

# Industrial Policy for Economic and Social Upgrading in Developing Countries

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# Foreword

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This paper emphasizes that economic and social upgrading are two sides of the same coin. One without the other will not work. Developing countries therefore need both if they are going to catch up with developed countries.

For economic upgrading to take place, a country needs to move to higher-value-added activities in production and increase productivity by improving technology, knowledge and skills. Social upgrading is perhaps more difficult to define but implies that the gains from economic upgrading are translated into higher wages, better working conditions and higher employment.

Hansjörg Herr argues in this paper that economic upgrading without social upgrading is not sustainable and will inevitably lead to mounting economic and social problems, which will prevent countries from growing and prospering in the long term. Likewise, social upgrading without economic upgrading is only possible to a certain extent; there is a limit to what can be achieved through redistribution policies if an economy does not grow.

To trigger a process of economic and social upgrading, developing countries need to invest in new industries and new technologies. They need to formulate industrial policies that are conducive to economic and social upgrading.

To see which industrial policies work in developing country contexts, the FES Office for Regional Cooperation in Asia has launched a project to identify successful examples of economic and social upgrading in the region. A number of case studies will be carried out to look into the reasons for their success and determine what lessons can be useful to governments.

This three-year project will build on the work accomplished through the Core Labour Standards Plus (CLS+) Project, which focused on working conditions in global value chains in the garment, footwear and electronics industries in the region. CLS+ showed that although global value chains have made it possible for developing countries to participate in industrial production, they tend to be stuck at the bottom of the chain, in low-tech and low-skill production, thus making it difficult to achieve social upgrading and sometimes even economic upgrading.

Eventually, the project will draw up recommendations for an industrial policy that can best facilitate economic and social upgrading in developing countries.

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# Summary

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Industrial policy is needed for economic upgrading. Without it, (unregulated) integration into global markets can prevent economic development for developing countries. In particular, economic upgrading without social upgrading is not sustainable and will lead to economic and social problems that, in turn, will prevent countries from growing and prospering in the long term.

There are four reasons why economic upgrading in all countries (including developed countries) requires an industrial policy:

- 1/ The investment needed to establish new products or technology is risky and will not be carried out by private investors without government guidance or help.
- 2/ Big technological changes need complementary government efforts, such as in the field of education and technical help.
- 3/ Government support is needed to cope with the internal and external economies of scale in many cases.
- 4/ Firms must be forced by government to consider the consequent ecological problems of their production

processes and adjust them to minimize the negative impacts.

There are merits to free trade, especially the many chances for developing countries to easily move into industrialization by taking over simple tasks in global value chains. But integration into global markets without active government policy restrains developing economies from catching up with developed countries. The primary danger is that developing countries are pushed to low-tech labour-intensive productions according to their comparative advantages. Foreign direct investment, even without its negative side effects, will also follow the logic of comparative advantages and alone cannot lead to catching-up processes.

Development needs to go beyond exploiting comparative advantages. Only an active comprehensive industrial policy, including establishing institutions to define and implement the policy, can trigger economic upgrading that is sufficient for catching up. Industrial policy should be coordinated on a national level, the paper concludes, but there is much room for comprehensive economic and social upgrading on regional levels, cluster levels and in single industries.

# Introduction

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Social and economic upgrading are two sides of the same coin. But both types of upgrading each need specific policies because one type of upgrading does not automatically lead to the other. This paper focuses on economic upgrading in developing countries.

Economic upgrading is not only reducing poverty in developing countries, it is triggering a catching-up process to reduce the differences in living standards between developing and developed countries.

There is a widespread argument that the integration into global markets is an ideal strategy for developing countries to catch up with developed countries. Without doubt, integration into global markets offers many chances for developing countries. Autarchy is on no account a development option. But for ideological reasons, the negative sides of integration into global markets are often not mentioned or are even denied.<sup>1</sup> Economic thinking has produced many theoretical arguments on why integration into global markets can have negative impact on catching up.

Of importance for economic upgrading is an industrial policy, or the active intervention of governments to support economic development. An industrial policy can fail, however; for example, when governments are unable to implement an industrial policy successfully

due to widespread corruption. But without a successful industrial policy, catching up seems to be not possible. Historically, the catching up of less developed countries was only successful when a government comprehensively supported economic development and protected certain economic sectors against superior foreign competitors.<sup>2</sup> Industrial policy was one of the pillars of the success of the Asian miracle countries and territories, especially Japan, the Republic of Korea and Taiwan (China).<sup>3</sup> Developed countries follow comprehensive industrial policies to this day, although in many cases disguised behind a different name.

This paper looks at why an industrial policy is needed for economic upgrading and why unregulated integration into global markets can prevent economic development. It begins with discussion on the links between social and economic upgrading (section 2), especially on how inequality serves as an example for why economic upgrading needs social upgrading. It then moves on to present four reasons why economic upgrading in all countries (including developed countries) requires an industrial policy (section 3). Discussions follow on free trade and economic upgrading (section 4) and on global value chains and foreign direct investment (section 5). The principles of industrial policy are highlighted (section 6), with analysis of macroeconomic dimensions of industrial policy (section 7) before the concluding summary (section 8).



# Social and economic upgrading as two sides of the same coin

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Without economic upgrading, social upgrading is possible only to a certain extent. The simple reason is that without economic upgrading, the living standards in a country cannot be increased for all persons, and redistribution policies are met with limitations. Less debated is that economic upgrading without social upgrading is not sustainable and will lead to mounting economic and social problems, which ultimately preclude prosperous development. In the long term, economic and social upgrading support each other.

*Economic upgrading* implies increasing productivity via the use of new technologies and the increasing skill levels of a workforce. It implies the development of the productive and innovative powers of a society. Without higher productivity, real gross domestic product (GDP) per capita cannot increase. Also, the real wages level cannot increase in the medium term and, even less so, in the long term without corresponding productivity increases.

There are good and bad types of productivity development. Intensifying work leads to higher productivity, but this is not a sustainable strategy. Management strategies that permanently intensify work have limitations because they lead to a wearing down of the working power (capacity to do work), the erosion of workers' motivation and greater deficient production. At the same time, productivity expansion that destroys the natural basis of development will not increase productivity in the long term. A good type of productivity increase, which does not erode the human and natural bases of development, focuses on fostering new skills among the workforce, innovations and new technologies. The aim of developing countries should be to catch up with the productivity levels of developed countries. Otherwise, they remain second-class for ever. Catching up implies that productivity growth in developing countries must be higher for a longer period than in developed countries.<sup>4</sup>

*Social upgrading* has different dimensions. Productivity increases can be used to gain higher real wages and shorter working time not only in developed countries but also in developing countries in which many employees need several jobs to survive. A key element of social

upgrading is the reduction of poverty and a relatively equal income and wealth distribution. From a macroeconomic point of view, social upgrading also implies a high level of employment. A government's tax and expenditure policies can have far-reaching effects in favour of social upgrading or not. Part of social upgrading is also a policy for high employment. High employment usually helps the poorest households; it changes the power balance in society towards employees who are in a systematically weaker position than employers.

Social upgrading implies the realization of core labour standards of the International Labour Organization (ILO), which include freedom of association and right to collective bargaining, elimination of all forms of forced or compulsory labour, effective abolition of child labour and the elimination of discrimination in respect of employment and occupations. The ILO Decent Work agenda for employment creation, social protection, rights at work and social dialogue adds to these standards.<sup>5</sup> Gender equality is an important element of these ILO standards.

Amartya Sen (1999) stressed development as increasing freedom. This includes political freedom (participate in democratic processes and social dialogue), transparency about developments in society (such as rent-seeking of certain groups) and freedom for individual opportunities (such as access to education or credit). Political freedom alone remains an empty shell when, for example, poverty prevents opportunities. In judging to which extent such freedoms develop in a country, keep in mind that developing countries most likely will not copy the existing institutions of developed countries. Taking institutions in developed countries as a best practice for developing countries may be misleading.<sup>6</sup> The International Monetary Fund (IMF), the World Bank and the US Treasury followed for decades a policy to implement the ten principles of the so-called Washington Consensus in all countries in the world.<sup>7</sup> Such a policy was misled.

