Land, Labour, Legacies

Long-term Trends in Inequality and Living Standards in Tanzania, c. 1920-2020

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SASCHA KLOCKE

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Throughout the twentieth century, many countries have struggled to achieve sustained economic development and raise their populations out of poverty. One of these countries is Tanzania, which gained its independence in 1961 as one of the poorest countries in the world and has struggled to overcome this legacy since. At the same time, it managed to cast off the high levels of economic inequality that characterised much of its colonial history, turning into one of the most equal societies in sub-Saharan Africa today. How did Tanzania successfully reduce economic inequality? And why is it still struggling to improve living standards for the majority of its population? Are colonial legacies to blame, or can we find the causes in Tanzania's post-colonial history?

This dissertation seeks to answer these questions through a series of analytical narratives which trace and explain the evolution of income inequality and living standards over the last century. It presents new quantitative evidence on incomes, income inequality, and living standards in colonial and post-colonial Tanzania and analyses this evidence using a combination of economic theory and qualitative historical accounts.

The dissertation finds that the historically low living standards in Tanzania are rooted in the widespread socio-economic disruption resulting from colonial rule. Both during colonial times and after independence, the main obstacle to raising living standards was not income inequality itself, but the lack of access to diversified economic opportunities like cash crop production and wage labour for most Tanzanians.

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Abstract
Since the beginning of African decolonisation in the mid-twentieth century, many newly independent countries struggled to embark upon a path of sustained economic growth to raise their populations out of poverty. One of these countries is Tanzania. Surrounded by the Great Lakes on the west and bordering the Indian Ocean to the east, Tanzania is the fifth-most populous country in Africa. It is also one of the poorest.

To explain the persistence of poverty across the Global South, two factors have become increasingly prominent: economic inequality and colonial legacies. Tanzania emerged from colonial rule as a country with high economic inequality and low living standards. Since then, it has managed to overcome the legacy of high inequality but struggled to lift most Tanzanians out of poverty. How has the legacy of inequality been overcome? And why does poverty persist? What role does the colonial legacy play for income inequality and living standards? And how are economic inequality and living standards in Tanzania related to one another?

This dissertation seeks to answer these questions through a series of papers which employ analytical narratives to trace and explain the evolution of inequality and living standards over the last century. For the British colonial period, these narratives combine new quantitative evidence on wages, agricultural production, and living standards, and analyse them using a combination of economic theory and qualitative historical evidence. The analysis of the post-colonial period is based on a wide range of existing datasets on income inequality and living standards and uses triangulation methods to analyse the interrelationships between growth, inequality, and poverty as well as the many competing narratives concerning Tanzania's economic development since independence. Together, the papers form the basis for reflection upon broader issues surrounding the complex linkages between economic development, inequality, and living standards in Tanzania and beyond.

The dissertation shows that first, the relationship between economic development, income inequality, and living standards in Tanzania is complex. While the inequality-growth relationship does not show a systematic pattern, economic growth was found to be a prerequisite for poverty reduction. Second, both in colonial times and after independence, the main obstacle to raising living standards was not income inequality itself, but the lack of access to diversified economic opportunities like cash crop production and wage labour for most Tanzanians. Third, looking at growth, inequality, and poverty in Tanzania over the span of a century, economic development was found to be slow and often arduous, but attempts to fast track this process were risky and often reversed the hard-won gains made during previous periods of development.

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Income inequality, living standards, economic development, colonialism, sub-Saharan Africa, Tanzania

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Libet aliquid habere quod vincam, cuius patientia exercear.

(Seneca, Ad Lucilium LXIV)

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List of Papers

I	Klocke, Sascha (2021). Skill, Race, and Income Inequality in the Wage Sector in British Tanganyika. *Unpublished manuscript*.
II	Klocke, Sascha (2021). Welfare and Unequal Development in Rural Tanganyika, 1920-60. *Unpublished manuscript*.
III	Klocke, Sascha, Fibaek, Maria, and Green, Erik (2021). Rural Wages in Eastern Africa, 1920-60. *Unpublished manuscript*.
IV	Klocke, Sascha and Jerven, Morten (2021). The Nexus between Growth, Inequality, and Poverty: Lessons from Long-term Trends in Tanzania, 1961-2017. *Unpublished manuscript*.

1. Introduction

1.1. Motivation

As history progresses, the topics that capture the attention of the public, politicians, and academics change. Interest in one issue or another waxes and wanes, altering the perception of what is considered the defining societal challenge of our time. In the field of development, poverty alleviation has been the topic of primary importance. For more than 150 years, declarations have been made that, "for the first time in history", we stand on the verge of ending poverty around the world (Owen, 1858, p.x; Sachs, 2005, p.56; Truman, 1949; USAID, 2017, p.xix; Wilson, 1919, p.73). Since the spread of the Industrial Revolution in the nineteenth century, many countries have succeeded to all but eliminate extreme poverty within their borders and raise the average living standards of their populations significantly.[1] Yet many more, and many of those born out of the legacy of colonialism, have not.

One of the countries that has not is Tanzania. Located in eastern Africa, surrounded by the African Great Lakes to the west and bordering the Indian Ocean to the east, Tanzania is the fifth-most populous country on the continent. It also is one of the continent's poorest and is classified as a least developed country by the World Bank. Almost half of Tanzanians live below the international poverty line of $1.90 a day, not unlike when the country gained its independence in 1961 (Bank of Tanzania, 1983; Bryceson, 1990; Collier, Radwan & Wangwe, 1990; World Bank, 2019).

Why are Tanzania and many other countries, and even entire regions, still struggling to achieve high living standards for their populations? Or, to quote Clark (1987, p.141): "why isn't the whole world developed"? For most of the twentieth century, those seeking to answer this question have focused primarily on economic growth, which was expected to bring about the same widespread improvements in living standards seen in the wake of the Industrial Revolutions in Europe, North America, or

[1] The definition of living standards and poverty as used within this dissertation will be addressed in Section 1.2 of this Introduction. To avoid confusion until then, a brief statement of the meaning of the terms as used here is that *living standards* focus on material living standards and that *poverty* designates falling under a certain minimum threshold of material living standards.

Japan (Kuznets, 1966; Lewis, 1955; Rostow, 1959). Achieving high rates of growth, consequently, was the main goal of development policy from the end of World War II to the structural adjustment programmes of the 1980s and 1990s. Over time, however, the notion that growth will automatically result in improved living standards, especially for the poorest, has been increasingly questioned, as empirical reality seems to defy theoretical assumptions. During the last two decades, many countries have seen strong, uninterrupted growth. Despite this impressive growth record, poverty persists, especially in sub-Saharan Africa (Dulani, Mattes & Logan, 2013; Fosu, 2018a, 2018b). Tanzania, again, is a representative of this group (Atkinson & Lugo, 2010; Matotay, 2014; Pauw & Thurlow, 2011).

Those trying to solve the puzzle of why the recent growth episode has not automatically resulted in poverty reduction have looked to history for an explanation and numerous theories have been advanced. Two issues have become prominent in academic and popular discussions: the role of economic inequality and the role of colonial legacies. Both are closely intertwined with questions of (economic) development and the eradication of poverty (Acemoglu, Johnson & Robinson, 2001; Acemoglu & Robinson, 2010; Easterly, 2007; Engerman & Sokoloff, 2002, 2005; Michalopoulos & Papaioannou, 2020; Nunn, 2007).

Today, Tanzania is one of the countries in sub-Saharan Africa with the lowest levels of income inequality (Matotay, 2014; Odusola et al., 2017). While little is known concerning historical inequality in Tanzania, several dimensions, including land inequality and top income shares, were relatively high at the end of British colonial rule (Atkinson, 2011, 2014, 2015a; Frankema, 2009). Ostensibly, Tanzania managed to overcome these particular colonial legacies, which are often considered to be a root cause of high post-colonial inequality (Frankema, 2009; Odusola et al., 2017). This alone makes the country a pertinent case for a long-term study. Reducing inequality, or maintaining low levels of inequality, is one of the major themes of the contemporary literature, not only because high inequality might negatively impact economic development and broad-based improvements in living standards, but also as a goal in itself (Atkinson, 2015b; Birdsall, 2006; Milanovic, 2016). While it looks like the legacy of inequality has been overcome, the legacy of low living standards persisted since independence, despite recurring growth episodes. This raises questions concerning the relationship between growth, inequality, and living standards and calls for an in-depth investigation of how these indicators developed and interacted historically.

This dissertation seeks to address these questions by analysing the long-term trends in economic inequality and living standards in Tanzania, from the beginning of the British colonial period in c. 1920 to the present day.

In the decades after World War II, when the modern study of income inequality emerged, views on how low levels of inequality could be achieved were often optimistic. Growth was not only considered to "automatically" lead to improvements in living standards. It was also hypothesised to "automatically" lead to low levels of inequality. Kuznets (1955) proposed that, while the initial transition to modern economic growth brings with it increasing income inequality, market dynamics would eventually lead to an inequality decline and widespread improvements in living standards. Tinbergen (1974) saw rising inequality as driven by a rising demand for skilled labour caused by the processes of economic development and technological change. By focusing on the provision of education and increasing the supply of skilled labour, this "race between education and technology" (Goldin & Katz, 2008, p.287) could be won, resulting in reduced inequality and increased living standards. The belief that market forces would take care of inequality and the fact that inequality trends were moving so slowly that tracking their change was said to be like "watching the grass grow" (Aaron, 1978, p.17) meant that, until the 1980s, economic inequality as a topic of academic enquiry had been relegated to the sidelines. Its role in development and the fight against poverty was seen as, at best, ancillary (Birdsall, 2001, 2006).

With the failure of economic growth to deliver on the promise of poverty reduction, economic inequality emerged as one of the missing explanatory variables, and interest in it has grown rapidly (Bourguignon, 2004; Chenery, Ahluwalia & Bell, 1979; Deininger & Squire, 1998; Fosu, 2018a; Ravallion, 2001). Scores of books and articles have been written, many becoming widely popular within academia and without (see, for example, Atkinson, 2015b; Bourguignon, 2015; Deaton, 2013; Milanovic, 2016; Piketty, 2014, 2020; Scheidel, 2017; Stiglitz, 2013). Contemporary authors tend to be more pessimistic when it comes to the question of what causes inequality to decline. Scheidel (2017) prominently argues that only major crises, including mass-mobilisation warfare, total revolutions, epidemics, and state collapse, reliably decrease inequality. Piketty (2014) also sees inequality as inevitable and constantly increasing, if not stopped by the malign forces of war and destruction or policy interventions that redistribute or at least confiscate the wealth of the richest. What many of these works have in common is their long-term perspective, tracking trends in inequality over decades or centuries to identify patterns, causes, and effects. Three questions here are of central importance: What did inequality look like in the past? What drives changes in inequality trends? And why, or how, does it matter? These questions invite economic historians to contribute to the debate.

A second common trait of these works is their focus on the Global North, where the dominant narrative is one of "rising inequality" based on the recent experiences of industrialised nations (Atkinson, 2015b; Simson & Savage, 2020). This dissertation is part of a larger effort to answer the questions raised in the previous paragraph while shifting scholarly engagement towards the experiences of the Global South. Over the last six years, a group of international researchers has begun to compile and analyse data on long-term inequality trends for some African countries. Within this project, the goal is to provide historical inequality estimates for a broad range of different societies and economies on the continent, explain their levels and trends, and deepen our understanding of the continent's economic history. So far, this international collaboration has produced studies on about half a dozen countries with varying socio-economic conditions and colonial histories, including Botswana (Bolt & Hillbom, 2015, 2016; Hillbom & Bolt, 2018), Ghana (Aboagye, 2020; Aboagye & Bolt, 2021), Senegal and Côte d'Ivoire (Alfani & Tadei, 2019), and Uganda (de Haas, 2021). These studies reveal a wide variety of levels and trends in income inequality, driven by differences in colonial rule and general socio-economic circumstances (Hillbom et al., 2021).

The project, in turn, contributes to addressing a major problem in the economic history of the Global South: the dearth of accessible historical data. With regard to income inequality, Milanovic notes that "despite an impressive recent progress in the availability of historical data on income distribution our knowledge of past inequality is woefully inadequate" (2018, p.1042). When it comes to long-term trends in living standards, the data situation is not much better. This problem is especially pronounced in the case of sub-Saharan Africa (Hopkins, 2009, 2019; Jerven et al., 2012). Even though many authors have begun to investigate economic development and trends in living standards in colonial and even pre-colonial sub-Saharan Africa more broadly (Austin, Baten & van Leeuwen, 2012; de Haas, 2017, 2020; Frankema & van Waijenburg, 2012; Moradi, 2008; Prados de la Escosura, 2013; Rönnbäck, 2014), much remains to be done in terms of carefully estimating and tracing the development of historical living standards (Cogneau, 2016; Jerven, 2018).

