fourth, governments should also invest in gathering information to assess the net beneft of programs, including by benchmarking costs against international standards, and assessing the benefts of past programs after their conclusion. Finally, policy proposals can often be piloted on a small scale to establish their feasibility, costs, and benefts, before being scaled up."

"… taxonomy of policy tools commonly employed to implement targeted sectoral interventions (… in …) five categories of instruments: (1) product market, (2) capital market, (3) labor market, (4) land market, and (5) technology."

A. Product Market

- **Trade Policy**

"Import tariffs and nontariff barriers, including import quotas, local content requirements, and export subsidies are often justifed on 'infant-industry' arguments, to develop a sector that will eventually prove viable even without public support (…) Other measures currently being used to promote exports and/or encourage participation in global value chains include differential tax rates for profts from export sales, import-tariff rebates on imported intermediates, and credit lines for exports. Subsidies to foreign investors on the purchase of domestic inputs can achieve the same outcome as local content requirements."

- **Tax Incentives to Promote Investment**

"Tax holidays and exemptions, special corporate tax structures, targeted allowances, and subsidized infrastructure are sometimes justifed as a second-best option when the economywide corporate income tax is relatively high. The emphasis is often on attracting foreign direct investment (FDI), which is viewed as generating particularly strong spillovers, including through improved technology and management techniques."

- **The State as a Producer and Consumer**

"As producers, states often enter 'strategic' sectors through state-owned enterprises (SOEs). Typically, these sectors have strong upstream or downstream linkages, but require large fixed-capital investments and a long time horizon; examples include water, electricity, and other types of infrastructure. As consumers, states can provide a stable source of adequate demand through public procurement agencies (…) Public procurement can also be used to spur technological change by setting technical standards for the goods being procured (…) SOEs can still generate positive human capital and R&D spillovers."

- **Measures to Reduce Informational Frictions**

"Informational gaps and asymmetries may be addressed more directly by promotion agencies that match buyers with suppliers. For instance, export promotion agencies may organize fairs, linkage programs, and other services such as quality certifcation schemes that facilitate domestic and foreign investments. Such measures are often referred to as 'soft industrial policy.' Such schemes are particularly likely to boost exports where they provide a clear and effective one-stop shop, as opposed to multiple agencies that employ unclear mandates, involve signifcant coordination with the private sector, and promote increases in product quality or complexity."

B. Capital Market

"Securing financing to enter new sectors is particularly difficult where the financial sector is underdeveloped or expected to comply with stringent prudential restrictions, so that fnancial intermediaries have short investment horizons or are very risk averse, and borrowers fnd it difcult to establish collateral. Various capital-market interventions have been justifed on the grounds that governments may have longer investment horizons, or better information than private lenders on the riskiness of a particular investment. Also, (…) intervention may signal to private investors that the

government has 'skin in the game' and is committed to the reforms necessary for the industry to succeed."

- **Directed and Direct Lending**

"Government can instruct commercial banks to allocate a proportion of their lending to a particular sector. The evidence on the impact of directed lending is mixed, but it can boost production when the targeted firms are severely credit constrained (…) Alternatively, the public sector may lend directly, often through specialized public sector development banks or export-import banks (…) If the credit is provided at interest rates below what a commercial bank would normally change, then this support is akin to a subsidy which has a fiscal cost."

- **Credit Guarantees**

"Governments may provide loan guarantees to support credit flows to firms from commercial banks or investors. The use of such schemes has expanded considerably in the wake of the COVID-19 pandemic (…) The benefciaries of the guarantee may also misuse the funds."

- **Venture Capital and Incubators**

"In advanced economies, venture capital and private equity firms play an important role in providing financing to start-ups. These fnancial firms are often missing in developing countries, especially in low-income countries. Public intervention can help develop this sector. Governments can also set up public bodies to play the role of venture capital firms. Related, governments are increasingly setting up or lending support to start-up incubators. These incubators can provide a range of services, such as capital, public land, and expertise, and often engage with public universities."

C. Labor Market

- **Skills Development**

"Sectors may face a shortage of required skills. To close this skill gap, governments can grant tax credits or subsidies to firms, industry associations, and skill councils that provide training. Governments can also directly create vocational training institutions geared toward industry-specifc skills, partially funded through payroll levies in the targeted sectors."

- **Labor Taxes**

"Governments can lower labor costs in favored sectors by selectively reducing payroll taxes. Alternatively, they may provide tax holidays or credits to investors based on employment creation."

D. Land Market

- **Cheap Land**

"Governments can provide access to public land at below-market rates for a new activity. This may be a second-best response to land-tenure regulations that limit access to land for factories or impact the use of land as collateral."

- **Special Economic Zones**

"Special Economic Zones (SEZs) may provide firms with better infrastructure and public services, as well as corporate tax and import duty exemptions, more streamlined regulations, and other product market incentives (…) SEZs can be helpful where countrywide reforms face political economy constraints, and/or the government is unable to provide good-quality infrastructure and services throughout the economy (…) However, SEZs can reduce government incentives to implement more comprehensive reforms, such as trade liberalization or infrastructure upgrading (…) SEZs can also have limited spillovers to the rest of the economy (…) SEZs have a mixed track record (…) They appear to have promoted growth in countries such as China, Jordan, Korea, Malaysia, Mauritius, and Singapore (…) In other countries, particularly in sub-Saharan Africa, SEZs have not worked as well. Overall, the success of SEZs seems to require an integrated strategy comprising a conducive business environment within the zones, strategic locations, technology upgrading and skills training, and strong linkages with the local economy."

E. Technology

"R&D tax incentives and subsidies are typically justifed based on the significant externalities from one firm's R&D on the productivity of other firms. They could prove particularly effective for export diversifcation, by reducing the risk involved in adopting foreign technologies and developing new export sectors (…) Governments also often engage in R&D themselves, provide direct funding for it, orset up public-private research consortia. Governments can support digitalization by providing important information and communications technology infrastructure, including strengthened cybersecurity; creating regulatory sandboxes to encourage experimentation; helping establish sector-specifc digital platforms; and boosting the digital skills of the workforce.

Numerous studies indeed find a negative impact of taxes on firms' R&D. However, R&D subsidies can be expensive instruments (for instance, costing half of a percentage point of GDP in Korea in the 1980s). Further, returns to R&D are on average smaller in developing than in advanced economies (…), since they depend on the level of human capital, which is critical to assimilate and apply technologies."

"Technology-transfer instruments may improve the technology used by domestic firms (…) Governments can help bridge information gaps between foreign firms and local subcontractors. They can buy technology licenses for local producers or participate in patent pools to increase access to technology."

"Governments differ in not only their available resources, but also their institutional capabilities, such as public development finance institutions. Further, political priorities and public sensitivities also differ across countries. A one-size-fits-all approach is therefore not possible. The authors suggest a decision-making framework to assist policymakers in choosing the policy tools that are the best fit for their circumstances and that are best suited to implementing a response. This framework involves addressing three key sets of questions:

- **Targeting**

Which sectors to assist, and why? That is, which sectors and activities are characterized by market failures with substantial social costs? What resources are available to address these market failures? What are the country's priorities?

