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Structural Change and Development Dynamics in Sub-Saharan Africa (1960–2024)

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BERTUS MARKUS MELLES

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Structural Change and Development Dynamics in Sub-Saharan Africa (1960-2024)

Sub-Saharan Africa stands at a critical juncture between repeating historical boom-and-bust cycles and achieving sustained economic prosperity. While recent growth has sparked hope, this book goes beyond growth to examine the structural changes that shaped the region's economies since independence. It reveals that today's growth is built on improved foundations compared to past growth spurts. The study underscores that neither outright optimism nor overwhelming pessimism is warranted; instead, it highlights the need for proactive and comprehensive efforts to harness these advancements. Without concerted action focusing on structural change, the region risks missing the opportunity to fully realise its potential.

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Structural Change and Development Dynamics in Sub-Saharan Africa (1960-2024)

Bertus Markus Melles

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UNIVERSITY

DOCTORAL DISSERTATION

Doctoral dissertation for the degree of Doctor of Philosophy (PhD) at the School of Economics and Management at Lund University to be publicly defended on the 22nd of November at 13:15 in EC3:211 , Department of Economic History.

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Abstract:

The importance of sustained economic growth in sub-Saharan Africa cannot be overstated. The region remains the most impoverished region globally, leaving millions of people without access to basic necessities such as clean water, education, and healthcare. Amidst these challenges, hopes have risen since the return of economic growth at the turn of the millennium. However, historically oriented scholars have cautioned that the current growth spurt may be part of a recurring pattern of booms followed by busts. In the past, these growth spurts were often driven by external demand for Africa's commodities but eventually petered out, resulting in stagnation and decline. This raises the question: Are current signals echoing the boom-and-bust patterns of the 1970s and 1980s?

To answer this question, we need a proper understanding of how the current growth relates to earlier booms. However, focusing on the rate of growth is insufficient. While economies can grow and decline due to short-term changes in increased external demand, sustained long-run modern economic growth is associated with structural changes in the productive and societal structures. Therefore, to gain a better understanding of Africa's current growth and its historical growth trajectory, it is essential to move beyond mere growth rates and examine how African economies have transformed over time through the lens of structural change. This entails analysing shifts in sectoral composition, transitions to higher productivity sectors, and the factors driving these changes.

Altogether, the study reveals that there are both challenges and opportunities for Africa, and neither outright optimism nor overwhelming pessimism is warranted when evaluating the region's prospects. The current growth expansion is not simply a cyclical repetition of growth seen in previous periods. Instead, the findings suggest that it is built upon significantly improved and transformed foundations, in part as a result of previous growth periods. This advancement suggests that recent achievements are more stable and less likely to lead to the severe setbacks experienced during the lost decades. However, so far, the outcomes of structural change indicate that, to fully take advantage of the opportunities afforded by these improved foundations, more proactive and comprehensive efforts are required. This entails not only maintaining economic growth but also addressing the wider issue of structural change. Without such concerted actions, the region may not fully realise its potential.

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Acknowledgments

As a young boy in school, I learned about the concept of Maslow's pyramid. While it may be an overly simplistic framework, the idea behind it somehow stuck with me. Where exactly doing a PhD fits into that hierarchy can be debated; however, I have always seen it as an act of self-actualisation. In any case, we can agree that pursuing a PhD is an immense privilege. Thus, to begin, I would like to thank Lund University and the Department of Economic History for offering me this incredible opportunity. The scholarly ecosystem you provided during my PhD years – from the cleaners to the administration – has been top-class.

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To conclude, I want to thank all the people from Côte d'Ivoire who helped me while I travelled around your beautiful country, trying to grasp its complexity and gather data for my research. In particular, thanks to Yannick, Aka, Chloe, Joseph, Fe, Grace, Mr. Johnson, and the farmers from Akrési. In the end, this book is dedicated to them and the wider African community, as far too many people still find themselves stuck at the bottom of Maslow's pyramid.

List of Papers

I. The Patterns of Under-Industrialisation in Africa.

II. A Break from the Past? Structural Change and Economic Growth in Côte d'Ivoire.

III. Bridging the Gap: Economic and Social Capability Development in Côte d'Ivoire and Ghana, 1960-2023. *(together with Prince Young Aboagye)*

IV. Go with the Flow? Manufacturing Growth and Capital Flows in Africa. *(together with Erik Green)*

For the co-authored papers, the conceptualisation, writing, and analysis were done jointly, while the data gathering, and statistical analysis were carried out by me.

1. Introduction

The importance of sustained economic growth in sub-Saharan Africa[1] cannot be overstated. According to the World Bank's most recent estimates, Africa is the most impoverished region globally, with nearly 40 per cent of the population living on less than $2.15 per day. This leaves millions of people without access to basic necessities such as clean water, education, and healthcare. Moreover, the region is facing unprecedented demographic changes, with the population expected to double by 2050, reaching around 2.5 billion people. This places immense pressure on governments and economies to create enough jobs and opportunities for their young populations. Compounding these challenges, Africa is particularly vulnerable to the impacts of climate change, which threaten to undermine economic development. Rising temperatures, shifting rainfall patterns, and increasing instances of drought and extreme weather events disproportionately affect the region's agriculture-dependent economies. Without sustained and inclusive economic growth, the combined pressures of poverty, population growth, and climate change could destabilise the region, with repercussions that would be felt around the world.

Amidst these significant challenges, the prevailing economic narrative about Africa has been undergoing a notable transformation. At the turn of the millennium, the consensus among economists was that Africa epitomised economic failure (Collier & Gunning, 1999; Easterly & Levine, 1997). Reflecting this view, a vast body of scholarly literature cast serious doubts on the region's ability to overcome its historical challenges, arguing that Africa is fundamentally hindered by deeply entrenched poor institutions and unfavourable biogeographical factors, which are difficult to change (Acemoglu et al., 2001; Sachs & Warner, 1997). Surprisingly then, since the early 2000s, Africa started to grow at a relatively high pace, sparking a fierce debate: Is Africa breaking with its past and emerging from poverty? After the deep pessimism of the early 2000s, some scholars have now become more optimistic about Africa's growth prospects. Such 'Afro-optimists' have pointed towards the high growth rates and economy-wide improvements that occurred since the turn of the millennium and see it as a cautiously optimistic sign of a break with the past (Mcmillan & Harttgen, 2014; Thorbecke &

[1] For readability purposes, henceforth sub-Saharan Africa is termed 'Africa'.

Ouyang, 2016; Young, 2012). However, this optimism has been contested by more historically oriented scholars who argue that this expansionary phase resembles a historical pattern of cyclical growth that always ended in stagnation and decline (Broadberry & Gardner, 2022; Jerven, 2010). Clearly, there are widely differing views regarding Africa's past and recent economic performance, varying from stagnation to dynamic cyclical growth and a break with the past.

This study aims to contribute to the understanding of Africa's current and past development since independence. It poses the overarching question: *How do we best understand Africa's current growth in relation to its historical development trajectory since independence?* To answer this question, the study goes beyond aggregate growth analysis and delves into topics related to structural change, i.e. the change in composition of economic activity away from lower-productivity traditional sectors to more productive modern economic activities. Structural change is one of the core topics in economic history as it involves the shifts in societal-wide processes that occur when modern economic growth sets on. As countries develop, and people apply useful knowledge to economic problems, their productive structures change from relatively simple production processes based on agriculture to more complex industrial and services-based production (Kuznets, 1966, 1971). By studying the structural changes that took place over the course of economic growth and decline since independence, the study aims to elucidate the past and current challenges and achievements in attaining sustainable growth.

Each of the thesis's four articles has a separate focus that illuminates the wider aim of the thesis. The first article adopts a region-wide focus and aims to understand the patterns of employment under-industrialisation in Africa. Is Africa skipping an industrialisation phase and does the region find it more difficult to industrialise than before? The second article conducts a case study on structural change within Côte d'Ivoire's economy, aiming to illuminate how economic structures have transformed from the previous economic boom in the 1970s to the current period of growth. Is there reason for optimism, or is Côte d'Ivoire about to repeat the crash that followed the boom? The third paper goes beyond economic structures and is an endeavour to study the cumulative change of social capability through a comparative lens in Ghana and Côte d'Ivoire. Where were these countries in terms of social capability development just after independence, and where are they now? The last study aims to contribute to the wider aim of the thesis by examining Africa's industrialisation from a global perspective. A long literature and recent policy initiatives suggest that we can boost industrialisation in Africa by the use of foreign capital. What does Africa's experience so far reveal to us about these prospects?

Altogether, the study reveals that there are both challenges and opportunities for sub-Saharan Africa, and neither outright optimism nor overwhelming pessimism is warranted when evaluating the region's future prospects. The current growth expansion is not simply a cyclical repetition of growth seen in previous periods. Instead, the findings suggest that it is built upon significantly improved and transformed foundations, in part as a result of previous growth periods. This advancement suggests that recent achievements are more stable and less likely to lead to the severe setbacks experienced during the lost decades. However, so far, the outcomes of structural change indicate that, to fully take advantage of the opportunities afforded by these improved foundations, more proactive and comprehensive efforts are required. This entails not only maintaining economic growth but also addressing the wider issue of structural change. Without such concerted actions, the region may not fully realise its potential.

This Kappa is intended to introduce the reader to the research and to put the individual papers into a broader theoretical and empirical perspective. The Kappa begins with a section that provides the background of the overarching research question and the overarching research contributions. This section is followed by a section providing a background in the empirics and theory of structural change, which helps the reader to better understand the background and contributions of each individual paper. Consequently, I will discuss the data, methods, and limitations of the research, followed by detailed summaries of the individual papers. The Kappa ends with a concluding discussion in which I tie the papers together and aim to elucidate the broader implications of the findings.

2. Motivation, Background and Aim

This section is intended to further motivate the overarching research question, provide background for the reader, and outline the thesis's objectives and overall contributions. It begins by setting the stage with a subsection that covers an overview of the economic and historical context surrounding sub-Saharan Africa's growth trajectory since independence. Since the overarching research question is informed by the various perspectives from previous studies on the region's historical background, this part naturally leads into a second subsection that details the research's primary aims and contributions.