In the remainder of this section, the discussion turns to why a lack of social upgrading will prevent economic upgrading. The debate concentrates on income

distribution because this dimension of social upgrading is important and became a topic in development economics as inequality in most countries of the world substantially increased or remained at a very high level, especially in developing countries.<sup>8</sup>

It was a bit of a surprise that empirical research of the IMF concluded that too-high inequality is detrimental for economic growth. Among others, Andrew Berg and Jonathan Ostry found in their econometric work in 2017 that longer periods of high growth become unlikely if inequality becomes too high.<sup>9</sup> In their comprehensive meta-analysis, Petro Neves et al. concluded in 2016 that there is a negative relationship between higher inequality and growth, especially in developing countries. It seems that short periods of growth are compatible with high or increasing inequality but not long-term sustainable development. Furthermore, inequality at the bottom of society seems to be more problematic than at the top. Heather Boushey and Carter Price summarized in 2014 their findings from a review of research as follows: "This most recent work provides strong evidence that higher levels of income inequality are detrimental to long-term economic growth and that the policies some nations have taken to redress inequality not only do not adversely impact growth, but, instead, spur faster growth. Notably, this finding applies to both developed and developing countries."<sup>10</sup>

There are good theoretical supply-side and demand-side arguments for why high inequality is negative for economic upgrading. First, the reproduction of the power of labour, especially of poor workers (better health care, better housing and sanitation, better education), improves and increases productivity. Second,

mobility in society will increase, which will trigger positive productivity effects. For example, rich persons are not always the best entrepreneurs; expanded opportunities for poorer people to become entrepreneurs increases this dynamic in society.

Third, the same argument counts when gender equality is improved. Joseph Stiglitz stressed in 1996 that the improved education of women and gender equality was one of the elements that explained the East Asian economic miracle after World War II.<sup>11</sup>

Fourth, greater equality adds to social coherence and national consolidation and can improve the state of confidence<sup>12</sup> in a society and stimulate investment. And fifth, many negative social effects, like criminality and alcoholism, which create costs for society, are positively correlated with inequality. According to Gunnar Myrdal, the build-up of welfare states in Western countries after World War II must be considered as one of the most profitable investments of societies, even though the gestation period of this kind of investment is long term.<sup>13</sup>

From the demand side, high inequality and high insecurity (which relates to inequality) reduce consumption demand. High-income groups have lower propensity to consume than low-income groups. Without enough consumption demand, which is by far the biggest demand element in almost all countries, overall demand, including investment demand, will suffer. A relatively equal income distribution and the inclusion of all social groups in economic progress create a "Fordist model", with its high consumption demand, high investment and high productivity increases.<sup>14</sup>

# General arguments for industrial policy

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Economic development of a country depends on the introduction of new products, new industries and new technologies. In capitalist economies, the competition between firms, with reward in the form of extra profits and punishment in the form of bankruptcy, gives strong incentive for the introduction of new goods and new technologies. The never-ending process of creative destruction, as Joseph Schumpeter called it,<sup>15</sup> makes capitalism the most successful mode of production to date, in respect of innovation and technological development. But it would be an illusion to assume that markets alone can achieve development. Dani Rodrik nicely summarized in 2018 the need for embedded markets in institutions and government interventions: “In fact, the kind of markets that modern economies need are not self-creating, self-regulating, self-stabilizing or self-legitimizing. Governments must invest in transport and communication networks; counteract asymmetric information, externalities and unequal bargaining power; moderate financial panics and recessions; and respond to popular demands for safety nets and social insurance.”<sup>16</sup>

There are several reasons why the market alone is not able to trigger economic upgrading.<sup>17</sup>

First, there are information externalities. New products, new technologies or innovations in general involve a process of discovery. Investment in new productions is risky and can fail, making it difficult for private firms and their financiers to invest. Major innovations are especially risky. In some cases, governments or societies must decide in which direction technologies should develop. Making matters worse, if a firm is successful, follower firms can imitate the successful firm.

Ha-Joon Chang stressed, correctly, that governments, together with society, must create a vision for which direction technological development should go.<sup>18</sup> Only such a vision allows the concerted action of societal forces to implement new developments. All technological changes in society, including the positive ones, produce losers. Part of the responsibility of industrial policy is to compensate the losers and facilitate a relatively smooth structural change. If losers are not compensated, they may block structural change.

Second, there are coordination externalities. In many cases, a bundle of investment is needed that goes far beyond a single firm. A new product or a new technology may need new infrastructure (from transportation to new communication technologies) that cannot be handled by a single firm. Specific skills of employees and firms producing complementary goods or inputs may be needed for new investment.

An example of the type of industrial policy needed to establish new products relates to the orchid industry in Taiwan, China, which became world class.<sup>19</sup> Taiwan used to be a traditional exporter of sugar. In the late 1990s and early 2000s and due to intensive international competition, this industry was no longer competitive. In reaction, a decision was taken to grow orchids. The government paid for a genetic laboratory for orchids, a necessary quarantine site, shipping and packing areas, new roads, water and electrical hook-ups and an exposition hall. The private farmers built their own greenhouses. The Taiwan Orchid Growers Association, a non-profit organization, was founded to promote the development of the orchid industry.

Another example is the abandonment of nuclear power in Germany, which would not have been triggered by the private sector. After the nuclear catastrophe in Fukushima, Japan in 2011, the German government decided to shut down the country's last nuclear power station in 2022. Even prior to this, the German government had been subsidizing solar and wind energy for years. Thousands of small electric current producers were created, with the right to sell their surplus electric current to the big electric power producers. The infrastructure was built to bring electric power from big off-shore wind parks in northern Germany to the industrial centres in southern Germany. A compromise with coal mines was found to fade out power plants based on coal over a longer process.

Third, in most industrial productions, internal and external economies of scale exist.<sup>20</sup> *Internal* economies of scale are based on many factors, such as indivisibilities (even small planes need a pilot), research departments may become more productive if they are bigger and one big factory is cheaper than ten small ones with the same capacity). For these reasons, big firms produce

more efficiently than small ones in many cases. Internal economies of scale prevent firms from starting small and then growing slowly. In the case of strong internal economies of scale, oligopolistic or monopolistic markets develop, and incumbent firms are protected from newcomers.

*External* economies of scale are based on synergies or network effects that are created by economic clusters. Economic clusters usually have a diversified structure of companies that benefit each other. Formal or informal institutions lead to cooperation among firms; for example, joint research projects among firms and with research institutes and university are organized. Even if firms remain small and internal firm-based economies of scale do not exist, the country that developed by chance the first external economies of scale will accumulate advantages that make it extremely difficult for latecomers to develop.

Paul Krugman<sup>21</sup> crafted a model in which developed countries that are first movers by chance realize external economies of scale and developing countries do not. The accumulation of advantages in developed countries based on such economies of scale leads to uneven development; differences in living standards between developed and developing countries will become bigger and bigger as developed countries take over high-value-adding high-tech productions and developing countries remain with low-value-adding productions. The market mechanism thus leads to bigger and bigger differences between these two groups of countries.

Fourth, unfortunately, the strong capitalist productivity machine has a defect. It does not consider ecological problems because they do not belong to (or are only an indirect and distorted part of) the incentive system of firms developing new technologies and goods. Negative external effects are widespread and fundamental in the field of pollution and exploitation of natural resources or biodiversity. Without heavy intervention in technological development, the way to produce and consume economic development will undermine the basis of life.

It should not be a surprise that developed countries follow sophisticated and comprehensive industrial policies and spend a lot of money for this. In Germany, for example, the third-biggest German bank is a state-owned development bank, the KfW,<sup>22</sup> which originates from the Marshall Plan that supported German recovery after World War II. There are two powerful and big institutions, the Max Planck Society and the Fraunhofer-Gesellschaft, that support the German enterprise sector, organizing joint research with firms, research institutes and universities and helping economic clusters with small and medium-sized enterprises.<sup>23</sup> In many cases, a big military sector supports technological superiority of countries. In 2014, Robert Wade<sup>24</sup> spoke of the United States as a developmental state in disguise. In addition, there are legal policies to prevent firms in developing countries from gaining technological knowledge. Not only the hardened patent laws have a role here—in many countries of the Organisation for Economic Co-operation and Development, foreign firms are restricted from buying high-tech firms.<sup>25</sup>

# Free trade and economic development

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Empirical evidence shows that after World War II, only a small number of developing countries managed to catch up with the per capita living standards of developed countries. Certainly, some economic upgrading took place, and absolute poverty was reduced, but there was, as a rule, not much catching up. The exceptions included, as mentioned, several Asian countries and territories. These successful economies did not follow radical market policies in the tradition of the Washington Consensus—except for Hong Kong (China), which is a special case.<sup>26</sup> Instead, they followed a policy of heavy government interventions, including export promotion, to support economic and social upgrading. All of them intensively used industrial policy.<sup>27</sup> China followed these countries with export orientation and heavy government interventions and sophisticated industrial policy as well.<sup>28</sup> In China, the social upgrading has been mixed and will become a challenge for future development; there have been big successes in poverty reduction, real wage increases, the integration of women into employment processes and education, but inequality has increased, and political freedoms remain restricted.