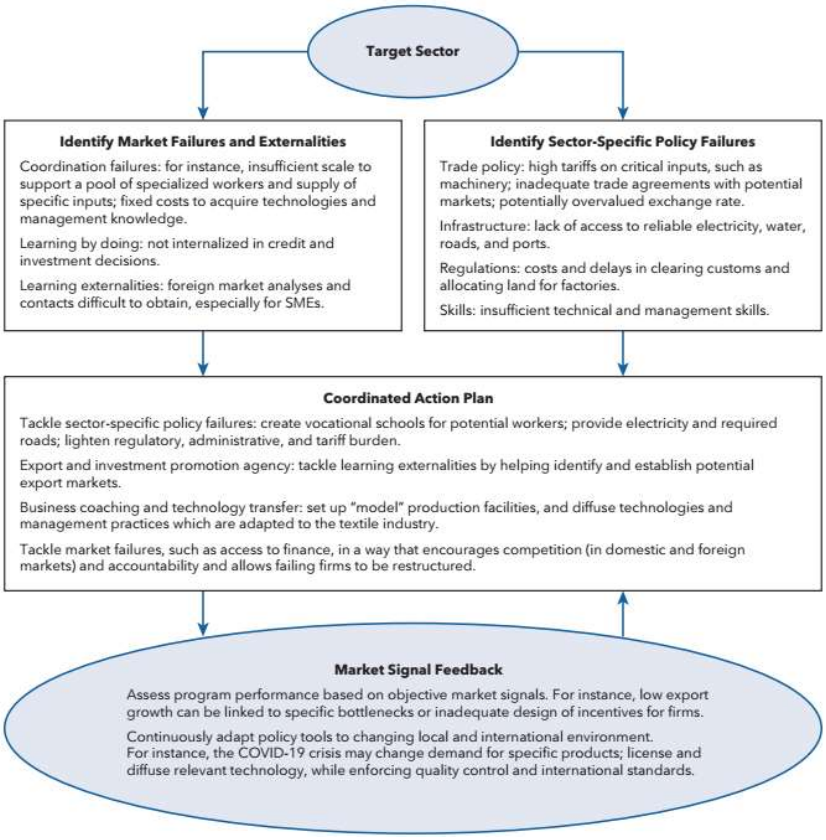
- **Implementation**

How to assist sectors? That is, how much and what type of public support should be provided, in order to minimize government failures? How should the interventions be structured? How should they be monitored and evaluated? And how long should they last?

- **Governance**

Who decides which sectors to assist? In particular, how should the needs of individual sectors be determined, and by whom? How will the proposed governance structures mitigate the risk of government failure, and reduce informational uncertainty?"

Figure 1. Decision-Making Framework: Implementation Considerations



IMF (2022): "Industrial Policy for Growth and Diversification. A Conceptual Framework", IMF Departmental Papers, DP/2022/017.

9. Política industrial a la Xina

"China has rapidly emerged to become a large economy and a technological power. Although still a middle-income country, China now has the world's second most important high-tech sector, as well as the world's largest manufacturing and internet sectors (…) To what extent can China's undeniable economic and technological success be reasonably attributed to specific policies, and more generally to a Chinese 'path,' or program of industrial policy?"

"Since 1978, the beginning of China's period of 'reform and opening,' market-oriented system reform and openness to the outside world have been the most prominent features of China's policy orientation. Trough the early years of the 21st century, market transition was undoubtedly the overwhelming focus of Chinese policy-makers. Even then, policy was gradual and incremental, and also exceptionally mutable, tackling different issues at different times, and moving forward sometimes faster, sometimes slower (…) There is little debate about the nature and cause of this achievement: China shifed to a market economy, growth accelerated, and rapid structural and technological upgrading followed.

Less widely appreciated, however, is that from about 2006, China began to make further fundamental shifs in development strategy. Direct government intervention in the economy —which had dwindled to almost nothing in the years 1998-2005— gradually began to increase."

"This new Chinese government effort expanded just as the Chinese economy was slowing. To be sure, the new policy package was a response to the slowdown, not the cause of it. In the 1980s and 1990s,

market reforms had coincided with China's highest growth potential, as under-employed farmers migrated to new rural and urban occupations and China enjoyed a massive demographic dividend. Now, policy-makers were searching for —in their favorite phrase— 'new growth drivers.' In addition, from about 2015-2016, it became clear that artificial intelligence and big data had huge potential economic effects on economies worldwide. As technological change has accelerated, the ambition of China's planners and policy-makers has also expanded, and intervention has continued and increased. Indeed, China's development strategy today may warrant a new name: China aspires to be the first 'government-steered market economy'."

"Between 1978 and about 2005, China's government steadily retreated from its initially all-encompassing control of the economy, growth accelerated, and comprehensive upgrading took place. New policies began to be initiated in 2006, starting slow and then accelerating. From 2009 through 2020, the government has strongly re-engaged in direct economic intervention, all while the economy has been steadily slowing (even before the coronavirus impact in 2020)."

"China's emergence as an economic and technological super-power is due primarily to the policy package that it followed from 1978 through the frst decade of the 21st century, that is, until about 2006. China's policy package today —that is, the policies that started tentatively afer 2005 but were fully in place by 2008-2010— are radically different. Because of this, it is a mistake to attribute China's success to the policies China is currently following. These policies are simply too recent to have had a determinative impact on today's outcomes. China is a technological superpower because it followed smart policies afer 1978, pursuing marketization and investment in human and physical capital. Whether or not the industrial policies that have been followed in the most recent decade will contribute to China's technological and economic prowess is not yet clear."

"**China is NOT Just Another East Asian Developmental State**

One often hears that China is following an industrial policy rather similar to that followed by Japan, Korea, and other earlier fast developing East Asian economies, so-called 'developmental states.' This is wrong in multiple dimensions. On one hand, China inherited a legacy of total government control when it entered the contemporary era (…) While Japan and Korea layered industrial policy on top of reviving war-shattered economies, those economies were primarily market-based and small-scale. China's starting point was precisely the opposite, and it spent thirty years throwing off the legacy of excessive direct government control.

On the other hand, China's new industrial policies, since about 2010, have been very different from those of Japan and Korea. The volume of resources the Chinese state invests in targeted sectors has been much greater than anything Japan or Korea ever invested, both as a share of the economy and even more so in absolute dollar amounts. Likewise, the nature of the targeting is also completely different. Japan and Korea steered the economy to catch-up, in clearly defined sectors where the objective was to match the performance of industry leaders (in Germany or the US); in China, the main focus has been on leap-frog, in the sense that the most heavily prioritized sectors have been those emerging areas where the technological leadership is less clear and there are few entrenched incumbents in developed economies."

"**There is NO Definable 'Chinese Road'**

Chinese policy-makers (…) have recently taken to declaring that there is a 'Chinese road' to development that may hold lessons for other developing economies (…) China is an enormous, diverse economy, and between 1978 and 2010 it grew faster, for longer, than any economy in human history (…) However (…) the distinctiveness of Chinese institutions, and especially the dominance of the Communist Party, means that transferability of successful experience is difficult."

"I have been told more than once by Chinese scholars that 'close government-business cooperation' is the essence of the Chinese model. But such a formulation does not differentiate China from many other less successful economies that also have 'close government-business cooperation.' As a result, such a formulation really does not tell us anything that is useful as a 'lesson.' Moreover, it doesn't describe very well any of the achievements of Chinese economic growth and development over the past forty years."

"**Conflict Among Technological Powers is NOT Inevitable**

Many people attribute the rise in conflict between China and other nations —not least the United States— to an inevitable 'Thucydides trap,' or competition between a rising "challenger" and a jealous incumbent. This view is not completely wrong, but it is hopelessly over-simplifed. One simple fact is that the incidence of conflict increased dramatically following the acceleration of China's industrial policy. The magnitude of China's intervention in emerging sectors has seriously disrupted international norms and agreements about the nature of economic and technological competition. This doesn't necessarily mean that China is 'wrong.' Some of those norms might be cozy agreements between comfortable entrenched powers, and might indeed be ripe for re-consideration and revision (…) T the world is faced with a more complex challenge: hammering out a set of rules and principles that will allow great powers to compete with each other without spiraling down into intensifying conflict."