Given the scarcity of readily available data, the continent has received relatively less attention in studies focusing on long-term trends. As some authors have observed, for many works dealing with "long-term" developments on the continent, history seems to start at independence in 1960s, or even in 1980 or 1990, when international organisations began to provide more easily accessible statistics on phenomena like poverty and income inequality (Austin, 2007; Hopkins, 1986; Jerven, 2010, 2018).

One potential solution to the data problem has been offered by scholars pursuing the so-called persistence approach. This approach, emerging in parallel with the rising interest in inequality, tries to solve the puzzle of the persistence of low levels of economic development and growth in many countries by looking at the impact of historical legacies. While it initially focused primarily on low levels of economic development, the resurgence of strong growth in many parts of the developing world has led its proponents to questions of inequality and persistent poverty *despite* strong growth (Acemoglu, Johnson & Robinson, 2001; Acemoglu & Robinson, 2010, 2012; ed. Adelman, 2012; ed. Akyeampong et al., 2014; Bigsten, 2018; Michalopoulos & Papaioannou, 2020; Nunn, 2007). According to this literature, the roots of the economic problems many countries face today can be found in their (distant) colonial past. To address the lack of data, scholars of this approach tend to engage in what has been called "the compression of history" (Austin, 2008a, p.998) or "leapfrogging" (Cooper, 2002, p.16). They connect a point in the distant past with a point in the present and draw inferences from the relationship of the two points while glossing over developments in between them.

The present work builds on and extends this previous research by adding the case of Tanzania. Beyond those already alluded to, there are several more reasons which factored into the selection of this specific case. The first is to extend the types of African countries currently represented in the canon. Most recent studies have focused either on peasant-export colonies like Ghana and Uganda or on settler colonies like Kenya. Tanzania represents neither of these typologies and, like many of the poorer colonies, has been neglected thus far (Austin, 2010). As a case, it broadens the horizon of the historical experience. This is not a trivial point: too narrow a focus on the experience of a few select cases may lead to misleading generalisations from these particular experiences to the continent as a whole (Briggs, 2017; van de Walle, 2009).

Second, even though Tanzania is presently one of the most studied countries in sub-Saharan Africa, our knowledge of Tanzania's economic history is sketchy, and large gaps remain (Briggs, 2017; Jerven, 2011). What we do know about historical inequality and living standards in Tanzania presents some interesting puzzles. Were the high levels of land inequality and income concentration in late colonial Tanzania the cause of the reportedly low living standards? How did Tanzania manage to initiate a long-term decline in inequality in the absence of Scheidel's "Four Horsemen of Leveling" (2017, p.6)? And, if inequality plays an important role in growth and development, especially regarding who benefits from it, why did recurrent growth episodes and low inequality in post-colonial Tanzania not translate into higher living standards?

1.1.1. Aim, Main Questions, and Contribution

This dissertation investigates the trends in income inequality and living standards in Tanzania over the last century, with the aim of deepening our understanding of Tanzania's economic history and contributing to the growing body of literature on these issues in the context of a developing economy. To this end, it presents a series of analytical narratives. These narratives are based on original and extended series of quantitative evidence that are historically contextualised and analysed through the lens of economic theory. They critically engage with existing narratives concerning not only the economic history of Tanzania, but also the relationship between colonial rule and colonial legacies and growth, inequality, and living standards more broadly.

The pursuit of these general aims is guided by a series of overarching research questions. Given that our knowledge of past inequality and living standards in general, and for Tanzania specifically, is still very limited, the first question focuses on finding out what happened: What are the trends in income inequality and living standards in Tanzania, from the period of British colonisation to the present? Based upon the reconstruction of the *what*, the aim is to investigate the *how* and the *why* in more depth: How did colonialism and independence affect these trends? Why have living standards in Tanzania been persistently low? Why did post-colonial reform ostensibly succeed in reducing inequality, yet not in bringing about sustained growth? Finally, this dissertation places specific emphasis on the colonial legacies, which, as outline above, occupy the centre stage in studies on inequality and living standards in former colonies. Here again, a reconstruction of the *what* is necessary, followed by an analysis of the impact of these legacies on long-term development: What are the colonial legacies? And how did they impact inequality and living standards in Tanzania after independence?

These overarching questions are addressed throughout four different papers, which focus on specific periods and particular aspects of the overall topics of inequality and living standards. They also address their own, narrower research questions.

Paper I asks: What were the level and trend in income inequality in the wage sector in British Tanganyika, and what determined them? It provides, for the first time, estimates for income inequality across the wage sector and for African wage earners separately, as well as new estimates for three important drivers of wage inequality: skill premiums, racial wage discrimination, and the composition of the colonial wage labour force. The analysis focuses on the relative contribution of these drivers in determining the overall level and trend in income inequality.

Paper II focuses on living standards and uneven development in the rural sector of colonial Tanganyika. It is guided by the following question: Did the British policy of peasant development succeed in increasing incomes and living standards in the rural sector? This paper uses original estimates of province-level African agricultural production to analyse the impact of colonial agricultural policy on African cash incomes and rural welfare at a sub-national level. To illustrate the dynamics of colonial agricultural development and its impact on inequality between and within regions, this paper also provides a detailed study of coffee and cotton production in two provinces at the centre of the African cash crop expansion.

Paper III critically engages with the popular settler hypothesis, which states that African real wages tended to be higher in non-settler colonies than in settler colonies. It asks: Does the settler hypothesis hold if we look beyond a select few ideal-type cases of colonial rule? The paper provides new estimates of rural real wages not only for colonial Tanganyika, but also for the neighbouring British colonies of Kenya and Nyasaland. It analyses the real wage levels and trends against the backdrop of coercive colonial policies and argues that a larger settler presence did not only lead to more coercive policy regimes, but also provided wage-earning opportunities for the rural population that could, over time, lead to higher real wages than in colonies with a smaller settler sector.

Paper IV asks: What is the relationship between growth, inequality, and poverty? To answer this question, it evaluates the existing – and often conflicting – quantitative evidence on growth, income inequality, and poverty in Tanzania from independence to the present day and analyses how these different indicators interact. In addition, it introduces the inequality extraction ratio, so far predominantly used in analyses of historical inequality, as a tool to analyse growth, inequality, and poverty jointly, and to provide a better understanding of the meaning of inequality measures in contemporary developing-country settings.

A presentation of the results of the individual papers can be found in Section 1.6, followed by a synthesising discussion of the overall findings of the dissertation and of how the papers relate back to the broad research questions outlined here.

Through the different papers and the concluding discussion, this dissertation contributes to a better understanding of trends in income inequality and living standards in Tanzania over roughly the last century. It provides the first estimates of income inequality in different sectors of colonial Tanganyika and connects the colonial past to the post-colonial period by identifying colonial legacies and their impact on economic development after independence.

The first three papers contribute specifically to the body of recent literature that seeks to challenge the "conventional wisdom […] that sub-Saharan Africa has never seen substantial improvements, especially not during the colonial era" (Moradi, 2008, p.1117). They provide further evidence that even under colonialism, sub-Saharan African countries experienced economic development and improvements in living standards. However, they also add some qualifications to this new narrative, showing that improvements were small, smaller than seen in other cases studied so far, and very unevenly distributed. This highlights the importance of broadening our scope of analysis of the colonial experience in sub-Saharan Africa beyond the colonies that dominate contemporary historical research to avoid biases that can result from generalisations based upon a narrow case selection.

The joint discussion of income inequality and living standards throughout this dissertation shows the importance of looking at questions of development broadly and from a variety of angles, as no single indicator manages to fully capture the complexity of colonial and post-colonial developments. It highlights the importance of taking a long-term view on macro-trends and cautions against premature judgements concerning economic developments based on relatively short time horizons – not only in the case of Tanzania, or sub-Saharan Africa, but when looking at economic development and trends in inequality and living standards in general.

The long-term view also constitutes a different perspective on questions of continuity and change compared to that encountered in the persistence literature, which tends to assume, rather than explain, continuity (Cooper, 2015; Moradi, 2008). The estimation and analysis of levels and trends in inequality and living standards and their drivers from past to present decompress Tanzania's history and show that continuity, in the form of persistently high inequality, interminable poverty, and inexorable colonial legacies, is not inevitable. The Tanzanian experience, as presented throughout this dissertation, demonstrates that legacies of high inequality and low living standards can be overcome without war or societal collapse, albeit slowly and with great effort. It thus fills in one piece of the puzzle of declining inequalities in the Global South. Most importantly, the Tanzanian experience offers a cautionary tale: overcoming formidable challenges to economic development can be a lengthy endeavour and attempting to fast track this process through authoritarian development policies can have detrimental and counterproductive effects.

1.2. Inequality and Living Standards: Theoretical and Empirical Considerations

Studies analysing inequality and living standards have proliferated greatly in recent years. This section will provide an overview of inequality and living standards estimates, address important theories, and situate Tanzania within the global narrative. Before providing this overview, a number of pertinent questions need to be answered: How do we define *living standards* and how do they relate to *poverty*? What do we mean when we talk about *inequality*? Why do we care about these topics? And how do the different indicators relate to each other?

1.2.1. Definitions and Interpretation

How to define and measure living standards and the related concept of poverty is subject to a lively debate, especially in the field of development studies (Banerjee, Benabou & Mookherjee, 2006; Banerjee & Duflo, 2007; Ravallion, 1992). Are living standards best captured by purely materialistic measurements, such as income, or is it crucial to take their nonmaterial dimensions into account? Is poverty a lack of food or material deprivation, or is it also a lack of access to opportunities more broadly? Should we measure living standards and poverty in absolute or relative terms? This dissertation investigates living standards primarily from a materialist perspective. Living standards are measured by income. Below a certain threshold of (minimum) material living standards, individuals are considered to be poor or living in poverty. This threshold is the basic needs poverty line, as estimated via consumption baskets (a method that is explained in detail in Section 1.4) for the colonial period, and the World Bank's international poverty line of $1.90 a day for the post-independence period. Both measures use a calorie-based approach to poverty, so that a per capita income under these thresholds means that a person is struggling to purchase enough food for themselves (and their family) to subsist (Allen, 2013; Bonnecase, 2018; Deaton, 2006; Prados de la Escosura, 2012).

The materialist approach and the basic needs threshold were chosen because, throughout most of Tanzania's history, much of the population has lived at or below this level. Material subsistence provides a baseline and is an important first step in the analysis of poverty more broadly. It goes without saying that survival is essential to participate in social and economic life and sufficient calorie intake is correlated closely with extended measures of poverty and living standards, such as (poor) health or (a lack of) access to education and a wider range of (economic) activities (Banerjee, Benabou & Mookherjee, 2006; Sen, 1999).

Inequality, broadly speaking, is a relative measurement that refers to the uneven distribution of a variable amongst certain units of comparison. This variable can be defined very broadly, from characteristics inherent in individuals (such as height), to access to goods and services (like education), or opportunities to engage in certain actions (such as taking a job), to inequality in outcomes like income or wealth. The unit of comparison can be anything from individuals within a certain frame of reference, like a nation-state, to different groups (for example, colonisers or colonised), to different entities such as entire countries.

Within economics, economic development, and economic history, the type of inequality at the centre of most research is economic inequality, which covers inequality of outcomes like wealth and income, as well as (in)equality of opportunity, specifically, the opportunity to earn incomes and accumulate wealth. Oftentimes, the lines between different types of economic inequality blur in the academic discussion (van Bavel, 2018).[2] In this dissertation, the focus lies on inequality of incomes, an outcome measure. In a country with historically low incomes like Tanzania, income inequality is most pertinent to overall questions of economic development and trends in living standards. Additionally, it can help to illuminate questions of inequality of opportunities (Atkinson, 2015b, pp.10–11).

Many indicators can be used to estimate levels of income inequality, and there is some disagreement between adherents of different indicators as to which one is "the best". Historically, the Gini coefficient has been the indicator of choice (Galbraith, 2019), but in recent decades, others, such as top-income shares, have gained in popularity (Atkinson, 2015a; Piketty, 2014). This dissertation primarily utilises the Gini coefficient, which measures the deviation of the income distribution amongst a certain unit (e.g. individuals or households) from a perfectly equal income distribution (International Labour Office, 2016, p.137).[3] While this allows the Gini coefficient to capture inequality in the whole society, it is biased against the middle of the distribution and tends to underestimate inequality with regard to incomes at the upper end of the distribution (the top income shares). To counteract this tendency, top income shares supplement the analysis when possible, which in Tanzania's case is not often (Atkinson, 2015a).

One of the main drawbacks of the Gini coefficient is that its interpretation is not straightforward (Alvaredo et al., 2018; Galbraith, 2019; Milanovic, 2014). Often, the only aid given to the reader of inequality statistics is that a Gini coefficient of zero represents perfect equality, while a Gini coefficient of 100 represents perfect inequality. In reality neither perfect equality nor perfect inequality are likely, or are even possible, especially in terms of income inequality. Therefore, a contextualisation of Gini coefficients is needed.