2.1 Previous Research and Historical Context

Six decades after the wave of decolonisation, it is clear that the trajectory of African economies has not aligned with the high hopes at the dawn of independence. In the first 40 years of independence, average GDP per capita in the region hardly changed, earning Africa the dubious title of 'The Hopeless Continent' on the cover of *The Economist* at the turn of the millennium. Indeed, at the beginning of the 2000s, it was widely accepted that Africa was a perpetually stagnant place, part of a group called the 'Bottom Billion' (Collier, 2007). Prominent scholars summarised it in a well-known paper as: 'Africa's economic history since 1960 fits the classical definition of tragedy: potential unfulfilled, with disastrous consequences' (Easterly & Levine, 1997, p. 1).

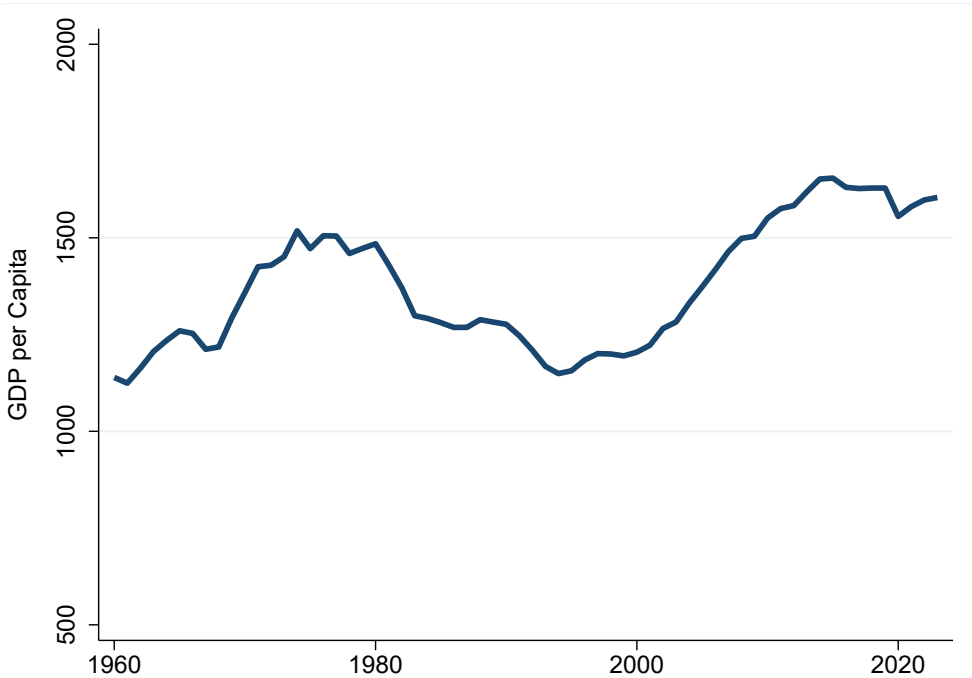
Unsurprisingly then, at the turn of the millennium, Africa became the focus of empirical studies that take the concept of a persistently economically stagnant place as a point of departure. The by-now famous studies of scholars such as Sachs & Warner (1997), Bloom et al. (1998), and Gallup et al. (1999) explain persistent African underdevelopment by referring to Africa's uniquely unsuited climatological, biological, and geographical factors such as thin soils, the disease environment, and rainfall patterns. Whilst the opposing neo-institutional school explains the enduring economic lag through the persistence of a poor institutional setting that arose from historical factors such as colonialism, the slave trade, or ethnic heterogeneity (Acemoglu et al.,

2001; Easterly & Levine, 1997; Nunn, 2008). These studies have by now become part of the must-read literature in almost all fields related to economic growth, including economic history and economic development. Moreover, both views have become also entrenched in popular media through bestselling books such as 'Why Nations Fail' (Acemoglu & Robinson, 2013) and 'Guns, Germs and Steel' (Diamond, 1999).

While it is true that sub-Saharan Africa is the poorest region today, the image of a stagnant, unchanging place has received considerable criticism from the more historically oriented researchers. In fact, historical evidence reveals that the economic trajectory of Africa over the last two centuries has been rather dynamic with recurrent episodes of growth and decline. The periods of rapid growth were always a result of strong external demand, fostering expansion in specific sectors of regional economies. However, over time, these expansions reached their limits, giving way to periods of stagnation or shrinking (Broadberry & Gardner, 2022; Jerven, 2010). Such cyclical patterns of economic growth and decline have been evidenced by long-run GDP per capita series (Broadberry & Gardner, 2022). Additionally, cyclical patterns have also been observed in other empirical historical research, such as real wages, inequality, and stature (Bolt & Hillbom, 2016; Cogneau & Rouanet, 2011; Frankema & Waijenburg, 2012).

One example of such a growth cycle in Africa was the period between 1960 and 1980. Just like other periods of expansion in the region, this period was characterised by strong external demand for its commodities (Jerven, 2010). As a consequence, during these two decades following independence, many African countries experienced robust and sustained economic growth. As shown in Figure 1, based on data from the World Bank (2024), average GDP per capita in Africa grew by 30 per cent between 1960 and 1980. The significance of this growth becomes even more evident when considering that real wages and GDP per capita were considerably higher in many African countries than in Asian nations, including China and India, during the same period (Broadberry & Gardner, 2022; Frankema & Waijenburg, 2012). This impressive economic performance underscored Africa's potential and positioned the region favourably on the global economic stage at the time.

Figure 1: GDP per Capita (constant 2015 US$) for sub-Saharan Africa



Note 1: Weighted average calculated by the source. Source: World Bank (2024)

However, at the end of the 1970s, growth rates began to decline in many African countries as the global context changed and terms of trade deteriorated. In addition, African governments struggled to attract sufficient capital, something that had been relatively easy during the boom period. As a consequence, while growth declined, some African governments also fell into severe debt distress and entered structural adjustment programmes (Arrighi, 2002; Easterly, 2001; Stein & Nissanke, 1999). Hence, the boom period was followed by a long period of decline which came to be known in the literature as 'The Lost Decades' (Easterly, 2001). As Figure 1 shows, the decline lasted on average until deep into the 1990s. By the turn of the millennium, average GDP per capita had barely increased from its 1960s levels.

This fact, of zero average growth since independence, informed the dominant narrative of Africa at the turn of the millennium; one that depicted the region as stagnant and unchanging, or as a chronic growth failure (Collier, 2007; Collier & Gunning, 1999; Easterly & Levine, 1997). Consequently, it spurred a race to identify the 'root causes' of Africa's persistent stagnation (Jerven, 2011). However, as is clear by now, placing

Africa's growth trajectory within the appropriate historical context alters our understanding because, historically speaking, Africa was not a stagnant and unchanging place. This suggests that merely focusing on the average growth rates might have led to what Austin termed the 'compression of history' (Austin, 2008, p.1). Instead, economic historians argue, the development trajectory of Africa is more fruitfully seen as a process (Cooper, 2019; Jerven, 2010). This perspective allows us to change the question from 'Why is Africa so poor?' to questions like 'Why was the previous episode of economic growth not sustained?', 'Why did it take so long for Africa to recover?', and 'Is this current growth episode likely to be sustained, or is it merely a repetition of the historical boom-bust pattern?'.

At the turn of the millennium, rapid growth returned, which triggered the question: 'Is this time different? Is Africa rising out of poverty?' In popular media, after having called the continent 'hopeless' in 2000, a little more than a decade later, *The Economist* headlined 'Africa Rising'. In academia, this optimism was shared by proponents of the so-called 'Africa Rising Narrative' in the ongoing Africa Rising debate. At the heart of the debate is the question: 'Is Africa breaking with its past? An Africa Rising narrative is supported by positive indicators such as increasing foreign direct investment, a growing middle class, reductions in poverty, and expanding infrastructure projects across various nations (Frankema & Waijenburg, 2018; McKay, 2013; Shimeles, 2014; Thorbecke & Ouyang, 2016; Young, 2012). However, as shown in Figure 1, halfway into the 2010s, the rapid growth rates disappeared, and instead, the track record became more sluggish. Once again, now in The New York Times, it was firmly decided: '*Africa Rising'? 'Africa Reeling' May Be More Fitting Now*' (2016).

Indeed, when we examine the recent growth spurt, GDP per capita is not significantly higher than it was decades ago during its previous peak. Based on the data from Figure 1, average GDP per capita in Africa stood at the peak in 2015 only 10 per cent higher than during the previous peak of 1976. This translates to an average growth rate of about 0.2 per cent per year.[2] At this rate, Africa will be, on average, a high-income region in more than a thousand years.[3] It is therefore not strange that some scholars have received the recent growth with much scepticism, particularly about the suggestion that Africa is turning a page on history (Taylor, 2016).

Instead, the recent episode of growth might be more usefully interpreted within the cyclical model of recurrent growth (Broadberry & Gardner, 2022; Cooper, 2019; Jerven, 2010). After all, the recent growth spurt is again associated with increased

[2] (1.10 ^(1/(2015-1976)) ≈ 1.002

[3] For simplicity, I used constant 2015 US$ from Figure 1 instead of GNI per capita (Atlas method) that the World Bank uses for the income classification.

external demand for Africa's commodities, this time buoyed by China's rise. With the slowdown of growth in China and the end of a 'commodity super-cycle', demand for commodities might fall, just like it did after the long period of commodity export boom in the 1960s and 1970s (Broadberry & Gardner, 2013; Lawrence, 2022; Rodrik, 2018). More ominously, just like in the previous boom, we have witnessed global economic shocks that have resulted in considerable price fluctuations and interest rate hikes, and consequently the return of sovereign debt distress in Africa (Lawrence, 2022). Are these signals echoing the boom-and-bust pattern of the 1970s and 1980s? Clearly, we cannot answer that question without having a proper understanding of how the current growth spurt relates to the earlier boom.

To understand Africa's current growth in relation to its historical development trajectory, focusing on the rate of growth is insufficient. While economies can grow and decline due to short-term changes such as increased external demand, sustained long-run modern economic growth is associated with structural changes in the productive and societal structures (Chenery, 1960; Kuznets, 1966, 1971; Syrquin & Chenery, 1989). Therefore, to gain a better understanding of Africa's current growth and its historical growth trajectory, it is essential to move beyond mere growth rates and examine how African economies have transformed over time through the lens of structural change. This entails analysing shifts in sectoral composition and the transition to higher productivity sectors, but also factors that could drive structural change and how these have changed over time.