This and the next sections discuss what knowledge economic thinking has produced to analyse the effects of international markets on the development of countries. Specifically, the discussion looks at whether market processes lead to catching-up processes.

Let the debate start with the basic trade models. The international trade of goods (including services that can be internationally traded) that are only available in one country, such as trading Saudi Arabian oil for Swiss holidays in the mountains, is based on *absolute advantages* that are obvious.<sup>29</sup> Many countries have such absolute advantages in natural resources, like oil and gas, and export them as primary goods. Most of these countries, from Venezuela to Nigeria to the Islamic Republic of Iran, have not developed in a positive way, despite the richness. The reasons for this are easy to find. These countries have not developed a competitive industrial sector, which is the backbone of economic development. They export natural resources and import manufacturing products. For the manufacturing sector, the exchange rate in such a constellation is overvalued and destroys its competitiveness. This exchange rate

effect is called the “Dutch disease effect”, a term inspired by the experience of the Netherlands when it suffered a stagnating industrial sector after the discovery of offshore oil and gas. There are more negative effects. Oil, gas or some rare earth realized in the 1970s high price increases. In many cases, at least in real terms, these prices dropped in the following decades to relatively low levels but remained volatile. The volatility of natural resource prices creates shocks, especially for the countries exporting natural resources.

Finally, natural resource richness stimulates rent-seeking of domestic elites and foreign companies, which leads to the so-called “resource curse”, which hinders development as well.<sup>30</sup>

Theoretically more demanding is the analysis of the trade of goods that can potentially be produced in all countries, such as manufacturing products. In standard economic models, this trade is explained in terms of *comparative advantages*, whereas countries specialize in productions for which they are relatively good at doing. In David Ricardo’s 1817 view,<sup>31</sup> comparative advantages were based on different technologies in different countries; while Eli Heckscher in 1919 and Bertil Ohlin in 1933 based comparative advantages on different endowment of capital and labour, given the same technological knowledge in all countries.<sup>32</sup> All these models make clear that the welfare of countries increases with more international trade, at least in the normal case.<sup>33</sup>

More precisely, consumers benefit when imported goods become cheaper when their country integrates into international trade. But all the standard economic models also conclude that international trade produces massive losers, even in the long run. For example, low-skilled workers in developed countries realize real income losses when low-skill jobs shift to developing countries; or entrepreneurs and worker in sectors that will shrink or even disappear when a country integrates into the world market may become unemployed for a long time. There is the possibility that losers are compensated by winners, via tax policy, for example. Strictly speaking, only under this condition can an increase of welfare be postulated.<sup>34</sup> Unfortunately, in most cases, losers due to international trade are not compensated.

If all countries have the same technology and endowments of capital and labour, then the positive welfare effects of international trade decrease. The implication is that the welfare effect for developed countries shrinks when developing countries catch up. Paul Samuelson used this argument to show that welfare in the United States would shrink if China caught up technologically to the American level: "... the new Ricardian productivities imply that, this invention abroad that gives to China some of the comparative advantage that had belonged to the United States can induce for the United States permanent lost per capita real income."<sup>35</sup>

In the New Trade Theory, developed after the 1970s, additional arguments for trade were presented.<sup>36</sup> International trade with the same goods can make sense when these goods are slightly differentiated and consumers have corresponding preferences. Then, for example, red cars produced in country A can be exchanged for green cars produced in country B. More important is the introduction of economies of scale. Then one country can concentrate on the production of one product and another counter specializes in the production of the other product, and the two products can be exchanged.

However, economies of scale destroy many of the basic conclusions of the neoclassical paradigm; for example, economies of scale lead to oligopolistic and monopolistic markets and distort some of the welfare effects of markets.<sup>37</sup> And the existence of economies of scale leads to systematic advantages of first movers (in our case, developed countries). To support national champions and enforce strict patent laws by governments in developed countries can increase national welfare. For developing countries, economies of scale make infant industry protection a rational strategy to increase national welfare.

Now we come to the most important point of this section. Under a dynamic and long-term perspective, unregulated international trade has a massive disadvantage for developing countries. Friedrich List, who was in exile in the United States and was influenced by Alexander Hamilton,<sup>38</sup> argued in 1841<sup>39</sup> that free trade would kick away the ladder of development in Germany, which at that time was less developed than competitor countries. The problem of free trade is that the country with the inferior level of technology is pushed to low-tech and

low-skill labour-intensive productions. This can reduce the productivity level in less developed countries when all promising new sectors with high-tech potential, high research intensity and high learning-by-doing effects shrink or disappear. All the dynamic sectors with high development potential become concentrated in developed countries. Economists in the tradition of Ricardo, Heckscher and Ohlin are right when they stress, under a short-term static perspective, that less developed countries can realize welfare effects from free trade—keeping mindful that trade also leads to losers. They are also right that the market mechanism will lead to division of international labour according to comparative advantages. However, they forget the negative long-run dynamic productivity effects when developing countries specialize in low-tech and low-skill labour-intensive productions.

These arguments are independent of internal and external economies of scale, which create additional path dependencies of development. If developed countries gain systematic advantages in research and development and in producing new goods with new technologies, firms in the developed world will realize technological rents that make the price for imports into developing countries higher and reduce the short-term advantages of free trade. The stricter patent laws during the past decades strengthened the monopolistic or oligopolistic position of big firms in developed countries at the cost of consumers in developed and developing countries. In the case of economies of scale in sectors, infant industry protection becomes a precondition for building up domestically owned companies in these sectors. In most manufacturing sectors, economies of scale exist. But in the field of information technology, network effects dominate that have the same effect.

There is one additional argument. Concentration on comparative advantages can imply an extreme specialization. For example, Bangladesh, a country with a population of more than 160 million, realized 83 per cent of exports in the field of apparel products, plus 2.6 per cent of other textile articles and 2.2 per cent of footwear and the like in 2015.<sup>40</sup> High specialization is not a successful development path, however; at least, it was not in the past. Jean Imbs and Romain Wacziarg found that successful countries "diversify most of their development

path.”<sup>41</sup> There are good theoretical arguments for this. Different industries have the potential to create synergies and increase the likelihood of successful entrepreneurship and innovations, including finding new export channels.

In many cases it is argued that free trade agreements are engines for greater growth and greater employment. But caution must be exercised. The argument for free trade is that it increases the efficiency of production—less input is needed to produce the same world output. Whether the increase in efficiency leads to more employment depends on Say’s Law: that supply creates its own demand. This law is highly questionable and is based on the belief that

demand does not have any role in economic development. Many supporters of free trade agreements have another argument in mind: They implicitly assume that free trade agreements open foreign markets, increase exports and lead to export surpluses and higher domestic GDP and employment.<sup>42</sup> These arguments are questionable. First, free trade agreements not only increase exports, but they also increase imports and lead to shrinking sectors. Second, not all countries in the world can have current account surpluses, and free trade in no way leads to current account surpluses of all countries. To understand current account imbalances, international capital flows must be taken into account.

