TONY BLAIR INSTITUTE FOR GLOBAL CHANGE

How Can African Countries Avoid the Middle-Income Trap?

CHEMA TRIKI
TAFFERE TESFACHEW
JONATHAN SAID
MELAT TEKALIGNE

Contents

Published at https://institute.global/advisory/how-can-african-countries-avoid-middle-income-trap on March 9 2022

Foreword

The middle-income trap is a critical development challenge affecting more than 100 countries, home to over 60 per cent of the world's poor. Poverty traps are evident in low-income countries, and the middle-income trap is a phenomenon associated with middle-income economies, measured by the growth of gross national income (GNI) per capita.

While the notion of the trap is a point of debate among scholars, as GNI per capita may not capture the quality of growth, most would agree that it is a critical development challenge of our time. It assists in raising fundamental issues that require long-term perspective and building path dependency, reinforcing a positive, sustained-growth trajectory. Hence, the timing is right to make this challenge a focus of African policymakers and researchers.

Economic history and extensive research show how some countries have succeeded in overcoming the trap. First and foremost, the middle-income trap is a phenomenon linked to structural transformation and economic catch-up, reflecting the sluggish progression of the economy from low to higher value, productivity and technological intensity. It reflects inadequate diversification of the economy and the failure of industrial transformation to create decent productive jobs, technology-intensive exports and spillover effects.

Evidence from economic catch-up successes shows that investment in research and development (R&D) in basic and applied sciences and high-quality education are essential drivers. Nonetheless, innovation has to be connected to industrial transformation.

According to Keun Lee, the leading catch-up theorist, the middle-income trap "is a problem of economic growth slowdown resulting from weak innovation". The focus on R&D involved increased resource allocation, building public and private R&D institutions, and creating national innovation systems. It is noteworthy that education has to augment technological capability and productivity growth through a science- and technology-focused education system. It necessitates technical schools, higher education and foundational general education focusing on science, technology, engineering and maths. Quality rather than coverage is the critical determinant.

Escaping the trap requires going beyond industrial upgrading and productivity gains and developing a strategy to leapfrog into new industries, as the East Asian experience shows. Economies that focus on building a strong, internationally competitive export sector are likely to benefit and learn from international economies of scale and avoid constraints on the balance of payments. Import-substitution and domestic market cannot be separated from international positioning.

The fundamental feature of the transition from middle- to high-income is the shift from an investment (or factor-driven) economy to an innovation-driven knowledge economy, a daunting, challenging process that requires an active industrial policy to guide industrial transformation and develop technological capability. It is a process that crosses all sectors to synergise structural transformation and technological catch-up, which requires the developmental role of the state in building a productive partnership with the private sector and the scientific community and mobilisation of the entire society. It requires infrastructure development and macro-economy in collaboration with productive transformation.

However, the policy response to the middle-income trap has to consider the broader trends. The Covid-19 crisis has shown the global economy's vulnerability, and we have witnessed that the hardest-hit national economies were those with weak economic diversification. It was also evident that economies with industrial capacity and technological capability could cope with the crisis and ensure rapid economic recovery.

Our world has witnessed accelerated technological advances which may be captured within the fourth industrial revolution. Technological capability and learning will become central, and digital transformation may offer an opportunity to catch up while requiring new policy responses. Environmental sustainability and green transformation have become critical, necessitating a carbon-neutral path – an opportunity for new industries and decent jobs. Demographic patterns in Africa have significant implications for policymaking, requiring an effective policy response to use urbanisation as an opportunity and put job creation at the centre of policies.

Moving to a growth trajectory is a critical development issue for African countries. A firm political conviction and development strategy, with economic diversification and building productive capacity at its centre, are essential. An industrial policy promoting productive investment in strategic priority sectors, generating productive jobs and industrial capacity, and building exports capability is central. A singular focus on building an industrial ecosystem that supports domestic linkages, industrial workforce development, domestic firms and productivity improvement would offer a learning opportunity. A targeted transformation of the education system that puts quality at the core needs to be a priority.

As the renowned development economist Albert Hirschman reminds us, "development is much more difficult than is often realised". He also highlights "growth perspective", which stresses "the importance for the development of *what a country does and of what it becomes as a result of what it does*, and thereby contests the primacy of what it is, that is, of its geography – and history-determined endowment with natural resources, values, institutions, social and political structure".

Development paths are neither linear nor static and involve complex processes. Development strategies and policies play a central role in shaping economic development, and policymakers must grapple with the challenge. There is no definite recipe or standard prescription. But contrary to the standard views,

countries can benefit from the advantage of latecomers to learn the lessons – both negative and positive – while designing policies that reflect their particular conditions.

This paper will contribute to the research and debate on a major development challenge of our time. I thank the Tony Blair Institute and the authors of the publication, and I hope African policymakers and researchers will find it valuable and that it will inspire their research.

Professor Arkebe Oqubay
Senior Ethiopian government minister; Professor of Practice at SOAS University of London and the University of Johannesburg; ODI Distinguished Fellow

Executive Summary

Since the early 2010s, economists and policymakers have noted that several countries are stuck in what has come to be known as the "middle-income trap". Three main explanations are posited:

1. **Lack of structural transformation and weak industrial policies**: the level of development of productive capacities, which includes the level of export sophistication, the change in their composition through comparative advantage and the state's role in industrial upgrading.
2. **Lack of human-capital development and innovation:** the unsuccessful transition to innovation-based growth (from factor-based growth), notably due to lack of investment in research and development (R&D) and education.
3. **Poor governance, weak institutions and an extractive political economy:** [1] the low quality of institutions and government effectiveness, and the role of political economy and political stability in explaining countries' development paths.

While few countries have succeeded in their transition to the high-income level – based on gross national income (GNI) – including the East Asian "tiger economies" of South Korea, Taiwan, Hong Kong and Singapore, the development trajectory of several countries currently in the middle-income trap validates the explanations cited in the academic literature on the subject. In this paper, we highlight the development paths of successful countries like South Korea, and of middle-income countries that are in the trap or at risk of being trapped, such as Malaysia, Brazil, Tunisia, Morocco, Vietnam and Bangladesh.

There are three factors that have contributed to South Korea's success: a well-planned and consistent government policy combined with effective implementation, conditional support to companies that ensured the reduction of the rent-seeking approach, and an effective channelling of public resources, together with an early transition towards innovation, including a focus on short-cycle technology-based sectors.

The experiences of Malaysia, Brazil, Tunisia, Morocco, Bangladesh and Vietnam highlight that economic growth is not enough to enable countries to move up the income ladder. It is essential to have a commitment to industrialisation, to strengthening the rule of law and to moving away from an extractive political economy, and this must be set against the backdrop of political stability and equality. In addition, the level of investment in both human-capital development and innovation is a significant variable in determining countries' development paths and in explaining their middle-income trap.

Latin America – with the notable exception of Chile – has failed to make the transition from middle-income to high-income status. In this paper we take the example of Brazil which, in common with much of the region, had – in the 1960s – been predicted to achieve a level of growth that would ultimately

have led to it reaching the high-income level. However, poor levels of investment, low take-up of tertiary education, political instability and high inflation have all conspired to leave Brazil mired in the middle-income trap for more than half a century.

Ghana and Kenya, both of which have the potential to become the dominant hubs in west and east Africa respectively, have witnessed relatively high economic growth over the past decade and have transitioned quite recently to the lower-middle-income status. Both countries have the capacity to become pre-eminent centres of innovation and to help drive growth and trade in neighbouring countries. However, their current growth is not geared towards economic transformation, and there are signs that both countries are at a high risk of remaining trapped at the middle-income level. Productivity in agriculture remains low and exports of goods are concentrated on natural resources (oil and gold in Ghana and unprocessed agricultural products in Kenya) with only a small number of technology-intensive products. Moreover, the level of human-capital development remains relatively low compared with other lower-middle-income countries such as Tunisia and Morocco. Services play an important role in both economies but most jobs are in low-productive service sectors such as wholesale and retail. The digital economy and other highly productive sectors such as financial services have significant potential for growth in both countries, given the emerging technology hubs in Accra and Nairobi, but they currently represent a small share of service exports and don't create enough jobs fast enough.

It is essential for both countries to invest in industrialisation by focusing on agri-processing, manufacturing and high-value-added tradable services enabled by information and communications technology (ICT) and other innovations, following a consistent, pragmatic and visionary approach. For industrialisation to be successful, it is important for political leaders to consider it as a political project to transform the economy by building productive industries, rather than seeing it as a technocratic reform. This political project requires strong political coalitions, institutional capacity and alignment within government for effective implementation, areas where both Ghana and Kenya can significantly improve. In parallel, there is a need to improve critical enablers for industrialisation, including agriculture transformation, human-capital development, energy access and reliability, while ensuring macroeconomic stability and a business environment conducive to entrepreneurial activity.

What's the Theory Behind the Middle-Income Trap?

Economic development is a complex process that involves human and physical capital alongside the accumulation and implementation of technology, together with urbanisation and industrialisation. One way to measure such a complex process is to categorise countries by income based on GNI according to the World Bank (Figure 1). Since the second world war, rapid economic growth has allowed several countries to improve the living standards of their populations at scale. However, few middle-income countries have made the additional leap needed to become high-income economies. Currently, most countries in the world (109 in 2021) are in the middle-income range, representing three-quarters of the world's population, one-third of global GDP and 62 per cent of the world's poor.

Figure 1 – Definition of income groups by the World Bank Group

Group	GNI per capita in USD*
Low income	< 1,046
Lower-middle income	1,046 – 4,095
Upper-middle income	4,096 – 12,695
High income	> 12,695

*Source: World Bank. *New definitions as of 1 July 2021*

Over recent decades, only a handful of developing countries, whether categorised in the lower-middle-income or upper-middle-income groups, have successfully transitioned to the higher-income group and

ultimately become part of the world's developed nations. According to the World Bank (2013), out of 101 middle-income economies in 1960, only 13 had become high income by 2008: Equatorial Guinea, Greece, Hong Kong, Ireland, Israel, Japan, Mauritius, Portugal, Puerto Rico, Singapore, South Korea, Spain and Taiwan.

This led to the emergence of the middle-income trap (MIT) theory, introduced by Gill and Kharas in 2007. This describes countries that have become stuck at the middle-income level for decades and, in some cases, for more than five decades. They have been unable to catch up with higher-income countries or find new drivers of productivity, growth, and technological and economic dynamism. Currently, there are about 53 lower-middle-income economies and 56 upper-middle. However, not all these countries are in the middle-income trap.

Some economists [2] suggest that countries that spend more than 28 years at the lower-middle-income level and more than 14 years at the upper-middle-income level can be said to be in the middle-income trap. This implies that lower-middle-income countries need to sustain a growth rate of at least 4.7 per cent per year and upper-middle-income countries a growth rate of 3.5 per cent to avoid falling into the trap. However, it is not only the level of growth that determines the trajectory of countries' income status: productive capacities and levels of structural transformation also matter. Growth is necessary but not sufficient on its own; the quality of growth and its impact on the economic factors that affect productivity are equally important.

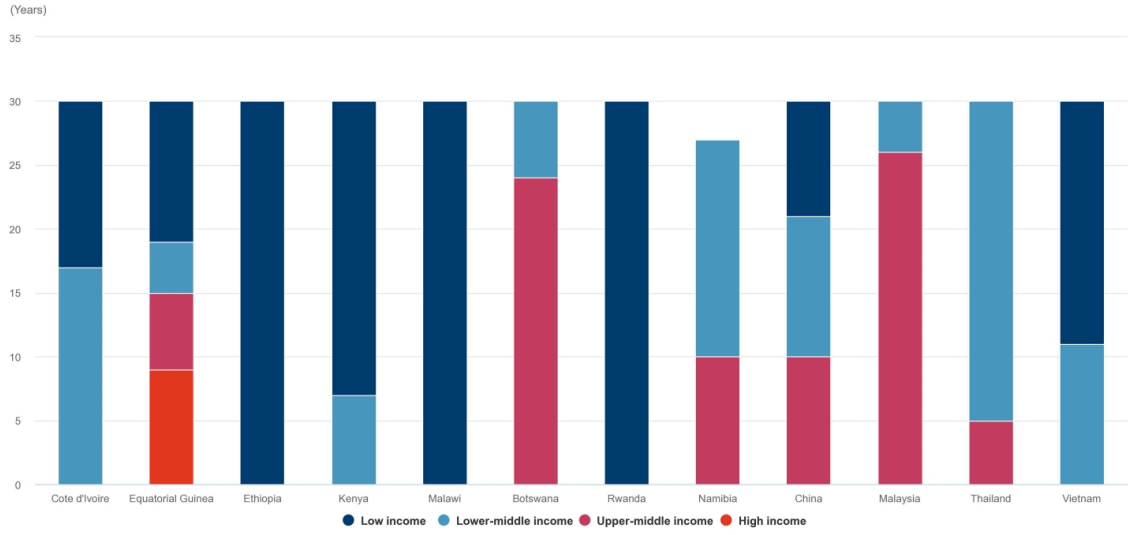
Figure 2 shows the time it took for selected Asian and African countries to graduate from one income group to the next over the 30 years between 1987 and 2017. Except for Equatorial Guinea, a small oil-rich African country, none of the Asian and African economies included in the sample reached higher-income levels despite impressive economic growth and structural transformation during the reporting period. Malaysia reached the upper-middle-income level in 1990, much earlier than Thailand and China (2007). Vietnam is still at the lower-middle-income level, having entered that category in 2005. However, if Vietnam continues to upgrade its productive capacities and diversify its production structure, including a shift into high-value and high-tech products, it is highly likely that it will reach the upper-middle-income level within this decade and escape the middle-income trap by the end of the next.