Hypothetically, perfect wealth inequality is possible, and historically, wealth inequality has been much higher than income inequality (van Zanden, 1995). Perfect income

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[2] Wealth *can* serve as an indicator of incomes, but it does not translate directly into incomes. In sub-Saharan Africa, for example, cattle wealth is widespread. This might translate into high incomes, as was the case in Botswana (Bolt & Hillbom, 2016). In contrast, the pastoralists in colonial Tanzania were considered to be very wealthy in terms of cattle but did not generate proportional incomes from that cattle wealth (Bates, 1955; Brantley, 1997; Fuggles-Couchman, 1964, pp.24–25; Lang & Lang, 1962).

[3] Specifically, it measures the area between the line of perfect equality of incomes and the Lorenz curve, which, in turn, plots the cumulative percentages of the total income received against the cumulative number of income recipients, sorted from lowest to highest (International Labour Office, 2016, p.137).

inequality, on the other hand, is unsustainable even in the short term, as it would imply depriving all members of society save one of their means of subsistence, thus leading to the collapse of the society in question. The need for subsistence income has far-reaching consequences. As Milanovic (2009, 2013, 2018) shows through the inequality extraction ratio, which is discussed in more detail in Paper IV of this dissertation, the need for subsistence means that the maximum attainable inequality (without jeopardising the long-term survival of society at large) depends on the mean income of a society and can lie well below the theoretical maximum Gini coefficient of 100. In other words, the closer the mean income of a society is to the subsistence minimum, the lower the maximum attainable Gini. This has important implications for our interpretation of Gini coefficients, especially in the context of economic history and economic development. It means that measured inequality in poor societies past and present, as expressed by Gini coefficients, might actually represent high inequality with respect to the *attainable* levels of inequality in these societies. Throughout history, however, no country has come close to the theoretical maximum. One explanation for this is that there is a limit to inequality beyond which societies become too unstable (Simson & Savage, 2020).

On the other end of the inequality scale, no society past or present has achieved perfect equality. While theoretically, the achievement of perfect equality can be imagined given the right interventions to redistribute all income, several factors make this unlikely. First life-cycle income and wealth profiles exist in most societies. In other words, individuals' incomes and stocks of wealth are unequally distributed throughout their own lives. In the aggregate, this leads to an unequal distribution of wealth and incomes even within a hypothetical society of otherwise perfectly equal individuals. In developed countries, this baseline inequality corresponds to a Gini of 10 to 20, depending on the demographic structure of the society in question (Harvey, Mierau & Rockey, 2017). Second, not every member of society is perfectly alike and inequalities in income can easily arise due to differences in talent or effort even if all other income-determining factors were held equal.

Given that both perfect income equality and perfect income inequality are primarily theoretical constructs, how are we then to interpret any given Gini coefficient? In other words, what is "low inequality" and what is "high inequality"? Here, empirical evidence can serve as a guide. Figure 1.1 shows a scatter plot of all Gini estimates contained in the World Bank's World Development Indicators, covering the years 1967 to 2018. These Gini coefficients cover an effective range from around 20 to just under 70. Even within this truncated effective range of Gini coefficients, what is high and what is low is a matter of some debate. Table 1.1 gives an overview of two different classifications found in contemporary literature, as well as a synthesis of these classifications based on the empirical observations above. This synthesis will be used throughout this dissertation.

Table 1.1: Gini Classification.

Gini classification	**Gini range** Alvaredo & Gasparini (2015)	Odusola et al. (2017)	Synthesis
Very low		Below 40	20 to 30
Low	20 to 30	40 to 45	30 to 40
Medium	30 to 40	45 to 53	40 to 50
High	40 to 50	53 to 60	50 to 60
Very High	50 to 70	Above 60	60 to 70

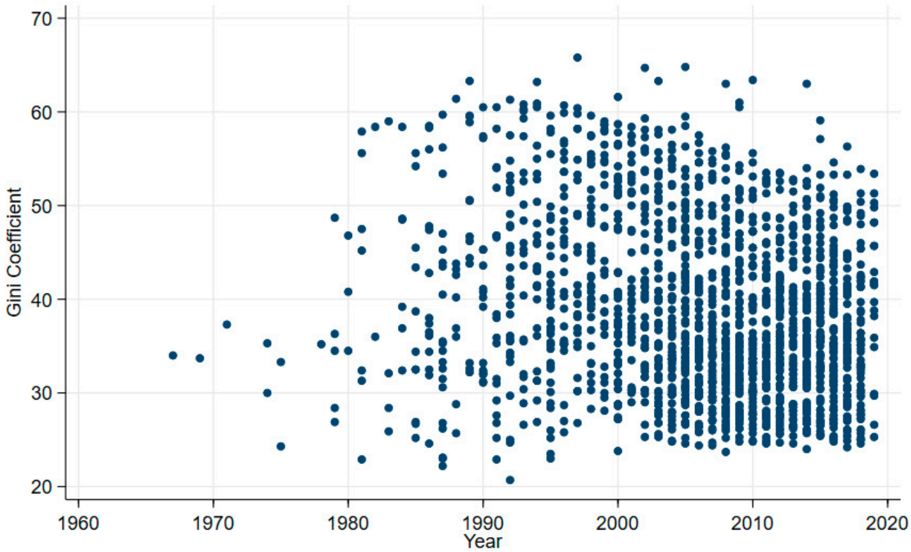


Figure 1.1: National-level Gini coefficients across the world, 1967-2019.
Source: World Bank World Development Indicators.

1.2.2. Why Care About Inequality and Living Standards?

Even though the (historical or future) transition out of poverty and widespread increase in living standards are topics at the heart of both economic history and development economics, the question of why we care about this is often not explicitly addressed. Again, we can find instrumental reasons, such as the role of poverty in sparking conflict (Sen, 2008) or hampering economic development (Sachs et al., 2004). A second answer, which has featured prominently in discussions on poverty for several centuries, is philosophical in nature. Already in the late eighteenth century, authors like Paine and Condorcet argued that poverty is an affront to human dignity and that the effort to end poverty is a moral imperative (Bernstein, 2006). In contemporary works, this sentiment is translated into the concern that the poor are deprived of their basic human rights, and often not fully aware of them or in a position to call them in (Banerjee, Benabou & Mookherjee, 2006). Lastly, concerns over poverty and the desire to end it are linked to economic inequality. Paradoxically, as societies grow richer, the problem of poverty becomes more acute in the social consciousness, as the uneven distribution of material improvements puts a spotlight on those who do not share in increased prosperity and causes uneasiness to those who do (de Tocqueville, 1997; Hutt, 1964, p.87). With the spread of modern economic growth and accompanying processes of globalisation, urbanisation, and modern communication, this process is reinforced.

Thus, we already have one answer to the question of why we care about economic inequality – an inherent disquiet in seeing large disparities in material living standards. This is not the only reason, though, and further answers fall into two broad categories: 1) instrumental arguments and 2) moral arguments. From an instrumental point of view, the main problem of economic inequality (in all its forms) is not the level of inequality in and of itself, but the impact it has on some other variable which is the actual goal of our action, such as poverty reduction or social cohesion. In other words, a certain level of inequality of outcomes is a means to an end (Atkinson, 2015b, pp.11–12; Bourguignon, 2015, pp.5–6). Most important in the context of a study on a developing country is the impact of inequality on growth and poverty reduction. Economic inequality has been found to pose significant obstacles to achieving higher rates of growth, more inclusive growth, improved living standards, and an end to poverty (Birdsall, 2001, 2006; Easterly, 2007; Ravallion, 2005; Thorbecke & Ouyang, 2018; van de Walle, 2009). Moreover, inequalities of outcomes and/or opportunities have been found to negatively impact social cohesion and civic peace (Green, 2011; Sen, 1999; Stiglitz, 2013) and to give disproportional political power to those at the top of the distribution (Milanovic, 2014; Piketty, 2014). Power imbalances and social instability, in turn, are associated with lower levels of economic development and living standards (Acemoglu & Robinson, 2010; Collier et al., 2003, pp.13–17). Finally, even if equality of opportunity is the goal, inequalities of outcome should not be neglected as they can negatively affect equality of opportunity for future generations (Atkinson, 2015b, pp.10–12; Birdsall, 2001).

However, purely instrumental justifications for the study of inequality have frequently been questioned. In debates on increasing living standards and ending poverty, economists in particular have relegated questions of interpersonal distribution to the sidelines for over a century, focusing instead on growth (Atkinson, 2015b, pp.14–15; Birdsall, 2006; Carver, 1901). Lucas, for example, notes that the "potential for improving the lives of poor people by finding different ways of distributing current production is *nothing* compared to the apparently limitless potential of increasing production" (2004, p.20, emphasis in the original).

Acemoglu and Robinson (2015), in their review of Piketty (2014), argue that, if the main problem of wealth inequality is that the wealthy have too much political power, then one option would be to solve this problem not through redistribution, but by changing the political institutions.[4] Atkinson and other figureheads of the current wave of inequality research disagree with such notions and argue that, apart from instrumental reasons to care about inequality, there are also moral reasons to do so, based on the principles of justice and fairness (Atkinson, 2015b; Kenworthy, 2008; Sen, 1999). Indeed, this notion has become so widespread that a "firm consensus that income inequality is intrinsically undesirable" (Aiyar & Ebeke, 2020) apparently exists. Even though this is not a treatise on moral philosophy, some discussion on moral questions is in order given their impact on the analysis of economic inequality.

A major issue of equality as the main goal as implied by the notion that "inequality is intrinsically undesirable" is that often, what is meant is not perfect equality, but *low* inequality (Kenworthy, 2008). While not providing an exact metric for an acceptable level of economic inequality himself, Atkinson mentions Plato's claim that "no one should be more than four times richer than the poorest member of the society" (2015b, p.13), and suggests that it is problematic that some (in the United States) can afford private space travel while others are queuing for food banks. Piketty (2014) regards the nineteenth-century income distribution in England, where landed peers could earn ten times as much as high civil servants or manufacturers, as extreme. Where to draw the line is not obvious and depends on our benchmark for equality and on the effects of combating inequality. Atkinson's space flight and food bank pairing is an effective illustration, though it is not evident whether taxing those who can afford space flights will solve the food bank problem. Piketty (2014) and Milanovic (2014), for example, argue that the redistributive impact of "confiscatory" marginal tax rates would be minimal, but desirable nonetheless, since extremely high incomes are, amongst other things, "unnecessary". If we extend the frame of reference for the achievement of equality, or low levels of inequality, beyond national borders, we could argue that not only space flight, but also long-distance holidays of the middle class in industrialised nations are problematic and that dealing with this would lead to a global society which,

[4] Of course, here one could argue that high economic inequality makes the wealthy so powerful that such reforms are not possible. However, if this were the case, it would mean that attempts at redistribution through policy intervention are equally futile.

in Atkinson's words, "would be more cohesive and have a greater sense of shared interests" (2015b, p.16).

The space flight example also raises the question as to what *really* appears morally wrong here: is it the aspect of inequality or the aspect of poverty? Frankfurt (2015) discusses this question extensively and argues that the main problem is indeed that poverty is too widespread, and not that inequality *per se* is too high – which is not to say that certain types of inequality are not an important contributing factor to poverty. If we were to remove the element of poverty, the situation appears different already: If high inequality is not observed between the poor and the wealthy chartering space flights but, for example, between an Amish village and Wall Street bankers, then this inequality is not necessarily intrinsically undesirable, arising, as it is, out of the choices of the different groups based on their subjective evaluation of well-being.[5]

Moral arguments for equality often assume a causal connection between observed levels of inequality and another factor. This can lead to calls for political action to "right a wrong" where there might not be any wrong to be righted or, as in the case of, for example, confiscatory marginal tax rates with minimal redistributive impact, where the outcome is not necessarily what most have in mind. This is best illustrated by way of a simple thought experiment. Briefly mentioned above, Milanovic and others (Milanovic, 2009, 2013, 2018; Milanovic, Lindert & Williamson, 2011) propose an indicator for the study of inequality in settings of low average incomes such as industrialised nations in the past and developing countries today: the inequality extraction ratio. It measures the ratio between the observed level of inequality in a society and the maximum possible level of inequality that is congruent with the continued survival of that society.[6] Milanovic argues that this ratio measures *literal* extraction, that is, "the share of maximum inequality extracted by the elite" (2009, p.16). Yet, it is questionable whether we can, *a priori*, determine that extraction has taken place. Let us assume that there are two villages of subsistence farmers, village A and village B, each producing the same amount of goods. Village A innovates, increases its productivity and, consequently, its output and income. If we place an analytical

[5] While this example might be a *reductio ad absurdum*, it does show that even high inequality is not *intrinsically* problematic (Geloso, 2017). Instead, the undesirability of inequality depends largely on its causes and consequences. This also links back to the underlying question of whether the "defining issue of our time" is inequality or poverty. The example illustrates that in wealthy societies, heterogeneous preferences and a wide range of opportunities "imply that different channels of well-being maximization exist — many of which cannot be captured by income measures" (Geloso, 2017). This also links to Sen's (1999) arguments on capabilities.