"I define industrial policy as follows: Industrial policy is any type of selective, targeted government intervention that attempts to alter the sectoral structure of production toward sectors that are expected to offer better growth than would occur in the (non-interventionist) market equilibrium.

It only makes sense to talk about industrial policy if real resources are devoted to selective interventions that policy-makers make and they have real instruments available to shape the incentives of economic decision-makers. Simply stating a desired or expected outcome does not constitute an industrial policy, even if that statement is issued by an authoritative body (…) To be classifed as an industrial policy, there has to be an actual intervention into the real economy. Words that remain on paper do not count as an intervention, absent some real actions that have an impact."

"… A narrow definition of industrial policy allows us to make a very clear and unambiguous statement about Chinese industrial policy (…): Until 2006, China never had 'industrial policy.' Since about 2010, China has had industrial policy on a massive and unprecedented scale. The outcomes of post-2010 industrial policy in China have not been adequately studied and are as yet unknown."

"Evaluating the outcome and impact of industrial policy is challenging. There is no consensus about the impact of industrial policy in Japan or Korea, even though those economies ended their experiments with government industrial policy decades ago and have relatively good data available."

"I identify three things that industrial policy in China is NOT:

1. Industrial policy is not intensive investment in infrastructure (…)

2. Industrial policy is not investment in human resources (…) These investment in China's human resource base are quintessentially 'horizontal': that is, they improve the capabilities of the Chinese economy across the board, without preference to any particular sector (…)

3. The existence of a local 'developmental state' is not ipso facto evidence of industrial policy (…) Local government entrepreneurship and investment in local public goods are certainly important features of China's developmental model, and contributed to China's rapid growth during its 'miracle growth' phase (1978-2010). However, China has tens of thousands of local governments, all engaged in expanding economic activity. They have to compete with each other in the marketplace, and are under great pressure to generate new revenues. In short, they behave more like firms than like governments in this respect, and it is hard to see how they aggregate into a pattern of government-sponsored development that is different from frms seeking proft through the market."

"China passed a major policy turning-point in 2006, beginning a steadily increasing commitment to the use of government industrial policy. That commitment increased around 2009-2010, afer the Global Financial Crisis. Most recently, with a further shift in 2015-2016, the government launched a new and intensifed round of industrial policy under the rubric of the Innovation-Driven Development Strategy (IDDS). Tis new round is bigger, more intrusive, and more comprehensive than any previous Chinese industrial policy. It is unprecedented (…) it is technologically and economically more sophisticated than any predecessors. Technologically, it can be seen as a response to the opportunity provided by a new wave of technological change, a set of 'general purpose' technologies that potentially will provide a long-term productivity boost to many sectors of the economy."

"Technological risk is present because the ultimate configuration of the new network and A.I. based technologies is unknown."

"Economically, China's policies are less distortionary than previous policies based on administrative instruments. They rely heavily on economic levers such as tax exemptions, and subsidized depreciation and research, to say nothing of the massive Industrial Guidance Funds."

"Chronic economic illness will develop if government is unable to liquidate multiple poor investments in which it has a stake, tying up credit and real resources in poorly performing assets and zombie companies. These risks are real, over a 3 to 10 year horizon. International risk arises from the reaction of other countries to China's industrial policies."

"It is unclear to what extent Chinese policy-makers have considered the technological, economic, and international risks of their industrial policies. It appears rather that policy-makers have been seduced by the vision of a technological revolution and a substantial re-ordering of global strategic relations and have rushed ahead with an aggressive and decisive round of industrial policies."

"Chinese industrial policies are so large, and so new, that we are not yet in a position to evaluate them. They may turn out to be successful, but it is also possible that they will turn out to be disastrous."

Naughton, Barry (2021): *The Rise of China's Industrial Policy, 1978-2020*, Universidad Nacional Autónoma de México.

10. El dilema de la política de competència de la Unió Europea (Hikaru Yoshizawa, 2022)

"In the study of European Union (EU) competition policy, there has been a growing interest in a potential tension between two key policy goals (…). On the one hand, the EU enforces its competition law to promote market competition within the European single market. In other words, the first goal is to create a level-playing field in which firms operate freely and compete across the borders between EU member states. On the other hand, the EU aims to ensure that market competition promoted by the law enhances the international competitiveness of firms based in EU member states (hereinafter 'EU firms') in comparison with non-EU firms. In this context, competition in the European single market is considered a springboard that encourages innovation and prepares EU firms to compete in the global market.

The European Commission, which plays a central role in this policy domain, has stated numerous times that these goals—competition and competitiveness—can be achieved simultaneously. For example, in its 2013 annual report on competition policy, the European Commission (2014: 2) claimed that '[c]ompetition policy fosters competitiveness in the global context. Healthy competition in the Single Market prepares European companies to do business on global markets and succeed'. However, one should not assume that more competition always leads to stronger competitiveness. The international competitiveness of EU firms would be undermined when the level of European competition regulation is higher than that of its major trading partners (…). If that is the case, the EU must make a difficult choice between promoting competition for regional economic integration and enhancing the competitiveness of EU firms in relation to their rivals in third countries. In a nutshell, the EU is currently facing what I term a competition–competitiveness dilemma."

"In this book, 'competition policy' refers to a prohibitive public policy that regulates anticompetitive economic activities primarily based on legal measures rather than administrative ones. This policy is in sharp contrast with 'industrial policy', which typically involves a relatively large amount of public expenditure and the extensive use of non-binding measures such as administrative guidance. Competition policies usually cover various areas of regulation such as cartels, abuse of a dominant position, and mergers, whereas state aid control may also be the competence of supranational competition authorities such as those of the EU."

"It will be argued that EU competition authorities take the goal of industrial competitiveness seriously, but it does not take precedence over the goal of creating a level-playing field in the European single market. This finding indicates that the EU, especially the European Commission, sees competition policies through the lens of the single market despite the emphasis on international competitiveness in the EU's various official documents."

"… 'stringent competition policy' (…) focuses on the correction of market failures, such as cartels and monopolies, and prioritises the creation and maintenance of a level-playing field in the market. It is also comparatively strict, indifferent to the nationality of firms."

"… the concept of stringent competition policy proposed here significantly differs from 'strategic competition policy'. A legal scholar, Roth (2006: 39), defines the latter as 'a policy that goes beyond merely shaping a favourable environment for competition by fostering an attractive infrastructure (in all its dimensions) and sustaining innovation and technological innovation, and conceives and uses

competition law as an instrument to assist European competitors on world markets'. This type of policy prioritises domestic firms' international competitiveness over the goal of promoting competition itself. In other words, the state plays the role of a welfare-maximiser, instrumentally uses competition rules for industrial policy purposes, and aims to foster export-oriented national champions in key sectors."

TABLE 1.1 A comparison of stringent and strategic competition policies

	Stringent competition policy	*Strategic competition policy*
Policy style	• Comparatively strict enforcement • Non-discrimination against foreign firms • Less sensitive to prevailing politics and macroeconomic conditions	• Comparatively lenient enforcement • Tendency to foster national/regional champions in key sectors • More sensitive to prevailing politics and macroeconomic conditions
Policy goals	• Maintaining market competition while correcting market failures	• Promoting the international competitiveness of firms based in its own territory
Exemption from law	• Covering only a limited number of areas	• Covering numerous areas
Role of the regulator	• An independent regulator	• An economic welfare maximiser

Yoshizawa, Hikaru (2022): *European Union Competition Policy Versus Industrial Competitiveness. Stringent Regulation and Its External Implications*, Routledge.