The Chinese experience highlights how difficult it is to move up the income ladder. In 1994, China was still a low-income economy with per-capita GNI at the same level as countries in the least-developed country category. Over the following 15 years (1994 to 2009), China's GNI per capita grew by 9.4 per cent annually which, in effect, means that the country grew consistently at close to double-digit levels for 15 years. This is an extraordinary achievement, and few countries can claim to have attained high-level growth at a consistent rate for such a lengthy period. And yet, in 2009, China was still a lower-middle-income economy, though it has reached the upper-middle-income level since. The performance of China illustrates the immense challenges facing countries that are aspiring to escape the middle-

income trap. It also suggests that even to reach the upper-middle-income level, countries currently at the lower-middle-income level would need to achieve a level of growth like China's since 1994, which is a tall order.

As shown in Figure 2, resource-poor African countries such as Ethiopia, Malawi and Rwanda remain low-income economies despite rapid economic growth since early 2000. At present, they aspire to reach lower-middle-income status. Kenya's per capita GNI at the time of its independence in 1963 was approximately $100. It took Kenya 49 years (between 1963 and 2012) to move from a low-income to a lower-middle-income economy. Currently, Kenya's per-capita GNI remains at just $1,800, which places it at the bottom end of the lower-middle-income category. In contrast, countries that rely on the extractive sector and exports of commodities such as Equatorial Guinea, Namibia, Botswana and Côte d'Ivoire seem to have performed well, as shown in Figure 2. These countries have moved from low income to lower-middle income or even, in some cases, higher-middle income (for example, Namibia and Botswana) in less time. This is not surprising because resource-rich countries generate a significant amount of export revenue - even those that rely on a single export commodity, such as Angola (oil) and Botswana (diamonds), or a few commodities, such as Ghana (oil, gold) and Namibia (uranium, diamonds, iron ore). However, unless these countries diversify by investing their export earnings in non-extractive sectors, heavy export concentration on a single or a handful of commodities can make them highly vulnerable to changes in international commodity prices and per-capita GNI instability. It can also saddle them with a resource curse, where too much of the economy relies on too few natural resources and where there is the paradox of abundant natural resources but low economic development. Consequently, a failure to diversify may prevent them from evading the middle-income trap.

Figure 2 – Time taken for selected Asian and African countries to escape the trap (1987–2017)



Source: UNCTAD

Why Do Countries Get Caught in the Middle-Income Trap?

There are three main explanations for the middle-income trap. These are:

- **Lack of structural transformation and weak industrial policies**: the level of development of productive capacities, which includes the level of export sophistication, the change in their composition through comparative advantage, and the state's role in industrial upgrading.
- **Lack of human-capital development and innovation:** the unsuccessful transition to innovation-based growth (from factor-based growth), notably due to lack of investment in R&D and education.
- **Poor governance, weak institutions and an extractive political economy:** the low quality of institutions and government effectiveness, and the role of political economy and political stability in explaining countries' development paths.

The first explanation covers structural transformation, which is based on the level of economic transformation towards manufacturing and high-value-added services, and the level of diversification of exports. Here, economic development is defined as a process where productive factors transition towards technology and higher-value activities and sectors. This links to the level of development of the manufacturing sector and high-value services, the effectiveness of industrial policies, and the intervention of the state to enable industrial development. Developing new manufacturing sectors and additional high-value services is essential to create jobs, [3] absorb workers that are moving out of agriculture because of urbanisation and to increase labour productivity. It also enables countries to produce tradable goods and services that can help economies integrate into the global economy and to contribute to the developing countries' convergence process.

Countries at low-income levels require structural transformation by reallocating productive factors from agriculture towards sectors that add value and create jobs at scale for their large, low-skilled labour forces. Low-income countries are competitive in labour-intensive industries, while high-income countries (HICs) are competitive in capital- and technology-intensive sectors. As economies move from the low- to the middle-income group, their structure changes towards labour-intensive and low-cost manufacturing. As these activities peak, labour costs increase, leading middle-income countries to become too expensive compared with low-income countries and not sophisticated enough technologically to compete with high-income countries. Middle-income countries, therefore, get stuck in the transition from growth strategies that are effective at low-income levels to growth strategies that are effective at high-income levels. [4] Countries that graduate to the next level of income status have a more diversified, sophisticated and non-standard basket of exported goods at the time of their transition than "stuck" countries, and they have also managed to develop new technology-intensive activities, shifting from labour-intensive light manufacturing. [5] Constantly improving export sophistication and

diversification require an active role for the state that should focus on capability accumulation and pay particular attention to upgrading industrial infrastructure, most notably through industrial policies. [6]

A second explanation of the middle-income trap focuses on the capacity of countries to transition into innovation-based growth, highlighting the central role of human-capital development in growth and, therefore, explaining countries' trajectories. The catch-up and industrialisation process follows different phases. In the first phase, simple manufacturing develops under foreign guidance; in the second phase, supporting industries develop, and technology transfer comes from importing, licensing and spillovers from foreign direct investment (FDI); [7] in the third phase, domestic companies master the technology and management needed to produce high-quality goods, and in the fourth stage, companies move to innovation and product design. [8] Within this trajectory, the middle-income trap is defined as the glass ceiling between stages two and three. [9] These different stages inform the growth strategies for each phase and income group: for low-income countries, the focus on developing manufacturing and industrialisation with foreign guidance is necessary; lower-middle-income countries then have to focus on technology transfer and on building domestic linkages with their local capabilities, and upper-middle-income countries need to focus on developing their innovation systems to be able to transition into product design and, therefore, innovation-based growth.

This means that for upper-middle-income countries, the capacity to gear their capabilities towards innovative activities – supported by higher education and technology development – is a determinant of their transition to the high-income group. [10] This requires developing a national innovation system with increasing enrolment at the tertiary education level, more specialised technical skills, higher public expenditure on R&D, and greater sophistication of ICT infrastructure to enable a larger share of knowledge-based activities in productive sectors. [11] High-income countries invest significantly in R&D, and there is a clear and positive correlation between income per capita and R&D expenditure. In addition, a key difference between the more and less successful middle-income economies is the priority given to policies aimed at enhancing long-term growth, technology and, in particular, higher education. Therefore, the difference between countries' income levels can, in part, be explained by their capacity to create the environment for innovation to thrive.

A third explanation for the middle-income trap focuses on the necessary institutional and political environment for the effective implementation of industrial policies. The quality of institutions, the political economy and political stability play a crucial role in defining countries' development paths and in explaining the middle-income trap. This applies to public institutions, including governments, and economic institutions which cover property rights, competition laws and markets, and also takes into account state support for markets and contract enforcement. The effectiveness of government and the governance system are key determinants of the implementation of industrial policies and, therefore, countries' trajectories. The implementation of industrial policies requires an alignment of different institutions and actors within government towards defined developmental objectives. This necessary

bureaucratic alignment is one of the main explanations behind China's success story and Vietnam's ongoing economic ascension, and is generally weak in countries stuck in the middle-income trap. Economic institutions are also a key variable in explaining countries' development paths. In their book *Why Nations Fail: The Origins of Power, Prosperity and Poverty*, Acemoglu and Robinson define two sets of economic institutions: inclusive and extractive ones. Inclusive economic institutions provide the right set of rules and incentives for investment and innovation, and create a level playing field for companies and entrepreneurs. They ultimately lead to economic growth and prosperity. Extractive economic institutions are designed by powerful and well-connected economic and political elites with a rent-seeking rationale. They ultimately extract resources from the rest of society, leading to underdevelopment, inefficient distribution and inefficient allocation of the resources needed for production.

Countries in the middle-income trap tend to have extractive institutions and an unfavourable political economy, in which powerful industrialists can halt reforms and retain the status quo. This is typically the case in resource-rich countries, where these powerful industrialists are generally property owners, with strong ties to the government and politicians, creating negative political incentives for the implementation of consistent industrial policies and ultimately leading to low economic transformation. These strong ties between business and politics generally stem from a high degree of inequality that characterises most middle-income countries and which prevents the building of the coalitions necessary for the reform of industrial policies. Finally, political stability is key to the effective implementation of industrial policies. Political stability generally exists in countries where the political system is based on the competition of ideas and policies, and where the system is structured through policy-based political parties. On the other hand, countries with a political system based on individuals, ethnicities or clientelism-based political parties tend to be more at risk of political instability, leading to inefficient reforms, an incapacity to ensure bureaucratic alignment and a system of governance that is effective at delivering economic reforms.

In the next section, we explore the trajectory of seven countries that have either escaped the middle-income trap, remain stuck in it or are at risk of becoming trapped, illustrating the principal explanations provided in this section.

Transitioning From the Middle-Income Trap: Case Studies

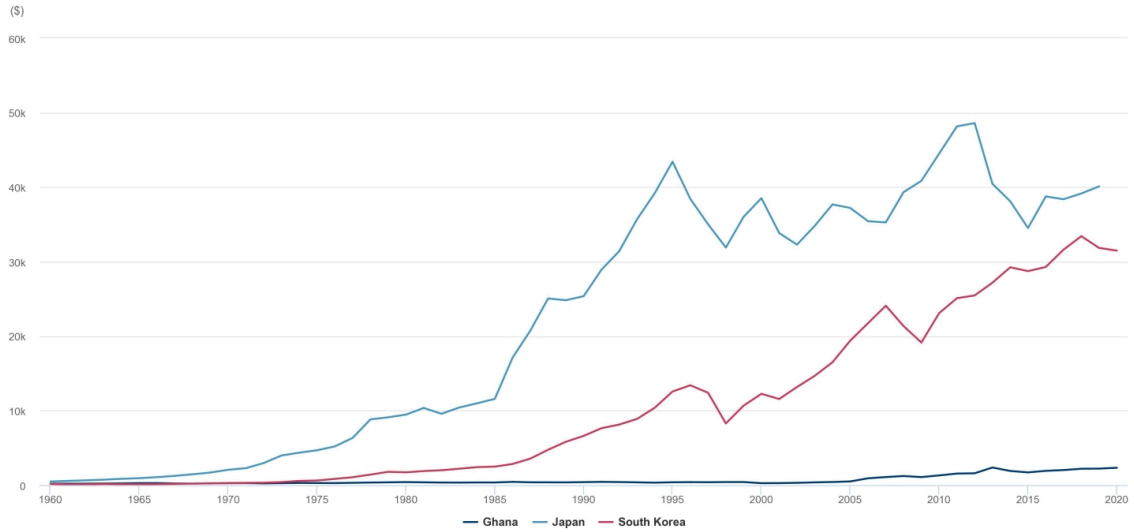
Asia and the Role of Human Capital, Technology and Export Diversification

The Asian tigers (Hong Kong, Singapore, South Korea and Taiwan) have successfully transitioned to the high-income group. This was enabled by strong-but-smart export-oriented industrial policies that allowed a shift from low-value-added sectors and labour-intensive goods (such as textiles and toys) to higher-value-added products such as electronics and pharmaceuticals. South Korea and Taiwan have developed their capacity in advanced manufacturing, design and management and are currently considered to be innovation-based economies. In the 1960s, many economists expected Latin America to climb the development ladder and, at the same time, almost no one was betting on South Korea, Taiwan or Singapore to embark on the remarkable trajectory they took. Below we provide a focus on South Korea's development path.

South Korea: Pragmatic Industrial Policies, Innovation and R&D

In the 1960s and early 1970s, South Korea was at similar levels to Ghana and Kenya in terms of GDP per capita. In the 1960s, South Korea was a subsistence, agriculture-based economy, with poor natural resources and recovering from a period of war with Japan (1910–1945), followed by the Korean war (1950–1953) that destroyed most of the industrial and infrastructure base built during the Japanese colonial era. [12]

Figure 3 – Evolution of the GDP per capita in Japan, South Korea and Ghana since 1960 (in current USD)



Source: WDI

From the early 1960s, South Korea set off on a new trajectory, focusing on export- and government-led industrialisation with the objective of catching up with neighbouring Japan. The country started specialising in labour-intensive manufacturing exports and was therefore competing at the low end of technological sophistication. The focus on export-led industrialisation was facilitated by a series of reforms, including foreign-exchange reforms, a devalued currency and the substantial liberalisation of exchange controls. [13] South Korea also established a number of financial-development institutions, such as the Korea Development Bank, the Technology Development Corporation and the National Investment Fund, which provided subsidised loans and other financial services to export-focused private companies.