# Global value chains and foreign direct investment

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In global value chains (GVCs), the production process is divided into different tasks and allocated all over the world. Organizers of GVCs or lead firms are mainly multinational companies. GVCs not only have a role in the manufacturing sector but also in agriculture and services, such as tourism. Preconditions for the sharp increase of GVCs were the revolution in transportation and information technology in the 1990s, which made transportation and information much cheaper and more reliable. Another precondition for increasing the importance of GVCs was the deregulation of the international capital and goods markets, which gained momentum in the 1980s. Worldwide intra-industry trade in intermediate goods, which is an indicator for the importance of GVCs, increased much faster than other categories of trade. In the early 1960s, trade in intermediate goods had a share of around 28 per cent (with final goods at 25 per cent) and increased until the early 2000s, to around 55 per cent (with final goods at 45 per cent). Then the share of intermediate goods started to stagnate and partly decreased, leading to the speculation that the potential of GVCs was exhausted and that some re-shoring may occur.<sup>43</sup>

GVCs have different tiers. Lead firms can use big intermediate firms that dominate the lower tiers of GVCs. In the apparel sector, for example, a lead firm or a big intermediate firm interacts with many small suppliers. Another example is the Foxconn Technology Group, a multinational electronics contract manufacturing company with headquarters in Taiwan, China.

Firms taking over tasks in GVCs can outsource to microenterprises or even home productions in their country. In such cases, many tiers in a GVC can emerge.

There are various classifications of GVCs. They can be subdivided into buyer-driven and producer-driven GVCs.<sup>44</sup> In the case of *buyer-driven* GVCs, the lead firm typically outsources the production of labour-intensive and low-tech consumption goods to low-wage countries. The lead firm, usually a large retailer like Walmart or a global brand like Gap or Nike, focuses on designing, marketing and research and then outsources to a legally independent subcontractor producing under strict specifications by the buyer. This kind of GVC can be found in labour-intensive industries, such as the apparel or footwear

industries or simple electronic products. *Producer-driven* value chains are typically led by multinational companies in which technology and the amount of the invested capital have pivotal roles. Examples are the production of automobiles or advanced electronic products. Lead firms, in this case, coordinate a complex transnational network of production with subsidiaries and subcontractors, whereby the assembly lines of the final product typically remain under the direct control of the lead firm.

GVCs can also be classified by “snakes” and “spiders”.<sup>45</sup> In the case of *snakes*, the production of a product is dictated by engineering; it crosses potential borders several times until it is finally finished. In the case of *spiders*, the different tasks are not produced in a certain order; instead, they are produced in parallel at different locations and finally assembled.

The outsourcing decision of lead firms depends on several factors, with two broad motivations. In cost-driven GVCs, the motivation is to reduce production costs. This motive dominates the dislocation of tasks to developing countries. Wage costs have a particular role, but also other costs, like taxes, environmental standards, legal protection of workers, slow-working bureaucracies, costs of skilling workers, etc. Shifting production to developing countries increases the flexibility of lead firms as, for example, costs of variations in demand are shifted to subcontractors. Outsourcing also creates costs for transportation, coordination and supervision. A profit-maximizing lead firm must consider all these factors when deciding to dislocate production in the form of subcontracting or foreign direct investment (FDI) to developing countries.

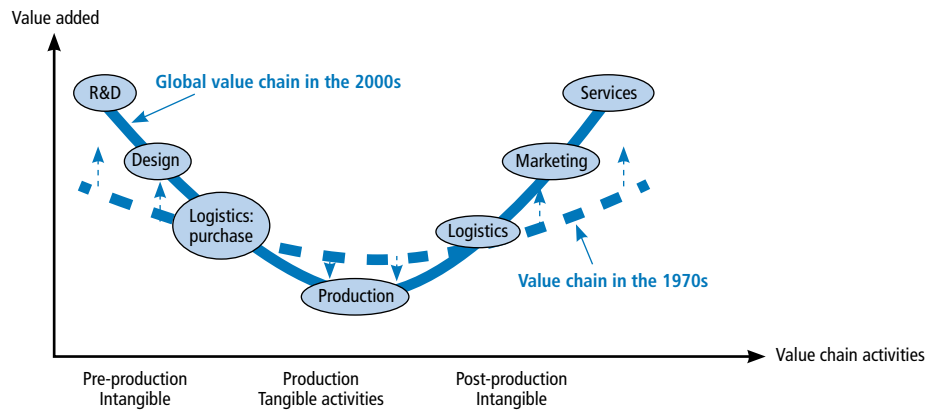
The second motivation to outsource is to buy high-quality intermediate products from other companies. An example is when the Boeing Dreamliner is assembled in the United States, with engines from Rolls-Royce in the United Kingdom, wings from Mitsubishi in Japan, cargo access doors from Saab in Sweden, etc. This type of GVC is not analysed in this paper because it has no importance for developing countries.

In this section, the traditional model to analyse GVCs is presented first. Then the dimension of power relationships



The smile curve, typical value added in different production stages of cost-driven global value chains.

Source: Organisation for Economic Co-operation and Development, *Interconnected Economies: Benefiting from Global Value Chains* (Paris: 2013).



is added, followed by discussion on the role of FDI for development.

### GVCs in the framework of comparative advantages

The question is, which tasks are shifted to developing countries and which tasks are kept in developed countries? Again, we start by turning to mainstream theoretical approaches. The allocation of tasks in GVCs follows the same logic as the allocation of finished goods in the framework of comparative advantages.<sup>46</sup> As with the traditional trade of finished goods, developing countries have a comparative advantage in low-tech and low-skill labour-intensive tasks, while developed countries have a comparative advantage in high-tech and high-skill capital-intensive tasks. For example, in garment production, countries like Bangladesh or Viet Nam have taken over the low-tech and low-skill tasks, such as trimming and cutting, whereas high-value activities like design, research for new material, branding or logistics have been taken over by lead firms and big intermediate traders.

The resulting distribution of tasks, according to comparative advantages, is illustrated in the so-called "smile curve", designed in 1996 by Stan Shih, CEO of Acer, a Taiwanese computer company (see the

following figure). According to this curve, the upstream and downstream parts of value chains, which include research and development, design, marketing and after-sales service, have the highest value added and are largely kept in developed countries. Low-value tasks are mainly transferred to developing countries, which have a comparative advantage in this area.<sup>47</sup> In the framework of comparative advantages, developing countries now not only produce low-tech and low-skill labour-intensive goods, as in traditional trade, they also produce the low-tech and low-skill labour-intensive tasks in the production of *all* goods and lose any technologically (from the skill perspective) ambitious type of production. In the following illustration, the smile curve from the 2000s is steeper than the one from the 1970s. This indicates that the difference between value creations along GVCs in developed countries in relation to value creations in developing countries increased.<sup>48</sup>

Together with the rise of GVCs, management strategies of big firms changed in the 1980s and 1990s. Concentrating on core competences became popular.<sup>49</sup> According to this strategy, a firm should concentrate on tasks in which it is superior and can create high value, and it should shift tasks with relatively low-value creation to other firms within the same country or globally. Thus, the traditional strategy of management to build up big firms with increasing production and many employees, accompanied by a moderate profit rate, is relinquished.

At the same time, financial markets started to take a bigger role and changed the style of management. The shareholder-value management strategy, which links management's payments to profits and share prices to development, became popular.<sup>50</sup> This led to short-term profit maximization of firms, whatever the costs.

Robert Feenstra and Alan Taylor<sup>51</sup> developed a model in the framework of GVCs, which fits the empirical facts. In the traditional trade model, the big losers in developed countries are the unskilled workers, whereas the unskilled workers in developing countries are the big winners because they are in high demand to produce low-skill labour-intensive goods for the whole world. Feenstra and Taylor assumed a continuum of skills from unskilled to skilled workers in both developed and developing countries, with the difference that the average skill in developing countries is much lower. When tasks shift from developed to developing countries, the developed countries lose the low-skill jobs, as in the traditional models. But for developing countries, the tasks they gain create more demand for relatively high-skill jobs. This means that in both countries, the better-skilled workers benefit in relation to the less-skilled workers. Without government compensation policies, the low-skilled workers will be the losers in all countries.

### **Asymmetric power relationships in GVCs and value grabbing**

As Gary Gereffi et al. explained,<sup>52</sup> five types of governance structures in GVCs can be distinguished. *Market relationships* are most likely to exist when tasks are easily codified, product specifications are relatively simple, suppliers can take over the task with little input from buyers and asset specificity is not important. *Modular relationships* exist when a supplier can deliver full packages and modules. However, this implies the exchange of complex information with the buyer. *Relational relationships* exist when product specifications cannot be codified, transactions are complex and tacit knowledge must be exchanged. *Captive relationships* dominate when capabilities of suppliers are relatively low and intervention and control by lead firms is high. Captive suppliers usually take over a narrow range of tasks. *Hierarchical relationships* exist when product

specifications cannot be sufficiently codified and no competent suppliers can be found to deliver the task cheaply and well. In this case, the lead firm chooses in-house production in the form of FDI.