[6] That is, the maximum level of inequality that can be achieved while allowing for all members of society to earn an income high enough to guarantee their own subsistence (Milanovic, 2009, 2013; Milanovic, Lindert & Williamson, 2011).

boundary around both villages and call them a nation, we would measure an increase in inequality in this society, even though no extraction or transfer of resources has taken place. How are we to interpret this increase, both from a moral standpoint and in terms of its effects on the future development of this nation?

To call such a development "intrinsically undesirable" requires justification, notably, strong support of egalitarianism (absolute equality of outcomes) and a moral claim on the incomes of one group by another simply by virtue of being members of the same nation, or imagined community (Anderson, 2006). The interpretation of this inequality and the identification of the mechanisms at play – here differential development instead of literal extraction – also has significant policy implications. In this case, it might be preferable to stimulate development in village B, instead of *actually* extracting the gains from growth from village A to redistribute them to village B. This example also raises the question of time: is it moral to allow for uneven development for a certain period of time (and if so, for how long?), or is intervention necessary from the outset, even if such interventions run the risk of hampering the potential for development in one region?

The inequality extraction ratio also underlines the complications arising from an exclusive focus on income inequality without considering questions of poverty and living standards. As argued by Milanovic et al. (2011), the poorer a society, the lower the maximum level of income inequality congruent with the continued survival of that society.[7] In other words, while the observed inequality in a poor country like Tanzania might look comparatively low, it could be quite close to its maximum feasible level. If this is the case, then the level of income inequality we measure runs the risk of underestimating actual income disparities within society.

While the moral issues and competing opinions outline above cannot be resolved here, they demonstrate that it is not sufficient to focus exclusively on levels of economic inequality. The causes of the inequality, the overall level of living standards in the society in which we observe the inequality, and the implications of inequality for living standards and poverty reduction all warrant analysis. This dissertation, then, takes primarily an instrumentalist approach to questions of economic inequality, specifically income inequality, situating them in the broader context of economic development and living standards.

[7] This topic will be explained and explored in depth in Paper IV.

1.2.3. Global Trends in Inequality and Living Standards

The continuous interest in ending poverty and the increasing interest in inequality are rooted in the perception that poverty remains a major global problem and that inequality today is high or even excessive and has been rising at an increasingly rapid pace. These impressions stand in contrast to earlier optimistic notions that the world was at the verge of eradicating poverty and that inequality trends were slow moving and tended to decrease with ongoing economic growth.

Looking at living standards and poverty rates globally, the picture that emerges is not entirely dismal. Both poverty rates and the number of the poor have been decreasing throughout the twentieth and into the twenty-first century. In the last three decades alone, the global poverty rate has fallen from around 35 percent of the world's population to around 10 percent, while the number of poor people has more than halved (World Bank, 2020). Across regions, significant differences exist, and sub-Saharan Africa stands out as having the least success in combating high levels of poverty. Poverty *rates* have been falling, but at a much slower pace than the global average. Coupled with high rates of population growth, this meant that the absolute number of people on the continent living below the $1.90 a day line increased (World Bank, 2020). Thus, even though sub-Saharan Africa experienced two decades of sustained growth, living standards remain low and poverty remains widespread (Chen & Ravallion, 2008; Clementi, Fabiani & Molini, 2019; Dulani, Mattes & Logan, 2013). To make matters worse, the Covid-19 pandemic has shown that the improvements in living standards that were achieved are fragile. While it is still too early to assess its full impact, some estimates indicate that the pandemic constitutes the most significant reversal of the long-term decline in poverty since the turn the millennium (Lakner et al., 2020; World Bank, 2020).

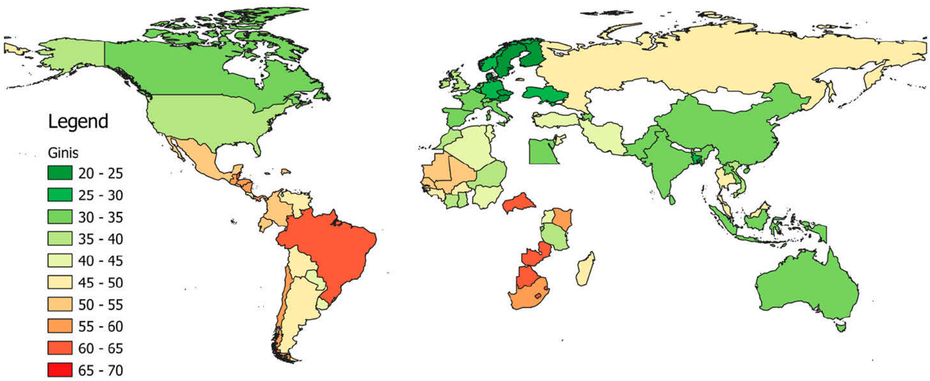
One explanation for the persistence of poverty in sub-Saharan Africa despite strong economic growth has been economic inequality (Clementi, Fabiani & Molini, 2019; Fosu, 2017). The publication of several online databases of inequality indicators, such as the World Income Inequality Database, has made inequality estimates for many developing countries across the globe easily accessible. These data reveal that, contrary to earlier expectations, inequality was very high in less-developed countries, for example in sub-Saharan Africa (van de Walle, 2009), reinforcing the notion that economic inequality might be to blame for the economic woes of the continent.

The idea that inequality could be the root cause of low poverty reduction has been further reinforced by the narrative of rising inequality across the world. To some extent, this narrative is correct. Despite an initial decline after World War II, wealth and income inequality have been increasing since the 1980s, especially in the Global North

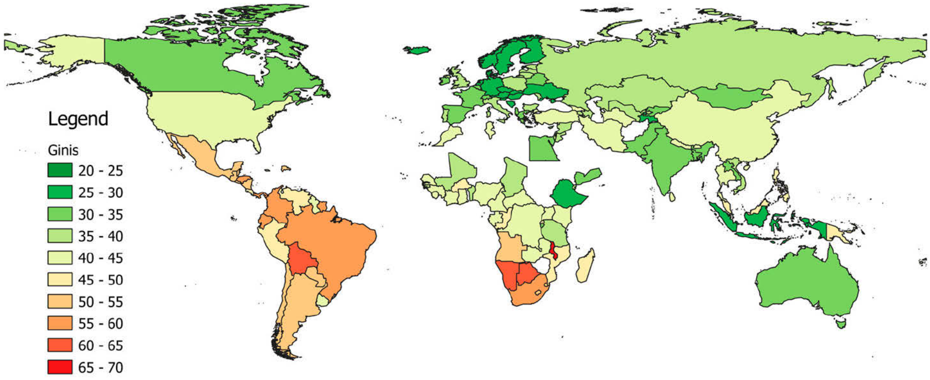
(Atkinson, 2015b, pp.74–75; Birdsall, 2006; Simson & Savage, 2020). This trend, coupled with increasing social tensions in those countries, has led researchers like Piketty (2014) and Scheidel (2017) to issue warnings of a new period of low growth and high inequality, which are made more troubling by the authors' arguments that such periods tend to end through catastrophic events.

Yet, several contemporary studies show that the rise in inequality experienced in the Global North has not been uniformly mirrored in other regions. In Latin America, Asia, the Middle East, and sub-Saharan Africa, countries with falling inequality over the last two decades outnumber those with increasing inequality (Atkinson, 2015b, pp.74–79; Odusola et al., 2017; Simson & Savage, 2020). Maps 1.1 to 1.3 illustrate national-level income inequality across the globe for three periods, the first around the year 1990, the second around the year 2000, and the third for the most recent available Gini estimate from the 2010s. Here, too, we can see that both the levels and trends of income inequality differ between world regions.

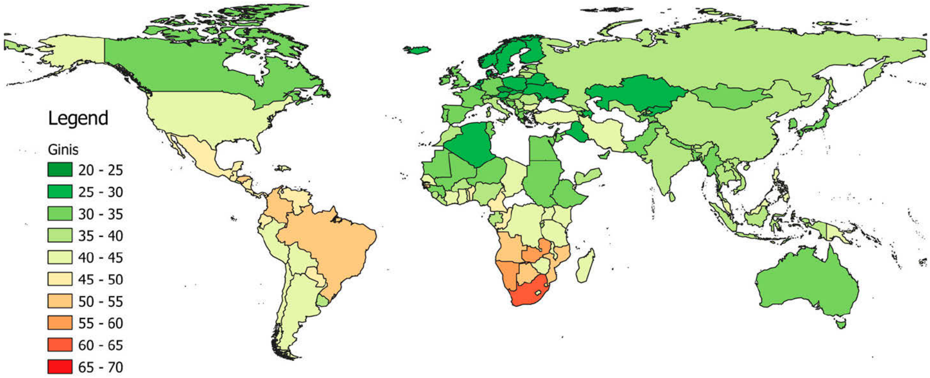
This divergence in inequality trends across regions raises some questions: Do we, when generalising from the experience of rich, industrialised nations, overlook the realities of most of the world's population (Simson & Savage, 2020) and draw overly pessimistic conclusions that sideline positive developments, instead of learning from them? Or are the trends in inequality and growth in the Global North the outcome of some general laws of history or "general laws of capitalism" (Acemoglu & Robinson, 2015), so that "the more developed capitalist economies only show to the less developed the image of their own future" (Milanovic, 2014, p.528)? Is inequality really the main determinant of slow rates of poverty reduction in sub-Saharan Africa, or are there other factors at play that negatively impact poverty reduction?



Map 1.1: Gini coefficients, c. 1990.
Source: World Bank World Development Indicators.



Map 1.2: Gini coefficients, c. 2000.
Source: World Bank World Development Indicators.



Map 1.3: Gini coefficients, c. 2018.
Source: World Bank World Development Indicators.

1.3. Explaining Levels and Trends in Inequality and Living Standards

To understand this global picture of inequality and living standards and the trends of the recent past, to analyse the relationship between these two variables, and to predict what might happen in the future and "what can be done" to avoid some of the more pessimistic predictions, academics increasingly look to history. In the context of proliferating studies on long-term trends in inequality and living standards as well as their historical roots, this statement may appear banal, but it is not: new research on long-term trends, especially amongst economists, marks a conscious move towards more empirical-based theorising away from the previously dominant paradigm of the heavy reliance on deductive theory- and model-based analyses (Milanovic, 2014).[8] This section provides an overview of the main theories concerning inequality and living standards.

The conventional understanding of how to increase living standards has been straightforward: through economic growth, an increase in mean income per capita. Thus, since the spread of modern economic growth across the globe in the nineteenth century, many proclamations have been made concerning the impeding end of poverty. Yet, in the face of persistent poverty, the assumption that growth *always* increases living standards has increasingly been questioned. Some authors still follow the traditional view that growth is (almost) always good for the poor, regardless of its nature or the politico-economic environment it takes place in (Dollar, Kleineberg & Kraay, 2013; Dollar & Kraay, 2002). Others have argued that the growth elasticity of poverty (the rate at which growth increases living standards and reduces poverty) can vary significantly across time and space (Bourguignon, 2004; Ravallion, 2012; Thorbecke & Ouyang, 2018). The reason for this variation has also been identified: economic inequality.

We can identify two main categories of causes of income inequality: economic and political (or institutional), leading to *market inequality* and *structural inequality*.[9] While a large body of literature identifies negative correlations between inequality and outcomes like economic growth and poverty alleviation, the exact interrelationships between growth, inequality, and poverty (reduction) are still a matter of debate (Thorbecke & Ouyang, 2018; van de Walle, 2009). One explanation for the continuing debate is that studies do not always differentiate clearly between market and structural inequality (Easterly, 2007). In Piketty's analysis, for example, the "coupon-clipping rentiers" (beneficiaries of structural inequality) and the "working rich" (beneficiaries of market inequality) are both to be found amongst the top-1 percent (2014, p.607). This matters because the causes of economic inequality have implications for its impact on living standards. Market inequality is the outcome of uneven economic change. In and of itself, uneven development does not always or only

[8] Of course, (economic) historians have, given the nature of their profession, long held the view that history is important, and, at times, derided "new" insights that, for example, the past and "path dependence" matter by noting that "historians call this 'history'" (Cooper, 2015, p.154).