This led to a significant transformation of the country, with a substantially decreasing contribution from agriculture to South Korea's GDP and an increasing contribution from manufacturing (from about 12 per cent in 1962 to 22 per cent of GDP in 1980). The principal sectors that drove the manufacturing expansion were light manufacturing in the 1960s and early 1970s, such as textile and apparel, followed by heavy manufacturing sectors such as steel production, steel-consuming sectors such as shipbuilding and, later on, the automotive sector. [14] The state played an important role during this period, including investing in state-owned enterprises to build an industrial infrastructure in the face of a weak private sector. South Korea also started diversifying its exports, focusing on Latin America and the Middle East.

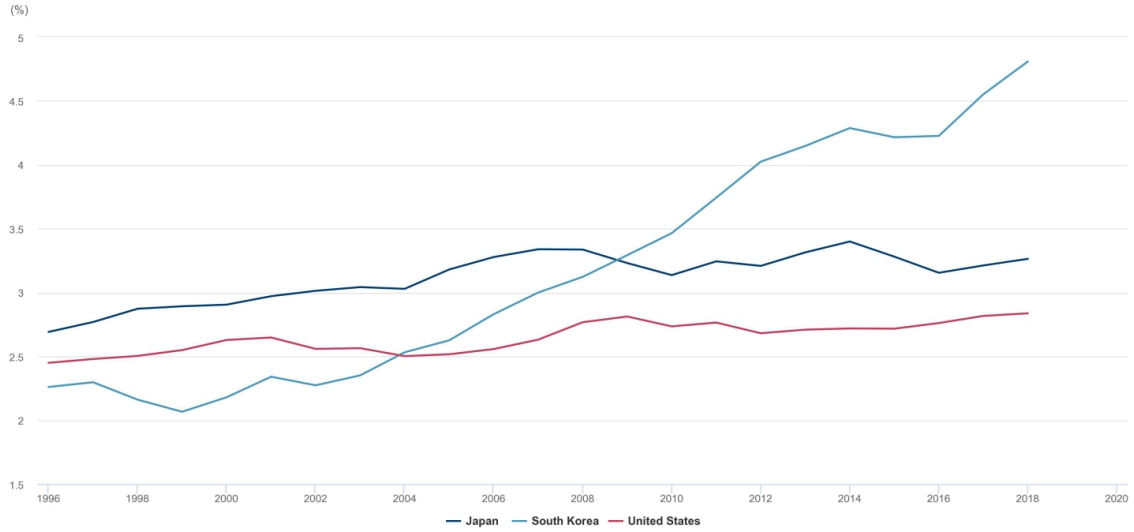
Starting from the mid-1970s, policymakers in South Korea began to invest in R&D by establishing public-research institutes and then commercialising their results. [15] With the development of the private sector, public-sector-led growth and investment started to be phased out. The state's role transitioned

from being a main actor in the economy to becoming an enabler for the private sector. This is reflected in the R&D activities that switched from public R&D to private R&D encouraged by tax incentives. The focus on innovation was accompanied by targeting more technology-intensive sectors such as consumer electronics and automotive assembly in the 1970s and 1980s, and telecommunications equipment, memory chips and digital TVs, among others, from the 1990s. The level of sophistication also increased within sectors. For instance, semi-conductor firms in South Korea were able to transition from low-value-added activities, such as packaging and testing, to more high-value-added ones, including manufacture and design. [16]

The trajectory of South Korea in terms of sector focus and sophistication is embodied in the specialisation trajectory of the Samsung group. The goods produced by the group have changed, with a clear shift from low-value-added to more high-value-added goods. The group started by engaging in light manufacturing such as textiles, then moved to consumer electronics, followed by semi-conductors and telecommunications. Today, Samsung is deeply involved in the design of innovative products and mostly produces high-tech goods. South Korea now largely exports technology-intensive goods, with medium- and high-technology products representing about 73 per cent of its total export basket, with this share increasing every year since 1995.

Ultimately, South Korea successfully caught up with Japan and the country became a development success story. The country sustained a high level of GDP growth (an average of more than 7 per cent per annum) for four decades between 1960 and 2000, multiplying its GDP per capita by a factor of more than 25 over the same period. South Korea became a high-income country in 1993, and since the mid-1990s, Korea's R&D/GDP ratio has exceeded 2 per cent, at similar levels to Japan and the United States (Figure 4), with private R&D accounting for more than 80 per cent of total R&D spending. [17] Since 2009, Korea's R&D/GDP ratio exceeded Japan's and is currently one of the highest in the world.

Figure 4 – Evolution of research and development expenditure (per cent of GDP) in selected countries



Source: WDI

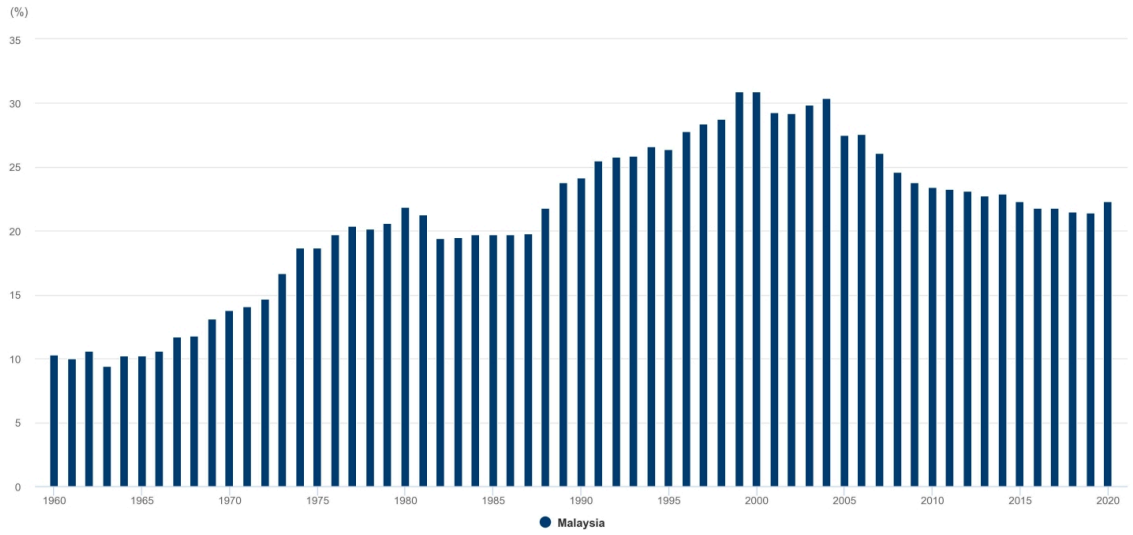
This success led to the framing of South Korea as an economic miracle, attributable to well-planned and consistent government policies and their effective implementation. The state played the role of a strategic and pragmatic visionary and intervened efficiently in everything from product design to implementation. The state's interventions kept pace and adapted to market changes and the latent competitive advantages built into the economy. [18] Moreover, government support was provided to local firms that were able to compete in global markets but was conditional on a certain level of commercial and business development. Finally, Korea invested in short-cycle technology-based sectors which, according to some experts, was key to its upward trajectory. Short-cycle technology-based sectors are sectors in which technologies evolve rapidly and innovation is constant, leading to less reliance on existing technologies. Some economists have indicated that this has allowed countries like South Korea and Taiwan to leapfrog others and catch up relatively quickly, as investing in these sectors delivers greater opportunity for rapid growth. [19] Since the 1990s, South Korea has invested in shorter-cycle technologies by shifting from labour-intensive light manufacturing, which is typically characterised by long-cycle technology, to shorter-cycle sectors such as telecommunication equipment. [20] However, investing and specialising in these short-cycle technology-based sectors might only be possible for countries that already have a certain level of local capability and, therefore, these sectors might be more compatible with the more advanced countries in the middle-income group.

Malaysia: Human Capital, Export Diversification and Functioning Institutions

Malaysia provides some lessons for successful industrialisation and structural transformation from low- to middle-income status but an unsuccessful transition into a high-income country, as it is currently in the middle-income trap.

The country recorded remarkable growth in the 1970s with one of the fastest rates of human-capital development ever. Like most former colonies, Malaysia adopted a first wave of inward-growth strategies through import-substitution policies. It had transitioned, by the mid-1980s, into an export-promotion phase through the promotion of the Investment Act of 1986, which provided incentives to private investors and enacted several policies that aimed to reduce tariffs, attract foreign investment and integrate the economy into global value chains. These policies were successful as the country witnessed a significant economic transformation. The manufacturing sector grew sharply from about 10 per cent of GDP in 1960 to over 30 per cent by the early 2000s (Figure 5). The workforce has transitioned from agriculture to more productive sectors, as employment in agriculture declined from about 22.5 per cent of total employment in 1990 to 10.3 per cent in 2019. At the same time, by 2020, manufacturing employed about 27 per cent of the total workforce, which is fairly high. Moreover, the share of exports of manufactured goods has remained at a high level since the mid-1990s, at over 70 per cent, but still at lower levels than neighbouring countries such as Thailand, South Korea and China. Overall, the country has been successful in transforming from a resource-based economy to a large-scale manufacturing one.

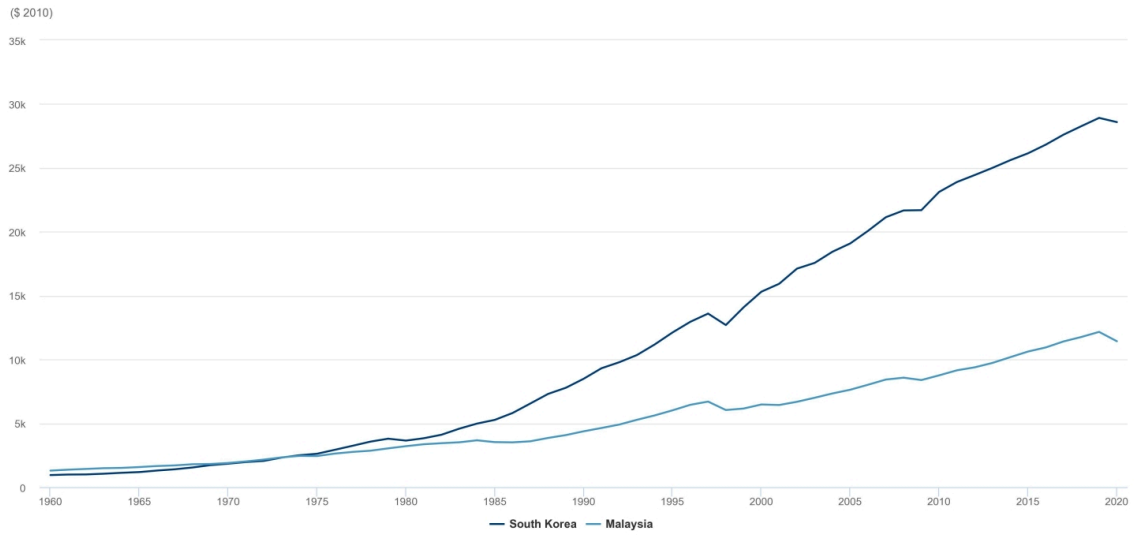
Figure 5 – Evolution of manufacturing's contribution to GDP in Malaysia (per cent)



Source: WDI

Today, Malaysia is an upper-middle-income country, with a GNI per capita of around $11,000. Malaysia and South Korea had a similar per-capita GNI until the mid-1980s but, since then, the gap has been widening, with GNI per capita in South Korea now more than twice that of Malaysia (Figure 6). Malaysia has been in the middle-income group since the 1980s, despite its relatively successful industrialisation process and higher levels of income per capita than the average in East Asia and the Pacific.