Except in the case of FDI, there is a big lead firm or a small number of big firms on one side of the market, and many suppliers on the other side. Traditional microeconomics speaks in such cases of *monopsony or oligopsony structures*.<sup>53</sup> In a monopsony, a firm has a demand monopoly and can exploit this power to follow a rent-seeking strategy that exploits its suppliers. A monopsony firm, in the case of subcontracting, can dictate the price it pays for buying its inputs. Following their profit-maximizing behaviour, monopsony and oligopsony firms dictate a price that allows the survival of the supplier but grabs as much value as possible for their own pocket. It is obvious that in the case of monopsony, suppliers are under extreme pressure to cut costs and are not able to earn high profit or profit at all. This pressure intensified by the fact that, worldwide, a huge overcapacity for low-tech labour-intensive industrial production has developed, and suppliers in developing countries now compete on the global level.<sup>54</sup>

Suppliers will try to cut wages, try to downgrade working conditions and ecological standards, increase productivity by increasing work intensity and so on. It does not require much imagination to comprehend that in a typical developing country with weak institutions, monopsony structures in GVCs will lead to hyper competition and business practices that hinder or even prevent social upgrading.<sup>55</sup> Thus, the shape of the smile curve not only reflects the different comparative advantages, it also reflects the asymmetric power relationships within the GVCs and the value grabbing of lead and big intermediate firms.

In the case of a hierarchical governance structure, the lead firm carries out FDI and has, by definition, complete control over subsidiaries. It can, via in-house transactions of products, set the selling price of the subsidiary to the level it wants and in this way transfer profits to other firms in the concern; or it can transfer the profits earned in subsidiaries to the headquarters or any place in the world.

Monopsonies, oligopsonies or GVCs with FDI do not need to have a strong position in their own selling

market. For example, big retailers may compete sharply with each other and at the same time exploit their suppliers. Of course, in many cases, lead firms not only have a monopsony position or dominate suppliers via FDI, they can sell their product in an oligopolistic or even monopolistic market. Oligopolies have different strategies to avoid competition and can jointly act like a monopoly. They can create cartels, can follow the price setting of a market leader without any direct information flow between them, can create non-transparency or can avoid price wars by competing with real or artificial product differentiation. Examples for this market constellation can be found in such different markets as smartphones or garments that are dominated by famous brands.

Stiglitz wrote in his book *The Price of Inequality*: “A central thesis of this book is that rent seeking is pervasive in the American economy, and that it actually impairs overall economic efficiency. The large gaps between private rewards and social returns that characterize a rent-seeking economy mean that incentives that individuals face often misdirect their actions.”<sup>56</sup> Colin Crouch also noted: “It is further evidence that dominant contemporary ideology is corporate, rather than free-market, neoliberalism; the lobbies loom larger than the ideology.”<sup>57</sup> GVCs are an important element in the dominance of multinational companies and their rent-seeking behaviour and in changing income distribution around the world.<sup>58</sup>

## Evaluation of GVCs

After World War II, Hans Singer and Raúl Prebisch separately argued that developing countries mainly export primary products, like rice, coffee beans and cotton, or natural resources, like rare earth, and would in the long run suffer from the negative terms of trade effects.<sup>59</sup> They argued that primary products have lower prices and income elasticities than manufactured goods. For example, for coffee or rice, price decreases or income increases would not sufficiently increase demand for these goods, particularly when compared to manufactured goods. They also feared that technological developments in the field of synthetic substitutes and efficiency gains would reduce the demand for such products. In addition, they stressed that primary commodities usually are produced and sold in highly competitive markets, while

manufacturing products are produced by multinational corporations, which, in many cases, have a demand monopoly (monopsony) or an oligopolistic demand position. Because of all these arguments, both authors were afraid that developing countries were not able to industrialize and recommended import substitution-oriented industrialization.

Developing countries are now more industrialized than expected by Singer and Prebisch. A main explanation for this outcome is that GVCs allowed developing countries to enter industrial production at a low-skill and low-technology level. In developing countries, GVCs also allowed the exploitation of mainly internal economies of scale. With complete goods, this would have been difficult. For example, in Viet Nam in 2015, more than 325,000 persons worked in GVCs in two clusters in the electronics sector, 70 per cent of them women.<sup>60</sup> In 2016, Foxconn employed more than 1 million workers in China, mainly in simple manufacturing, to produce iPhones, iPads, PlayStations, etc.<sup>61</sup> However, according to comparative advantages, developing countries as a rule only take over low-tech low-skill tasks that have low value creation. All the problems of free trade discussed in the tradition of Friedrich List also exist in the GVCs.

However, taking over simple tasks in GVCs can be a starting point for industrialization. It allows the exploitation of economies of scale and the development of bigger companies. But it should be clear that the market mechanism will not trigger a development that allows climbing up GVCs and reaching the high-value-adding tasks of developed countries. To trigger catching-up processes, additional policies are needed. China is a good example. After the start of the reforms at the end of the 1970s, China mainly expanded labour-intensive low-tech productions. Following this and based on its massive and comprehensive industrial policy, it moved to higher-value-adding and more capital- and technology-intensive productions from the 1990s onward.<sup>62</sup>

GVCs and FDI (in particular) spark hopes that they will lead to a transfer of technology and skills. To a certain extent, this hope is justified. In the case of subcontracting in modular, relational and even captive relationships, lead firms can transfer certain technical knowledge and training to suppliers. However, when suppliers have

reached a quality standard that is satisfactory for the lead firm, there is no further incentive to transfer technology or skills.

FDI can be a powerful channel for new technology for developing countries. A lead firm can transfer a relatively advanced technology or even the newest technology to a subsidiary in a developing country. But the point is, the technology is transferred for the simple task that is produced in the developing country. For example, lead firms in electronics deliver parts to subsidiaries in Viet Nam, the parts are assembled in Viet Nam with new technology and then exported. Overall, however, the technological and skill spillover for Viet Nam is minimal.<sup>63</sup>

To make FDI beneficial for a country, certain conditions must be met. FDI must have intensive links to the local economy that spur an overall dynamic;<sup>64</sup> otherwise, the spillovers are limited. In the ideal case, FDI has a high local content with many domestic suppliers, becomes part of an economic cluster and increases the synergies of that cluster. A lot of FDI, especially in the field of GVCs, is more of the type of an isolated tower in the desert than a big church in the city.

Not all FDI has positive effects. FDI can lead to a crowding out of promising domestic companies that are not yet able to compete with a foreign firm. In some cases, FDI implies only the change in ownership and does not lead to technology and skill transfers.<sup>65</sup> The effects of FDI also depend on the sector. FDI in the natural resources sector, for example oil production or mining, allows the foreign investor to grab some of the rents earned in the sector. In Norway and other natural resource-rich countries, big companies in the natural resources sector are state owned. Also, FDI in the real estate sector is not always helpful, for example, when it adds to a real estate bubble in cities.

Singer and Prebisch<sup>66</sup> each stressed the negative terms of trade effects when developing countries concentrate on the export of primary goods. Such effects are also possible in the case of industrial production and especially GVCs. For instance, let us assume a lead firm transfers the newest technology to a developing country to produce a simple task, either in the form of FDI or to a subcontractor, and this task becomes a mature exported good. The

productivity jumps, prices for the task decrease sharply and exports increase. The falling price of the exported task leads to an erosion of the terms of trade. Jagdish Bhagwati<sup>67</sup> showed that in the described constellation, the negative terms of trade effect are stronger than the growth effect; he called this case *immiserizing growth*. The jump in productivity increased the GDP growth in the developing country but, at the same time, the goods available in the country for investment and private and government consumption decreased—despite more exports, fewer imports can be bought. The likelihood of immiserizing growth is supported by the massive terms of trade losses by low-income countries, especially since China entered the global market in the 1980s.<sup>68</sup>

When the manufacturing and other sectors in developing countries become dominated by FDI firms, catching up becomes more difficult. Foreign-owned companies will have no incentive to transfer high-value tasks, such as research, branding and design, to companies in other countries. Alice Amsden<sup>69</sup> found that transnational companies invest virtually nothing in local research and development in developing countries. Lead firms defend their technological superiority. Such a strategy is, from the lead-firm perspective, rational because it also allows rent-seeking in the future.