2.2 Aim and Contributions

This study aims to contribute to the understanding of the development trajectory of sub-Saharan Africa since independence. It is argued that, by having a proper understanding of Africa's recent past, we will also have a better understanding of its current challenges. Based on the previous, the importance of studying the long-run growth trajectory seems clear: there are divergent perspectives about how to interpret current and past growth in Africa. On the one hand, within the general public, media and academia, ideas of a stagnating, unchanging place are rife. At the same time, there are others who claim that Africa's development trajectory has been rather dynamic or that Africa might be growing out of poverty. Moreover, Afro-optimism and Afro-pessimism seem to follow each other up in rapid succession: when there are seven good years in Africa, the region is said to be rising out of poverty, and when there are seven bad years, the region seems to have not advanced at all since independence.

To put these observations into perspective, this study asks the question:

How do we best understand Africa's current growth in relation to its historical development trajectory since independence?

Each of the thesis's four articles has a separate focus that illuminates the wider aim and addresses this research question. The study begins with an overview study, aiming to understand how Africa's employment industrialisation experience relates to other industrialisation experiences and to itself over time. Industrialisation is often seen as the hallmark of development, and it is widely recognised that Africa needs industrialisation for further inclusive growth. However, there is a large literature suggesting that Africa is running out of industrialisation employment opportunities sooner than is usual. The study finds that while Africa is on average severely under-industrialised, there is considerable variation within Africa, with nine out of 19 countries industrialising more or less in line with the global average. Unlike previous studies, I find that the observed patterns of under-industrialisation are not trend-like, suggesting that African countries, on average, do not face greater challenges in industrialising now compared to earlier decades. Instead, the analysis points to the sectoral origins of under-industrialisation being partly rooted in country-specific natural resource endowments. All in all, the results challenge the notion that Africa has missed its window for industrialisation and underscore the need for a better understanding of the factors behind under-industrialisation in Africa.

As the first study only examines the trends in manufacturing employment, it might have missed important information relating to productivity dynamics and details relating to other sectors that are now driving structural change instead. Therefore, the second study is a detailed comparative case study of Côte d'Ivoire, aiming to understand what the main differences and similarities are between the earlier periods of high growth and the current boom from the perspective of structural change. While on the surface there are considerable similarities between both expansionary periods, the study finds that, from the perspective of structural change, large disparities exist. During the first boom, the direction of structural change was as expected, but the pace was relatively limited. In contrast, the current growth phase is marked by a high pace of structural change but an atypical direction. The large disparities between the current and previous boom suggest that we cannot simply replicate the concept of cyclical growth from the past and anticipate identical outcomes in the current growth phase.

As questions remain as to why the pace of structural change was slow in the earlier growth period and why the modern sector did not expand dynamically in the current period, the third study investigates the cumulative development of social capabilities in Ghana and Côte d'Ivoire since independence. The study finds that at independence,

both countries had relatively well-developed economies but a low level of social capability. As a result, they were vulnerable to economic stagnation and decline as they pursued a pathway of structural change that outpaced their social capabilities. Both countries faced economic setbacks; however, during times of economic decline, their social capabilities remained relatively stable, suggesting that the periods of growth had a lasting impact on the countries' social capabilities. All in all, both countries have now significantly improved their social capabilities compared to six decades ago. Hence, despite not having grown much over the last six decades, their foundations for further structural change have improved significantly.

Given that the previous studies suggest that Africa is, on average, under-industrialised and that channelling resources towards the expansion of the modern sector remains challenging, the fourth study seeks to better understand whether foreign capital contributed to manufacturing growth in Africa. The paper focuses on two types of capital variables that are considered to be characterised by different mechanisms through which they affect a host economy: net foreign direct investments (FDI) and net non-FDI. The former involves direct investment with a lasting interest and potential control over a company, while non-FDI includes financial investments without such control such as portfolio investment and loans. The findings of the study suggest that between 1970 and 2018, FDI contributed, on average, negatively to manufacturing growth in Africa, while non-FDI has, on average, contributed positively. The evidence further indicates that the underlying reason for these patterns is that most of the FDI has gone to the extractive sectors, while the inflow of non-FDI has supplied local investors with credit and increased governments' ability to invest in public goods that facilitate the growth of the manufacturing sector. This means that the recent surge in FDI has likely not contributed much to entrenching manufacturing in African economies and instead reinforced the countries' comparative advantage in resources.

Overall, the four studies contribute towards an improved understanding of Africa's current growth in relation to its historical development trajectory since independence. They reveal important aspects relating how economic structures, industrialisation, investment and social capability changed over time. In the conclusion of this Kappa, I further highlight the interconnections between the findings of the individual papers and aim to elucidate the broader implications of the findings. All in all, the studies provide thereby perspective on the challenges and opportunities that African countries face today.

3. Empirics and Theory of Structural Change

Section three aims to introduce and provide a background on the literature surrounding structural change, the core topic of this thesis. Given the vastness of this topic, it is inevitable that some important aspects will be left out. Therefore, my focus lies on areas that bear direct relevance to the research questions. The section begins with a general introduction to the empirics of structural change, followed by a brief discussion of the drivers of structural change and the relation of structural change to the catch-up process. Subsequently, key research areas within the African structural change literature are introduced. The section concludes with a brief outline of my contributions to both the overall literature on structural change and the specific literature on structural change in Africa.

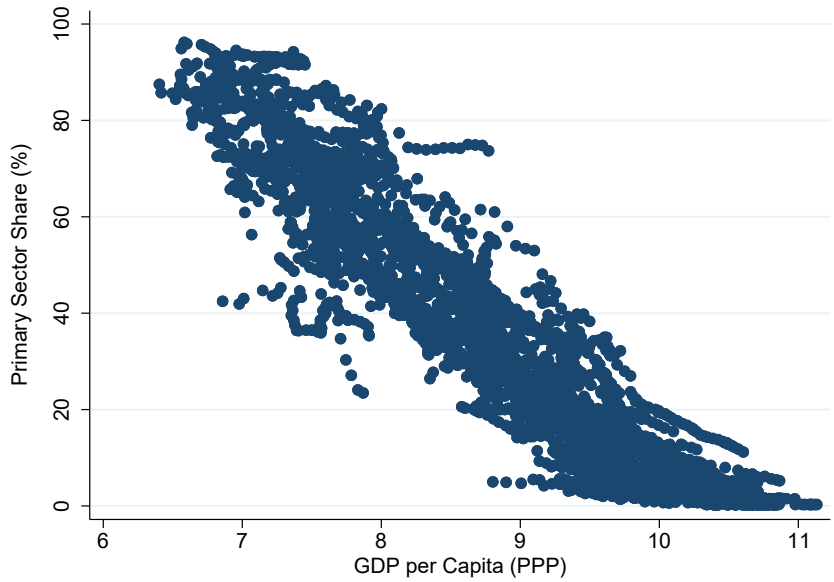
3.1 The Empirics of Structural Change

Simon Kuznets (1966) coined the term 'modern economic growth' to describe the economic era of the past 250 years, marked by the application of science-based technology to production. Its principal characteristics are 'a sustained increase in per capita or per worker product... and usually sweeping structural changes' (Kuznets, 1966, p.1). Throughout history, the interrelated nature of structural change and economic growth has been key in understanding the onset of and outcomes of economic growth around the world. Indeed, modern economic growth is so much entrenched with structural change that its onset in Great Britain is named after a revolution occurring in a specific sector. Ever since the first industrial revolution, the shift out of agriculture into industry and higher skill services has been widely associated with modernisation, epitomised by the fact that we often dub developed nations 'industrialised nations'.

In its narrowest form, structural change is studied as a process of reallocation of economic activity across the three broad sectors: agriculture, industry, and services. The

patterns in the broad sectors that are observed across countries as they develop are among the most robust empirical consistencies in economic history (Kuznets, 1966, 1971; Syrquin, 1988). Kuznets summarised these patterns of structural change in his Nobel Lecture as 'the shift away from agriculture to non-agricultural pursuits and, recently, away from industry to services' (Kuznets, 1971). Recent empirical research demonstrates that the broad structural patterns observed in early industrialisers, such as Great Britain, continue to hold true in contemporary economic development (Herrendorf et al., 2014; van Neuss, 2019). Figure 2 to 4 illustrate the patterns that occur as countries develop, using data from 1940 to 2018.

Figure 2: Primary Sector Share as GDP per Capita Increases



Note 2: Employment shares by broad sector for 77 economies. Primary sector: agriculture. Sources: Author's calculations based on employment data gathered and linked for Paper One. GDP per capita data from Bolt & van Zanden (2020).

Figure 2 shows that when economies are at the beginning stages of development, nearly all workers are engaged in agriculture. As economies grow, labour moves in a linear fashion out of agriculture and in the long run converges towards zero. Figure 3 illustrates that as the share of employment in agriculture declines, industry begins to expand and absorbs some of the labour released by agriculture. This continues until a certain point in development when the share of workers in industry peaks and starts to