Figure 6 – Evolution of GNI per capita for South Korea and Malaysia (in USD at 2010 prices)



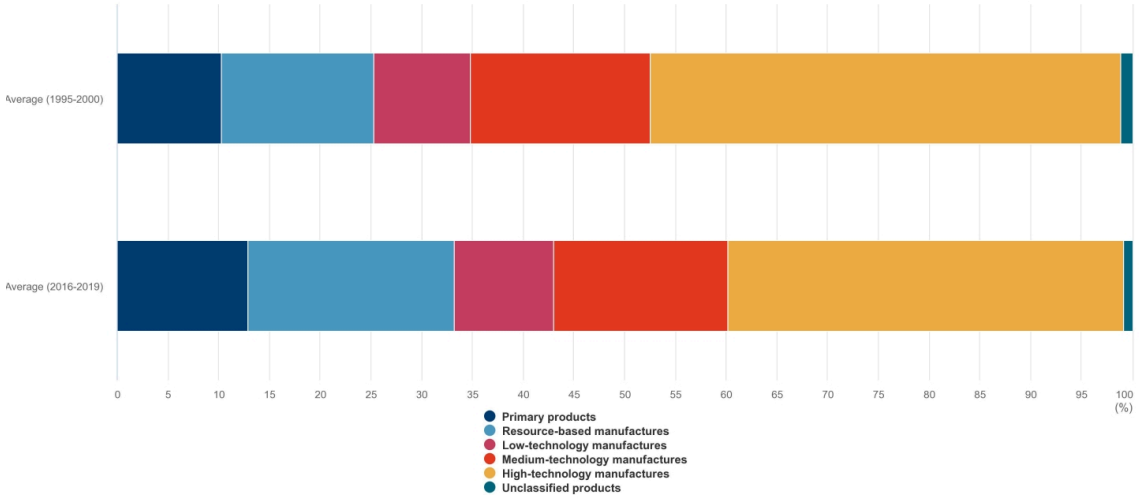
Source: WDI

Malaysia provides a compelling illustration of the significance of the quality and sophistication of both export diversification and human capital in explaining the middle-income trap. There are four factors which explain why the country is stuck in the middle-income trap:

1. The decrease in export sophistication due to the lack of domestic linkages in the economy with FDIs, resulting in a failure to build local technological capabilities.
2. The level of "brain drain" which continues to contribute to the loss of key human capital.
3. The lack of transition into high-value-added activities and the capacity to meet the needs of fast-paced innovation.
4. Lack of capacity of institutions to undertake the necessary reforms to manage the transition from a labour-intensive manufacturing model to an innovation-based one.

Sophistication and diversification of exports are important variables which help explain different countries' development paths. Malaysia's exports have diversified throughout the years. For instance, its share of the electronics industry in exports has decreased since 1995, from an average of 44 per cent between 1995 and 2000 to an average of 35 per cent between 2016 and 2019. However, the diversification of industries and exports has not been towards more sophisticated and technology-intensive goods. As shown in Figure 7, the share of high-technology goods decreased between 1995 and 2020 in favour of resource-based goods, indicating a decrease in Malaysia's export sophistication.

Figure 7 – Share of exported products in Malaysia by level of sophistication



Source: Authors' computation based on UNCTAD Comtrade data

The productivity of the manufacturing sector has been stagnant since the early 2000s, in large part due to the decline of the electronics industry, which had been key to industrialisation since the 1970s, driven by FDI from Japan, South Korea and Taiwan together with the growth of subcontractors. [21] Nevertheless, the industry is still one of the leading sectors contributing to exports and employment, representing more than a third of national goods exports and about a quarter of total employment. However, the industry has failed to upgrade and transform over the past 20 years, with stagnant employment and negative productivity growth. This is due to the lack of linkages between FDIs and domestic manufacturing enterprises, [22] which has led to domestic production being bogged down with low-value-added products. In effect, local firms have not benefited from FDI and regular investment in acquiring technological capabilities through backward linkages, technology diffusion and learning at the enterprise level. Consequently, in contrast to the Korean experience, Malaysia has failed to move up the technology and innovation stages of development and has therefore not increased its technological sophistication.

The decrease in the sophistication of production in Malaysia is also linked to the level of human capital available. Since the 1970s, Malaysia has made huge strides in many areas, including education, boasting one of the most significant increases in educational attainment in Asia – six years compared to 5.4 in South Korea. [23] However, Malaysia is experiencing a brain drain. The country is a net labour importer but it is mostly importing a low-skilled labour force, chiefly from neighbouring countries such as Indonesia, while exporting high-skilled workers. [24] While it is difficult to identify which came first (whether the brain drain led to a decrease in economic sophistication or whether a lack of economic sophistication led to the brain drain), Malaysia is struggling to develop sophisticated and high-value-added sectors,

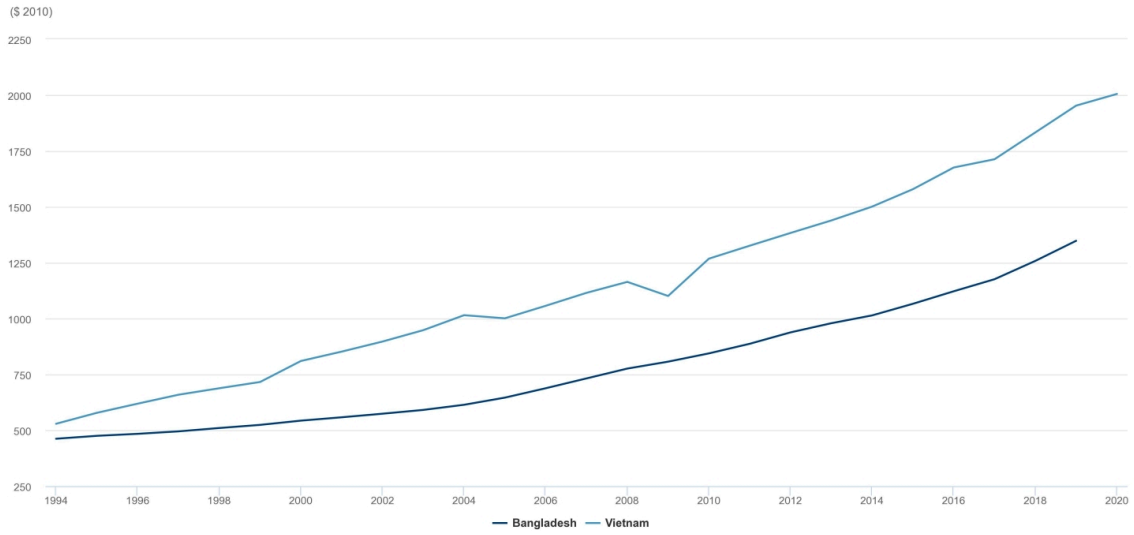
including in services, which are growing globally in terms of trade, technological sophistication, contribution to economic transformation and job creation. [25]

Some experts also suggest that, while Malaysia teaches important lessons to other developing countries, intrinsic dynamics also explain its development path, including the poor quality of some of its institutions. For instance, the political reality in Malaysia, where a dominant political party has been in power for more than 50 years, is estimated to have constrained the capacity of the political economy to foster growth and economic transformation towards innovation, with high levels of corruption, rent-seeking behaviours and the capture of subsidies and government intervention dominated by an elite. [26]

Bangladesh and Vietnam: Two Lower-Middle-Income Countries on Divergent Paths

Bangladesh and Vietnam are two relative latecomers in terms of industrialisation and economic development. Both countries have witnessed remarkable growth in the past 20 years, with a steady and similar increase in their GNI per capita (Figure 8). Both countries have recently transitioned from low to lower-middle income (2010 for Vietnam and 2015 for Bangladesh), notably due to their considerable investment in the path to industrialisation. Bangladesh and Vietnam invested in establishing a large number of special economic zones, opened their economies, provided incentives to attract FDI, and focused on improving their business environment, infrastructure and human capital. Their export levels have significantly increased over the past 20 years and have multiplied by a factor of five in Bangladesh and by 19 in Vietnam. [27]

Figure 8 – Evolution of GNI per capita for Bangladesh and Vietnam (in USD at 2010 prices)



Source: WDI

Bangladesh is an example of a country that could be at a high risk of being stuck in the middle-income trap if its current export concentration and sector-development dynamics continue unchanged. Over the past 20 years, the country's GNI per capita has increased from about $540 in 2000 to about $1,350 in 2020. [28] Its level of merchandise exports has multiplied by a factor of 5.2. However, this remarkable growth in exports has been chiefly driven by just one industry. Since the 1980s, Bangladesh has been investing in the textile and apparel industry with remarkable success: the country is the second-largest exporter after China, representing about 5 per cent of the global textiles and apparel export market, and is estimated to employ more than 4.5 million workers. However, the textile and apparel industry represented about 92 per cent of the country's exports in 2020, with its share of total national exports slightly increasing from 87 per cent in 2000. [29]

Another country that is moving quickly up the income ladder is Vietnam. Vietnam is currently one of the most industrially aspirational countries in the world, becoming a lower-middle-income country in 2005. The country's development path bears all the fundamental hallmarks of a successful transition to the upper-middle-income and high-income groups. Vietnam and Bangladesh were at very similar levels of development in early 2000, with an almost equal GDP per capita and a similar export profile. Both countries invested heavily in industrialisation and light manufacturing. However, unlike Bangladesh, Vietnam has succeeded in diversifying its target industries and is now entering into innovation-based sectors such as electronics, electrical equipment and other sophisticated goods, producing a wide range of competitively priced goods for export. The country has developed local firms that are leading suppliers of intermediate products to the electronic giant Samsung. Both Bangladesh and Vietnam currently represent about 5 per cent of global exports in the textile and apparel industry; however, the industry's exports represent only 21 per cent of Vietnam's goods exports compared with about 92 per cent for Bangladesh. [30] This is reflected in the evolution of the export structure of both countries: for Bangladesh, the structure has remained highly concentrated in labour-intensive, low-value, low-technology manufactured goods over the past 20 years, despite the huge increase in exports, while for Vietnam, the share of high-technology goods has increased by 35 percentage points over the same period. [31] Moreover, Vietnam is currently investing more in R&D than what would be expected from a country with the same income level. [32]

While both Bangladesh and Vietnam are still lower-middle-income countries and will remain in the middle-income group for at least a decade, Vietnam is expected to transition to the upper-middle-income group before Bangladesh and has a higher chance of not becoming trapped at the middle-income level.

Latin America: The Role of Industrialisation and Institutions

In the 1960s, Latin American countries were expected to become as economically successful as high-income countries and to quickly catch up with the US, the UK and other industrialised nations. Most Latin American countries followed import substitution and inward state-led growth strategies from after the second world war up to the 1980s. Supporting nascent industries was one of the main pillars of government intervention. However, in contrast to South Korea and other Asian tigers, Latin American governments did not make their support to the private sector conditional on performance requirements, [33] which led to significant inefficiencies. Since the 1990s, most Latin American countries have adopted a market-led growth strategy.

Most Latin American countries are in the upper-middle-income group and are considered to be in the middle-income trap; these countries include Brazil, Argentina, Colombia, Costa Rica, Dominican Republic, Ecuador, Jamaica, Mexico and Peru. Chile is among the few countries in the region that have transitioned to the high-income group. Poor labour-productivity growth over the past 30 years is the main indicator that Latin America is caught in the middle-income trap. Between 1992 and 2020, labour productivity grew, on average, at only 0.87 per cent per year, placing the region among the lowest in the world. Over the same period, labour-productivity growth was at 4.4 per cent in East Asia and the Pacific and at 1.2 per cent in sub-Saharan Africa. [34]

While labour has shifted to higher-value-added sectors in Asia, in Latin America and Africa it has been shifting to low-value-added sectors. [35] And in Latin America, there are signs of early deindustrialisation: it is normal for the share of manufacturing employment to decline as a country's income levels rise, but in Latin America this has happened at a lower level of income. In Latin America, manufacturing's contribution to GDP was at similar levels to that of East Asia in the 1970s. But by 2007, the manufacturing sector's share of GDP was around 25 per cent in East Asia and the Pacific, but only 15 per cent in Latin America and the Caribbean, slightly higher than in sub-Saharan Africa, and in the Middle East and North Africa. In parallel with the decrease in manufacturing's contribution to GDP and employment, job creation in Latin America was primarily concentrated in low-productive services such as wholesale and retail. [36]

What Explains the Middle-Income Trap in Latin America? Focus on Brazil

Brazil is often used to illustrate the middle-income trap. It had a higher GNI per capita than South Korea in the 1960s and 1970s [37] and, until the early 1980s (which were marked by an external debt crisis between 1980 and 1982), the country witnessed a strong economic growth rate, with a diversified manufacturing sector and relatively strong export performance. [38] For instance, during the 1970s, the industrial sector showed average yearly growth rates close to 7.4 per cent. [39] During this period, policies

adopted in Brazil were mostly inward strategies focusing on import substitution and the protection of local manufacturing capabilities. The targeted sectors were similar to those initially targeted in South Korea and included steel production, non-ferrous metals, petrochemicals and shipbuilding.

Brazil has been stuck in the middle-income trap since the 1980s for four reasons: a lack of commitment to industrialisation leading to low manufacturing capabilities, an unfavourable macroeconomic environment with notably high levels of inflation in the 1990s, institutional challenges including the weak rule of law and dysfunctional politics rooted in huge inequality, and relatively low levels of human-capital development and investment in innovation.