[9] Note that this is principally an analytical distinction. Both market mechanisms and structural factors determine the levels of inequality we observe empirically.

have negative consequence. For example, inequality resulting from uneven development can provide positive incentives, as individuals see the benefits of growth and increased economic effort and decide to participate in it. Thus, such inequalities can contribute to economic growth and its spread and eventually lead to a reduction of market inequality (Birdsall, 2006; Easterly, 2007; Thorbecke & Ouyang, 2018; Welch, 1999). Structural inequality, on the other hand, has been argued to be "unambiguously bad" (Easterly, 2007, p.756). It increases inequality through the institutional creation of an elite while excluding the non-elite from participating fully in the gains of economic progress, thus hampering long-run economic development (Acemoglu, Johnson & Robinson, 2001, 2002; Acemoglu & Robinson, 2010; Amendola, Easaw & Savoia, 2013; Engerman & Sokoloff, 2002, 2005; van de Walle, 2009).

1.3.1. Market Mechanisms

One of the earliest explanations of the economic mechanisms behind market inequality was proposed by Kuznets (1955). The Kuznets hypothesis prompted the first wave of inequality research by economists and development economists, and to this day, references to Kuznets' work and attempts to prove or disprove his hypothesis abound. The central argument of the Kuznets hypothesis is that, through the process of modern economic growth and structural change, income inequality would first rise as labourers moved from agriculture into industry (and from rural to urban areas), where incomes were higher (Kuznets, 1955; van Zanden, 1995). As soon as a majority of the population moved into the higher-income group, however, inequality would begin to decline, resulting in a relationship between income inequality and GDP per capita that looks like an inverted U – the well-known Kuznets curve. This mechanism also implies that, over time, the gains from economic growth would benefit increasingly large sections of society as more and more people join the higher-income groups and that the decline in income inequality would be "accompanied by significant rises in real income per capita" (Kuznets, 1955, p.5), leading to improvements in living standards for all sections of society.

The existence of the Kuznets relationship has been much debated. Van Zanden (1995), writing before the recent upwards trend in inequality was fully recognised, argued that a Kuznets curve exists for Western Europe, but that the upward trend in inequality originated in the early modern period with changes in the functional distribution of income (with decreasing incomes going to labour and increasing incomes going to capital). In contrast, Milanovic (2016) argues that while Kuznets dynamics and other economic mechanisms play a role in rising inequality, falling inequality is not a result of the economic mechanisms described by Kuznets, but rather the result of political and social pressure. This pressure can be either "malign" forces *à la* Scheidel (2017) or "benign" policy interventions, such as redistributive policies or pressure exerted by labour unions. Depending on the power dynamics in society as well as changes in the economy, such as increasing globalisation or skill- or capital-biased technological change, this downward trend can reverse and lead to a renewed increase in inequality and what he terms "Kuznets waves" (Milanovic, 2016, pp.50–59).[10] Given the contemporary rise in inequality in countries that already underwent the process described by Kuznets, the current consensus is that inequality does not always or permanently decrease during the process of modern economic growth (Hickel, 2017; Milanovic, 2016; Piketty, 2014). What is clear is that the Kuznets hypothesis underestimates institutional effects and lacks an endogenous mechanism leading to a renewed rise in inequality.[11]

A related explanation of income inequality trends via economic mechanisms is the theory of skill-biased technological change (Milanovic, 2016, p.47; van Zanden, 1995). Originally proposed by Tinbergen (1974), and later developed by, amongst others, Goldin and Katz (2008), its central argument can be summarised by its well-known moniker, "the race between education and technology". Like the Kuznets hypothesis, the theory of skill-biased technological change takes its starting point in structural transformation: skill-biased technological change[12] leads to an increase in the demand for, and relative incomes of, skilled labour (that is, an increase in the skill premium), thereby increasing inequality. If, over time, the supply of skilled labour grows sufficiently to match the pace of technological change, then inequality will decline (Acemoglu, 2002; Acemoglu & Autor, 2012; Violante, 2016; Zwick, 2001). As is the case in the Kuznets model, this process of structural transformation will also lead to broad-based improvements in living standards.

The original formulation by Tinbergen (1974) and his expectation that continuing growth will be met with a (permanent) decrease in income inequality as skilled labour supply increases and skill premiums decline has been criticised on the same grounds as the original Kuznets hypothesis (Milanovic, 2016, p.47). More recent restatements of the argument, however, have included the possibility of resurging inequality via

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[10] Although so far, only one wave can be observed (Buggeln, 2016).

[11] Kuznets did point out that the initial income distribution in, for example, developing countries which had not yet entered the period of modern economic growth, was significantly different to pre-industrial Western Europe and the US (Kuznets, 1955, 1963; Paukert, 1973, pp.110–111).

[12] Technological change needs to be skill-biased for this process to take effect and not skill-replacing. While this has not always been the case throughout history, empirical evidence for the twentieth and twenty-first century suggests that technological change has indeed been predominantly skill-biased (Acemoglu & Autor, 2012; Acemoglu & Robinson, 2015).

ongoing changes in the relative supply and demand of skilled and unskilled labour. This literature also highlights the role of institutions, both with regard to their impact on the nature and pace of institutional change and with regard to education, which is crucial for the supply of skilled labour (Acemoglu, 2002; Acemoglu & Autor, 2012; Acemoglu & Robinson, 2015; Goldin & Katz, 2008).

Skill-biased technological change has been argued to explain trends in income inequality in industrial economies, especially in the United States (Acemoglu & Autor, 2011; Katz & Autor, 1999), but in preindustrial Europe, skill premiums remained relatively low and stable (van Zanden, 1995, 2009). So far, the theory of skill-biased technological change has not been widely employed in the study of income inequality in developing countries, either at present or historically. Nonetheless, as I argue in Paper I, it provides a useful lens through which to analyse income inequality in these settings, especially in the wage-earning sector. In contrast to preindustrial Western Europe, skill premiums in colonies in sub-Saharan Africa and elsewhere were very high and, in many periods, increasing (Bolt & Hillbom, 2015; de Zwart, 2013; Frankema & van Waijenburg, 2012, 2019; van Zanden, 2009), and access to education – a main contributor to declining skill premiums – has been identified as a major contributing factor to income inequality and persistent poverty in developing countries (Mihai, Țițan & Manea, 2015; Tilak, 2002; Wedgwood, 2007).

A final explanation of market inequality was proposed by Lewis (1954) in his model of economic development with unlimited supplies of labour, which sought to explain the persistence of low wages (and low living standards) in developing countries despite economic development. In this model, the marginal productivity of unskilled labour in the traditional sector (agriculture) is zero, or negligible, due to labour abundance and land scarcity. Consequently, living standards in this sector are low, hovering around the subsistence level. Under these conditions, unskilled labour can be transferred from the traditional sector to the modern sector (industry) at no cost to agricultural output, while employers in the modern sector can pay unskilled labour less than its marginal productivity. This allows employers to keep wages at subsistence level and capture higher profits, which, if re-invested into industry, lead to economic growth. While not specifically a theory about income inequality, a corollary of Lewis' model is that in the initial stages of economic growth, there will be (increasing) income inequality against a backdrop of stagnant living standards at the subsistence level, as unskilled labour captures none of the benefits of development (viz., increasing per capita income). Inequality will only decrease and living standards increase once the unlimited supply of labour is exhausted and wages rise from the subsistence level to match the marginal productivity of labour in the modern sector.

Developed with the conditions in mid-twentieth century Asia in mind, the applicability of the Lewis model for sub-Saharan Africa has been questioned, especially since factor endowments there were generally the inverse of Lewis' model conditions: land abundance and labour scarcity (Austen, 1987; Austin, 2008b). Indeed, one of the major criticisms of colonial labour mobilisation policy was that the transfer of labourers out of the traditional agricultural sector led to a decline in agricultural output and consequently food shortages and malnutrition (Amin, 1972; Little, 1991; Turshen, 1977). Still, many authors of the early post-colonial period have argued that colonial policies can be considered as attempts to create *artificial* Lewis conditions (for example, through the resettlement of the African population into overcrowded Native Reserves) (Amin, 1972; Arrighi, 1970). To maintain such conditions, as Lewis (1954) himself notes, it is in the interest of the modern sector to suppress productivity increases in the traditional sector to keep wages at subsistence level. This line of argument continues to the present day. Bowden et al. (2008), for example, argue that the creation of Lewis conditions through land expropriation in settler colonies led to comparatively lower wages than in peasant colonies, where the lack of European interference in access to land put a floor under the wages of unskilled labourers. This, in turn, led to a more equitable distribution of incomes and higher average living standards in peasant than in settler colonies. This relationship between colonial settlement and wages will be discussed extensively in Paper III.

1.3.2. Structural Factors

As the literature around both skill-biased technological change and the Lewis model shows, market mechanisms are often insufficient to explain income inequality and structural factors play an important role. The literature on structural aspects of inequality is vast. Here, the focus will lie on three inter-related topics that are prominent in the literature on colonial and post-colonial developments in living standards and inequality: land, labour, and (colonial) legacies.

Land and labour, conceptualised as factor endowments or land-labour ratios, feature prominently in the literature on preindustrial inequality. Empirical evidence suggests that, contrary to the developments addressed by the theories on income inequality under processes of modern economic growth, there was no clear correlation between economic development (an increase in average per-capita income) and inequality before the industrial revolution (Lindert & Williamson, 2017; Milanovic, 2016, pp.50–51). Instead, inequality was driven by the relative supply of land and labour, which, in turn, was mostly determined by non-economic dynamics. For this period, it is argued that when land-labour ratios were high, that is, when the population was small in relation to the available land, incomes for the poorer sections of society were comparatively high, which led to population growth. Ultimately, this population growth increased pressure on the land and led to lower incomes for the poorer population and higher land rents for the elite, increasing inequality and lowering overall living standards. Ultimately, a Malthusian check would be triggered, either through poverty or external shocks like epidemics, which would lead to population decreases, lower pressure on the land, rising average incomes for the poor, and decreasing inequality (Alfani & Ammannati, 2017; Lindert & Williamson, 2017; Malthus, 1798; Milanovic, 2016, pp.62–70; North & Thomas, 1970).

Outside Europe, while a clear correlation between income inequality and economic development is similarly absent, the underlying Malthusian dynamics have often not been observed, either (Lindert & Williamson, 2017). While sub-Saharan Africa, historically and in some countries like Tanzania until very recently, has been characterised by persistent land abundance and labour scarcity, this did not lead to a process of continuous population growth and an eventual change in factor ratios (Austin, 2008b; Hopkins, 2020; Iliffe, 2007). It is argued that this was due to environmental constraints, such as the climate, the nature of soils, and the disease environment, which together limited agricultural expansion (Austin, 2008b; Diamond, 1999; Frankema, 2015). Instead, it led to extensive agriculture, widespread household subsistence production, and underdeveloped markets, implying relatively low average incomes.[13] These factor endowments also led to a predominance of coercion as a means of labour mobilisation, as the lack of land pressure, coupled with relatively low labour productivity, led to a mismatch between reservation wages[14] and the wages a potential employer could offer (Austin, 2010). This indicates at least some stratification in pre-colonial African societies, specifically between the elites who managed to access labour, often in the form of slave labour, and the rest who did not (Amin, 1972; Austin, 2005; ed. Lovejoy & Falola, 2003).

Under colonial rule, these specific factor endowments played an important role in shaping the institutional structures established by the colonisers, which, in turn, are argued to have had a significant impact on inequality and living standards (Engerman & Sokoloff, 2002). Given the conditions described above, the main problem faced by the colonisers, whether in the New World in the sixteenth century or in sub-Saharan Africa and Asia in the late nineteenth and early twentieth century, was labour

[13] Some "islands of intensive agriculture" did exist, but these were relatively rare and did not spread widely (Austin, 2008b; Widgren, 2017; ed. Widgren & Sutton, 2004).

[14] That is, the minimum wage at which an individual is willing to offer their labour services to an employer.

mobilisation. Labour was essential to exploit the resources available in the colonies and make colonialism profitable (Amin, 1972; Engerman & Sokoloff, 2002). The solutions to the labour problem implemented by the colonising powers varied across time and space, and included settlement, migration, domestic and transoceanic slavery, other forms of labour coercion, the creation of artificial land scarcity, and labour mobilisation through taxation and the facilitation of labour migration (Austin, 2008b; Engerman & Sokoloff, 2002; Paton, 1995; van Waijenburg, 2018). In the case of sub-Saharan Africa, radical scholars have argued that labour mobilisation through coercion and land policy, coupled with increasing market penetration, led to underdevelopment and a widespread lowering of living standards (Amin, 1972; Arrighi, 1970; Brett, 1973; Little, 1991; Rodney, 1982). The radical scholars also were amongst the first to explicitly address the question of the (negative) legacies of colonialism. In their view, "underdevelopment is the result of capitalist development" and "colonialism is responsible for the emiseration of the peasantry in the rural areas of underdeveloped countries" (Turshen, 1977, p.30).