Figure 3: Secondary Sector Share as GDP per Capita Increases

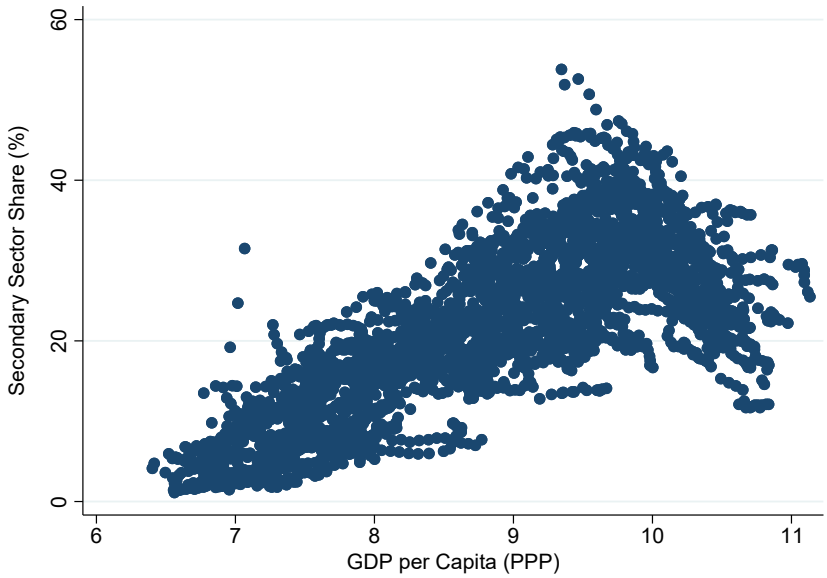
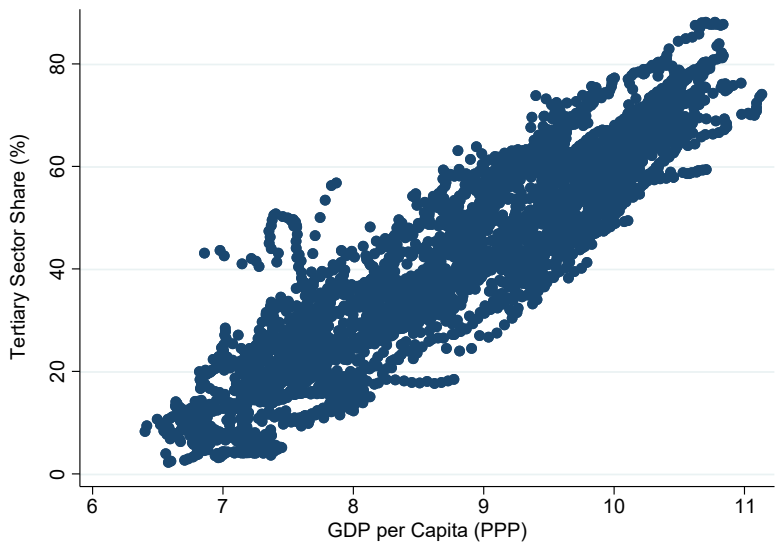


Figure 4: Tertiary Sector Share as GDP per Capita Increases



Note 3: (Figures 3 and 4) Employment shares by broad sector for 77 economies. Secondary sector: all industry, including mining. Tertiary sector: all services, including government. Sources: Author's calculations based on employment data gathered and linked for Paper One. GDP per capita data from Bolt & van Zanden (2020).

decline but typically not to zero. Figure 4 shows that the share of workers in services, on the other hand, is characterised by a monotonic increase, resulting in a service-sector dominated economy in high-income countries. The great development success stories of the twenty-first century that went through this process of structural change were, half a century ago, still mired in poverty but are now rich economies such as Taiwan or South Korea.

Structural change is generally seen not only as a side product of growth but thoroughly interrelated with it. The interdependence manifests as a cumulative process, with structural changes seen as necessary conditions for aggregate growth. Once underway, these transformations shape, constrain, or support the trajectory of subsequent growth (Abramovitz, 1986a). Moreover, authors like Lewis (1954) and Ranis & Fei (1961) emphasised that moving resources away from low-productivity sectors, such as traditional agriculture, to higher-productivity modern sectors has a direct effect on economic growth through a structural change bonus (Szirmai & Verspagen, 2015). When structural change follows the right direction and progresses rapidly, economic growth is likely to be strong and sustained. However, if the change is misdirected or unfolds too slowly, the economy may stagnate or even decline (UNIDO, 2012). McMillan & Rodrik (2011) describe these two scenarios as growth-enhancing and growth-reducing structural change.

The importance of structural change goes beyond mere economic growth, as it is intertwined with wider societal changes such as changes in human capital, changes in norms and institutions, population growth, urbanisation, increased resilience to economic shocks, changes in the relative position of economic groups, changes in consumption behaviour, government consumption, poverty reduction, job creation, and so on (Aryeetey & Moyo, 2012; Broadberry & Wallis, 2017; Christiaensen & Martin, 2018; Kaldor, 1966, 1967; Kuznets, 1966; Rodrik et al., 2016). All in all, structural change is an important topic that, once we go beyond growth, takes centre stage in the improvements of living standards (Syrquin, 1988). Therefore, studying the dynamics of structural change is crucial for understanding the long-term growth trajectory of African economies.

3.2 Drivers of Structural Change

The structural change literature is vast, offering a multitude of explanations for drivers of structural change, including, but not limited to, external relations, human capital, demographic transitions, urbanisation, creative destruction, institutions, cultural factors and social norms, industrial policy, financial development, and social

capabilities. Since it is impossible to discuss all factors within the limitations of this Kappa, one needs to abstract away from many of the explanations behind structural change. Therefore, to provide an overview to the reader, I will discuss the drivers of structural change in a more general way within a supply-demand framework and provide examples of several theories.

In essence, structural change results from either changes in the supply side (production structure) or the demand side (consumption structure) of the economy. The fact that the patterns of structural change in the economy are common across countries is thought to arise due to the widespread use of similar modern technology across economies, together with the similarity in fundamental human desires across different societies (Herrendorf et al., 2014; Kuznets, 1966; van Neuss, 2019). While demand and supply are impossible to separate as they both interact in complex ways, it is useful for this discussion to treat them somewhat separately.

From a demand perspective, there are broadly two factors that influence structural change. The first is the effect of foreign trade, which creates external demand for and supply of tradeable goods and services, thereby altering the domestic demand and supply structure. Following traditional trade theory, opening borders leads to a reallocation of economic activity across sectors within each trading country. This sectoral reallocation primarily occurs based on comparative advantages, which are influenced by factors such as technology and resource endowments (Imbs et al., 2012; van Neuss, 2018, 2019). Hence, factors that change a country's comparative advantage or limit the influence of trade can have a direct effect on structural change. Additionally, changes in the global structure of trade can also be consequential for changes in the economic structures of countries. For example, in recent decades, the fragmentation of trade into Global Value Chains (GVCs) has changed the ways in which foreign trade influences production processes across borders, allowing countries to specialise in specific stages of production rather than entire industries (Baldwin, 2018; Gereffi et al., 2005; Timmer et al., 2014).

The second broad influence on structural change from a demand perspective is changes in domestic demand that affect sectors differently. For example, it is widely documented that as countries grow and incomes increase, households spend relatively less on agricultural goods and more on manufactured goods and services. This so-called Engel's law, or non-homothetic preferences, points to the idea that consumers' needs are becoming satisfied sooner for agricultural goods than for manufacturing and services (Gollin et al., 2002; Święcki, 2017; Timmer, 1988). This leads to the natural consequence that the share of agriculture declines in total demand as countries' incomes grow. Similarly, other aspects that affect domestic demand structurally can influence

the process of structural change, such as urbanisation, demographic change, and public sector spending.

On the production side, the question is how the inputs of production change over time and how this affects sectors differently. Fundamentally, structural change involves and is driven by innovation and adaptation of technology and know-how, which, through a Schumpeterian process of creative destruction, result in the replacement of old products by new ones based on novel technologies (Fagerberg, 2018; Schumpeter, 1942). Hence, at a deeper level, structural change involves much more than just changes in the composition of economic activities across sectors. It also encompasses the diversification of production and increased sophistication of production that go alongside this transformation (Lin & Monga, 2019; Hausmann et al., 2011).

However, it is widely acknowledged that different sectors do not have the same potential for technological change. Generally speaking, the manufacturing sector is thought to be the most dynamic sector, being characterised by positive aspects such as mechanisation, technological improvements, and therefore a high potential for driving structural change. By reallocating resources from traditional sectors to manufacturing, it is thought to function as a static and dynamic engine of growth through factors such as dynamic economies of scale, increased use of capital, more rapid innovation and technological advance, and learning by doing (Kaldor, 1966, 1967; Lewis, 1954; Szirmai & Verspagen, 2015). Moreover, through its extensive backward and forward linkages with other sectors, the manufacturing sector provides capital goods and other inputs while also generating high demand for products from other sectors, thereby creating significant spillover effects throughout the economy (Hirschman, 1958; Kaldor, 1966, 1967).

Again, what the outcome of such changes are on the overall sectoral composition depends not only on the changes in the production side of the economy but interacts with demand dynamics in complex ways. For example, it is often argued that long-term productivity increases in agriculture do not attract more labour into the sector. This is in part because productivity growth in agriculture results in lower food prices, higher real wages and, by extension, additional demand for other sectors through Engel's law (Timmer, 1988). Additionally, while it is often presupposed that rapid productivity growth in manufacturing leads to labour being pulled into the sector, this does not necessarily have to be the case and depends crucially on demand for other products. For example, Baumol (1967) and recent work by Ngai & Pissarides (2007) explain that differences in productivity growth between sectors can lead to the movement of labour to the sector with slower productivity growth if people don't easily substitute the goods from different sectors. If it is easier to substitute between goods, workers move to industries with higher productivity growth.

3.3 Structural Change as a Catch-Up Process

Another core topic in the structural change literature is the literature that focuses on the process of structural change as a catch-up process. What this literature has in common is that it posits that the process of technological adaptation and structural change in countries that are relatively behind the development frontier does not unfold in the same way as in earlier development experiences. Once again, this literature is vast and therefore impossible to cover within the constraints of a Kappa. However, it is useful to provide a brief overview of some of the ideas within this literature that bear relevance to the research topics of this dissertation.

One way in which the process of structural change is different in late-developing countries is that these countries do not have to reinvent the wheel as the global pool of 'useful knowledge' is freely available for use (Gerschenkron, 1962, 1968; Kuznets, 1966). In the classical Solow growth model, rapid catch-up is enabled by adopting best-practice technologies and increasing capital intensity (Solow, 1956). Returns on investment are thought to be significantly higher in capital-scarce, economically-backward countries than in productivity-leading nations, where diminishing returns to investment prevail. They already possess state-of-the-art technologies, and therefore improvements in technology can only be achieved through costly innovations. This idea naturally leads to the 'convergence hypothesis', which posits that laggard economies tend to grow faster per capita than developed economies, supported by inflows of foreign capital (Abramovitz, 1986b; Barro & Sala-i-Martin, 1992; Gerschenkron, 1962, 1968; Nurske, 1953; Rostow, 1959).