The Brazilian government did not invest in industrialisation in a systematic manner. [40] The policies adopted by the government to develop the private sector since the 1980s lacked strategic planning, consistency and continuity, with a lack of focus on building local technological and manufacturing capabilities. The policymakers adopted a series of "target plans" aiming at developing heavy and light manufacturing sectors; however, the implementation of these plans remained superficial and very limited. Investment in the fundamentals necessary for industrial development such as transportation, energy and education was minimal. [41] This has ultimately translated into a sharp decline in manufacturing as a proportion of GDP since the early 1990s, a trend that is continuing today: the share of manufacturing to GDP decreased from 29.3 per cent in 1990 to 13.1 per cent in 1999 and barely 9.8 per cent of total GDP in 2020. At the same time, the technological sophistication of Brazilian exports has been slightly decreasing. In general, as countries develop and climb up the income ladder, their level of export sophistication increases, with a higher concentration of technology in their basket of exported products. But while high-technology products represent more than a third of South Korea's goods exports, high-technology products in Brazil represent only about 4 per cent of total goods exports and declined by nine percentage points between 2000 and 2020, while the share of primary products and medium-technology products has slightly increased. [42]

Human-capital development has been relatively weak in Brazil compared with other "giant" countries that were expected to witness high levels of growth and significant economic transformation. While enrolment in tertiary education is at similar levels to the average in upper-middle-income countries, it remains substantially lower than the averages in high-income countries (79 per cent in HICs as opposed to 55 per cent in Brazil in 2019). The level of education of the labour force remains at well below that in other Latin American countries: only 18 per cent of adults between 25 and 64 years old have attained tertiary education in Brazil, about half the level in Argentina (36 per cent) and less than half the average of OECD countries (39 per cent). [43] Ultimately, this leads to low levels of innovation and difficulty transitioning from a factor-based to an innovation-based economy. [44] For example, in 2020, the number of patents in force in South Korea reached 1,096,721, compared with only 57,942 for Brazil. [45]

High inequality and the low quality of institutions in the country also play a role in Brazil's trap. The richest 1 per cent and 10 per cent's share of national income in Brazil is higher than in most OECD countries and some Asian countries such as Malaysia and China. [46] Some experts claim that this huge level of inequality in Latin American countries such as Brazil makes politics dysfunctional with few incentives to forming political coalitions that enable investment in upgrading education and R&D policies, both necessary for a transition to the high-income group and for effective industrial policies. [47] Moreover, an OECD paper found that the rule of law is one of the main policy priorities that Brazil should focus on to be able to transition out of the middle-income trap, together with human capital and economic complexity.

Africa: The Role of Policymaking, Institutions and Political Stability

Tunisia and Morocco, historically two economic competitors in north Africa, are both stuck in the middle-income trap, although Morocco has overtaken Tunisia as the country more likely to escape it. Both countries have been in the middle-income group since the 1970s. In the 2000s, Tunisia was classified as upper-middle income; however, its GNI per capita has decreased since 2014 and both countries are now considered lower-middle income. In the 1990s, Tunisia was considered a successful development model with relatively high levels of human capital. The country had one of the best educational attainment levels on the continent, decreasing poverty and relatively high levels of growth. In the 1990s, most experts expected Tunisia to move up the income ladder and to transform its economy much faster than Morocco, as Tunisia had a more developed middle class, less inequality and better human capital than its neighbour. While both countries will probably remain at the middle-income level for some time, the evidence suggests that Morocco is accumulating productive capacities at a faster pace than Tunisia. However, both countries suffer from weak institutions and a brain drain that could explain their middle-income trap.

Tunisia and Morocco both have what can be described as extractive institutions, using Acemoglu and Robinson's definition. The 2011 revolution in Tunisia marked an attempt to reform the extractive economic institutions, partly responsible for endemic corruption, strong rent-seeking business-state ties, and ultimately poor job creation and growth. Several studies highlight the role that business-state relationships have played in the economic trajectory of Tunisia and Morocco and how, in the case of Tunisia, the extractive institutions have solidified even further since the 2011 revolution. [48] This is further confirmed by the World Bank enterprise survey, which indicates that companies in Morocco and Tunisia have serious concerns about corruption and the rule of law. According to the world enterprise survey, 28.6 per cent of companies in Morocco say that corruption is one of their biggest challenges as opposed to 16.4 per cent of companies in Tunisia. Both countries need to focus on transitioning from extractive to inclusive institutions to increase their chances of graduating to upper-middle-income and high-income status. The capacity of the state to establish a transparent and collaborative relationship with the private

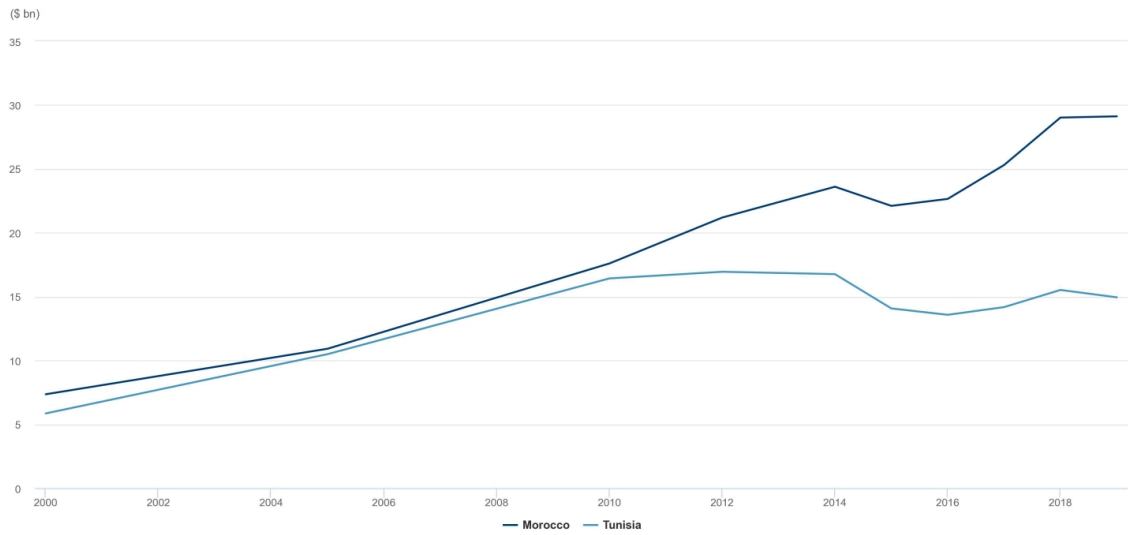
sector, with a clear set of rules and incentives and conditional support from the state, would decrease the rent-seeking approach. Another possible explanation for the middle-income trap is the level of brain drain that both Morocco and Tunisia have been experiencing, which is indicative of these countries' failure to create good quality jobs for skilled citizens – a result of the prevalence of extractive economic institutions. [49] Brain drains lead to productivity loss in countries of origin and impacts the level of human capital available in those countries, adversely affecting their capacity to advance in sophisticated and technology-intensive fields.

However, over the past decade, Morocco has been showing some positive signs, increasing its chances of graduating to upper-middle and then high-income status. In contrast, the political instability that Tunisia has witnessed over the past decade has created a setback in the country's prospects for moving up the income and economic ladder. Both countries have similar advantages, including the same natural resources (such as phosphate), and both export to the same markets, mainly European countries. Both countries have historically focused on the same sectors, starting with textiles and apparel in the 1970s and 1980s and recently moving into more sophisticated and skill-intensive sectors such as pharmaceuticals, automotive and aeronautics. However, since 2011, both countries have been diverging. While Tunisia was experiencing significant political instability with a succession of nine governments in only ten years, the Moroccan authorities focused on designing and implementing industrial policies to develop their industry and invest in their infrastructure and human capital. In Tunisia, while the democratic transition allowed for competition between policy-based political parties and two successful and peaceful transitions of power in the past decade, the semi-parliamentary system, the fragmentation of the political scene and a certain level of the hegemony of the Islamist party (Ennahdha) have led to huge instabilities, and the formation of governments with very fragile parliamentary support. At the same time, the royal and autocratic political system in Morocco has allowed the country to remain stable and to focus on the implementation of industrial policies. Morocco adopted three industrial plans between 2005 and 2015, all including a mix of transversal (e.g. business-environment reforms) and targeted (e.g. sector-specific reforms) industrial policies. Between 2005 and 2015, Morocco underwent a process of self-examination, resulting in updated interventions, a list of targeted sectors and an increased focus on manufacturing development. For Tunisia, the past decade has been marked by political instability that has jeopardised the possibility of developing and implementing a clear economic vision. While employment in manufacturing remains higher in Tunisia than in Morocco (approximately 19 per cent in Tunisia vs. 10 per cent in Morocco in 2019), these factors have led to a shifting of the dynamic within the two countries that may lead to more long-term divergence.

Tunisia and Morocco have been on a divergent path regarding exports despite recording very similar levels in 2010 (Figure 9). Since 2010, Moroccan goods exports have increased at a much higher pace than Tunisia's, particularly in automotive and electronics products, and in 2019 reached about twice Tunisia's level. Similarly, labour productivity in manufacturing in both countries has been diverging since 2011. Since then, manufacturing-labour productivity in Morocco has been increasing faster than the

stagnant and even decreasing productivity in Tunisia. This suggests that Morocco's industrial policies have yielded notably positive results.

Figure 9 – Evolution of level of merchandise exports in Tunisia and Morocco (in USD billions)



Source: UNCTAD Comtrade

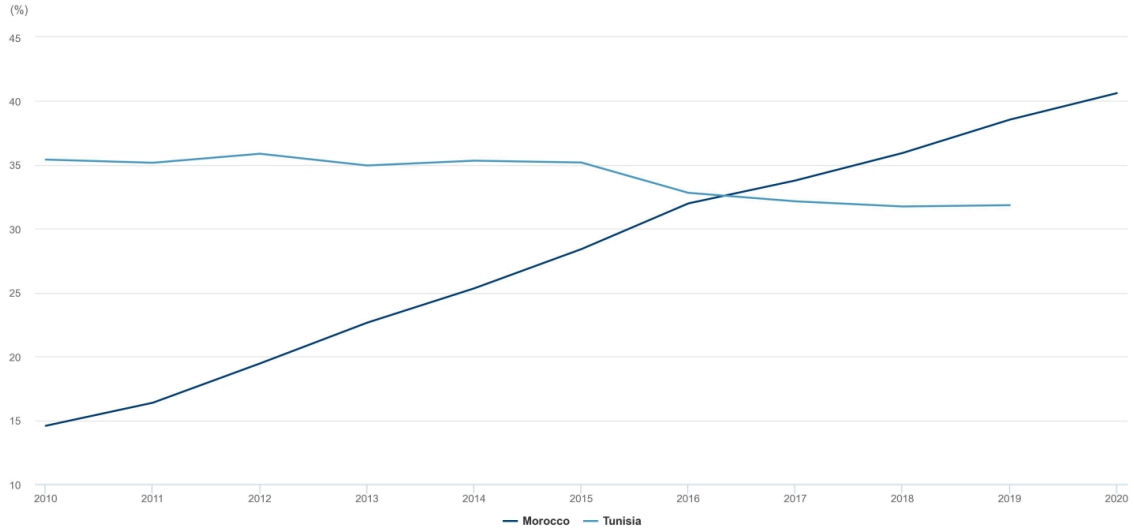
Four main reasons can explain this. First, the 2011 social movements in Tunisia had a significant impact on the country's phosphate exports, which significantly decreased post-2011 due to continual social crises in the Gafsa mining area. Conversely, Morocco, the other major phosphate producer and exporter in the region, has enacted a major programme of reforms since 2008 to improve the governance and functioning of the Office Chérifien des Phosphates (OCP), the state-owned enterprise in charge of exploiting phosphate resources in Morocco. As a result, the value of Morocco's phosphate exports were twice Tunisia's in 2019, despite being at the same level in 2009. Today, the OCP is a major player in the global phosphate market and in Africa's fertiliser market.

Second, because of Morocco's political stability and reforms, the country increased its FDI significantly, including in the manufacturing sector. As both countries have similar competitive advantages and focus on the same sectors, foreign investors have clearly preferred Morocco over the past decade. As a result, while FDI flows were higher to Tunisia in 2008, by 2018, FDI flows to Morocco were more than triple those to Tunisia.

Third, the targeted industrial policies and reforms implemented in Morocco have led to an increase in the sophistication and diversification of exports at a higher level than in Tunisia; this has been accompanied by considerable investment in infrastructure and human capital, enabled by a well-functioning financial sector. Morocco has made substantial investments to improve the quality of the port of Tangier, which in 2019 became the largest port on the Mediterranean after the opening of new terminals, [50] while the quality of the port infrastructure in Tunisia has been decreasing over recent years. Also, Morocco has

better-developed financial services than Tunisia, evidenced by the percentage of companies declaring financing as the main obstacle to their development in the World Bank's enterprise survey: only 4.3 per cent in Morocco vs. 39.4 per cent in Tunisia. Human capital has also significantly improved in Morocco and both countries currently rank at similar levels on the Human Capital Index, which combines health and education measures. For instance, enrolment in tertiary education (gross) was at 35.4 per cent in Tunisia vs. 14.6 per cent in Morocco in 2010 but is now at higher levels in Morocco (Figure 10).