This view of colonial legacies as the cause of low living standards and high inequality today has been reiterated by scholars of the persistence approach. They argue that exogenous factors (e.g. climate and the disease environment) determined the decision by colonial powers to set up either inclusive institutions, which are beneficial for long-term growth and equitable income distributions, or extractive ones, which have the opposite effect. If exogenous factors were not conducive to settlement, as was the case in most areas of the Global South, including most of sub-Saharan Africa, extractive institutions were established, which explains the lack of development and high levels of inequality found in many developing countries today (Acemoglu, Johnson & Robinson, 2002; Acemoglu & Robinson, 2010; Nunn, 2007).

These arguments have been challenged. From a methodological perspective, they are based on a compression of history which analyses the interrelations between inequality, low levels of development, and extractive institutions at two distinct point in time, but cannot explain the recurring episodes of growth across sub-Saharan Africa which happened in between (Austin, 2008a; Cooper, 2002; Hopkins, 2011; Jerven, 2010). New empirical evidence has also challenged the fundamental assumptions concerning the colonial experience and colonial legacies. Contrary to the narrative of the radical scholars, improvements in welfare and living standards were observed during colonial times, even in extractive colonies, and populations grew across the continent (Aboagye, 2020; Austin, 2010; de Haas, 2017; Frankema & Jerven, 2014; Moradi, 2008). Moreover, higher degrees of market integration and "capitalist development" appear to have increased incomes and income-earning opportunities (Andersson & Green, 2016; Frankema & van Waijenburg, 2012). There is also evidence that the relationship between settler numbers and the legacy of poverty observed by Acemoglu et al. (2002), viz., that lower numbers of settlers led to higher rates of poverty after independence, is actually reversed in sub-Saharan Africa (Bowden, Chiripanhura & Mosley, 2008).

Lastly, especially in sub-Saharan Africa, the narratives surrounding colonial legacies – both from the radical and the persistence scholars – tend to overstate the power of the colonisers to force their will upon the colonised population, downplay the diverging experiences across the continent, and ignore the role of African agency and other endogenous factors that shaped the process of colonial settlement and colonial rule (Austin, 2008a; Bolt & Gardner, 2020; de Haas, 2019; Frankema, Green & Hillbom, 2016).

These criticisms and increasingly nuanced analyses of the colonial experience and the role of colonial legacies should not overshadow that colonialism did, of course, have a significant impact on sub-Saharan Africa. Issues like the prevalence of racial discrimination and resulting high inequality between colonisers and colonised have been extensively documented (Alfani & Tadei, 2019; Bigsten, 1987; de Zwart, 2013; Hutt, 1964) and connections between colonial institutions, land policy, and the expansion of labour markets and inequality and living standards today have been restated (Odusola et al., 2017; Roessler et al., 2020; van de Walle, 2009). What is called for, thus, is a more careful analysis of the process of colonisation and the nature of colonial legacies that recognises differences across countries and across time, by carefully reconstructing the (changing) impact of colonial rule as well as the way colonial legacies were addressed after independence. This includes an analysis of the underlying causes of the trends in inequality and living standards we observe and a decomposition of the trends themselves to differentiate between market and structural factors to evaluate whether changes in inequality were due to malign forces that negatively influenced long-term development and living standards (Easterly, 2007; Geloso, 2017).

1.4. Methods and Data Sources

The discussions and analyses in this dissertation are presented as a series of analytical narratives. As a method, analytical narratives provide in-depth case studies combining analytical tools and theory from economics with quantitative evidence and the thick description of history. They are problem-driven and seek to account for the particular circumstances of specific events and outcomes, instead of developing theory or finding broad, global patterns (Bates et al., 1998, 2000). Their unique combination of economic theory and historical narrative also make them a useful tool for elucidating complex interrelations between different factors (Rodrik, 2003).

The analytical narrative approach is thus ideally suited to pursue the overall aim of this dissertation – providing an account of trends in income inequality and living standards in Tanzania over roughly the past century, based on a firm empirical and historical foundation. It is also well suited for the investigation of the interplay of economic incentives and constraints and political decision making concerning questions of racial discrimination (Paper I), agricultural development (Paper II), the ambiguous role of settlement in the development of the colonial labour market (Paper III), or the interrelations between growth, inequality, and poverty (Paper IV).

As a case study of Tanzania, this dissertation is not intended as a history of "stochastic reality" (Fenske, 2011), in which outliers get relegated to the footnotes, and in which macro variables seem to act, in the manner of Durkheimian social facts (Durkheim, 1982), often without a clear link to the actors who are, in the end, the driving force behind the phenomena we seek to measure and who give these phenomena meaning in the first place (Mises, 1998, pp.92–94; Weber, 1949, p.80). Instead, the aim is to write economic history proper: a detailed study of economic change and development (Diebolt & Haupert, 2018).

The following narratives try to decompress history, to trace and explain the trends in inequality and living standards in Tanzania from the past to the present. By doing so, they offer a wide range of empirical data which can be used in further comparative analyses to broaden our horizon of the different colonial and post-colonial experience of countries in sub-Saharan Africa and beyond. Writing history forward in this way allows for a change in perspective away from the deterministic view often found in the "causal histories" of Africa, in which the colonial powers "didn't just freeze Africa and remove the possibility for endogenous reform, [they] created structures which have subsequently inhibited economic growth" (Acemoglu & Robinson, 2010, p.39). Instead, it highlights the multi-faceted nature of historical processes and potential paths of development that might once have existed and offers explanations as to why these paths were not taken. Writing history forward also serves to highlight the achievements of the past. Often, when writing history backwards or analysing the present, we fall into the Nirvana fallacy of comparing current circumstances with an idealised state of the future (Demsetz, 1969). This can lead to a distorted image of development. By comparing Tanzania with its own past and recognising the long way it has come over the last one hundred years we gain a deeper understanding of these changes.

1.4.1. Data Sources

A major challenge that emerges in the study of colonial economic history is the paucity of data, ranging from accurate populations censuses and labour force or agricultural surveys, to national accounts and other general economic indicators. Notably absent are many of the standard sources and series used for the analysis of inequality and living standards on a national scale today, such as tax records and household budget surveys. Despite this, the data for colonial Africa is not as scare as is often thought and as will be seen most clearly in Paper 4, the data published since independence can at times be less comprehensive and less reliable even than colonial-era sources (Jerven, 2011).

For the papers on colonial Tanganyika, the main source of quantitative data used to estimate living standards and income inequality are the records published by the colonial administration. These include the Blue Books (1920-48), the Reports by the British Government to the League of Nations (1920-38) and the United Nations (1947-60) on the Administration of Tanganyika Territory (henceforth called the Annual Reports of the Colonial Office, since they were issued by the Colonial Office), various annual reports of different departments such as the Labour Department and the Agricultural Department, and a number of annual reports and statistical bulletins published by the East African High Commission, such as the annual reports of the East African Income Tax Department (1950-63). The Blue Books, with the exception of those published during World War II, and the reports of the East African High Commission were sourced from the British Online Archives. All other reports as well as supplementary publications and correspondence of the colonial administration were collected from the British National Archives in Kew and the library of the London School of Economics.

For the post-colonial period, the subject of Paper IV, the main GDP per capita and GDP growth series were drawn from the Maddison Project Database, the Penn World Tables, and the World Bank's World Development Indicators. The main series for poverty measurements was drawn from the World Bank's PovcalNet database. Inequality estimates were identified using the World Income Inequality Database and Milanovic's All the Ginis database, cross-checked with the original sources where possible. Supplementary data, again, was taken from additional reports and secondary literature.

Despite the wide range of available source material, the construction of time series for the different variables considered, such as wages and prices, is not a straightforward task. The origin of many of the aggregate figures commonly provided in colonial reports is not always clear, which means that it is not necessarily possible to triangulate estimates found in one colonial publication by using the estimates found in another colonial publication (as they could be based on the same underlying dataset). Moreover, even when looking at one variable, such as wages, within one publication, for example, the Annual Reports of the Labour Department, the data provided can vary widely from year to year.

This, of course, raises questions of the reliability of the data available. For some series, it is well-known that the estimates provided by the colonial authorities are unreliable. The prime example here is population estimates. Due to the way enumerations were conducted, the British administration tended to significantly underestimate the size of the colonial populations, especially before proper censuses were conducted beginning in the late 1940s (Frankema & Jerven, 2014). For Tanganyika, this is evident from the population estimates provided by the colonial authorities. As illustrated in Figure 1.2, there is a clear jump between 1947 – the last year for which the population estimate was based on the latest colonial enumeration from 1931, and 1948, when the first comprehensive census was conducted. To correct for these underestimates, the population figures used throughout the papers are the estimates provided by Frankema and Jerven (2014), which, as also shown in Figure 1.2, match the more accurate estimates provided by the post-World War II censuses.

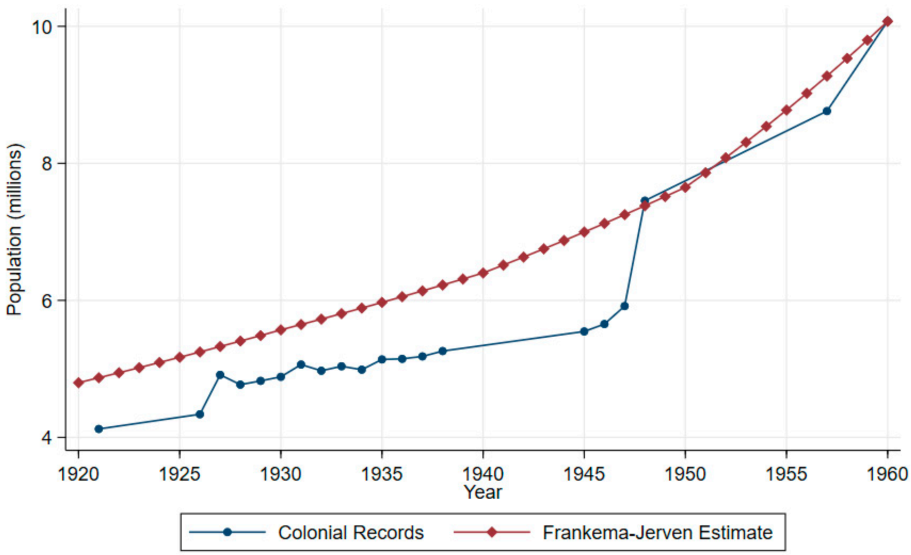


Figure 1.2: Estimates of Tanganyika's colonial-era population.
Source: Paper II, Figure 3.C.1.

Two fundamental series for the investigation of income inequality and living standards in colonial Tanganyika are those for wages and agricultural incomes. For the construction of wage series (used extensively in Papers I and III), the main challenge is that the colonial sources often do not provide averages, but rather minimum and maximum wages for different occupations and skill groups. To create average wages from these, lognormal averages were used. Lognormal averages concentrate incomes at the lower end of the distribution and have been shown elsewhere to portray actual average wages more accurately than simple means (Frankema & van Waijenburg, 2012). In the years where both averages and minimum and maximum wages were available for Tanganyika, a comparison confirms that the lognormal average is very close to the stated average (see Paper I for details).

The series for agricultural incomes, which underlies the analysis of rural incomes and living standards in Paper II, raises most questions at the outset. Even the colonial administration admitted that the "estimation of crop production [was] not an easy matter even under the most favourable conditions" (*Annual Report of the Agricultural Department* 1935, p.12) – and conditions in Tanganyika, with poor government statistics, a population scattered over a large territory, and a wide variety of ecological conditions and production systems, were not favourable (Fuggles-Couchman, 1964, pp.15–21). Despite these challenges, the colonial administration produced reasonably accurate estimates, especially regarding exported cash crops and, to a lesser extent, marketed crops in general. The results produced in Paper II using these series align well with existing narratives on the development of African agriculture in colonial Tanganyika.

For the post-colonial period up to the present day, the data available concerning incomes, inequality, and living standards is not necessarily more reliable (for examples, see Beegle et al., 2012; Belghith et al., 2018; Jerven, 2011). At times, different sources provide evidence that is highly contradictory, for example in the case of growth series and GDP levels (Jerven, 2014). These data are carefully assessed in Paper IV.

To assess the reliability of the quantitative estimates used throughout this dissertation qualitative evidence, drawn from contemporary colonial records and secondary literature such as anthropological studies and earlier research on Tanzania's (economic) history was vital. Apart from providing opportunities for triangulation, these sources also add important context to the analytical narratives presented in the papers. Often, such sources are under-utilised in historical economics and in contemporary development studies (Buggeln, 2016; Cooper, 2015).[15] Especially in more

[15] A recent example from the field of development studies, which investigates questions of nutrition in contemporary Tanzania (Chegere & Stage, 2020), overlooks a significant body of earlier (pre-2000)

quantitatively oriented fields, qualitative primary and secondary sources are often considered to be “anecdotal”. Yet, if we trust the numerical estimates published by colonial authorities, then there appears to be little ground to treat their assessments outside of statistical tables differently.

Given the nature and quality of the data, especially for the colonial period, which is the focus of Papers I, II, and III, answering questions of inequality and living standards requires a different methodological approach to research on their contemporary levels and trends. The following section briefly outlines two of the main methods used throughout the different papers and clarifies the use of certain terminology.