Surprisingly then, the experience of most countries has not been one of rapid convergence. Instead, most countries have witnessed divergence from the global productivity leaders (Pritchett, 1997, 2000; Collier, 2007). Therefore, researchers have strived to qualify the convergence hypothesis, being conditional on other qualities of a society. For example, the lack of strong social capability has been identified as a crucial factor hindering long-term sustained growth (Andersson & Palacio, 2017; Andersson & Andersson, 2019; Rohne Till, 2022; Axelsson & Martins, 2023; Gao & He, 2023; Andersson et al., 2024). First proposed by Abramovitz (1986, p.388), the social capability framework suggests that a country's potential for rapid structural change and catch-up is strong when it is 'technologically backward but socially advanced'. Social capability includes both social attitudes and institutions, as well as economic characteristics like education and organisational experience (Abramovitz, 1995). Strong social capabilities enable a country to absorb and adapt advanced technologies from more developed countries, thereby supporting its economic convergence.

On the other hand, instead of seeing economic backwardness as an advantage, there are also good arguments to be made that latecomers are at a great disadvantage in manifesting structural change. Indeed, some theories argue that global structural differences between frontier regions and lagging regions can lead, through various mechanisms, to an uneven economic exchange between the two regions, perpetuating the backward regions' subordination. For example, Latin American structuralism argues that the global division of production between technologically advanced 'centre' countries and laggard 'periphery' countries results in a perpetuation of a structural divide instead of convergence. This perspective suggests that the periphery's dependence on the centre for technology and capital leads to unequal exchanges and hinders the development of less advanced economies (Porcile, 2021; Prebisch, 1949).

Taking Latin American structuralism seriously, it seems that we cannot rely on the market alone for achieving structural change, which leads me to the concept of industrial policy. The case for industrial policy is based on the idea that, as a late-developing economy, without government intervention to steer the market in the right direction, it is very hard, or even impossible, to achieve structural change (Hauge, 2023). Historically speaking, industrial policy was key to catching up for countries in the Global North, including the United States, Germany, France, and the Netherlands (Chang, 2007). During the twentieth century, the experience of East Asian miracle economies once again underscored the importance of industrial policy for attaining successful structural change (Amsden, 1991; Wade, 2005).

However, while the empirical evidence for the instrumental role of industrial policy in catch-up growth has been overwhelming, for a long time during the twentieth century, the role of industrial policy was subsumed in mainstream economics. More recently, industrial policy has made a comeback both in developed countries and developing economies. Some notable initiatives include the focus on the supportive role of the government in guiding the economy to its latent comparative advantage (Lin, 2021), the use of the product space (Hidalgo & Hausmann, 2009), the focus on market failures (Hausmann & Rodrik, 2003; Rodrik, 2008), the incorporation of sectors other than manufacturing in industrial policy, and the focus on larger societal objectives such as environmental and social challenges (Aiginger & Rodrik, 2020).

In sum, it is widely acknowledged that being a late-developing country has important ramifications in the process of technological adaptation and structural change, as it unfolds differently than in earlier development experiences. Hence, these perspectives on structural change as a catch-up process need to be considered when studying the long-run growth trajectory of late-developing economies.

3.4 Overview of Structural Change Literature in Africa

Structural change in Africa had a prominent role in the academic literature in the post-independence era. As much of Africa grew rapidly during the 1960s and 1970s, both inside and outside of academia, commentators discussed Africa's possible pathways towards modernisation. Debates were largely held in relation to industrialisation, which in thought equated with the idea of modernisation. A central question in the academic debate was: what is the role of the state in this process? Could the state play a leading role through a 'big push' and subsidise industrialisation through import substitution industrialisation, or should it largely keep away from intervention and first focus on its comparative advantage in agriculture (for an overview see, e.g. (Aryeetey & Moyo, 2012) In the 1980s and 1990s, with the arrival of the African debt crisis, the structural adjustment programmes and the ideologically dominating Washington Consensus, this debate was subsumed for decades, and the focus was more on market-oriented policies (Stein & Nissanke, 1999).

Recently, a renewed interest in structural change in Africa has come about. In policy circles, it has been widely acknowledged that, if Africa's growth is to be sustainable, African countries need to actively aim for structural change, notably industrialisation (ACET, 2014; UNCTAD, 2020). In 2015, the UN adopted the 2030 Agenda for Sustainable Development, outlining 17 Sustainable Development Goals (SDGs). Several of these goals recognise, implicitly or more directly, the need for structural change, such as goal 1 (no poverty), goal 8 (decent work and economic growth), and goal 9 (industry, innovation and infrastructure). However, some author's like to speak of the need for 'transformative change' instead of structural change, a concept that subsumes structural change but combines the concept with growing concerns for social development and environmental protection (Islam & Iversen, 2018).

With the renewed interest, it was noted that Africa's absence in the structural change literature had largely to do with the lack of data on value added and employment (Mcmillan & Harttgen, 2014). Responding to this gap, there have been considerable data efforts to develop new databases covering internationally comparable long-run sectoral data. Among these, the most notable have been the Africa Sector Database (ASD), including 11 African economies with data going as far back as 1960 (de Vries et al., 2015), the 'Expanded Africa Sector Database' (EASD), which added 7 African countries and updated to 2015 (Mensah & Szirmai, 2018) and recently the Economic Transformation Database (ETD), which contains data on employment and real and nominal value added by 12 sectors, including 18 African countries, covering the period 1990–2018. While these are notable contributions, it is clear that there is still considerable work to be done in terms of country and time coverage.

Spurred by the arrival of these and other data, the empirical literature on structural change in Africa has been booming over the last decade. This, in turn, has yielded various results and debates, not limited to the ones mentioned here. To begin with, it has been well established that the recent economic expansion in many African countries has been accompanied by a substantial decline in the share of the labour engaged in agriculture (de Vries et al., 2015; Diao et al., 2017; Mcmillan & Harttgen, 2014). This movement of labour out of agriculture has been associated with increases in productivity in agriculture, although there are variations across the region (Badiane & Collins, 2016; Jayne et al., 2018; Rodrik et al., 2022). The recent trends also reveal that countries that achieved the highest rates of agricultural productivity growth typically saw the fastest labour shift out of farming (Yeboah & Jayne, 2020). While these are clearly positive signs, overall productivity in agriculture remains relatively low in most African countries compared to other developing regions, notably Asia (Barrett et al., 2017).

As structural change has been mainly out of agriculture, the question is what the receiving sectors are. Overall, the evidence shows that the structural change out of the agricultural sector has been matched by a sizeable increase in the share of the labour force engaged in the service sector (de Vries et al., 2015; Mcmillan & Harttgen, 2014; van Neuss, 2019). However, there has only been a modest increase in structural change towards the manufacturing sector (Diao et al., 2017; Kruse et al., 2023; Rodrik, 2018). The fact that in Africa structural change has mostly been towards service sectors has been called a 'curious feature' of African growth as it is very different from the classical pattern (Rodrik, 2018). It suggests that Africa is turning into a service economy before having gone through a proper phase of industrialisation (Rodrik, 2018), something that is referred to as 'premature deindustrialisation' (Rodrik, 2016).

What explains the low levels of industrialisation has been another important research topic. Gollin et al. (2016) have made a link between the recent commodity boom and the low levels of industrialisation in Africa. They show that resource abundance can induce Dutch disease that shifts the pattern of structural change in employment towards non-tradable personal services rather than high-productivity manufacturing and modern, tradable services. The resulting type of urbanisation is, unlike the classical pattern, not characterised by industrialisation but by consumption. They dub the phenomenon 'urbanisation without industrialisation'. This is also in line with findings by Nguimkeu & Zeufack (2024) that suggest that natural resource endowments correlate with lower levels of industrialisation in Africa.

On the other hand, Rodrik (2016) shows that Africa's low levels of industrialisation are part of a larger global pattern. Holding development dynamics constant, the author documents a trend in lower attained manufacturing shares with respect to earlier

industrialisers, both across the world and within Africa. The author suggests that this means that countries are running out of industrialisation opportunities sooner compared to the experience of early industrialisers. The fact that this is not just an African phenomenon suggests that the explanations for under-industrialisation might also have to be sought in more structural phenomena, applicable to the sector across the globe.

There are many possible factors that could explain the trend-like phenomenon. For example, it has been argued that the pattern might be a result of factors relating to the manufacturing sector, such as more rapid labour-saving technological progress in manufacturing than in other sectors (Felipe & Mehta, 2016; Rodrik, 2016). This explanation is commonly used within the context of deindustrialisation in developed economies. However, Rodrik (2016) argues that African countries might have 'imported' deindustrialisation from advanced economies due to their exposure to relative price trends originating in these advanced nations. Additionally, since the 1980s, many developing countries have opened up for trade, reversing a process of import-substitution industrialisation. In combination with the rise of globalisation, developing countries have increasingly been exposed to foreign competition over time (Haraguchi et al., 2017; Rodrik, 2016). Moreover, it has also been argued that through the increased fragmentation of trade into global value chains (GVCs), it has become increasingly difficult for African countries to capture the value of manufacturing trade. The high-value parts of the value chain are kept in the core, while the outsourced fragments face extreme competition among developing countries (Baldwin, 2018).

On the other hand, it has been suggested that, instead of trends originating in the manufacturing sector, the atypical pathways of structural change might be better explained by a rise of the service sector. For example, through a mix of hyper-globalisation, advancements in transportation and the rise of the digital economy, services have increasingly become tradeable and scalable. Hence, it is argued, services have now become a feasible alternative growth path for Africa (Dihel & Goswami, 2016; Ghani & Kharas, 2010). Similar arguments have also been made for high-value agricultural products that have become increasingly globally tradeable, scalable and mechanisable and fit, moreover, well with Africa's comparative advantage (Cramer et al., 2022). In particular, sectors categorised as 'Industries Without Smokestacks', such as tourism, agro-processing, e-commerce, digitally enabled businesses, health, and education services, hold the promise of generating sustainable job creation while simultaneously boosting productivity (Newfarmer et al., 2018). Additionally, in part as a consequence of increased specialisation and the fragmentation of trade in GVCs, the manufacturing sector increasingly produces, buys and sells service inputs, something

which has been termed the 'servicification of manufacturing', blurring the lines between manufacturing and services (Baldwin, 2018; Lodefalk, 2010; Nayyar et al., 2021).