Figure 10 – Enrolment in tertiary education (per cent gross) in Tunisia and Morocco since 2010



Source: WDI

Fourth, Morocco boasts a wider range of export destinations than Tunisia. The signing of a free-trade agreement (FTA) with the USA, effective since 2006, has significantly increased Morocco's exports to America and has, in effect, provided Moroccan exporters with a huge additional market. Morocco also increased its exports to Asia and Africa between 2009 and 2019. For instance, Morocco's exports to Asia doubled while Tunisia's exports to the continent remained at the same level between 2009 and 2019. Further, Morocco has been intensively investing in sub-Saharan African countries over the past decade, with an increasing level of FDI outflows to the region, which significantly increased Morocco's exports to the African continent. Contrary to this dynamic, Tunisian exports to Africa decreased between 2009 and 2019.

Escaping Africa's Middle-Income Trap: A Focus on Ghana and Kenya

The Productive Capabilities Index: A Useful Tool for Policymakers in Africa

While the root causes of the middle-income trap vary between countries and regions and depend on the development path followed, one common factor is the limited development of production capacity [51] – critical for countries to improve productivity, diversify their economies and produce a diverse and increasingly more sophisticated range of products for both domestic and export markets. These are the strongest indicators of a country's level of development, its production capabilities and level of income, and its capacity to generate quality employment, absorb knowledge, undertake technological learning, and move up the income and value ladder. Productive capacity can help us explain why countries like Ghana and Kenya have remained lower-middle-income countries dependent on the export of raw materials, largely commodities, despite six decades of post-independence economic development and international-development support.

The United Nations Conference on Trade and Development (UNCTAD) has developed the Productive Capacities Index (PCI) [52] to measure the level of development of productive capacity and then to benchmark countries by creating a production-capacity league table. [53] This is a major step forward in countries' ability to monitor progress and identify the gaps in production-capacity development, giving policymakers a useful tool to understand an economy's trajectory and to act effectively towards avoiding or escaping the trap.

Productive capacities are defined as diverse production and technological capabilities, financial resources, infrastructure, institutions, private-sector development, efficient market systems, and the skills and the policy-implementing capacities that a country needs to produce a wide range of goods and services. Ultimately, it is the cumulative development of these capabilities that distinguish developed from developing countries and separate those that will move up the income and development ladder from countries that will remain stuck in the middle-income trap. They also determine the quantity and the quality of the goods and services that a country can produce at a given time and which types of goods and services a country can produce and sell.

Different types of productive capacities have different impacts on growth, income and structural transformation. More developed productive capacities can produce and export high-value, high-tech-based and more sophisticated goods, generating more income for the exporting country with positive implications for productivity improvements, skill formation and per-capita income than productive

capacities that are partially developed and can produce and export semi-processed goods or low-value manufacturing goods only. Hence the types of goods and services countries produce matter as they create or remove opportunities for economic diversification, industrialisation and catching up with more advanced economies. Unfortunately, many African countries export raw goods based on the exploitation of natural resources, which creates little space to grow the productive economy.

So, for countries caught in the middle-income trap or at risk of being trapped, such as Ghana and Kenya, the PCI provides a practical and concrete indicator of where countries stand in terms of the risk of being caught in a middle-income trap. It also enables countries to identify and target countries they wish to catch up with, and to plan their development accordingly. Catching-up strategies were successful for countries like Japan during the Meiji period, [54] for East Asia during the region's industrialisation process in the mid-20th century [55] and, more recently, for China [56] and Vietnam. [57]

The principal purpose of development is to move up the development ladder by closing the income gap with more developed countries and catching up in technological and governance capabilities. [58] Indeed, historically, the aspiration to catch up with targeted countries that are higher up the income ladder has been a powerful motivating force in moving countries forward in the development process. [59] There are many examples of countries planning their development strategies by identifying target countries to catch up with and advancing their development by copying the policies and strategies of those targeted countries. [60] In this process, it is important to remain realistic and identify target countries in a pragmatic way. Ultimately, developing productive capacities is about promoting technological learning and building the different competencies that a country needs to produce a diverse range of products and services that are compatible with those produced by countries that are more developed.

The Productive Capacities of Ghana and Kenya vs. Selected African and Asian Countries

Economic Trajectory and Structure of Ghana and Kenya

Ghana and Kenya are among the fastest-growing and largest economies in Africa. Both countries have recently transitioned into the lower-middle-income status with a GNI per capita of $1,828 for Ghana and $1,212 for Kenya (based on the 2021 US dollar value). However, there is still a long road ahead for both countries to achieve a successful structural transformation.

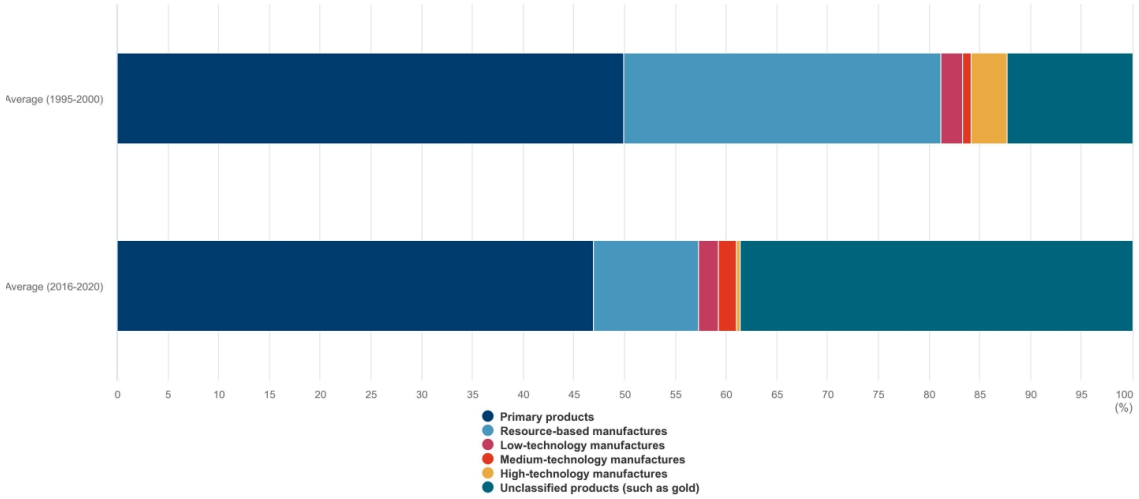
Ghana has long been regarded as one of sub-Saharan Africa's best performers. Most development economists in the 1960s expected the country to be one of the earliest African countries to transform and move up the income ladder quickly. Ghana was among the first countries in sub-Saharan Africa to engage in a series of liberalisation reforms and to transition to a market-based economy beginning in the early 1980s. [61] Since then, Ghana has exhibited strong and sustained growth (above 4.5 per cent

between 1984 and 2014) and reached middle-income status in 2010. Similarly, Kenya witnessed an average annual growth rate of 4.7 per cent between 2000 and 2019 and transitioned into the lower-middle-income group in 2014. While both countries cannot be considered to be in the middle-income trap yet, as they have been in the income group for only about a decade, there are certain indicators that they might become trapped if the right policies are not implemented.

The role of high-productive sectors in manufacturing and services remains low in both Ghana and Kenya. These sectors are the ones that can contribute to a productive structural transformation, a diversification of exports and an increase in their sophistication. Ultimately, investing in and developing these sectors is key to avoiding being locked for a lengthy period in the middle-income trap.

In Ghana, in parallel with fast-growing urbanisation, [62] there has been a clear transition out of agriculture, with a significantly decreasing share of the sector in employment and GDP. [63] However, this has mostly benefitted construction and mining, while the contribution of manufacturing to GDP, employment and exports has declined over time. [64] Both construction and mining have, in general, weaker backward and forward linkages with the rest of the economy than manufacturing and while construction can be labour intensive, most of the jobs created in construction are temporary ones. Moreover, productivity in agriculture remains relatively low. Much of the growth experienced by the agricultural sector in the past decade in Ghana has been driven by an expansion of the land area used primarily for cocoa cultivation rather than being a result of improved yields. Yields of major food crops in Ghana have improved only modestly during the past 12 years and are estimated to be between 20 and 60 per cent below their achievable level using modern inputs such as fertilisers and improved seeds. [65] Additionally, the share of manufactured goods in exports has been decreasing since the late 1990s, [66] despite the level of goods exports which increased ten-fold between 2000 and 2019. Moreover, the sophistication of goods exported from Ghana has remained relatively low. The share of gold and natural resources like oil and agricultural commodities in Ghanaian exports has significantly increased since 1995, while the share of other manufactured goods has decreased (Figure 11), suggesting that Ghana is experiencing the Dutch disease. [67] However, there are some encouraging signs in Ghana's service sector. Business services are playing an increasingly important role in trade and exports, representing about 80 per cent of exports in services. These are in mostly high-value-added activities which largely require a high level of skill and which include ICT services, business-process outsourcing (BPO) and consulting services.

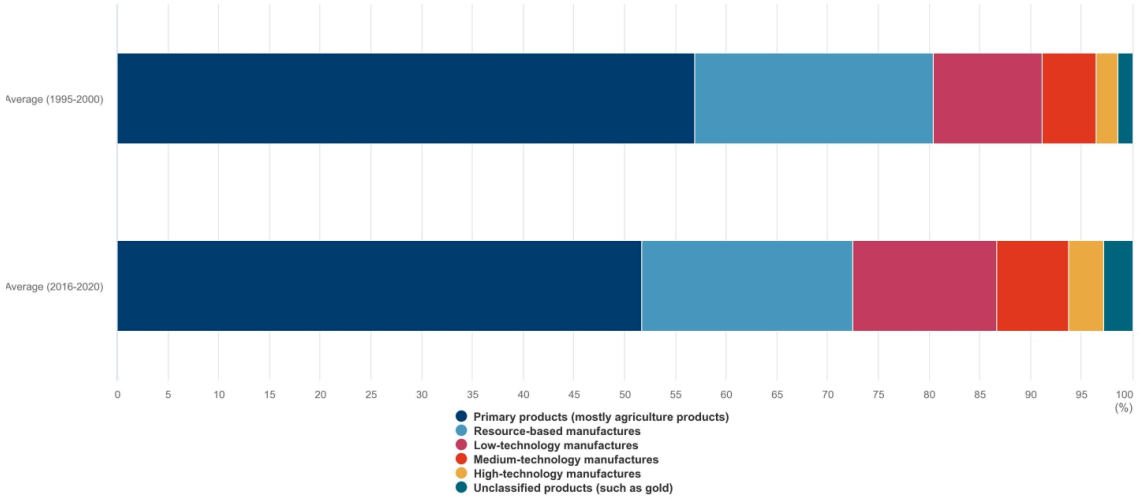
Figure 11 – Sophistication of goods exports from Ghana – evolution between 1995 and 2020



Source: UNCTAD Comtrade and authors' calculation

In Kenya, the economy is dominated by low-productive agriculture and fast-growing yet chiefly low-productive services, while manufacturing contribution to the economy has been decreasing. In line with a mostly rural population, [68] agriculture remains the backbone of the Kenyan economy, employing more than 54 per cent of the total workforce and contributing 35 per cent of GDP, with its share increasing over the past decade from 24 per cent in 2010. However, the sector's productivity remains below its potential due to lack of quality inputs (seeds, breeds and fertilisers), distorted input and output markets, minimal adoption of modern production technologies (mechanisation, greenhouse, ICT), high incidence of pests and diseases, poor delivery of extension services, and low investment in infrastructure (irrigation, drainage, rural roads). [69] Manufacturing plays a slightly more important role in Kenya than in Ghana, despite it not being central to the Kenyan economy. Manufacturing accounted for around 7.5 per cent of GDP in 2019, lower than in 1990, when it was 10 per cent. The range of goods exported by Kenya is mostly dominated by agricultural products (mainly tea, coffee, cut flowers and vegetables) which are neither processed nor transformed in the local economy. While manufactured goods are slowly increasing their share, [70] most of this increase is driven by low-technology goods (for example, textile and apparel), with a small increase in medium- and high-technology manufactured goods (Figure 12). The manufacturing sectors suffer from several challenges that the authorities are trying to tackle, including high costs of electricity, critical skill gaps and inefficient logistics.

Figure 12 – Sophistication of exports of goods from Kenya – evolution between 1995 and 2020



Source: UNCTAD Comtrade and authors' calculation

Currently, the Kenyan economy is largely service-driven, with services contributing up to 42 per cent to GDP. The major drivers of growth in the service sector are transport and storage, ICT and financial services. The share of these sub-sectors in exports has significantly increased since the 1990s, reflecting the increasing importance of Kenya as an important technological hub on the continent. Kenya made huge advances in terms of financial inclusion through mobile solutions like the money-transfer service M-PESA, as well as the vibrant tech ecosystem emerging in Nairobi. ICT contributes up to 10 per cent to exports in services, which is an encouraging sign of the development of the country's digital economy. However, most workers are engaged in low-productive sectors, mostly wholesale and retail, which represented 15 per cent of total employment between 2000 and 2016, and about 40 per cent of employment in services. Most jobs in wholesale and retail provide only near-subsistence levels of income, with very low resources and productivity, and are not very different to casual jobs in agriculture. While sectors like ICT, transport and financial services are highly productive and have positive spillovers for the economy, they mostly create jobs for high-skilled workers, who represent a very small share of the Kenyan labour force. For instance, financial services employed only 0.5 per cent of the total workforce between 2000 and 2016. [71]

This suggests that Ghana and Kenya will remain trapped in their middle-income status if the right policies and interventions are not effectively implemented. However, there are recent encouraging signs. Both Ghana and Kenya have taken measures that suggest policymakers are beginning to recognise the important role of manufacturing and productive sectors in economic transformation.