1.4.2. Consumption Baskets and Welfare Ratios

Real incomes and their translation into living standards underpin the analyses in the three papers on the colonial era. To create real incomes that are comparable across time and space, nominal incomes need to be deflated to account for differences in the price level over time. To usefully interpret these incomes, they must be related to a measure of living standards. Both goals can be achieved by employing welfare ratios, which has led to the wide adoption of this indicator in the study of historical real incomes and living standards (Aboagye & Bolt, 2021; Allen, 2001, 2009, 2013; Bolt & Hillbom, 2016; de Haas, 2017; Fibaek, 2021; Frankema & van Waijenburg, 2012).

Welfare ratios represent the average annual earnings of a unit of measurement (here, individuals), divided by the cost of a bundle of consumption goods sufficient to maintain a family at the absolute poverty line. In other words, they represent a basic needs poverty line approach (Allen, 2001, 2013), which has been argued to be roughly comparable to the contemporary absolute poverty line (Prados de la Escosura, 2012). These baskets are calculated for each year, so that their cost takes both changes in the price level over time as well as differences between countries into account. As it focuses on minimum levels of subsistence consumption, it is particularly well suited to study real consumption expenditure of poor individuals and households.

The principal challenge of this approach is the construction of the consumption basket. In his seminal paper on the estimation of living standards in pre-industrial Europe and Asia, Allen (2001) constructs the basket for a single adult male by estimating the minimum consumption needs of such an individual at 1,941 calories per day and

research on nutrition in Tanzania which comes to essentially the same conclusions (Fleuret & Fleuret, 1980). It also provides suggestions for improved nutrition, like the promotion of a nutritionally-balanced diet, which can already be found in colonial-era nutritional research (Culwick & Culwick, 1939, 1941).

calculates the consumption basket of an ideal-type family of a man, a woman, and two children by tripling this individual basket to arrive at a family basket. In a modified form – replacing Allen's main staples for locally appropriate ones – these baskets have also been used to calculate welfare ratios in colonial sub-Saharan Africa (Bolt & Hillbom, 2016; Frankema & van Waijenburg, 2012).

The assumptions underlying Allen's original basket have increasingly been challenged. Based on recent nutritional research, it has been argued that these baskets are too low in calories to accurately measure the actual consumption needs of a pre-industrial family, thus tending to over-estimate living standards (Humphries, 2013). This has led to a modification of both the individual and the family baskets, with the calorie content of individual basket being increased to 2,100 calories, and the number of baskets included in a family basket increased to four instead of three (Allen, 2015; de Haas, 2017).

Based on a wide range of research on nutritional requirements and actual nutritional intake in East Africa (Keller, 1965; Latham, 1964, 1967; Laurie, Brass & Trant, 1954; Trant, 1956), the 2,100 calorie basket has been adopted throughout this dissertation, as it appropriately reflects both average per capita nutritional requirements in colonial Tanganyika as well as actual calorie intake (as elaborated on in the appendix to Paper II). The family basket used here differs in one important aspect from the updated Allen basket: it maintains the original number of three adult male baskets as its base. Both Allen (2015) and de Haas (2017) suggest an increase of the adult male income for urban household by 20 percent to account for female production when estimating welfare ratios. Here, the preferred assumption is that the non-wage income of an average household amounts to one subsistence basket instead of being proportional to the male wage-earner's income. This non-wage income can stem from a variety of sources, including female non-farm activities, subsistence agriculture, as well as rations, which were provided to most unskilled labourers in colonial Tanganyika.

1.4.3. Social Tables

For the estimation of income inequality in the formal wage-earning sector in colonial Tanganyika, which forms the basis of Paper I, as well as for the analysis of the incomes of African coffee growers in the case study that constitutes a part of Paper II, the social tables approach has been employed. Social tables have been widely used for the analysis of income inequality in pre-industrial and colonial economies (Aboagye & Bolt, 2021; Alfani & Tadei, 2019; Bigsten, 1987; Bolt & Hillbom, 2016; de Haas, 2021; Lindert & Williamson, 1982, 2017; Milanovic, 2018; Milanovic, Lindert & Williamson, 2011; van Zanden, 2003). They typically list "salient economic classes […] with their estimated average incomes and population sizes" (Milanovic, Lindert & Williamson, 2011, p.256). Based on the estimated average incomes per group and their sizes, it is then possible to estimate the Gini coefficient as an estimate of income inequality.

Social tables provide reasonably accurate inequality estimates when the tables are "fairly detailed, that is, when they contain a large number of social classes, and for societies with rigid class-structures" (Milanovic, Lindert & Williamson, 2011). Depending on the rigidity of the class structure, estimates remain reliable in situations with relatively few groups. A serious problem can arise, however, if the incomes of members of different groups are not discrete, that is, if the incomes of different groups overlap significantly (Modalsli, 2015).

In contrast to other social tables, which, for example, provide incomes of "unskilled workers", "petty traders", and "small subsistence farmers" as distinct groups with average incomes that have a substantial degree of overlap, the categorisation in the different papers is based on distinct income groups. In Paper I, these income groups are categorised by skill level and racial category. The underlying wage data show that the overlap between the incomes of unskilled and skilled workers, and between Africans, Asians, and Europeans is relatively limited, albeit not completely absent. The extent of the problem is difficult to estimate without access to individual-level data. Due to the classification by skill level, there is a possibility that existing overlaps could cancel each other out if, for example, the number of labourers in one group earning below the maximum wage of the lower group in the hierarchy is similar to the number of individuals in the lower group earning above the minimum wage of the higher group. With regard to the overlap between racial groups, average income differences were so high that they are indeed almost "perfectly sorted by groups" (Modalsli, 2015, p.227).

1.5. A Brief History of Tanzania

Tanzania, situated in Eastern Africa between the Great Lakes and the Indian Ocean, is bordered by Kenya and Uganda to the north and northeast, Rwanda, Burundi, and Zambia to the north-west and west, and Malawi and Mozambique to the south (see Map 1.4). By landmass, it is the thirtieth-largest country in the world, roughly the size of Nigeria. Its population as of 2018 was around 56 million inhabitants, having increased more than tenfold since the early days of British colonialism in the 1920s, making Tanzania the fifth-most populous country in sub-Saharan Africa. As in many countries on the continent, the population is very diverse, encompassing around 120 ethnic groups as well as an Asian minority with roots in pre-colonial times. Despite the large population, the sheer size of the country means that historically, it has been sparsely populated. In 1920, population density was only 5.4 people per square kilometre, increasing to 11.6 at independence in 1961. Since then, population growth increased that number to around 66 people per square kilometre in 2020.[16]

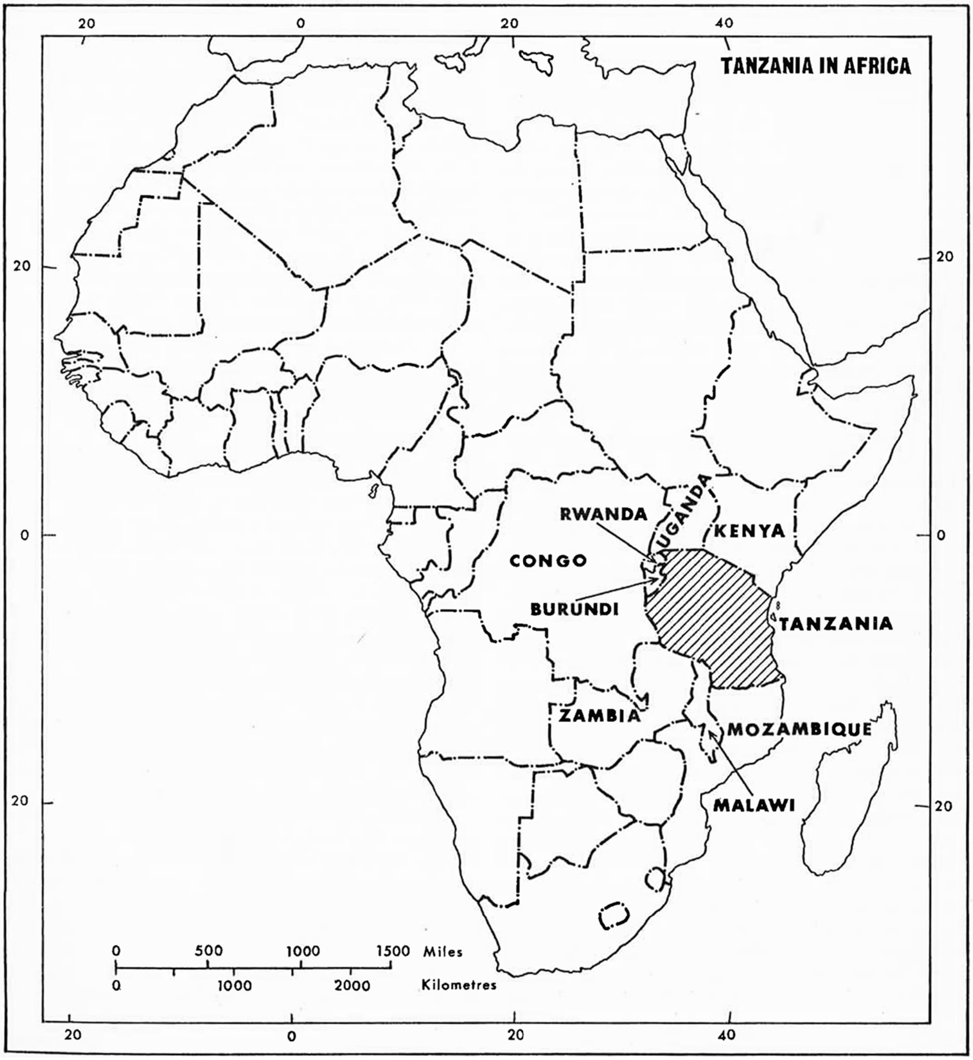
Tanzania is one of the most ecologically diverse countries in sub-Saharan Africa, with ecological zones ranging from semi-arid plateaus and deserts to rainforests. This diversity has led to a variegated settlement pattern, where areas of relatively high population density stand in contrast to vast areas that were, and are, very thinly populated (ed. Berry, 1971; Coulson, 2013, pp.26–27; Gillman, 1936, 1949; Sarris & van den Brink, 1993, pp.5–7; Sender & Smith, 1990, p.7). It also meant that multiple agricultural production systems have co-existed in the region, including nomadic and semi-nomadic pastoralism, extensive sedentary agriculture, and islands of intensive agriculture (Gillman, 1936; Kjekshus, 1977, pp.5–7; McLoughlin, 1972; ed. Widgren & Sutton, 2004). Almost every crop can grow somewhere in Tanzania. The introduction of numerous new cash and staple crops over the last five centuries, including maize, coffee, cotton, and tea, meant that many, including almost every African staple, have been cultivated somewhere in Tanzania (Coulson, 2013, p.27). Because of this diversity, Tanzania's agricultural base has been described as "particularly robust" (Sarris & van den Brink, 1993, pp.5–7). However, the size of the country and inhospitable arid or tsetse fly infested areas that form part of the ecological diversity also represent "bleak geographical facts" that obstruct economic development (Ehrlich, 1964). Geographical challenges have historically limited population expansion and made communications and market integration between different parts of the country challenging and costly (Brooke, 1967; Fuggles-Couchman, 1964, pp.53–54; Hill, 1957, pp.95–96). They also led colonial observers to turn from their prior belief in Tanzania's significant agricultural and economic potential (Gillman, 1942; Hill, 1957, pp.60–61).

Since the colonial period however, agricultural land has increased from 260,000 to almost 400,000 square kilometres between 1961 and 2018,[17] accommodating the rapid population growth, and further potential for expansion remains (Sarris & van den Brink, 1993, p.7). A wide range of natural resources, including gold, diamonds, and more recently natural gas, have been discovered and profitably exploited (Bishoge & Mvile, 2020; Bofin, Pedersen & Jacob, 2020; Bryceson, 2010; Muganyizi, 2012). The realisation that Tanzania still holds significant untapped potential resulted a revival of the notion that rapid economic development and widespread improvements in living

[16] These population density estimates are based on the population estimates by Frankema and Jerven (2014).

[17] Data taken from FAOSTAT (www.fao.org/faostat/en/#country/215).

standards were possible (Ellis & Mdoe, 2003). Yet, to this day, this potential has not been fully realised, and improvements in living standards have not materialised for many.



Map 1.4: Tanzania in Africa.
Source: Berry (ed. 1971).