Hence, a key question flowing from this literature is whether we can be optimistic or pessimistic about the growth prospects of the atypical pathway. So far, evidence shows that while the movements of labour out of agriculture into other sectors have been associated with considerable static gains in labour productivity, the evidence also suggests that the receiving sectors, both manufacturing and services, have not been characterised by dynamic labour productivity growth (de Vries et al., 2015; Rodrik et al., 2022). On the other hand, Ghani & O' Connel (2016) provide evidence of labour productivity growth convergence in Africa in both manufacturing and services and show that convergence is faster in services. Other evidence demonstrates that it is very important to make a distinction between different kinds of services. For example, Baccini et al. (2023) show a strong positive association between high-skill services and economic development in Africa, and findings by Ravindran & Babu (2023) suggest that in the long run, structural change towards low-productivity service activities is having a growth-depressing effect on African economies. Further, Diao argues that the lack of evidence of a manufacturing-based growth path in Africa is not necessarily bad news. Instead, it simply highlights the importance of investing in fundamentals like human capital and infrastructure, which can raise productivity levels in all sectors of the economy (Diao et al., 2017).

3.5 Contributions

This dissertation makes several important contributions to the wider structural change literature and the structural change literature aimed more specifically at Africa. To begin with, Paper One, Paper Two and Paper Four make direct data contributions. In Paper One, this is achieved by gathering data from existing databases and linking these in a consistent manner which allows for longer studies of structural change in Africa. In Paper Two, the data contribution is achieved by directly adding data on structural change for a country that has so far not been part of the structural change literature, Côte d'Ivoire. In Paper Four, the data contribution is achieved by collecting data on cross-border capital flows, which allows for the study of their effects on structural change in Africa.

Besides the data contributions, the individual papers also make contributions to important research areas and debates related to the structural change literature. Paper One adds directly to the debate on premature deindustrialisation in Africa. It makes a conceptual contribution by demarcating the differences between 'premature peaking'

and 'under-industrialisation'. Furthermore, it also makes an empirical contribution by studying the patterns and origins of under-industrialisation, leading to a better understanding of the challenges faced by African countries and the variation between them.

Paper Two contributes to both the literature on structural change as a catch-up process and the African structural change literature. It aims to improve the understanding of the empirics of structural change in an African country during different phases of rapid catch-up growth. The paper compares the recent growth spurt to the earlier 1960 to 1980 period of high growth in Côte d'Ivoire. This results in a better understanding of how previous periods of structural change relate to the current period and the implications that this has for long-run growth in an African country. It also allows for a detailed contextualisation and thereby an understanding of what explains the observed differences and similarities.

Paper Three contributes to both the literature on structural change as a catch-up process and the African structural change literature. It does so by analysing how social capability has evolved and impacted sustained economic development in Ghana and Côte d'Ivoire. This results in a better understanding of the interplay between social capability development and long-term economic development. Furthermore, the paper contributes to a better understanding of the current potential for further catch-up growth in African countries.

Paper Four also contributes to the literature on structural change as a catch-up process and, more broadly, to the study of drivers of structural change. The literature offers sharply contrasting views on the implications of being a late developer in a globalised economy. This study seeks to deepen our understanding of African countries within a global context. It does so by empirically analysing what effect different global capital flows have on the process of industrialisation in African countries, providing insights into the opportunities and challenges they face within the global economic landscape.

4. Data, Methods and Limitations

4.1 Data

The basis for Paper One is data on employment shares that are publicly available. The main databases are the GGDC-WIDER Economic Transformation Database (ETD) from Kruse et al. (2023), the 10 Sector Database from Timmer et al. (2015), and the Expanded Africa Sector Database (EASD) from Mensah et al. (2023). These databases are different vintages of structural change databases from the GGDC/WIDER projects. The latest vintage, the ETD, covers data between 1990 and 2018, while the other two databases cover data back to 1960 but do not contain the most recent and up-to-date data for the last three decades. To obtain both the most recent insights and yet be able to make long-run comparisons, these data need to be linked. Hence, the main novelty in terms of data contribution from my side lies in consistently linking these databases. To achieve this, the study delved into the individual source compendiums and investigated the way that the data for each country were established. Based on this information, I decided what the right procedures were to link the data, which was carried out manually. This involved a country-by-country process for 39 countries using three different sources. To expand the dataset further and obtain a wider sample, I supplemented these data with employment shares calculated from the EU KLEMS O'Mahony & Timmer (2009) and the employment data from Paper Two. Since the concepts and methods that are used in these datasets are consistent with each other, the data are compatible. The resulting dataset contains employment data by 10 sectors between 1940 and 2018 for 77 countries, including 19 African countries.

The main data used for Paper Two are value-added and employment data from 1960 to 2017 for Côte d'Ivoire. The data work has been carried out by me and includes the collecting, scrutinising, cross-checking, assembling, and linking of the data. A considerable number of primary sources have been utilised for this paper. For the sectoral value-added data at a 10-sector level, the study makes use of a large set of national account compendiums obtained from different archives and libraries. Obtaining these sources took considerable effort as there is no single place or source that can be used to obtain this data. Although it seems quite straightforward that there would be an online source for gross value added at a 10-sector level, it turns out that

there is not any source with useful coverage. To use the archival and library sources, the data had to be codified manually by the author. For the more recent years, this is supplemented with data from the Ivorian National Statistics Institute website and the African Development Bank. In total, thirteen different sources have been used for the value-added data alone, of which ten come from archives and libraries and three online. These data have been processed by using a methodology developed for the Africa Sector Database (de Vries et al., 2015). This involves linking the latest nominal data to previous vintages using growth rates, deriving a time series on sectoral deflators, and using these to estimate gross value added at constant prices. Naturally, the procedures involve intricate studying of the sources and, in particular, the nomenclatures used in the source material so that sectors are allocated and linked in a proper way.

In terms of employment data for Paper Two, it was gathered from various archival sources in Sweden and Côte d'Ivoire, sources obtained from the Ivorian National Statistics Institute and several online sources. To locate relevant employment data, the author sifted through numerous documents and evaluated the usefulness of each source. Ultimately, nine primary sources were identified as valuable for constructing employment benchmarks. To use the archival sources, the data had to be codified manually by the author, and many of the other sources involved working with survey manuals. Obtaining employment benchmarks required a detailed study of the sources to allocate employment distributions to one of the 10 sectors of the classification that was utilised. If information was incomplete or not reliable, additional information was used from external sources such as other databases or previous scholarly work. To estimate the employment between the benchmarks, the author made use of methodologies based on interpolation techniques specified in de Vries et al. (2015). All in all, I have been able to uncover 10 benchmarks, which is considerably more than the close to five benchmarks average of the Africa Sector Database.

For Paper Three, the data has been collected by me. The sources for these data were available online through different international databases, supplemented with the datasets that the I created for Paper One and Paper Two. Considerable effort has been extended to obtain a good and consistent time series for both African countries and a large set of other countries to compare with. The methodology used, factor analysis, requires a large number of observations. In a data scarce environment, such as Africa, it is not a pick and choose when it comes to variables over such a long time period. Beside using readymade data, I have also computed several of the indicators for the factor analysis and narrative comparative analysis: the revealed comparative advantages (RCA), the Herfindahl-Hirschman Index (HHI) of import market concentration, and the exports by product categories. Only in this way it was possible to obtain sufficient

long run variables for both countries of interest and a set of 3,239 observation for 110 countries.

Regarding Paper Four, I collected the data on capital flows and the data used in the econometric analysis. The capital flow data come from a combination of an online source and sources from archives and libraries. To minimise error in using these sources, a consistent approach was applied that is further detailed in the paper. All the archival and library sources had to be codified manually in order to use them. For the econometric analysis, the capital flow data is complemented with online sources. Four variables had to be computed manually in order to obtain consistent long-run series for the African countries. These variables are Trade to GDP, Mining and Energy Exports to Total Exports, Agricultural Exports to Total Exports, and Unbalanced Productivity Growth.

4.2 Methods

Beside employing different methodologies with respect to data collection, this dissertation employs a diverse range of research methodologies to address the research questions. This section briefly summarises the main methods used in the individual papers.

Paper One: The Patterns of Under-Industrialisation in Africa.

To test for employment under-industrialisation relative to development, Paper One uses mainly econometric and statistical methods. The most important framework in the paper is an OLS regression framework with country fixed effects. This framework stems from the literature on premature deindustrialisation and was popularised by Rodrik (2016) and recently used in other studies of premature deindustrialisation (e.g. Kruse et al., 2023; Nguimkeu & Zeufack, 2024). To compare the industrialisation trends across space and time, the specification controls for the effects of demographic and income trends. In some of the specifications, I use regional fixed effects instead of country fixed effects to examine how Africa relates to other world regions. Additionally, in some specifications, I use Africa as the reference category for the period dummies, to better understand how the average African experience relates to early industrialisers.

Paper Two: A Break from the Past? Structural Change and Economic Growth in Côte d'Ivoire.

This paper aims to understand the differences and similarities of structural change between the period of the Ivorian miracle (1960 to 1980) and the current growth spurt.

Hence, the paper is comparative in nature and combines quantitative methods through descriptive statistics with a narrative comparative analysis. The main quantitative analysis follows a well-known labour productivity growth decomposition that has been widely used in the literature on structural change in Africa (de Vries et al., 2015; McMillan & Rodrik, 2011). This method decomposes labour productivity growth into a 'within' and 'between' part to enhance the understanding of the dynamics of growth and structural change. Additionally, I create descriptive quantitative indicators to study the pace and direction of structural change.

Paper Three: Bridging the Gap: Economic and Social Capability Development in Côte d'Ivoire and Ghana, 1960—2023.

This paper examines the interplay between social capability development and long-term economic development in Côte d'Ivoire and Ghana from 1960 to 2023. To analyse the social capability concept, the paper utilises a common social capabilities framework developed by Andersson & Palacio (2017) and Andersson (2018). This framework operationalises the concept of social capabilities in different dimensions. We use this analytical framework to conduct a narrative comparative analysis of social capabilities, supplemented with dimension reduction analysis through factor analysis. The analytical narrative approach used in this study combines historical contextual narrative with theoretical analysis to provide comprehensive and nuanced explanations of social, political, and economic phenomena (Bates et al., 2000). The factor analysis uses eight indicators that are selected following the dimensions of the social capability framework and reduces them to a single indicator that allows us to study the cumulative nature of social capability development.

Paper Four: Go with the Flow? Manufacturing Growth and Capital Flows in Africa.