The Ghanaian authorities adopted a clear industrialisation vision to turn the country into a manufacturing hub for west Africa by implementing the Ghana Industrial Policy in 2010. The policy focuses on expanding productive employment and technology capacity in the manufacturing sector and promoting

agri-based industrial development. The authorities have worked on establishing special economic zones as a key enabler of their industrialisation agenda, such as the Tema Export Processing Zone, which allowed Ghana to attract global companies such as Barry Callebaut, Cargill and Cocoa Touton. Authorities in Ghana are also focusing on improving the enabling environment for industrialisation by decreasing trade barriers, improving industrial land availability, improving the rule of law and investing in human capital. [72] Moreover, the government is actively collaborating with the private sector to align incentives with companies' needs to facilitate investment. For example, it is engaging the automotive industry and has facilitated new investment by Toyota Tsusho, which announced in 2021 that its subsidiary was the first Japanese company to start vehicle assembly in Ghana. These efforts have resulted in some encouraging changes in FDI's sector focus in Ghana. In 2020, almost half of the FDI to Ghana was in manufacturing, [73] while between 1992 and 2007, 70 per cent of FDIs were destined for the mining sector. However, it is worth noting that this might be temporary and a consequence of the Covid-19 crisis, as FDI inflows to Ghana decreased by 52 per cent in 2020.

Similarly, in 2018, the Kenyan authorities adopted a development plan called "the Big Four Agenda" that identified the improvement of agricultural productivity and the development of manufacturing capacity as two of the four main focuses of the country. The policy identifies eight priority sub-sectors in manufacturing, including agri-processing, textile, leather, construction materials, oil and mining, and iron and steel. The ICT sector was also prioritised as an enabler, with significant potential for positive spillovers into the economy. Moreover, Kenya has recently invested in the establishment of Export Processing Zones (EPZs) as attractive destinations for manufacturing-oriented foreign investment. Similarly, the country introduced local participation requirements for various industries, including insurance, telecommunications and ICT services, to increase domestic linkages and local capabilities. In 2021, FDI flows in Kenya increased by 27 per cent compared with 2019 and reached $1.6 billion, capturing about 4 per cent of total FDIs invested in Africa in 2020, with investments made in a diverse range of industries including manufacturing, chemicals, hospitality, and oil and gas.

Productive Capacities in Ghana and Kenya

In this section, we use the PCI developed by UNCTAD to benchmark Ghana and Kenya against the African average and selected countries on the African continent (South Africa, Mauritius, Tunisia and Morocco) and also against selected countries in Asia (Bangladesh and Vietnam). The results of the PCI show the specific areas that require additional investment, focus and proactive policy intervention to build productive capacities and enable Ghana and Kenya to catch up with countries such as Mauritius (a high-income country), South Africa (an upper-middle-income country), and Tunisia, Morocco, Bangladesh and Vietnam (lower-middle-income countries).

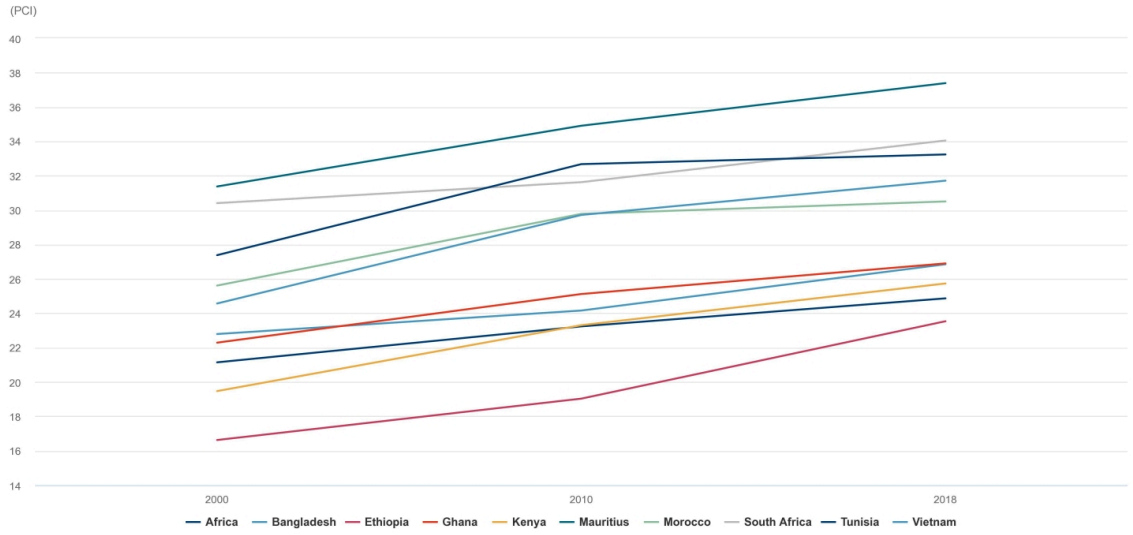
As shown in Figure 13, out of six African countries reviewed, Mauritius has by far the most developed productive capacities, reflecting its high-income status. The impressive performance of Mauritius is

explained by the focused industrial policy that switched from the sugar industry in the 1960s to textiles and apparel in the 1970s, to tourism in the 1980s and to high-value tradable services since the 1990s. [74] The country has also made significant investment in most of the key building blocks of productive capacities, namely energy supply, human-capital development, private-sector development, institution building and upgrading the ICT ecosystem. The index also shows that while Ghana and Kenya have consistently improved their productive capacities since 2000 – with Ghana exceeding the African average – the level of development of both countries' productive capacities remains well below that of Mauritius, Tunisia and South Africa. However, the results for Ghana and Kenya show that Ghana's productive capacity is relatively more developed than Kenya's, although the difference is not that wide (Figure 13).

The results for five out of the eight categories of productive capacities can be accessed online. [75] These reveal the specific areas where countries have made progress and where, conversely, development has been lagging. Ghana and Kenya lag a long way behind Mauritius, Tunisia, Morocco and South Africa in most categories, although Ghana is ahead of Tunisia in institution building. [76] Ghana and Kenya also lag behind Vietnam and Bangladesh. While the gap with Bangladesh is comparatively small, the gap with Vietnam is high considering that Vietnam transitioned to lower-middle-income status at roughly the same time as Ghana and Kenya. This highlights the diversification and innovation that are driving Vietnam's economic transformation.

Both Ghana and Kenya have made significant progress on the human-capital pillar, which captures both education and health outcomes. Progress has been particularly high in Kenya which scores better than the African average. Enrolment in tertiary education in Ghana has substantially increased from 5.2 per cent in 2006 to 17.2 per cent in 2019. Similarly, life expectancy has increased by 16 years in Kenya and by seven years in Ghana since 2000. Kenya can be considered a leading country in terms of innovation when compared with other African countries, including Ghana. Kenya's R&D expenditure-to-GDP ratio is estimated at about 0.8 per cent while that of Nigeria, Tanzania, South Africa and Ghana has been set at 0.13 per cent, 0.5 per cent, 0.8 per cent and 0.3 per cent respectively. In addition, Kenya's research and innovation policy, together with its legislative and institutional infrastructure, is undergoing a major transformation and there are several ongoing initiatives focusing on researchers, innovators and start-ups, as well as small and medium-sized enterprises (SMEs). [77] Even though Kenya's expenditure on R&D activities is considered relatively high for Africa, the fact that some countries have managed to secure a sustainable economic growth, like Singapore and South Korea that have an R&D-to-GDP ratio of 1.9 and 4.8 per cent respectively, indicates that Kenya still has a long way to go. Also, the innovation sector has some critical challenges, such as uncoordinated R&D initiatives that result in duplications, lower private-sector participation, with most initiatives primarily focusing on universities, research institutions, start-ups and SMEs. It is worth noting that both Kenya and Ghana are yet to meet the level of expenditure on R&D agreed and set by the African Union, which is 1 per cent of GDP.

Figure 13 – Composite Productive Capacities Index (PCI) for Africa, Bangladesh, Ghana, Kenya, Mauritius, Morocco, Tunisia, South Africa and Vietnam (2000–2018)



Source:

The lag between Ghana and Kenya, and countries like Mauritius and South Africa, seems to be due in part to the slow progress of Ghana and Kenya in developing their energy supply. At present, only 83 per cent of Ghanaians and 68 per cent of Kenyans have access to electricity, still some way from the universal access that exists in Mauritius, Tunisia and South Africa. Moreover, the reliability of the energy supply remains worrying for many companies. In Kenya, this has even pushed some manufacturers to invest in renewable-energy-based solutions (mostly solar) to reduce the effects of disruptions to supply.

The gaps in institutional capabilities between Ghana, Kenya and other African countries seem to be a little narrower, hinting at the possibility of convergence, provided that Ghana and Kenya continue to show improvements in government effectiveness, regulatory quality and fighting corruption. Ghana scores better in terms of institutional capabilities than Vietnam, Tunisia and Kenya, which highlights the country's political stability and its level of government effectiveness. Interestingly, for Tunisia, Morocco and South Africa, the index for institutions shows a declining trend in the past decade, presumably because of political instability in the case of Tunisia, increased corruption in Morocco, and violence and lack of government effectiveness in the case of South Africa.

Finally, the ICT and structural change [78] scores show significant gaps for both countries. Ghana scores particularly low in terms of structural change, reflecting the current composition of its exports and its heavy dependence on natural resources. In terms of ICT, Ghana and Kenya have witnessed significant advancement over the past decade, with Ghana leading the way. This highlights the potential of both countries in terms of technology adoption and their potential participation in the technological revolution if the same trend continues. As indicated earlier, Nairobi is already considered to be a tech-ecosystem hub and Accra is also increasingly becoming a hub in west Africa.

Conclusion and Recommendations

The experiences of several countries and the associated research highlight that economic growth alone is not enough to enable countries to climb the income ladder, transform their economies and avoid the middle-income trap. As indicated throughout this paper, the quality of growth, institutions, the political economy and political incentives, as well as the level of human capital and the capacity to steer key players towards high-value-added and innovative sectors, are crucial variables in determining countries' development paths.

Economic growth has been relatively high for Ghana and Kenya over the past decade, and both countries have transitioned quite recently to the lower-middle-income status. We have focused our particular analysis and recommendations on these two countries as both have the potential to become regional innovation hubs on the continent – Ghana in the west and Kenya in the east – and to drive growth and trade in other neighbouring countries. As indicated earlier when discussing the path of Asian countries, regional FDI and trade have driven most of the development in Malaysia, Vietnam and Bangladesh. Moreover, the role of regional value chains and of regional trade is significantly increasing, especially in the aftermath of Covid-19 and the current disruptions to global supply chains. Therefore, having regional champions in east and west Africa can be critical for the continent's future development.

However, to avoid their economies being trapped in the middle-income group and to aid transition to upper-middle-income and then to high-income status, policymakers in both countries need to focus on the following:

Invest in Industrialisation and Ensure Effective Governance

Industrialisation should focus on developing manufacturing and high-value-added tradable services enabled by ICT and technology, following a consistent, pragmatic and visionary approach.

Growth strategies in Ghana should concentrate on diversification, which the government already started to implement in 2010. This would require significant public investment that could be financed from export revenues related to natural resources. Economic diversification would not only allow Ghana to create jobs for its mostly young population and develop its productive capabilities, but would also contribute to increasing the resilience of the country to external shocks, such as global crises like the Covid-19 pandemic. For instance, within three years, Namibia receded from upper-middle-income to lower-middle-income because of a decline in international commodity prices and the disruption of commodity trade due to the Covid-19 shock. [79]

In Kenya, growth strategies should continue focusing on expanding manufacturing capabilities and on high-value-added services. The role of manufacturing in the future of Kenya and Ghana remains crucial as the sector plays a central role in the development of other sectors in agriculture and services through positive spillover effects. Manufacturing creates demand for agricultural inputs, supporting an increase in agriculture productivity and creating a need for several supportive activities in the services sector, such as financial services, logistics, business development, real estate, and so on. A focus on high-value-added and tradable services such as financial services, ICT, retail services, transport and storage are also crucial as these are sectors that could help increase productivity across the economy, including in manufacturing and agriculture, and lead to significant efficiency gains. Globally, services exports represent about 26 per cent of total exports. Moreover, trade in services is growing faster than the trade in goods, and the number of tradable services is also growing. For instance, health care is a sector that is typically not considered tradable, but telemedicine will become increasingly tradable in the very near future.