The successful catching-up of Asian countries and the lack of substantial catching-up in Latin America can be explained by the different ownership structure. In Latin America, the big firms, to a large extent, are owned by foreign FDI firms, whereas Asian countries support domestically owned firms and try to create national champions that have incentive to reach a level equal to the foreign multinational companies.<sup>70</sup>

High FDI and the low profitability of suppliers in monopsony or oligopsony structures have one more disadvantage for developing countries: Profits are transferred to foreign countries. This reduces the possibility of domestic firms to invest. In many cases in developing countries with distorted markets, this slows down economic growth. The income transferred abroad is consumed by foreign rentiers and other profit recipients. This increases aggregate demand abroad and reduces it in the developing country and, again, reduces growth and employment.

# Principles of industrial policy—Going beyond comparative advantages

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The backbone of any policy to trigger a process of economic upgrading is the increase in productivity. This means changing the structure of production towards more value-adding activities and increasing the power to innovate, to research, to learn, to increase skills, etc. Development strategies for catching up must consider several dimensions:

- Markets must be embedded with institutions and regulations. In many cases, markets fail and need comprehensive government interventions. Karl Polanyi<sup>71</sup> showed, correctly, that markets especially fail in the areas of labour, finance and nature. Also important for technological developments and innovations, governments must support markets.
- Integration in global markets can potentially bring many advantages for countries and can support economic upgrading. It supports the emulation of existing technologies and potentially a fast catching-up. But in developing countries, unregulated integration into global markets reproduces underdevelopment. This implies that industrial policy is also needed to compensate the negative effects of global markets.
- Social upgrading is a precondition for long-term economic upgrading. Policies of economic upgrading should be linked to social upgrading.

Development has much to do with random self-discovery, which must be supported by government policies and cannot be explained by comparative advantage.<sup>72</sup> On a general level, industrial policy must trigger economic development of a country that goes *beyond supporting comparative advantages*. New tasks in existing GVCs and the establishment of productions in new industries must be supported. Mario Cimoli, Giovanni Dosi and Joseph Stiglitz<sup>73</sup> argued that emulation, as an important element of catching up, “is the purposeful effort of imitation of ‘frontier’ technologies and production activities irrespectively of the incumbent profile of ‘comparative advantages’”. It often involves explicit public policies aimed at ‘doing what rich countries are doing’ in terms of production profile of the economy.” Ha-Joon Chang saw it in a similar way: “As I have argued, given the nature of the process of factor accumulation and technological capability-building, it is simply not possible for a backward economy to accumulate

capabilities in new industries without defying comparative advantage and actually entering the industry before it has the ‘right’ factor endowments.”<sup>74</sup> Joan Robinson made a similar argument: “Indeed on a high plane of generality, there is nothing much for economic theory to say to the planner, except: Do not listen to those who say you want this rather than that—agriculture, not industry; exports, not home production; light industry, not heavy. You always need both.”<sup>75</sup>

For the “backward Germany,” Friedrich List recommended in 1841 a package of three policies to avoid the negative effects of free trade: (a) tariffs or other instruments to protect infant industries; (b) support domestic firms to innovate, including state-owned or state-supported firms serving as role models;<sup>76</sup> and (c) efforts to attract qualified foreign migrants. These recommendations remain valid.

GVCs need specific industrial policy. As Gary Gereffi and Timothy Sturgeon explained in 2013: “The central goal of industrial policy in the GVC context shifts from creating fully blown, vertically integrated national industries to moving into higher-value niches in GVCs.”<sup>77</sup> A systematic search and support for niches with higher value added will lead to upgrading and productivity increases. A good example is the Xiqiao textile cluster in China, where the local government had the goal of completing the cluster by attracting investment, including FDI, to fill upstream and downstream gaps in the GVC. Fiscal incentives, like tax exemptions, were used to attract investment that would complement production in the GVCs in China.<sup>78</sup>

There are many good arguments on why industrial policy is needed for economic upgrading. But critics ask whether the government is better to decide in which direction to invest than entrepreneurs. Is a bureaucrat, probably far away from enterprises, able to decide in a rational way which industries and which companies should be supported? In addition, vested interests and corruption can make industrial policy difficult. Critics argue that government failure is bigger than market failures and that governments should restrict themselves to the so-called horizontal industrial policies that are part of the Washington Consensus.

*Horizontal industrial policy* means governments should invest in general education, general research and development, general infrastructure, etc. Of course, these types of horizontal industrial policies are important and should be undertaken. But there are two points to be mentioned. One, it is an illusion that these policies avoid far-reaching discretionary government decisions. Looking more closely at horizontal industrial policy, governments must decide many things: Should primary education, vocational education or university education have priority? Are engineers or managers more important? In which direction should research be supported? Which streets, ports, airports and electric grids should be built and where? In developing countries, financial means are scarce, and governments must set priorities even more than in developed countries. And two, horizontal industrial policy is not sufficient for triggering a catch-up process. Industrial policy must intervene in a more selective way and more directly in industrial and technical development to overcome, for example, information and coordination externalities. It must provide “packages” of policies for social upgrading to trigger development in certain sectors, certain regions or certain clusters. Rodrik summed this up with a paper entitled: “Industrial Policy: Don’t Ask Why, Ask How.”<sup>79</sup> Of course, industrial policy can fail because of government failures, and then economic upgrading is not possible.

The following briefly explains the basic principles of industrial policy.<sup>80</sup>

- The industrial policy should be combined with social upgrading. The explanation for this is that economic and social upgrading support each other and should be implemented together. In a summary of the literature they had reviewed, Frank Pyke and Peter Lund-Thomsen wrote in 2015: “Moreover, findings from this literature suggests that combining the enforcement of labour standards with the offer of technical assistance to help enterprises comply with regulations in a manner conducive to long-term competitiveness could be particularly relevant in the context of small enterprises in clusters where the opportunities for economic upgrading and challenges related to social upgrading are particularly apparent.”<sup>81</sup> In the ideal case, the different stakeholders (government, employers’ associations and trade unions) in a cluster, in a region or on the national level cooperate and jointly follow an industrial policy strategy of economic and social upgrading. Losers should be helped to adjust, including with some compensation.
- Industrial policy should consider ecological needs and sustainability. For FDI, no exceptions of the ecological orientation should be made.
- For the development of industrial policy plans, implementation, supervision and needed adjustment of key importance is the flow of information to and from the relevant stakeholders. Also, independent experts should contribute to the development of industrial policy. Rodrik summarized this idea in 2004: “The right model for industrial policy is not that of an autonomous government applying Pigovian taxes or subsidies but of strategic collaboration between the private sector and the government, with the aim of uncovering where the most significant obstacles for restructuring lie and what type of interventions are most likely to remove them. Correspondingly, the analysis of industrial policy needs to focus not on the policy outcomes—which are inherently unknowable *ex ante*—but on getting the policy process right.”<sup>82</sup> Institutions must be created to discuss and define the industrial policy with government, employers’ associations and trade unions as the stakeholders in the centre but also including civil society.
- Incentives should be given only for new activities with demonstration effects. Governments should support activities not whole sectors. To support tourism or the electronic industry is not enough. Specific activities that support innovation and productivity must be selected. This is also important for GVCs. Support should be focused on new tasks that imply upgrading. This idea is very much linked to Albert Hirschman’s 1958 argument to support, whenever possible, activities that have forward and/or backward linkages.<sup>83</sup> Also, active policies to create clusters with external and internal economies of scale fit this argument. There should be no discrimination. All firms should qualify if they deliver something new. There should be clear benchmarks or criteria for success or failure. These criteria must be checked. There should be built-in sunset clauses. Mistakes of industrial policy will occur—it would be a bad sign if no mistakes occurred. The private sector also makes mistakes in its investment decisions. What is important is to detect mistakes early and minimize their costs. For this, the

authority in charge of the industrial policy should monitor the policy continuously.

- Industrial policy should include all important dimensions of development. Searching for new export opportunities and promoting exports should be part of the general industrial policy. The success of catching up in Japan after World War II was based on a coherent development strategy that integrated export promotion and domestic industrial development. FDI should be integrated into the industrial policy. Forward- and backward-linkages must be demanded from FDI firms. Local content rules for FDI should be used wherever possible. Not all FDI is good. For example, FDI in the real estate sector does not always bring technological spillover; and foreigners should not be allowed to

invest in the natural resources sector and cash all rents that can be earned. Or, to give another example, parts of the financial sector should only be cautiously sold to foreigners.