The fourth paper utilises descriptive statistics to understand how capital flows to Africa have changed. Consequently, the study makes use of an econometric analysis to examine the relation between global capital flows and the share of manufacturing in value added and employment. To estimate this, the paper uses OLS with Fixed Effects and Instrumental Variable techniques. The baseline model follows the same models as used to study the patterns of under-industrialisation and therefore similarly controls for the effects of demographic and income trends (Rodrik, 2016). This model is further extended by adding time-varying control variables that have been deemed relevant within the structural change literature. To further substantiate the econometric results, the paper uses previous case study research to reveal the mechanisms between various forms of capital flows and manufacturing growth in Africa.

4.3 Limitations

Like any research, this dissertation has its limitations. Hence, in this section, I will outline four important limitations. First, sub-Saharan Africa is a large region with almost 50 countries, featuring a variety of cultures, geographies, and economies. While this study aims to say something about Africa, the reality is that there are many countries not included in the study. Indeed, the articles of this dissertation examine between one and 19 African countries. Therefore, the external validity of the research clearly has its limitations. While this study is by no means unique in this aspect, as almost all studies on sub-Saharan Africa depart from a subsample of countries, I think it is important to acknowledge this limitation of my research. Hence, the conclusions drawn from this dissertation should be interpreted with an awareness of this.

Secondly, although this dissertation aims to understand the current growth period in relation to its past growth and, based on that, can make careful predictions about the future, the study itself is not forward-looking. This is an important limitation when studying structural change in a constantly changing world. Indeed, while the study of structural change often concerns itself with patterns, there is no guarantee that these empirical regularities will continue to hold in the future. For example, it is possible that the arrival of breakthrough technologies such as AI will entirely change the production processes of tomorrow. This study, therefore, does not lay any claim to forecasting how such technologies or other transformative changes might reshape economic structures in the coming decades. Instead, it focuses on historical analysis and identifying trends based on available data, recognising that these insights are bound by the conditions of the time. Future disruptions may render some of the patterns observed in this study less relevant or even obsolete.

Thirdly, the focus of this study is on structural change. Structural change is a core topic in development and economic history but evidently does not capture every aspect of development or economic history. Moreover, structural change is not neutral on other areas of development and therefore can be in conflict with other societal objectives. Indeed, as argued by Hickel (2019), the SDG goal of global annual economic growth of three per cent is in direct conflict with the objective of staying within the carbon budget for 2°C. If we extend this more specifically to the industrialisation of the least developed regions, it becomes clear that achieving structural change and fighting climate change might be conflicting objectives. Islam & Iversen (2018) therefore argue for the use of the more encompassing concept of 'Transformative Change' that provides greater space for social and environmental dimensions. This, however, does not solve the issue of conflicting outcomes of different objectives. While I by no means wish to give the impression that I do not find other aspects important, such as climate change

or social objectives, this study is more narrowly focussed on structural change and therefore acknowledges this as a limitation of the study.

Lastly, sub-Saharan Africa is a region characterised by data scarcity and sometimes data quality issues. The largest data collection efforts within this dissertation have been done for Paper Two and Paper Four. While a number of careful procedures and cross-verifications have been carried out to ensure the reliability of the data, limitations remain. For example, the reliance on secondary sources and archival materials may reflect biases or inconsistencies in original data collection processes. Although the sources have been studied with care and concerns were addressed to the best of my ability, complete certainty remains impossible to obtain. As such, the conclusions drawn should be interpreted with an awareness of these limitations, and future research would benefit from more comprehensive and higher-resolution data sources.

5. Summary of Papers

Paper I: The Patterns of Under-Industrialisation in Africa.

This paper aims to explore the patterns and peculiarities of structural change in Africa, focusing on employment under-industrialisation; the notion that manufacturing employment in late-developing economies is relatively low for their level of development. Industrialisation is commonly thought to be crucial for economic development. All the more worrisome is that African countries are said to skip an industrialisation phase and turn into service economies before having gone through a proper phase of industrialisation, i.e. suffering from premature deindustrialisation. An important explanation for this phenomenon is said to lie in sector-structural trend-like factors that increasingly limit the opportunities of African countries to industrialise.

This study aims to critically review the patterns of under-industrialisation in Africa. The main questions asked are: Is Africa experiencing employment under-industrialisation, and if so, what are the contributing factors? To this end, I created a new dataset by assembling and linking earlier databases, resulting in a dataset that covers 77 countries from 1940 to 2018, including 19 African countries. This significantly expands both the sample size and time range compared to previous studies on under-industrialisation in Africa. Moreover, while previous studies have usually focused on one aspect of under-industrialisation, I study the patterns of under-industrialisation in Africa comprehensively across time, space, Africa's average experience, and the variation within Africa.

I document that, considering Africa's development level, it is the most under-industrialised region in the world and also under-industrialised compared to early industrialisers. However, while the average picture suggests that Africa is an exceptional industrial failure, a sub-continental analysis reveals that there is considerable variation within Africa. Indeed, nine out of 19 African countries industrialise more or less in line with what can be expected based on the average experience. The fact that there is such a large variation in industrialisation experience casts doubt on whether speaking of an

'African industrialisation experience' is useful and that we need to reconsider the way in which we portray Africa in scholarly debates.

Furthermore, I show that there is no clear under-industrialisation trend within Africa. This means that, on average, African countries do not find it more difficult to industrialise now compared to earlier decades. In other words, this suggests that the origins of under-industrialisation in Africa do not lie in sectoral-structural trend-based factors that increasingly limit the region's industrialisation opportunities. Moreover, the analysis reveals that the main differences between under-industrialisers and average-industrialisers in Africa lie in a higher employment share of the mining sector, business sector, and government sector. This suggests that the sectoral origins of under-industrialisation lie, in part, in country-specific natural resource endowments.

Taken together, the analysis reveals important aspects of under-industrialisation that have previously received limited attention in the literature. The findings challenge the notion that the whole of Africa is bypassing industry and that countries are running out of manufacturing employment opportunities. This means that it is worthwhile to explore policy options aimed at enhancing the industrialisation of African countries. Consequently, there is a need for more policy-oriented research to investigate the deeper mechanisms driving under-industrialisation in Africa. Such research could inform strategies and interventions to foster sustainable industrial growth on the region.

Paper II: A Break from the Past? Structural Change and Economic Growth in Côte d'Ivoire.

The purpose of the second paper is to examine the current economic boom in light of the previous economic boom from the perspective of structural change. It is well known that during the 1960s and 1970s, many African countries went through a phase of rapid growth. This phase came to an end for many countries at the beginning of the 1980s, after which the region was marked by more than a decade of decline. Over the past two decades, many African countries have started to grow again but due to the extended period of decline, GDP per capita in many of these countries has only just surpassed the levels achieved during the earlier boom.

One great example of this recurrent pattern of growth is Côte d'Ivoire. During the 1960s and 1970s, it grew at such a rapid pace that it was termed the 'Ivorian Miracle'. This miracle faded into a mirage during the 1980s, with the economic decline lasting until the 1990s. Since the 2010s, rapid growth has returned, and recently Côte

d'Ivoire's GDP per capita has equalled the peak levels of the 1980s. This leads me to ask the question: Is Côte d'Ivoire now growing out of poverty, or is it about to repeat the dramatic crash of the 1980s? By examining a case study, this paper contributes to elucidating important aspects of the overall research question.

The study shows that significant disparities exist between the prior growth surge and the present period of economic expansion, implying that we cannot simply replicate the concept of cyclical growth from the past and anticipate identical outcomes in the current growth phase. During the Ivorian Miracle, we witnessed a relatively gradual expansion of non-agricultural sectors, characterised by a direction of structural change that can be deemed typical or ordinary. While the modern sectors, most notably manufacturing, absorbed more labour, they were also able to expand labour productivity dynamically. However, the pace of this structural change was low compared to what could be expected based on overall per capita productivity growth. All this resulted in a highly dualistic economy, in which the GDP per capita, as suggested by the employment structure, was close to twice as high as what could be sustained based on the employment structure of the average country. One of the key elements that limited the pace of structural change was the extensive path of agricultural development, in which little labour productivity growth was recorded, despite underpinning growth and investment for the whole economy.

Contrasting this is a rather different pattern observed during the latest growth expansion. While the pace of structural change out of agriculture has been high, the direction of structural change deviates quite significantly from the average pattern. The trade services sector absorbs a much larger than expected portion of labour, while the labour productivity of this sector is below average. On the other hand, the government services sector, manufacturing sector and construction sector absorb less labour than expected. Another key difference during this period is the significant improvement in labour productivity in the agricultural sector, resulting in increased releases of labour into other sectors. However, the paper shows that the receiving sectors, including manufacturing, are not expanding dynamically in terms of labour productivity.

What does this all mean in terms of the sustainability of the pattern? The message is not straightforward. First of all, it has to be acknowledged that this growth period is fundamentally different from the Ivorian Miracle, and therefore both the merits and struggles as well. We cannot simply assume that the pattern of recurrent growth is one to apply to current expansion. This boom is, unlike the previous boom, driven by strong labour productivity growth in the agricultural sector, which, from the perspective taken here, is a sign of sustainable development. It is possible that these labour productivity increases remove an important bottleneck for rapid structural change through labour push mechanisms, lowered nominal wages, and increased real

wages. However, on the more pessimistic side, the analysis shows that there is no evidence yet of a 'growth accelerator' sector that can rapidly absorb labour while growing rapidly in terms of labour productivity. Therefore it is still difficult to see how the current structural change trajectory can drive catch-up growth and convergence in the long run.

Paper III: Bridging the Gap: Economic and Social Capability Development in Côte d'Ivoire and Ghana, 1960—2023.

There is considerable doubt about whether the economic and social changes that Africa has recently experienced are sufficient to achieve a path of sustained growth. Indeed, it has been widely suggested that the current period of growth might be echoing earlier growth episodes that always ended in stagnation and decline. Hence, the third paper aims to understand some of the factors that contribute to sustained economic development by examining the interplay between social capability development and long-term economic development in Côte d'Ivoire and Ghana between 1960 and 2023. The study builds on recent literature that investigates the episodes of catch-up growth and economic shrinking from the perspective of 'social capabilities', a concept coined by Moses Abramovitz to describe the idea that: a country's potential for rapid economic growth is strong when it is technologically backward but socially advanced. The social capability view is seen as a useful approach to capture the multidimensionality of the development process.