11. Política industrial a l'Índia

"The spate of economic reforms that the world has seen since 1980s, in its core, had the philosophical underpinning that 'no policy' is the best industrial policy that a country can have. Hence, economic reforms only meant progressive liberalization of regulatory instruments on all fronts, including domestic market, import restrictions and regulations of foreign capital. On the part of India, the objective of developing a globally competitive manufacturing sector formed the core of the economic reforms agenda in 1991. The expectation then was that foreign direct investment (FDI) with advanced technologies assisted by competitive pressure through open and free trade would improve effciency and international competitiveness of the industrial sector. As part of the reform process, the erstwhile industrial policy framework was dismantled and progressive dilution of the FDI policy was initiated. The entire manufacturing sector was practically opened to 100 per cent FDI by 2000, defence and strategic industries being the major exception.

However, after about one and a half decades, it became clear that the manufacturing sector was in a state of stagnation. The target year for achieving the manufacturing sector's share of 25 per cent in GDP was successively pushed, the latest being 2025. However, the recent figure of the share of manufacturing sector shows how diffcult it would be to reach the targeted share by 2025. This is in spite of the fact that the new government introduced the 'Make in India' Initiative in 2014. It is difficult to argue if Indian industrial growth or whatever success it has achieved can be attributed to liberalized policy regime alone as India still maintains, although in bits and pieces, vestiges of an active and strategic industrial policy. The 'Make in India' programme adopted by the government of India a few years back is also the proof India has not given up on industrial policy, and also a testimony to the fact that it did not have the kind of industrial policy it needed."

"Meanwhile, the world has been witnessing weakening of the 'Washington Consensus' and strong revival of industrial policy, both in theoretical discourse and in practice. This has been reflected in Indian policy initiative, as in August 2017, the government released a discussion paper with the objective of adopting a New Industrial Policy by October 2017. However, even after putting a lot of effort through multiple focus groups and consultations with stakeholders, a new policy could not be announced until now. This also indicates the issue of industrial policy in India is far from being settled. In any case, even announcement of the new policy need not be an end in itself. The policy needs to be dynamic and flexible, requiring adjustments, as it would move with time. It is an imperative to better understand India's long struggle to develop the manufacturing sector."

"In a developing country context, industrialization is often considered to be synonymous with economic development. Immediately after Independence, India adopted the Industrial Policy Resolution, 1948, which created a mixed economy, reserving spheres for the private and public sectors. About four decades later, when India embarked on an economic reforms programme in 1991, the major instrument was the Industrial Policy Statement of July 24, 1991. The orientation of this policy was diametrically opposite to the 1948 one, though both of them intended to speed up the process of industrialization in India. Industrial policy is the strategic effort made by a country's government to promote industrialization, particularly the development of the manufacturing sector. Unlike the broader economy-wide macroeconomic policies, industrial policies are often sector specifc. Often, they are partly both – macroeconomic or horizontal, and sector-specifc or selective (also called vertical)."

"While even mainstream economists accept the need for interventions that are intended to regulate networks and public infrastructure, or for correcting information asymmetries and promoting R&D, the debate is about whether government interventions should go beyond them. Historically, however, it is difficult to find an example where industrialization has taken place in a perfectly *laissez-faire* environment and without any state intervention beyond a level that the mainstream economists are willing to concede, be it the case of US industrialization or more recent examples of industrialization of East Asian countries or some success stories in some Latin American countries."

"Even in a developed economy, it is rare to fnd an economic policy that does not embrace an industrial policy aspect to maintain its industrial dynamism (…) In any case, industrial policy is a tool for effective coordination of the activities of various sectors of the economy, and so, quite important for successful industrialization."

"… while the 1948 industrial policy of India put emphasis on the role of the public sector, the 1991 industrial policy put emphasis on the role of foreign capital and technology to drive the industrialization process. The real industrial policy in the post-Independence era, however, came with the 1956 Industrial Policy Resolution, which, along with the role of the public sector, put emphasis on heavy industry to create the industrial base in the country."

"When it comes to industrialization and industrial performance in India, it is now well accepted that India had only limited success. It could not match the performance of the East Asian countries, and at the same time, it did not go the African way (…) While India maintained its growth momentum for a long time, even after its policy shift in 1991, an inconvenient truth is that its success in getting ahead in terms of growth in manufacturing remains elusive. India's share of manufacturing increased steadily

during 1950–1980, and it continued to rise slowly until the mid-1990s, but it became stagnant thereafter and even experienced a decline since 2008."

"The question arises whether this limited success was due to any conscious strategies and policies adopted in India, or if it was just due to market forces (…) Some key questions that can be raised in this context are: did India follow a planned economy model or a coordinated market economy model?"

"**India and China: diverging industrial policy and performance**

(…) According to World Bank estimates, in 1987, India's GDP (in US$) was slightly higher than that of China, and since China had a higher population, India's per capita GDP was substantially higher than that of China, which was maintained until 1990. By 2018, China's GDP as well as per capita GDP both become almost five times those of India. However, the structure of the Chinese GDP contained its seeds for higher growth rates for the future. In 1990, the share of agriculture in China was 26.8 per cent as against 30.7 per cent in India. The share of industry in China was 41.2 per cent as against 32.2 per cent in India, while the shares of service sector were 32.2 per cent and 47.2 per cent, respectively (…) Since agriculture has a tendency to post a lower growth rate, India was at a disadvantage with a higher share of agriculture. India also had a much higher share of services (…) With higher service sectors, it was quite diffcult to embark on an export-led growth path, which China, with a much higher industrial sector, could take advantage of.

The higher share of industrial sector was also because of its massive push for construction of infrastructure, wherein it was building railways, roads, ports, power plants, etc. But in 1991, India thought it was better to give such responsibility to the private players. While the government in India almost stopped investing in such activities, the private sector was not yet ready, due to inherent risks, an absence of proper fnancing mechanism, and the regulatory environment. Private investment was too little and too late. When the government realized it, it was too late. Finally, the government decided to make an investment in infrastructure, but a decade was lost, and the country was struggling with poor infrastructure (…) So China built huge railway networks and new roads; in India there was hardly any addition to the existing railway network, and construction of roads started picking up after a gap of a decade (…) Similarly, construction of power plants picked up only around 2010 – but the price of electricity, especially for industrial use, remains much higher in India compared to China."

"India is not only dependent on imports for much of its oil supply, but government (both at the centre and in the states) treated it as a major source of revenue. In China, the finance and banking system is heavily controlled by the government, and most important banks are under government ownership. More importantly, China has been able to ensure credit facilities for its bourgeoning industry at low interest rates. Not just real interest rates were low, but even interest spreads were quite low in China. In India, even though the government still owns major banks, the interest rates are higher, and so are the interest spreads, and as a result, interest on deposit is also quite low. This often influences people to invest their savings on unproductive assets like gold and land rather than putting their money in the banks that industry could access."

"What also made China's job easier is the adult literacy level as well as the mean years of schooling, which are much higher than those in India. Sen (2015) argued that much of the difference in development achievements between India and China can be explained by the difference in educational

achievements. Even with a large number of private firms and foreign companies and a much reduced role of public sector enterprises, China has retained a major role for the National Development and Reform Commission (NDRC) – the government planning agency that formulate strategies for industrialization, and it played a major role in China emerging as the leader in solar photovoltaic manufactures, even though the actual production is being led by private companies."

"Despite the rhetoric of India being among the fastest growing and the major emerging economies of the world, the fact remains that the economic foundations of its industrial sector remain quite weak. Hence, it would be quite impossible for the Indian industry to show superior performance purely on the basis of market-driven growth strategies."

"One important issue that might have impacted industrialization in India, especially in the post-1991 period, is the narrative of service-led growth, as there is now evidence that such a growth strategy can have serious limitations."