In the early phase of development, where Ghana and Kenya currently sit, countries have focused on modernising and transforming their agriculture and expanding their manufacturing sector by taking advantage of relatively cheap production costs (such as labour and electricity). This is a necessary step to transition to the upper-middle-income status, yet more must be done if the desired growth is to be achieved.

Focus on Specific Sectors

In this phase, Ghana and Kenya should focus on a number of targeted sectors. The selection of these sectors can be supported by technical frameworks such as the product map and economic-complexity tools to select products and sectors that would help them improve their product sophistication. Authorities should focus on attracting FDIs to these sectors while strengthening the business environment and its enablers (finance, infrastructure, labour, energy). Once FDIs are brought to countries, authorities can focus on building domestic linkages with local firms and manufacturers to ensure a technology and knowledge accumulation in their economies and also make certain that local firms are prepared to engage in global value chains (GVCs) while also providing them with an opportunity to acquire technological capabilities.

Learn From the Experiences of Others

It is important to identify some of the countries that Ghana and Kenya can catch up with. This would provide pragmatic and attainable objectives and direction for the policymakers and actors involved in implementing industrial policies. For instance, north African countries such as Morocco and Tunisia, or Vietnam in east Asia, could be named as target countries. Indeed, even if these countries remain in the

lower-middle-income group, their productive capabilities are much more developed than Kenya's and Ghana's, and they would represent a viable target for the next decade.

Promote Diversification

At a later stage, Ghana and Kenya should expand their innovation capabilities and diversify their local and export capabilities. Innovation can be encouraged through investing in the technological specialisation of a national production and innovation system with private-oriented R&D investment, which can be aligned to the target sectors. At this stage, Ghana and Kenya could invest in more short-cycle technology-based sectors (learning from South Korea's experience), which are sectors in which technologies evolve rapidly and where constant innovation leads to less reliance on existing technologies. At this stage, it is also essential for Ghana and Kenya to diversify their exports into more sophisticated and high-value products (either goods or services) so they can sustain the momentum of economic growth. During this stage, the development objective should be to support domestic companies mastering the technology and management to produce high-tech and high-quality goods.

Enable Effective State Intervention and Investment

Governments in Ghana and Kenya should adopt a learning and self-discovery process [80] in selecting target sectors and should continue to work on future strategies. The governments of successful Asian countries have continually played a strategic and visionary role in selecting the strategic sectors for their countries' future. Any state intervention needs to keep pace and adapt to the changes in the market and the latent competitive advantages in the economy. Also, policymakers should adopt a set of conditional support measures for both foreign and local firms to ensure sufficient investment in public resources.

Embrace Digital Technologies

Governments in Ghana and Kenya should harness the potential of digital technologies to support economic transformation. Digital technologies provide huge opportunities to transform all sectors, from agriculture to manufacturing and services, with important productivity gains and support for vital economic transformation. Across the continent, both Ghana and Kenya are quickly adopting new technologies and working towards becoming regional hubs; this should be further reinforced and included as a focus in all target sectors. The level of adoption of digital technologies will determine the development of a productive service sector and the growth of trade in services in both countries. While tradable services might not create jobs at a scale akin to manufacturing, they would have positive spillover effects on productivity and skills in the economy.

Build the Foundations for Successful Industrialisation

It is important for political leaders in both countries to consider industrialisation as a political project and not just another technocratic reform. Successful industrialisation requires an alignment between political and private-sector interests, necessitating a commitment to build strong political coalitions behind industrial policies. Successful industrialisation also requires a certain level of functioning governance and institutions for effective delivery. Coordination and delivery mechanisms between different public institutions need to provide the necessary framework for a successful economic transformation, taking into account industrial infrastructure, the promotion of investment and industrial human resources. Therefore, investing in industrialisation should be considered at the heart of political projects for leaders in Ghana and Kenya.

Transform Agriculture

While an agricultural revolution has preceded an industrial revolution in most high-income countries, in African countries, agriculture continues to be driven by subsistence and traditional farming techniques, leading to low productivity. This remains the case in Ghana and Kenya. Therefore, continuing to improve agricultural productivity and investing in agricultural transformation is highly strategic for the Kenyan and Ghanaian economies and would enable the development of industries such as agri-processing that are important for the continent's structural transformation.

Invest in Education, Human-Capital Development and the Labour Market

While significant progress has been made in both countries on educational attainment, both countries remain below other African countries such as Tunisia and South Africa on human-capital development. This should be a central tenet of the development agendas of Ghana and Kenya as the lack of human-capital development is one of the most notable determinants of the middle-income trap. The lessons from Malaysia, Tunisia and Morocco indicate that, in parallel to human-capital development, it is critical to enable the economy to create job opportunities that match the educational attainment of the labour force in order to avoid a brain drain.

Improve Energy Access and Reliability

Industrialisation and economic transformation are not possible without reliable access to energy and electricity. While Ghana and Kenya perform better than many sub-Saharan African countries, their energy access and reliability is below other lower-middle-income countries such as Tunisia.

Encourage Entrepreneurs

While governments have a major part to play in steering their countries' economies toward high-income status, real and sustainable growth can only be achieved and maintained with significant input from the private sector. It is therefore critical for governments to create a favourable investment, macroeconomic and institutional environment to foster and encourage entrepreneurial activity.

Charts created with Highcharts unless otherwise credited.

Footnotes

1. ^ An extractive political economy (or extractive institutions as defined by Acemoglu and Robinson) is defined by lack of law and order, insecure property rights, entry barriers and regulations preventing functioning of markets and creating an uneven playing field, often designed by and for the benefit of the elite.
2. ^ Felipe (2012)
3. ^ In the case of African countries, for example, the vast majority of jobs are casual, mostly in agriculture.
4. ^ Lin and Treichel (2012); Kharas and Kohli (2011)
5. ^ Felipe, Abdon and Kumar (2012)
6. ^ Ohno (2010) ; Paus (2012) ; Abugattas-Majluf (2012)
7. ^ FDIs coming to a host country are expected to generate external effects – usually termed FDI spillovers – including an increase in the productivity and competitiveness of domestic firms.
8. ^ Ohno (2010)
9. ^ Ohno (2009)
10. ^ Lee and Kim (2009)
11. ^ Paus (2017)
12. ^ Kim (1991)
13. ^ Kim (1991)
14. ^ Kim (1991)
15. ^ Lee (2014); Lee, Hannigan and Mudambi (2015)
16. ^ Lee (2014)
17. ^ Ibid
18. ^ Lee, Hannigan and Mudambi (2015)
19. ^ Lee (2014)
20. ^ Ibid
21. ^ Raj-Reichert (2020)

22. ^ Hill, Tham and Zin (2012); Raj-Reichert (2020).
23. ^ Lee and Francisco (2012)
24. ^ Agenor (2016)
25. ^ Flaaen, Ghazi, and Mishra (2013)
26. ^ Hill, Tham and Zin (2012)
27. ^ for Bangladesh: from 6.4 billion $ in 2000 to 33 billion $ in 2020; and for Vietnam from 14.5 billion $ in 2000 to about 281.5 billion $ in 2020. Source: UNCTAD Comtrade
28. ^ in 2010 constant prices
29. ^ Data source: UNCTAD Comtrade
30. ^ Data source: UNCTAD Comtrade
31. ^ Data source: UNCTAD Comtrade
32. ^ Klingler-Vidra (2020)
33. ^ Paus (2017)
34. ^ Source: authors' computation based on WDI data
35. ^ McMillan and Rodrik (2011)
36. ^ Pagés et al. (2006)
37. ^ when comparing GNI at USD constant 2010 prices
38. ^ Moreira (1998)
39. ^ UNCTAD (2013)
40. ^ Lee, Hannigan and Mudambi (2015)
41. ^ Moreira (1995)
42. ^ Data source: UNCTAD COMTRADE
43. ^ OECD (2019).
44. ^ A factor-based economy is an economy in which competitive advantage is based on endowments of labour and natural resources.
45. ^ Source: WIPO for South Korea and Brazil

46. ^ Souza (2017)
47. ^ Doner and Shneider (2016)
48. ^ Rijkers, Freund and Nucifora (2017); Kchouk, 2017, Arouri, Baghdadi and Rikers (2019)
49. ^ Kas (2021); Akgüç, Alcidi and Di Salvo (2020); Musette (2016)
50. ^ https://www.reuters.com/article/us-morocco-economy-ports-idUSKCN1TR2G0
51. ^ According to UNCTAD, productive capacities or capabilities are "the productive resources, entrepreneurial capabilities and production linkages which together determine a country's capacity to produce goods and services and enable it to grow and develop". Productive resources are factors of production and include natural resources, human resources, financial capital, and physical capital. Entrepreneurial capabilities are the skills, technology, knowledge, and information needed to mobilise resources in order to build domestic enterprises that transform inputs into outputs – outputs that can competitively meet present and future demand. They also include abilities to invest, innovate, upgrade, and create goods and services. As such, they refer to the competencies and technological learning needed to induce economic change. Production linkages are flows of goods and services in the form of backward and forward linkages, information and knowledge flows, and productive resources among enterprises and sectors or activities.
52. ^ The PCI is calculated based on the broad conceptual framework provided by UNCTAD, which characterises productive capacities as consisting of productive resources, entrepreneurial capabilities, and production linkages. To measure these broad categories of productive capacities, eight key building blocks and capabilities that a country requires to expand its productive capacities are identified. These are human capital, natural capital, energy, transport, the private sector, institutions, information and communication technologies (ICTs) and structural change, among others. For each of these categories several indicators are identified and computed to develop a composite productive capacity index. The scores obtained from the composite index are used to determine the progress a country has made in developing its productive capacities. More importantly, they indicate in which areas further investments and upgrading are required and the gaps with other countries, particularly those that are ahead in terms of income and level of development.
53. ^ UNCTAD, 2021
54. ^ Ohno (2019)
55. ^ Amsden (1989)

56. ^ Lin & Zhang (2019)
57. ^ Ngo (2005)
58. ^ While the theory and history of "catch-up" development is beyond the scope of this paper, it is worth noting that such theorising has been an integral part of the debate on economic development. For a comprehensive analysis of "catch-up" development see, Nyyar (2013) and for a recent analysis of catch-up experiences, see Lee (2018).
59. ^ Nayyar (2013), Chang (2003)
60. ^ List (1956), Nayyar (2013)
61. ^ (IFPRI, 2020)
62. ^ The rural population in Ghana decreased from 63 per cent in 1990 to 42 in 2000.
63. ^ Employment in agriculture decreased by 25 percentage points between 2000 and 2019 and employs today less than 30 per cent of total workers. Similarly, the contribution of the sector to GDP decreased by 15 percentage points since 2000, to reach 18 per cent to GDP in 2020. However, this shift out of agriculture has been towards services (mostly non-tradable and low-productive sectors in services)
64. ^ (World Bank, 2020)
65. ^ (IFPRI, 2020).
66. ^ The share of manufactured goods in exports decreased by more than 12 percentage points between 1998 and 2019 (from 16.9 per cent to 4.5 per cent).
67. ^ In economics, the Dutch disease is the apparent causal relationship between the increase in the economic development of a specific sector and a decline in other sectors
68. ^ In 2020, 72 per cent of the population were still living in rural areas.
69. ^ World Bank (2019)
70. ^ Manufactured goods represented an average of 28 per cent of exported goods between 2016 and 2019, with an increasing share since 1995 (an average of 23 per cent between 1995 and 2000).
71. ^ http://repository.kippra.or.ke/bitstream/handle/123456789/3070/Policy%20Brief%20No.53%20of%202018-2019.pdf?sequence=1&isAllowed=y
72. ^ https://www.theafricareport.com/45486/ghana-leads-on-industrial-growth-by-dropping-the-dogma/

73. ^ UNCTAD, 2021

74. ^ https://cdn.odi.org/media/documents/11579.pdf

75. ^ https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=199270

76. ^ The indicators used to compute the institutional index include control of corruption, government effectiveness, political stability and absence of violence/terrorism, regulatory quality, rule of law and accountability.

77. ^ Research Professional, Africa's innovation gap: A view from Kenya, June 2021

78. ^ The indicators used to measure structural change are export concentration index, economic complexity index, industry's ratio to GDP and Gross fixed capital formation as a share of GDP.

79. ^ According to UNCTAD, in 2019, 42 of the 49 countries in Sub-Saharan Africa were categorised as commodity dependent. 89 per cent of countries in Sub-Saharan Africa are commodity dependent, compared with two-thirds of the countries in the Middle East and North Africa, half of the countries in Latin America and the Caribbean, and half of the countries in Asia and the Pacific.

80. ^ The process of self-discovery, as defined by Hausmann and Rodrik, is about policy learning and understanding which policies and interventions work and which don't and under which conditions.

FOLLOW US
facebook.com/instituteglobal
twitter.com/instituteGC
instagram.com/institutegc

GENERAL ENQUIRIES
info@institute.global

FIND OUT MORE
INSTITUTE.GLOBAL