- The authority designated to implement an industrial policy should first demonstrate that it is qualified for the task and is not corrupt. The authority can be a ministry, a newly created administrative department of the head of government or another central or local institution that is not corrupt. Implementing authorities should be closely monitored by the political authority of the highest level. A cabinet minister or even president or prime minister should be directly in charge of supervising the industrial policy and its implementation.

# Macroeconomic dimension of economic upgrading

Industrial policy should be embedded with a macroeconomic framework. Three factors are especially important and will be discussed in this section: the need for sufficient aggregate demand, a competitive exchange rate and a functioning financial system.

## Sufficient aggregate demand

An industrial policy not only needs positive supply-side conditions, it also must stimulate demand for the supported product or task. Without demand, the production of tasks in the GVCs, economic clusters or industrial sectors cannot prosper. In most productions, there are internal or external economies of scale that can be exploited only when production volumes increase. Without increasing production, productivity gains cannot be realized. The same is the case for learning effects. In the ideal case, government interventions create positive supply conditions by supporting economic and social upgrading and, at the same time, stimulate demand for the preferred sector. China, after the start of the reforms at the end of the 1970s, is an example of this. Industrial policy was matched with high demand stimulation mainly by considerable investment from state-owned companies. Not all of the investment was efficient, but it created income and demand for the expansion of other sectors.<sup>84</sup> Dic Lo and Mei Wu stressed this argument in 2014: “In a world of increasing returns and demand-led productivity growth, the demand regimes matter in shaping the path of structural change.”<sup>85</sup> These arguments also imply that public procurement is an important element of industrial policy.

## A competitive exchange rate

Related to the first argument, for economic development, the exchange rate is of key importance. Ricardo<sup>86</sup> understood that the exchange rate is important protection for a less developed country from superior foreign competitors. In the absence of international capital flows, the current account of a country is balanced by definition. A current account deficit is usually negative for a developing country. Aggregate demand is investment demand, consumption demand, government demand and net foreign demand.

With everything else unchanged, switching a country from a balanced net foreign demand to a foreign deficit reduces aggregate demand, output and domestic employment. Most of the countries that succeeded in catching up realized current account surpluses or at least prevented current account deficits—from Japan after World War II to China over the past decades. Only in the event of a country producing at full capacity utilization, with imports used to increase the capital stock, has a deficit in the current account had a positive effect for long-term economic development. But this is a rare situation for a developing country, which typically suffers from a lack of aggregate demand. In a comprehensive survey, William Easterly<sup>87</sup> found that current account deficits of the overwhelming number of cases did not increase the capital stock and did not lead to development.<sup>88</sup>

Current account deficits that always correspond to a certain exchange rate are related to low competitiveness of the domestic manufacturing sector, especially the export sector. Such a situation is negative for economic development because what is typically the most dynamic sector of the economy suffers from a lack of competitiveness. Rodrik argued in 2005 that a “credible, sustained real exchange rate depreciation may constitute the most efficient industrial policy there is.”<sup>89</sup> Pyke and Lund-Thomsen<sup>90</sup> presented a number of economic clusters that were supported by real depreciation or suffered from real appreciations. According to Rodrik in his 2005 publication, successful real depreciations led, historically in almost all countries, to a substantial stimulation of domestic production and employment. Real depreciations have a number of positive economic effects: (a) They increase the profitability of companies in the exporting sector across the board; (b) they can be substantial and quick; (c) export activities are stimulated that have to compete in the world market, which provides the best benchmark for efficient companies; and (d) the subsidy of export activities is completely market friendly and does not need any administration or commission to decide which company should be subsidized. All these arguments make clear the importance of a competitive exchange rate and the absence of current account deficits.

High FDI inflows that are potentially positive for development can lead to real appreciations with all the



just-cited negative effects. One solution is to prevent an appreciation of the domestic currency, despite the FDI inflows. There are two ways to do this. One, a country can use capital controls to stop certain inflows, which are not beneficial for the country (see the discussion further on). Two, the central bank can intervene in the foreign exchange market and increase its foreign reserves. Many successful countries have done this to prevent an appreciation of the currency, such as China after the start of its transition in the late 1970s and Germany after World War II.

The question is: Why do so many developing countries accept current account deficits when they are so problematic and why do they fear real depreciation?

A high level of foreign debt denominated in foreign currency makes depreciation difficult. The problem is that depreciation increases the real debt burden of debtors in a foreign currency. The consequences are liquidity and solvency problems of debtors in the foreign currency and domestic financial crisis, which cannot be resolved by the domestic central bank because foreign currency is needed. High debt in foreign currency leads to a fear of floating as depreciation is prevented because of the danger of financial crisis.<sup>91</sup> Countries act in an irresponsible way when allowing high foreign debt in foreign currency because it reduces the use of the exchange rate as a policy instrument and makes the country dependent upon international institutions and foreign countries.

There are other arguments against using the exchange rate to reduce a current account deficit. For many governments, it is attractive to have an overvalued exchange rate to increase the domestic living standard. A real depreciation reduces the living standard in the short term. The positive income and employment effects of real depreciation via higher growth need some time to manifest. As well, rich persons in a country may like cheap French wine and German Mercedes cars.

Another problem is that a real depreciation under certain conditions does not improve the current account balance. If a real depreciation does not reduce the quantity of imported goods *and*, at the same time, the export quantities do not increase sufficiently, a depreciation can lead to abnormal reactions. This means a real depreciation

can even increase a current account deficit.<sup>92</sup> Additionally, GVCs make real depreciations especially difficult. The problem with the GVCs is that depreciation leads to higher import costs for imported intermediate goods. This implies that for countries intensively integrated into GVCs with high exports and high imports, the exchange rate is a relatively weak instrument to improve the current account.

A nominal depreciation may not lead to a real depreciation. Countries that suffer from a high-inflation effect (high path-through) of a nominal depreciation are caught in a constellation in which the nominal depreciation leads to domestic inflationary pressure and, in the extreme case, the real exchange does not change despite the nominal depreciation. High inflationary path-throughs are likely when a country has a high import quota and the negative effect of falling real income that accompanies a real depreciation is not accepted and leads to increased nominal wages.

### **A functioning financial system**

Without cheap and sufficient finance, economic development is not possible. This implies a domestic financial system that can sufficiently finance investment of the enterprise sector. In many developing countries, financial markets are distorted and do not deliver sufficient finance for development. One of the typical problems is that the population does not trust the domestic currency, and capital flight (capital exports) and dollarization (euroization) are high. The consequence is that central banks in developing countries must keep interest rates generally at relatively high levels. This negatively affects investment and income distribution.

Even worse, in developed capitalist economies, economic expansion follows a Schumpeterian credit-investment-income-creation process. This means banks and wealth owners finance enterprises to produce new goods, invest in new capacities and employ more workers. Such an expansion process automatically increases monetary wealth in domestic currency. In a normal situation, the created monetary wealth is kept as deposits, bonds, etc. in domestic currency. In a typical developing country, such a capitalist expansion process is distorted because the

newly created monetary wealth is immediately exchanged for foreign currency. This leads to unexceptionally high depreciations. If this happens, the central bank must quickly stop even a productive expansion of the economy by increasing the interest rates. Foreign credit seems to be an alternative. But the sweet poison of foreign credit has many negative effects: It creates currency mismatch and makes the financial system fragile, can lead to current account deficits, can trigger boom-bust cycles with temporary high capital inflows and then sudden outflows, it increases the likelihood of deep financial crises, and it makes the country dependent on foreign creditors.<sup>93</sup>

Financial crises can destroy the fruits of good industrial policy. Developing countries should follow a policy to restrict currency mismatch. For this purpose, capital controls and/or macro prudential financial market supervision must be used. Capital inflows that are not helpful should be controlled.

Portfolio investment inflows are not very helpful for developing countries because they are not linked to technology and skill transfers. The same is the case for credit in foreign currency. Firms without stable revenue in foreign currency should not be allowed to take credit in foreign currency. Households should never have access to credit in foreign currency. History shows that governments also quickly can become overindebted when they take credit in foreign currency.