Nanda, Nitya (2022): *India's Industrial Policy and Performance. Growth, Competition and Competitiveness*, Routledge.

12. Industrialització i prosperitat

"First, there is growing consensus that a one-size-fts-all development model does not exist. Second, an appropriate policy framework and institutions are indispensable for initiating a sustained growth process, even if there is considerable disagreement over what these highly context-specifc policies should be. Third, there is a rediscovery of the insights from economists of the past, such as Albert Hirschman, Paul Rosenstein-Rodan and Arthur Lewis, who argued that a crucial element in spurring development is to transform a predominantly rural and highly informal economy into a 'modern' economy with a thriving industrial sector at its core. Finally, it is widely acknowledged in the meantime that economic growth, with its associated increase in average income levels, does not guarantee development."

"Historically, the phenomenon of industrialization, featuring the establishment of a thriving manufacturing sector nurtured by innovation and a supportive infrastructure, has gone hand in hand with economic development. This is true for pioneering countries (such as England or the Netherlands) as well as 'latecomers' (and 'late latecomers') eager to catch up with countries at the technological frontier. Against this background, the re-introduction of Industry, Innovation and Infrastructure as a development goal (SDG 9) was overdue. Many economists assign great importance to this component, as the entire process of development is rooted in the transformation of the productive structure and its underlying capabilities."

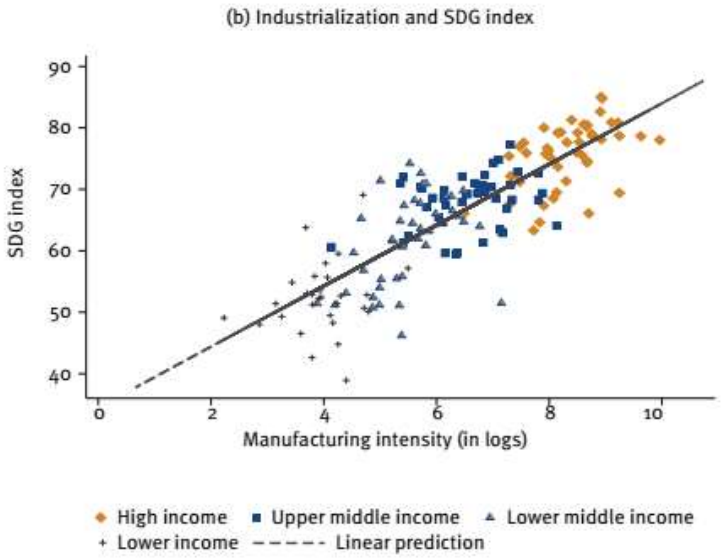
"**Why manufacturing is special**

It is a well-established empirical fact that (…) productivity, tends, on average, to be higher in manufacturing than in agriculture and in the services sector due in part to higher levels of capital per workers. In addition, however, there is also evidence that the growth of productivity has been higher in manufacturing than in agriculture and in many, but not all, parts of services. The growth of productivity that has made manufacturing an engine of growth arises from several sources.

First are economies of scale. In the presence of up-front investments (fixed costs), capital deepening facilitates mass production and reduces the costs per unit produced as output increases. Equally important are dynamic economies of scale which arise from learning-by-doing as more pieces of the same product, e.g. aircraf, are produced. Increasing returns to scale are one of the key features that distinguish manufactured goods from simple commodities and also from most service activities."

"A second key feature of manufacturing is found in its strong linkages to other parts of the economy. Linkages are important because they imply that the growth of an industry automatically creates additional demand or new supplies and opportunities for other industries. Linkages across industries therefore ensure that economic dynamism in one sector spreads to other areas. For many economists, the reinforcing nature of linkages lies at the core of economic development."

"Third, the manufacturing sector is the source of most innovations and advances in technology. Manufacturing feeds into the growth process beyond the sector itself as other parts of the economy make use of the newly developed technologies."



Key lessons: The interlinkages between industrialization and the SDGs

"… A number of conclusions on the nexus between industrialization, which is associated with growing manufacturing intensities and manufacturing shares, and a number of other SDGs has emerged from the analysis, which can be summarized in the following messages (…)

• The empirical analysis in this chapter shows that there is a very close and robust relationship between industrialization and economic growth (SDG 8). Countries that recorded stronger growth in the share of manufacturing in their economies also experienced higher economic growth. This view also supported by both theoretical arguments and historical evidence

• Industrialization promotes advancement in a large number of other socioeconomic goals (…)

• In the realm of socio-economic SDGs, direct effects have primarily been identifed in terms of poverty reduction (SDG 1), leading to the conclusion that industry-led growth is pro-poor. Weaker but still

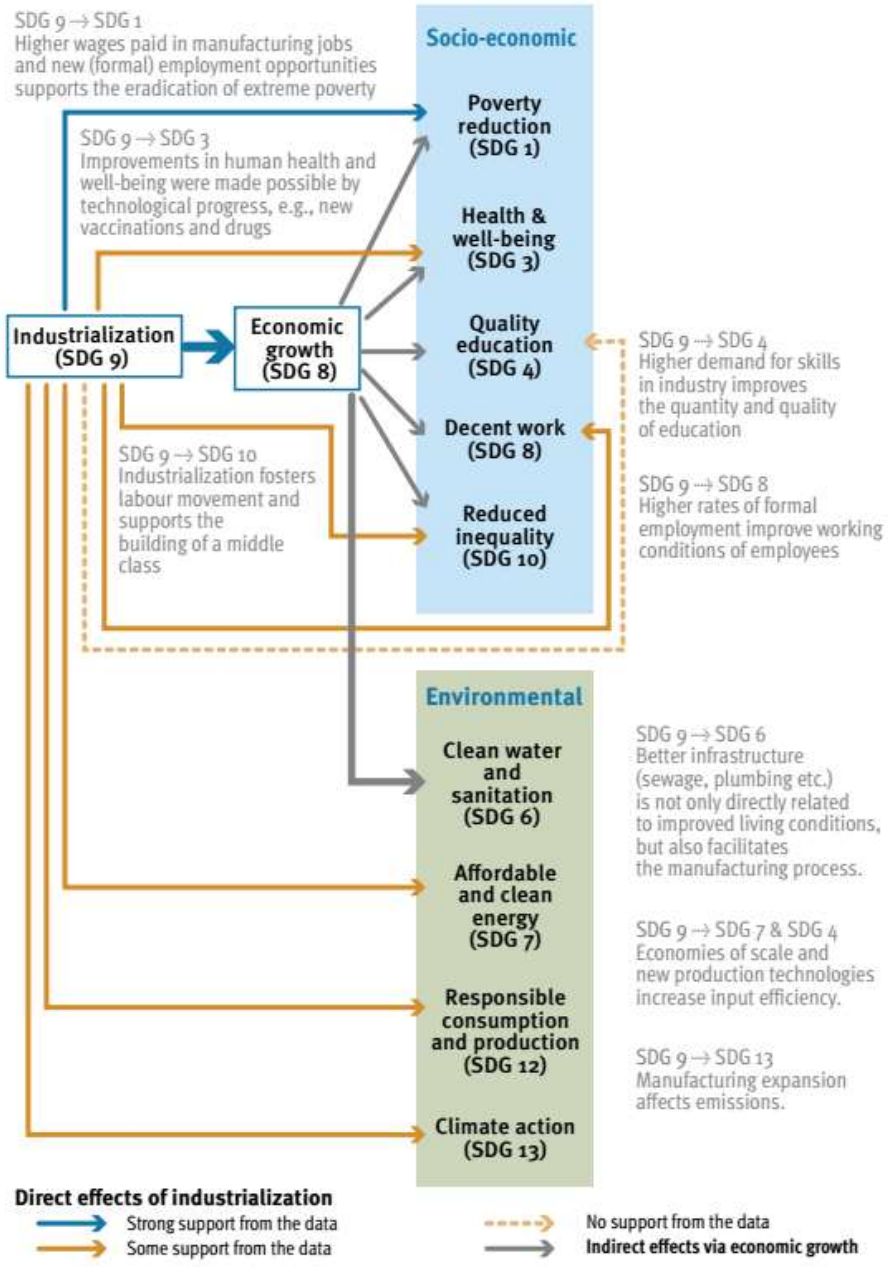
identifable direct effects were found for health (SDG 3), decent work (SDG 8) and reduction of inequality (SDG 10).