Our findings underscore the interactive and cumulative nature of social capability development. We find that, although at independence, Côte d'Ivoire and Ghana were relatively well-developed economically, their social capabilities were rather underdeveloped. For much of the colonial era, little investment was made in social capabilities, with the development of the export sector being the primary focus. While this began to change in the final decade of colonisation, progress was slow and uneven. As a result, both countries were vulnerable to economic stagnation and decline as they pursued development strategies that outpaced their social capabilities.

Nevertheless, our analysis shows that improvements in social capabilities achieved during periods of growth were largely preserved amid economic downturns. Furthermore, following the restoration of macroeconomic stability, both countries experienced a resurgence in social capability growth. Remarkably, six decades post-

independence, both countries have vastly different levels of social capabilities which, unlike those at the time of independence, are associated with a greater probability of sustained economic progress rather than regression.

Overall, our paper highlights the critical role of social capabilities in enabling sustained economic development. By tracing the long-term co-evolution of economic and social progress, the paper challenges static, low-growth characterisations of developing countries. Instead, it provides a more dynamic perspective, showing how both Ghana and Côte d'Ivoire have progressively enhanced their social capabilities and economic resilience since independence, despite ongoing challenges.

Paper IV: Go with the Flow? Manufacturing growth and capital flows in Africa.

The fourth paper builds on a large literature relating to economic backwardness and catch-up growth. This literature underscores the importance of foreign capital in driving the process of industrialisation and economic growth when domestic capital mobilisation is difficult to attain. However, the empirical evidence on the relationship between capital flows and economic growth is inconclusive.

Recently, a growing body of literature has begun to examine the role of international capital flows in driving structural change, particularly in emerging economies across Asia and Latin America. This research revises classic modernisation theory by suggesting that the impact of capital flows on structural change varies depending on the type of capital and the nature of the flows. Drawing inspiration from this literature, this study explores the relationship between international capital flows and manufacturing growth in Africa. The paper focuses on two types of capital variables that are considered to be characterised by different mechanisms through which they affect a host economy: net foreign direct investments (FDI) and net non-foreign direct investments (non-FDI). The former involves direct investment with a lasting interest and potential control over a company, while non-FDI includes financial investments without this form of control, such as portfolio investment and loans.

The significance of this study is further underscored by the fact that, in recent decades, FDI has begun to flow more heavily toward Africa. International development institutions, such as the IMF and World Bank, have been advocating for an increase in FDI flows in the foreseeable future, viewing them as essential for Africa's catch-up process. This is, however, not the first of such surges in capital flows, as the 1970s were

also marked by significant capital movements into the region. By examining the entire period of capital flows from 1970 to 2018, this study aims to shed light on the relationship between capital flows and manufacturing growth, providing insights into the sustainability of these flows and their potential contribution to Africa's economic transformation.

The study finds that the direction of capital flows has changed considerably; while more capital flows initially went to Southern Africa, West and East Africa have become the main recipients in the recent period. Furthermore, the study shows that in recent decades, FDI has increased significantly, becoming the dominant form of foreign investment in Africa. In contrast, non-FDI has only increased modestly and has become more volatile. Our statistical analysis reveals that while inflows of FDI are negatively associated with the manufacturing share, non-FDI capital flows have on average had a positive effect.

The study further suggests that the negative relationship between FDI and manufacturing growth is mainly due to the sectoral allocation of FDI. Most of the FDI ends up in the extractive sectors, causing a resource curse. The flows of non-FDI, on the other hand, are positively associated with manufacturing growth. We argue that this positive relationship occurs via two interrelated channels: first, providing local investors with access to capital to invest in manufacturing, and second, expanding the resources governments can use for essential complementary investments in public goods, most notably transportation and energy.

Overall, the findings challenge a simplistic view of capital flows as drivers of structural change, highlighting that the type of capital flow plays an important role in manufacturing growth. Furthermore, the results suggest that if FDI is to effectively contribute to manufacturing growth in the future, an increase in FDI is insufficient; complementary policies and conditions must also be in place.

6. Concluding Discussion

Sub-Saharan Africa has arrived at the centre stage of global development. With economic growth returning to the region and its population expected to double by 2050, the regions' future epitomises both the hopes and fears of development-oriented scholars. However, there is considerable disagreement about how to understand Africa's recent growth phase. On the one hand, it seems like the region is breaking away from its past, leaving behind several decades characterised by stagnation and decline. On the other hand, the observed patterns ostensibly echo earlier growth spurts that ultimately ended in a bust. This thesis, therefore, is guided by the overarching question: *How do we best understand Africa's current growth in relation to its historical development trajectory since independence?*

In essence the question revolves around continuity and change over the longue durée in the economic and societal fabric of African nations. To evaluate whether Africa is truly breaking with its past, we must begin by recognising where it comes from. There have been several pivotal observations about Africa's long-run growth trajectory that found their roots in aggregate growth evidence including the average slow growth since independence, recurring patterns of growth, and the fact that Africa has not always been the world's poorest region. This research sought to understand and qualify such observations by examining the structural changes the region has experienced since independence. While I do not deny the earlier observations and recognizes the value that they have, I believe that this research offers some interesting perspectives on Africa's long-run growth trajectory.

One key lesson from my research is that, over the long run, recurring episodes of growth can play a significant role in shaping a country's potential for catch-up by transforming its foundational structures. While the earlier phase of economic growth appeared to be a significant failure on the surface, my findings indicate that it was not necessarily in vain. For example, Paper Three revealed that some of the richer economies in Africa, Côte d'Ivoire and Ghana, had relatively underdeveloped social capabilities at independence, which limited these countries in their catch-up efforts. However, during periods of economic growth, their social capabilities improved, while during periods of economic decline, these structures remained largely intact. This means that, despite

limited changes in average incomes, when growth returned, these countries were in a much better position to benefit than at the beginning of the previous growth spurt. Although I hesitate to draw definitive conclusions outside my expertise, it seems plausible that a longer history of cyclical growth could have created the preconditions for catch-up growth in other countries in Africa and around the world. After all, in the long run, development is a cumulative process, despite the fact that economists put a flow variable at centre stage.

Secondly, we cannot simply replicate the concept of cyclical growth from the past and anticipate identical outcomes in the current growth phase. Despite many similarities between the previous and current booms, such as their commodity-driven nature or similar levels of GDP per capita, my research reveals that the effects on and interactions with structural change can be rather different. For example, the findings in Paper Two show that during the first boom in Côte d'Ivoire, the direction of structural change was as expected, while the pace of structural change was relatively limited. In contrast, the current growth phase is marked by a high pace of structural change but an atypical direction of structural change. Additionally, Paper One attests to the fact that African economies have transformed considerably beyond agriculture, and Paper Three demonstrates that the accumulation of social capability over time is an Africa-wide phenomenon, which suggests that their structural challenges and opportunities have evolved over time.

Similarly, over time, considerable variations among structures within Africa have appeared. This means that in order to understand current growth in relation to its historical development trajectory, we need to acknowledge that the trajectory is not the same everywhere in Africa and that these countries face different structural challenges, both compared to each other as well as to themselves over time. For example, Paper One shows that there is considerable variation within Africa when it comes to industrialisation experiences, while Paper Four shows that there is considerable regional variation in terms of the size and type of capital flows. This is not to say that we cannot make any generalisations, but rather that we have to be careful about assuming that the outcomes of the current growth phase, and the structural challenges that countries face, are uniform across Africa. It is also a call for further studies on long-term dynamics of structural change in Africa. Although recent decades have seen considerable progress, many countries remain unexplored, leaving significant gaps in our understanding of both current and past growth in Africa.

Fourthly, even though the importance of manufacturing in employment is widely thought to have declined with time, my research suggests that, within the African context, it has not changed significantly. Notably, as Paper One illustrates, there is no evidence that African countries, on average, find it harder to generate employment

opportunities in manufacturing than in earlier decades. Moreover, a large portion of the African countries are already expanding their manufacturing employment at an average pace, attesting to the fact that manufacturing employment still plays an important role in Africa.

However, while manufacturing is still expected to play an important role in employment creation, dynamic productivity growth in the sector cannot be taken for granted. Indeed, some of the evidence indicates that the ability to channel resources towards the manufacturing sector has decreased with time, suggesting considerable shifts in investment structures. For example, Paper Two demonstrates that, unlike the earlier growth period, the manufacturing sector and other modern sectors in Côte d'Ivoire are not expanding dynamically, which suggests low levels of investment in these sectors. Moreover, Paper Four indicates that, within the broader African context, FDI flows have increased over time and become the dominant type of foreign investment in Africa. However, these FDI flows are mainly geared towards natural resources and not manufacturing.

Together, these observations suggest that the current model of growth does not necessarily lead to a dynamic expansion of manufacturing. Therefore, unless similar job opportunities are found outside of manufacturing that offer equal beneficial developmental properties, reconsidering current industrial policies seems vital for sustained growth. This is not to say that industrial policy is sufficient for successful industrialisation. Clearly, the earlier period of industrial policy attests to the fact that it can have disastrous consequences. However, these periods also demonstrate that, through industrial policy, achieving a degree of industrialisation combined with dynamic productivity growth in the sector is not impossible in the African context.

Combining these results allows for tentative conclusions regarding Africa's current growth in relation to its historical development trajectory. Overall, the findings suggest that there are both challenges and opportunities for Africa, and neither extreme optimism nor undue pessimism is warranted when evaluating the region's future prospects. The current growth expansion is not merely a cyclical repetition of growth during previous periods. Instead, it is built upon significantly improved and transformed foundations, partly as a result of earlier growth periods. This implies that, on the whole, the achievements are more stable and less likely to lead to an implosion as dramatic as during the lost decades. These foundations are likely to continue improving as a result of the current growth and may contribute further to enhanced opportunities for catch-up and structural change. Hence, my findings also challenge the more general perception of Africa, suggesting that it is not 'The Hopeless Continent'.

However, so far, the outcomes of structural change indicate that, to fully take advantage of the opportunities afforded by these improved foundations, more proactive and comprehensive efforts are required. This entails not only maintaining economic growth but also addressing the issue of structural change. Without such concerted actions, the region may not fully realise its potential. As sub-Saharan Africa is still the poorest region globally and is expected to increase its global impact over the next decades, this matter is of interest not only to Africans and African governments but also the international community at large.

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