A superior strategy has been followed by China since the late 1970s more or less until today. It allowed only FDI inflows and controls other types of capital flows. Leaving

the exchange rate to the market mechanism, the high net FDI flows to China would have led to current account deficits. To prevent this, China intervened massively in the foreign exchange market.<sup>94</sup> The Asian miracle would not have been possible without strict regulation of the international capital flows.<sup>95</sup>

Development banks have an important role to finance industrial policy activities. They can help in critical sectors to overcome the shortage of long-term and cheap credit, which the private sector in developing countries usually does not provide.

There are many other areas of macroeconomic policy that could be discussed and have a direct or indirect role for industrial policy. Obviously, public expenditure policies should be part of the industrial policy, including public procurement. The tax system also offers several industrial policy instruments, such as tax holidays or special depreciations. In general, the tax system and tax collection should be sufficiently developed to control market tendencies towards higher inequality and to have enough funds for horizontal and more focused industrial policies.

The nominal wages should develop according to trend productivity increases and the inflation rate of the central bank.<sup>96</sup> Under this condition, wages become a stabilizing factor for the development of the price level.<sup>97</sup> In many developing countries, statutory minimum wages are important for wage coordination and wage development. Preferable are wage-bargaining systems at the sector level, with strong trade unions and employers' associations, both of which can have active roles in an industrial policy.

# Conclusion

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Economic and social upgrading positively interact with each other. One without the other is, in the long term, almost impossible to achieve. A good example of this is the prevention of high inequality and the reduction of poverty, which supports economic upgrading. At the same time, without economic upgrading, social upgrading is limited.

Adam Smith, often seen as the father of classical economic liberalism, used the metaphor of the invisible hand for the functioning of markets. A market participant “intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. .... By pursuing his own interest, he frequently promotes that of the society more effectually than when he really intends to promote it.”<sup>98</sup> Unfortunately in many areas of economic life, this statement by Adam Smith does not hold.

One of the areas in which the unregulated market leads to bad outcomes is economic and social upgrading. Economic upgrading, especially in important areas for development, needs government assistance in many aspects, from infrastructure and education to protection and support with economies of scale. Externalities prevent markets from triggering sufficient economic upgrading alone. In many cases, the social rate of return for an investment is much higher than the private return. This is especially the case when new productions in GVCs must be taken over or even new industries must be established, when large sums of capital are needed or when the level of uncertainty is high. Ecological sustainable technological development is not delivered by markets because market prices give wrong signals to firms and households.

Integration into international markets opens many chances for developing countries, such as an easier industrialization for taking over simple tasks in GVCs or the emulation of existing technologies in developed countries. But integration into global markets without active government policies restrains economic catching-up. The danger is that developing countries are pushed to low-tech labour-intensive productions according to their comparative advantages. FDI will also follow

the logic of comparative advantages and alone cannot lead to catching-up processes. In addition, FDI has several negative side-effects, such as the outflow of profits, with depressing effects for domestic investment and consumption. Development needs to go beyond exploiting comparative advantages. Only an active comprehensive industrial policy, including establishing institutions to define and implement the industrial policy, can trigger economic upgrading that is sufficient for catching up.

Social upgrading also needs widespread government intervention and institutions. The key point seems to be to link social and economic upgrading in industrial policy strategies.

Industrial policy should be coordinated on a national level, but there is also much room for comprehensive economic and social upgrading on regional levels, cluster levels and in single industries.

In the ideal case, development aid should be integrated within the industrial policy strategy of countries and adjusted to the demands of the developing country; for example, in the field of education and technical help. Governments from developed countries and international institutions should transfer knowledge for free to developing countries. Stiglitz<sup>99</sup> recommended the free transfer of certain patents to developing countries and criticized that patent law became stricter over the last decades. In free trade agreements, developing countries should be allowed to protect their industrialization via infant industry protection and other measures, even if developed countries go without such rights. And last, developed countries should help developing countries achieve current account surpluses and should not themselves follow mercantilist strategies of export-led growth.

As Pyke and Lund-Thomsen wrote: “One important policy implication is that those wishing to see good social conditions integrated into economic promotion strategies might first and foremost need to persuade national and regional governments of the wisdom of the approach.”<sup>100</sup> Let us do this.

## Endnotes

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4. Productivity of an economy is not easy to measure. The best macroeconomic measure is net real value creation of one fully employed person or of one hour worked. This indicator can also be used on an industry level. A qualitative analysis of economic upgrading on industry level looks closer at the products and functions firms take over. Here the classification of Humphrey and Schmitz is widespread and useful. They distinguish between product upgrading (production of better or new products in an industry of GVC), process upgrading (new technologies or organisations to produce the same product or task), functional upgrading (shifting or extending production to more skilled activities, for example not only produce the product but also design it), inter-sectoral upgrading (extending the position to new sectors by using the skills acquired in the previous sector). See John Humphrey and Hubert Schmitz, "How Does Insertion in Global Value Chains Affect Upgrading In Industrial Clusters?," *Regional Studies* vol. 36 (2002): 1017–1027.
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9. See also J.D. Ostry, A. Berg and C. Tsangarides, *Redistribution, Inequality and Growth*, IMF Staff Discussion Note 14/02 (Washington, DC: IMF, 2014); J.D. Ostry, "Inequality and the Duration of Growth," *European Journal of Economics and Economic Policies* vol. 12 (2015): 147–157.
10. Heather Boushey and Carter C. Price, *How are Economic Inequality and Growth Connected? A Review of Recent Research* (Washington, DC: Washington Centre for Equitable Growth, 2014), 16.
11. Joseph E. Stiglitz, "Some Lessons from the East Asian Miracle," *World Bank Research Observer* vol. 11 (1996), 151–177.
12. John M. Keynes, *General Theory of Employment, Interest and Money* (Basingstoke: Palgrave Macmillan, 1936).
13. See also Jonathan D. Ostry, Andrew Berg and Charalambos G. Tsangarides, *Redistribution, Inequality and Growth*, 2014; Hansjörg Herr, "Underdevelopment and Unregulated Markets: Why Free Markets Do Not Lead to Catching-Up," *European Journal of Economics and Economic Policies: Intervention* vol. 15 (2018), 219–237.
14. There are two arguments in favour of inequality. Classical and neoclassical economists argue that ex-ante savings are the basis for higher investment. Inequality, so the argument, stimulates ex ante savings and investment. But ex ante saving is not needed for investment. Investment is financed by credit created by the banking system and savings are the result of income creation triggered by investment (John M. Keynes, *General Theory of Employment*, 1936). A further argument is that higher inequality gives better incentives for entrepreneurs and employees. Of course, incentives are needed, and it is not argued here for a society without any inequality of income distribution. But it should be kept in mind that incentives are not only based on pecuniary stimuli. And the lion's share of non-work income is not based on entrepreneurship or any effort which needs a positive reward; it stems from inherited wealth and violates the ideology of meritocracy (E. Hein and N. Dodig, "Finance-Dominated Capitalism, Distribution, Growth and Crisis Long-Run Tendencies," in *The Demise of Finance-Dominated Capitalism: Explaining the Financial and Economic Crises*, ed. E. Hein, D. Detzer and N. Dodig (Cheltenham: Edward Elgar Publishing, 2015); S. Dullien, H. Herr and C. Kellermann, *Decent Capitalism. Blueprint for Reforming Our Economies*. London: Pluto Press, 2011).
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17. Dani Rodrik, *Industrial Policy for the Twenty-First Century* (Cambridge MA: Harvard University, John F. Kennedy School of Governance, 2004).
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25. Not all are happy when developing countries catch-up. Presenting the opinion of the Trump administration Scott Kennedy, a fellow at the Centre for Strategic and International Studies in Washington, said: "China's abilities and ambitions have shifted much further up the value-added chain, to tech that represents our crown jewels economically and that is relevant for national security." See R. Zhong and P. Mozur, "For the U.S. and China, a Technology Cold War That's Freezing Over," *New York Times*, Marc 23, 2018.
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90. Frank Pyke and Peter Lund-Thomsen, *Industrial Clusters and Social Upgrading in Developing Countries*, 8.
91. Guillermo H. Calvo and Carmen M. Reinhart, "Fear of Floating," *Quarterly Journal of Economics*, vol. 117 (2002), 379–408.
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