• Mixed results emerged in the contentious domain of inequality. Industrialization seems to support growth in income and consumption among the poorer segments of a country's population, but no such impacts are detected for a broader set of inequality indicators.

• Industrialization and the associated structural changes, such as urbanization and a trend towards formal economic activities, are important, but so are many other factors. The policy choices by governments are of particular importance (…)

• Arguably, the role of policy is even more pronounced when it comes to environmentrelated SDGs. This is because there are clear trade-offs between economic development and most environmental SDGs (…)

Figure 1.5: Industrialization, economic growth and the SDGs: Synthesis framework



• Manufacturing development reduces energy intensity and material consumption inputs, which amounts to a direct positive effect of industrialization on clean energy (SDG 7) and responsible consumption and production (SDG 12) (…)

• An expansion of the manufacturing sector does not have to come at the expense of increasing carbon dioxide emissions, because emission intensity typically decreases as countries industrialize. This is evidence, at least, of a relative emission decoupling, that is a delinking of economic development from CO2 emissions."

United Nations Industrial Development Organization (2020): "Industrialization as the driver of sustained prosperity", Vienna.

13. Les escales de la industrialització (*the industrialization ladders*)

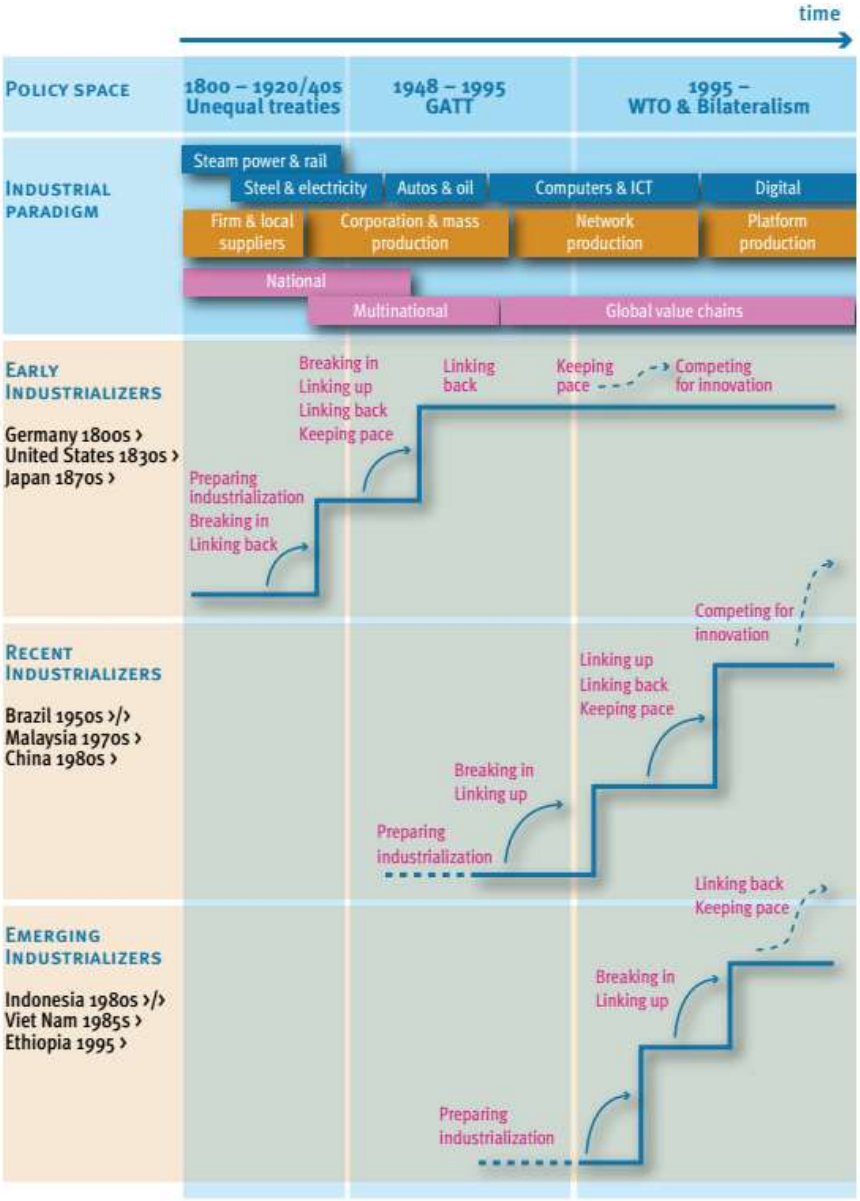
"To identify the factors which have made countries successful in industrialization the analysis focusses on a group of nine countries to review their different experiences with industrial policy. Among the

countries selected are three cases of 'early industrializers'—Germany, United States and Japan—three cases of 'recent industrializers'—China, Brazil and Malaysia—and three cases of 'emerging industrializers'—Indonesia, Viet Nam and Ethiopia.

The *early industrializers*—Germany, Japan and the United States—have all reached a high-income status and in 2017 ranked first, second and fourth in the UNIDO Competitive Industrial Performance (CIP) ranking, respectively. They are also among the top five countries for global market share of exports in manufacturing. Their industrialization pathway can be traced back to the middle of the nineteenth century, and they have been using industrial policy more or less consistently since then."

"The *recent industrializers* selected—Brazil, China and Malaysia—include countries which started a sustained industrialization journey only during the second half of the twentieth century. However, while Brazil made use of industrial policy discontinuously since then, both China and Malaysia have continuously experimented, implemented and upgraded their industrial policies since the 1980s. China is however the only recent industrializer which has managed to get closer to the early industrializers in terms of industrial competitiveness. China is ranked third in the UNIDO Competitive Industrial Performance Index, with Taiwan Province of China ranked 13th. The other two countries which experienced the same phenomenal industrialization performance are the Republic of Korea (ROK) (5th) and Singapore (12th)."

"Despite being the best performer among recent industrializers until the 1970s, Brazil experienced severe macroeconomic crises in the 1980s and 1990s and resumed its industrialization efforts only in the 2000s, afer a long Structural Adjustment Programme. On the contrary, starting in the 1980s and with a signifcant acceleration in the 1990s and 2000s, China sustained its industrialization efforts and became integrated into the global economy and World Trade Organization (WTO) regime (China joined in 2001). Malaysia's growth trajectory, instead, started slowing afer joining the WTO in 1995, and the country became one of those cited as falling into the 'middle-income trap'."



Nam—and a low-income country—Ethiopia. These are ranked 38th, 44th and 143rd in the UNIDO Competitive Industrial Performance Index. The start of a successful industrialization journey for these countries can be traced back to the mid-1980s for Indonesia and Viet Nam and to the 1990s for Ethiopia."

"… depending on when countries started their industrialization journey, early, recent and emerging industrializers faced a different policy space—so governments could implement a different version of industrial policy. They also faced a different industrial paradigm or environment– that is, the dominant technologies, organizational modes of production, and global demand conditions were different.

Similarities were due to the fact that countries within each group had to go through a similar sequence of steps and faced similar challenges in transforming their economies through industrialization.

First, all countries went through initial preindustrial phases in which state building, resource mobilization and macroeconomic stabilization were critical in preparing for industrialization.

Second, despite differences in natural endowments, geography and other historical legacies, all countries needed to develop and accumulate capabilities and make strategic use of their strengths through industrial policy.

Third, given their distinct governmental capabilities and political economy conditions, they all faced similar types of policy governance challenges in driving industrialization at early, intermediate and more advanced stages of development."

"If countries follow similar steps and face similar challenges in their industrialization journey, they face a single industrialization ladder. However, the ladder may change over time depending on the policy space and industrial paradigm under which the process of industrialization is taking place. The three country groups can be considered to be facing three distinct industrialization ladders, one for each group. Figure 2.1 [pàgina prèvia] provides a graphical representation of these industrialization ladders."

"One key dimension is trade policy—that is, the freedom to use tariffs strategically to support domestic production and under specifc conditions and complementary policies stimulate industrial learning (…) Since the Uruguay Round started in 1986 under GATT and then the WTO new trade regime, the effectively applied tariff protection in world trade has declined significantly (…) The global policy space has been also shrinking as a result of bilateral trade agreements and the introduction of a more comprehensive set of regulations on investment, intellectual property rights and sectors of the economy which were not previously covered by international agreements. While the formal policy space is important, how countries engage with global regulations is also signifcant. In some cases, countries chose a very rapid integration into the global economy, while in others governments have used the available industrial policy instruments and institutions to ensure a much more gradual approach."

"The second layer of the framework is the dominant industrial paradigm countries faced when they took their frst steps on the industrialization ladder. Here industrial paradigm refers to three main aspects of the operating environment facing firms—the dominant techno-economic paradigm, the main organizational model of production and firms' main geographic scope. Since the first industrial revolution, different historical periods have been dominated by different technologies—from steam

power in the nineteenth century to digital technologies today. In addition, different organizational models of production have developed, from the managerial frm of early industrializers, to mass production and platform production. Finally, the geographic scope of production has moved from the national to the global, and is increasingly structured around global value chains (GVCs). Table 2.1 presents a schematic representation of changing industrial paradigms since the 1860s."

Table 2.1: Industrial paradigms from 1860 to present

Industrial paradigms	1861 - 1913	1896 - 1945	1955 - 1992	1991 - 2005	2008 - present
Technological paradigm	Steam power & rail	Steel & electricity	Autos & oil	Computers and ICTs	Digital
Organizational model of production	Managerial firms & local suppliers	Corporation & mass production	Multinational corporation & mass production	Network production	Platform production
Geographic scope	National	National multinational	Multinational	Global value chains	

Figure 2.3: Successful policy factors for early industrializers

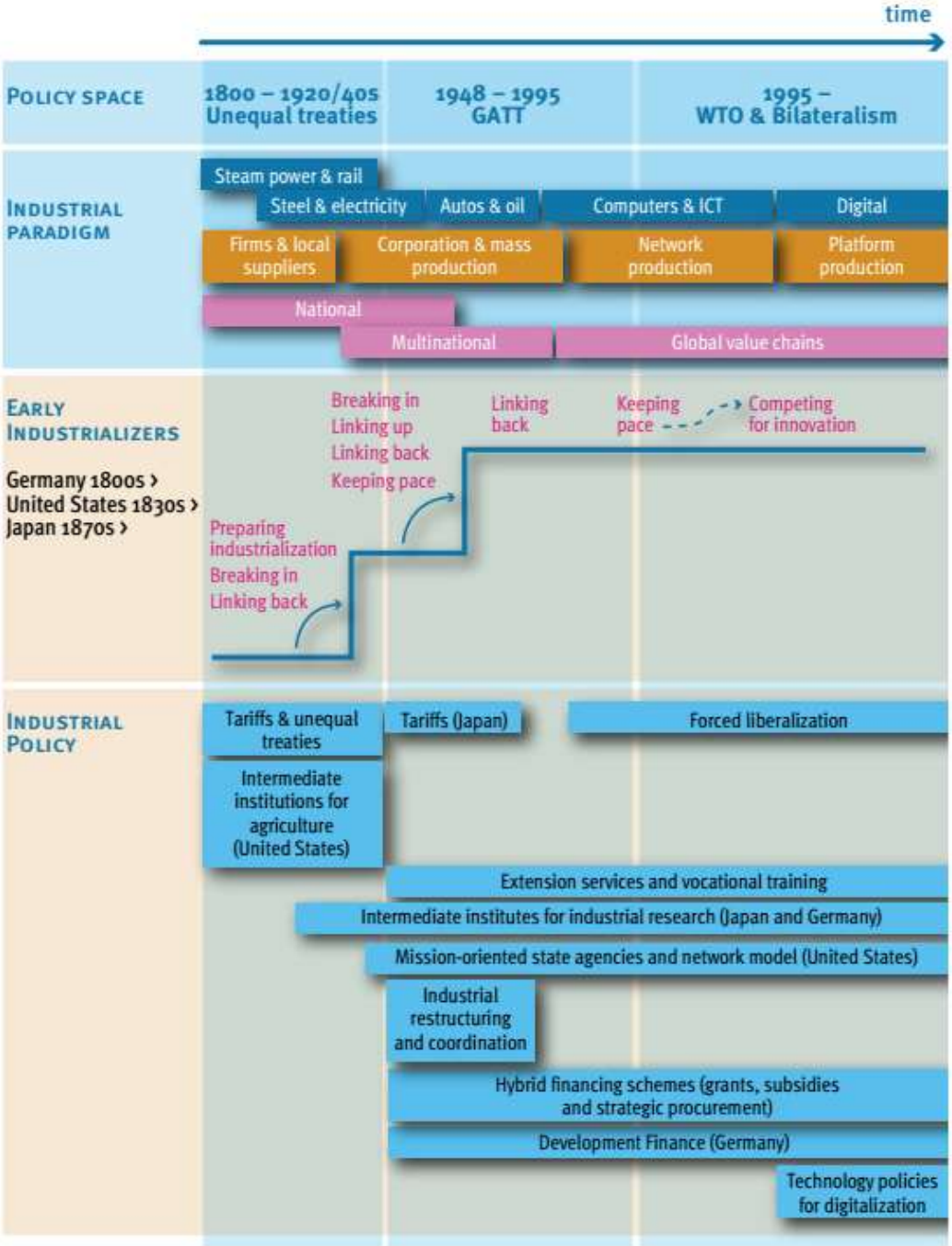


Figure 2.4: Successful policy factors for recent industrializers

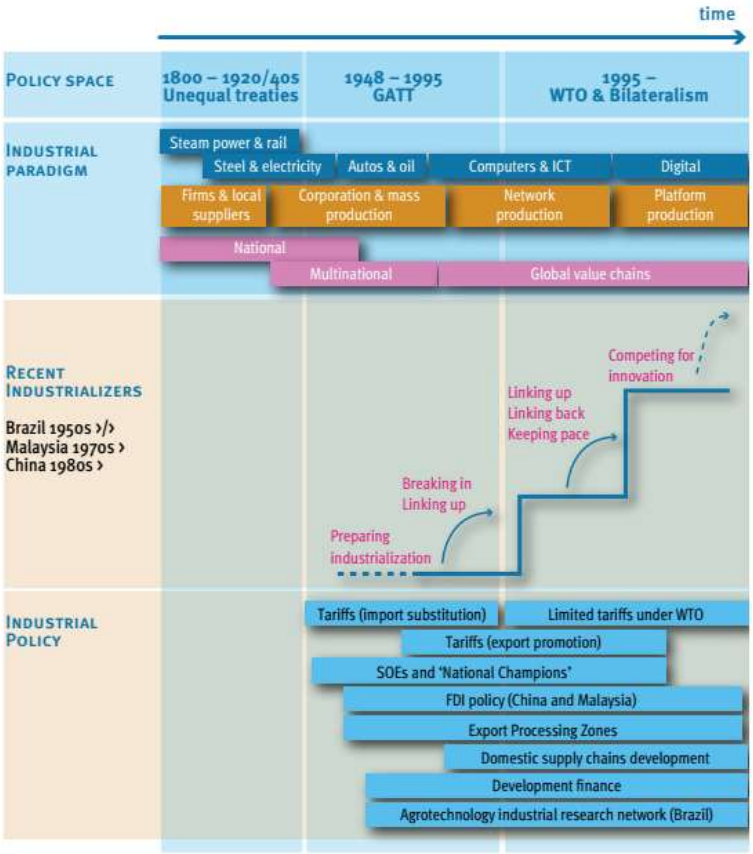


Figure 2.5: Successful policy factors for emerging industrializers

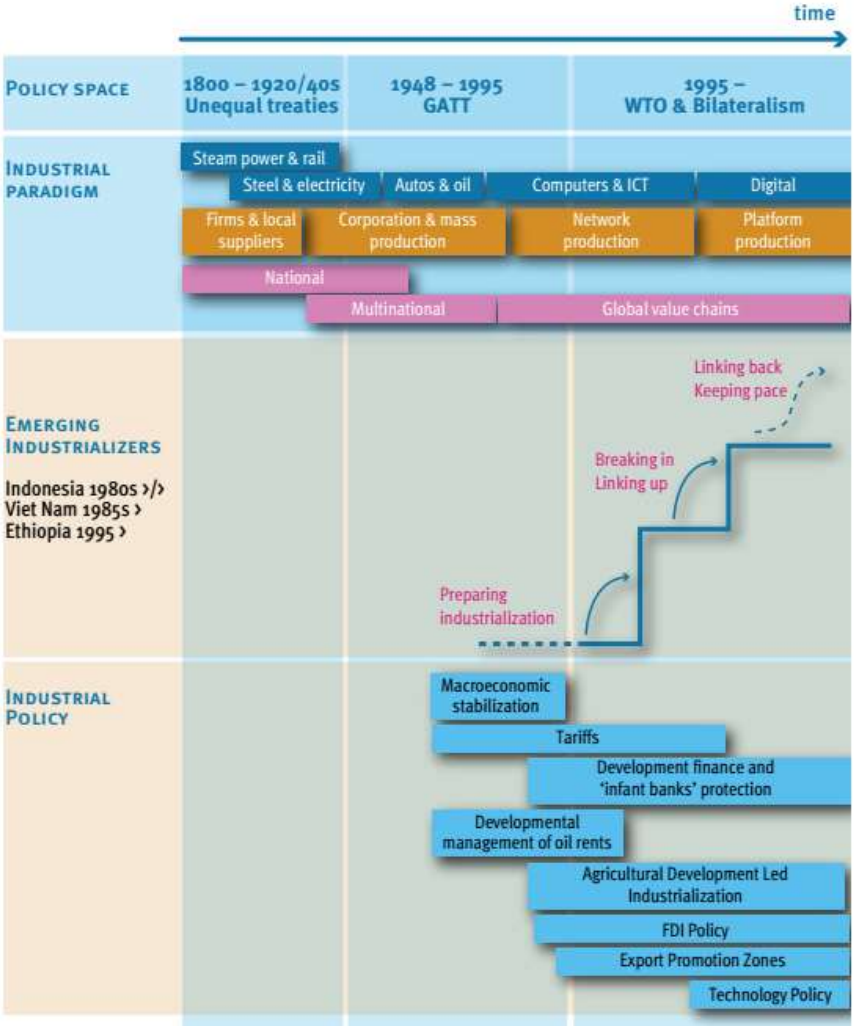
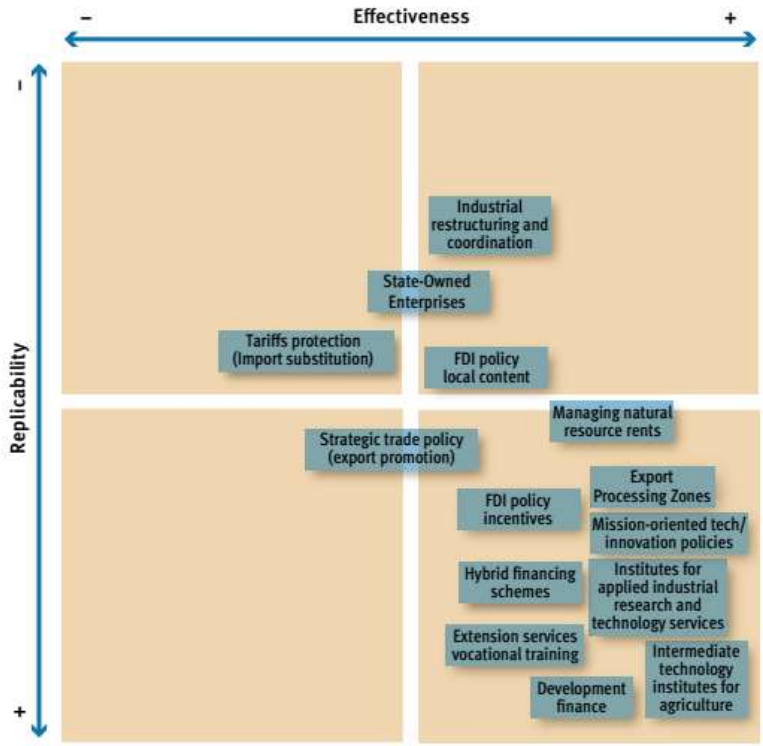


Figure 2.6: The effectiveness-replicability quadrant



"**Policy instrument 1**: Intermediate technology institutes for improving productivity in agriculture (Best practices: Brazil, Ethiopia, Malaysia and the United States)

Policy instrument 2: Extension service and vocational training to improve technology absorption, diffusion and adaptation (Best practices: China, Germany and Japan)

Policy instrument 3: Institutes for applied industrial research and provision of technology services (Best practices: China, Germany and Japan)

Policy instrument 4: FDI Policy incentives and conditionalities to attract foreign direct investments and favour technology transfer (Best practices: China, Japan and Viet Nam)

Policy instrument 5: Export Processing Zones to promote export capabilities and domestic linkages (Best practices: China, Ethiopia and Viet Nam)

Policy instrument 6: Development banks and other banking sector regulation favouring specialized and long-term credit for investment (Best practices: Brazil, China, Germany and Ethiopia)

Policy instrument 7: Incentives and hybrid fnancing schemes including grants, matching investment schemes, subsidies and procurement policies supporting investments in research and development, technological upgrading and production capacity expansion (Best practices: China, Japan, Malaysia and the United States)

Policy instrument 8: Mission-oriented innovation policies creating new markets and addressing major societal challenges (Best practices: China, Germany and the United States)

Policy instrument 9: Strategic trade policies supporting export promotion (Best practices: China, Ethiopia, Indonesia, Malaysia and Viet Nam)

Policy instrument 10: Management of natural resource rents to divert resources in productive development policies (Best practices: Indonesia and Malaysia)

The effectiveness of these industrial policy instruments will depend on the specific country context, the effectiveness of its governance and the package of interdependent policies that countries implement to move up their industrialization ladder. Hence there can be no guarantee that the success achieved in the best practice experiences can be automatically replicated."

United Nations Industrial Development Organization (2020): "Industrialization as the driver of sustained prosperity", Vienna.