1.5.1. Precolonial History

The social and economic integration of the territory that would become Tanzania and the integration of Tanzania into the global economy began centuries ago. The coastal area of Tanzania – the Swahili Coast – was already connected with the Indian Ocean trade network in the fifteenth century. Products from the hinterlands, notably ivory, gold, and mangrove poles, were transported to the coast and traded through the port of Kilwa, which by that time was home to several thousand inhabitants (Coulson, 2013, pp.29–32). In 1505, the Portuguese sacked Kilwa and established control over the Swahili Coast and the Indian Ocean trade. Over that century, they monopolised the trade in gold and expanded the fledgling slave trade in the region. They also introduced several New World crops like maize, cassava, and sweet potatoes, which would become important staples across the continent (Coulson, 2013, p.38). In the seventeenth century, the Omani Empire ousted the Portuguese from the Swahili Coast and began to expand its control of the area throughout the subsequent two centuries (Coulson, 2013, pp.30–32, 44–45; Salim, 1989).

The Omanis would shape the fortunes of the region significantly. With their arrival, Kilwa recovered, as did trade with the interior. The portfolio of trade goods expanded: ivory and gold remained important, but new exports like gums emerged and the slave trade grew considerably. In turn, imports became more diverse and included textiles from India, salt, and, importantly, arms (Coulson, 2013, pp.44–45). At the beginning of the nineteenth century, the Omani ruler Seyyid Said began to encourage Arab and Indian settlement on the Swahili Coast and on Zanzibar, which became the capital of his Empire in 1828. Increased demand for ivory would see Zanzibar transformed into an important trade hub On the mainland, the caravan trade expanded, and Arab immigrants founded settlements like Tabora (in 1830) and Dar es Salaam (in 1862) along the trade routes (Coulson, 2013, pp.44–45; Hill, 1957, pp.17–19; Pallaver, 2014; Salim, 1989). By 1860, half a million porters were said to have passed through Tabora (Hill, 1957, pp.18–19). Ever-growing demand for ivory put a strain on its supply and led to a shift in activity towards the slave trade. Slaves were in high demand not only for export, but also to power the new economy emerging on Zanzibar: the plantation cultivation of cloves. While clove plantations and the caravan trade were principally in Arab hands, Indian firms controlled sectors such as finance and the wholesale and retail trade (Cooper, 1981; Coulson, 2013, pp.44–45; Hill, 1957, pp.18–19; Kimambo, 1989; Salim, 1989). Zanzibar became the largest port in East Africa at that time and the most important producer of cloves. It also became the largest slave market in the area. At its peak in 1860, and before the abolishment of the (external) slave trade by the British in 1873, some 20,000 to 30,000 slaves were brought there annually (Coulson, 2013, p.49; Hill, 1957, p.18; Kimambo, 1989; Sheriff, 1987, pp.60–61).

The developments at the coast led to a highly stratified society, with Arab and Indian plantations owners and traders at the top, and a class of African slaves captured in the hinterlands at the bottom. The expansion of the slave trade also had important implications for the development of the hinterlands. Iliffe (1979, p.8) notes that, in the early nineteenth century, Tanzania was not inhabited by distinct "tribes" or ethnic groups. While the majority of societies were decentralised, social formations were varied and also included relatively centralised societies in mountainous regions (Coulson, 2013, pp.28–40; Hill, 1957, p.52; Kimambo, 1989; Kjekshus, 1977, pp.48–50; Mwanzi, 1985; Swai, 1983). However, slave raids and the increasing importation of arms changed social relations. They led to violent conflicts between different groups, resulting in progressive centralisation and the emergence of larger military states, as smaller groups sought to associate themselves with chiefs for protection (Coulson, 2013, p.40; Iliffe, 1979, pp.52–66; Kimambo, 1989; Salim, 1989). Moreover, the population of those areas targeted most heavily by slave raiding, such as the shores of Lake Tanganyika, dwindled (Hill, 1957, pp.18–19; Sunseri, 2003). While the overall impact of these processes is difficult to gauge, the consensus is that, while some centralised societies benefited, the integration of the hinterland into the coastal trade network led to increased instability (Cooper, 1981; Kimambo, 1989).

At the edges of the territory, instability was spreading, too. In the north, the Masai were engaged in conflicts over pasturelands and a rinderpest epidemic in the 1890s decimated their herds. Both led to widespread impoverishment, starvation, and death (Brooke, 1967; Kimambo, 1989; Pallaver, 2014; Swai, 1983). The loss of cattle also led to a rewilding of former pastures and the spread of the tsetse fly (the cause of sleeping sickness), making large swathes of land uninhabitable (Iliffe, 1979, p.124; Kjekshus, 1977, pp.126–132; Swai, 1983; Turshen, 1977). In the south, the invasion of the Ngoni, who entered Tanzania around the middle of the nineteenth century, disrupted the existing social order. Continuous Ngoni raids, including for slaves, initiated large population movements. Ngoni military organisation also spread amongst the local population and would become important during the Maji Maji uprising against German colonial rule, discussed below (Kimambo, 1989; Turshen, 1977). A series of ecological shocks, including additional epidemics and droughts, further intensified societal instability (Brooke, 1967; Kimambo, 1989; Maddox, 1986; Swai, 1983). Thus, when the colonial conquest began, the Germans "came to an area already suffering from an economic crisis with all its attendant effects" (Mwanzi, 1985, p.152).[18]

1.5.2. Tanzania under German Rule

German colonial rule in Tanzania began in early 1885, when the German East Africa Company (GEAC) established trade posts in what would soon become German East Africa, encompassing present-day mainland Tanzania, Rwanda, and Burundi. The GEAC signed treaties with local rulers and was granted a letter of protection by the German imperial government (Crabtree, 1914; Gray, 1919, pp.27–28; Speitkamp, 2014, pp.23–25). This led to conflicts of interest between the Germans, the sultan of Zanzibar, and the British, which were resolved in 1890, when Germany and Britain agreed to distribute the East African territory between themselves with Zanzibar becoming a British protectorate (Coulson, 2013, pp.49–50; Crabtree, 1914; Hill, 1957, pp.30–39; Mwanzi, 1985; Speitkamp, 2014, p.28).[19]

The consolidation of colonial rule in East Africa was a violent affair, typical of German colonial expansion and colonial conquest in general (Lonsdale, 1989; Nugent, 2010). Colonisation was initially driven by private efforts, since the German government was unenthusiastic about the endeavour (Speitkamp, 2014, pp.19–20). Development plans were largely non-existent, though German East Africa diverged from the general pattern of the German colonies. In addition to taking over local trade networks, the GEAC intended to turn the territory under its control into a settler colony, following the likes of neighbouring Kenya and British colonies in southern Africa (Paton, 1995, p.182). These ambitions were unsuccessful, however. The slow influx of settlers, the high cost of establishing colonial rule, and general mismanagement meant that the GEAC quickly faced bankruptcy. The annexation of the Swahili Coast and of Arab and Swahili

[18] There has been a heated debate as to the exact timing of these crises and the ensuing ecological, economic, and population collapse. Most prominently, Kjeskhus (1977) argues that, over the nineteenth century, the African peasantry lived in relative prosperity, that population was stable or grew slightly, and that colonialism was the main cause of the crisis (see also Turshen, 1977). Others argue that this interpretation is overly simplistic and that Kjekshus overstated the level of prosperity amongst the general peasantry (Hodgson, 1997; Maddox, 1986). The intermediary position is that population was likely stable before the shocks of the late nineteenth century (Pallaver, 2014) and that the average inhabitant of the area was *marginally* better off before the beginning of German colonialism (Bryceson, 1980; Coulson, 2013, p.41).

[19] From here on, until their unification as Tanzania in 1964, Zanzibar and Tanganyika went their separate ways. Since the focus of this dissertation lies on colonial Tanganyika, and, for the post-colonial era, on mainland Tanzania, the developments in the Zanzibar protectorate will not be discussed in much detail here. For the interested reader, Coulson (2013, pp.159–170) provides a summary of events, and Sheriff (1987) and Sheriff and Ferguson (1991) provide extensive histories.

trade networks and the suppression of both the slave trade and the use of slave labour on plantations spurned resentment amongst the local population (Coulson, 2013, p.32).[20] Eventually, these tensions led to the first large-scale uprising against German rule, the Bushiri revolt from 1888-90. The revolt was initiated primarily by Arab and Swahili traders under the leadership of Abushiri but received support from the African public, who had come to despise the German colonisers after years of violent and wanton rule by the GEAC (Mwanzi, 1985; Speitkamp, 2014, pp.34–35; Sunseri, 2001).

The failure of the GEAC to manage its dominion, accentuated by the Bushiri revolt, prompted the German government to officially take control over German East Africa in 1890 (Moyd, 2011; Speitkamp, 2014, pp.30–35). The 1890s saw a slow consolidation of German rule and the first attempts to develop and diversify the colonial economy. This process was accompanied by continued African resistance, such as the Hehe Wars from 1891-98 (Blackshire-Belay, 1992; Coulson, 2013, p.41; Mwanzi, 1985; Redmayne, 1968).

Initially, the German administration doubled down on the idea of creating a settler colony based on plantation agriculture. The colonial government and other actors, such as missionaries, introduced several export crops that would play an important role in Tanzanian agriculture throughout the colonial period and beyond, including rubber, sisal, cotton, and coffee (Crabtree, 1917; Hill, 1957, p.61; Pallaver, 2014; Sunseri, 2001).[21] Land was alienated for German settlement, African labour reserves were established, and taxation was introduced to force Africans into the labour market. This marked the beginning of internal labour migration, as labour demand was highest on the coastal plantations, while the labour supplying areas lay in the hinterlands (Kjekshus, 1977, pp.157–159; Paton, 1995, p.182; Speitkamp, 2014, pp.73–77). Taxation was progressively expanded, and with it, the cash economy spread rapidly through the territory (Coulson, 2013, pp.63–64; Kjekshus, 1977, p.154; Mwanzi, 1985).

Of central importance to the colonial economy was cotton, lobbied for by the German cotton industry, which hitherto was dependent on imports of raw cotton from outside the German territories (Sunseri, 2001; Zimmerman, 2005). Cotton cultivation,

[20] The suppression of slavery, incidentally, was an important justification for colonisation brought forward at the Berlin Conference of 1885 (Le Ghait, 1892).

[21] Rubber, while important in the German period, did not survive the vicissitudes of World War I, after which most plantations were abandoned. It should also be mentioned that the coffee introduced was of the *arabica* variant. The *robusta* variant was already well established amongst the Haya on the shores of Lake Victoria (Weiss, 2003, pp.16–19).

including African peasant production, was heavily promoted by the colonial administration (Paton, 1995, p.183; Sunseri, 2001), but this was not exclusively done through encouragement or extension activities. From 1902 onwards, then-governor Götzen ordered the mobilisation of peasants to produce cotton on communal fields in what amounted to forced labour for little to no pay (Sunseri, 2001, 2003). Combined with the imposition of a hut tax in 1905, this policy sparked the Maji Maji rebellion, which spread across the whole southern half of Tanzania from 1905-07. It was unique in uniting over 20 different ethnic groups against the colonisers and benefited from the military techniques and organisation introduced by the Ngoni in the nineteenth century. (Blackshire-Belay, 1992; Kimambo, 1989; Mwanzi, 1985; Stollowsky & East, 1988; Sunseri, 2001; Turshen, 1977). Despite the broad coalition, the Maji Maji rebellion was ultimately unsuccessful. Like earlier uprisings, it was brutally suppressed by the Germans through a combination of military action and scorched earth tactics. Overall, an estimated 200,000 to 300,000 Africans died as a consequence of German retaliation (Iliffe, 1979, pp.199–200; Moyd, 2011; Sunseri, 2001) and some areas of southern Tanganyika were left depopulated for decades to come (Blackshire-Belay, 1992; Johnston, 1983).

The uprising and the brutality of the German response resulted in a change in colonial (economic) policy. It was decided that, to avoid further uprisings, voluntary African peasant production of cotton should become the dominant means of cultivation (Blackshire-Belay, 1992; Hill, 1957, pp.89–90; Sunseri, 2001). In general, the German administration after Maji Maji refrained from using coercion on behalf of private settler or industrial interests. Instead, the new policy, officially implemented in 1909, was that labour must be hired on the market and that wages would be set by market forces (Hill, 1957, pp.70–71; Sunseri, 2001). Thus, the administration aimed to strike a balance between plantation agriculture and peasant production – the blueprint for the British colonial administration after World War I (Bryceson, 1980; Coulson, 2013, pp.69–71; Paton, 1995, pp.183–188; Speitkamp, 2014, pp.86–87; Sunseri, 2001).

While laying the groundwork for the expansion of the colonial economy, the record of German rule in terms of African social and economic development was a different matter. German colonialism worsened existing social relations. In addition to the violent suppression of any uprising against German rule, the administration also actively undermined existing African social structures and the elites that emerged during the nineteenth century. They replaced chiefs with their own administrators backed up by the *askaris*, the African military force under German command (Blackshire-Belay, 1992; Dougherty, 1966; Hill, 1957, p.102; Moyd, 2011; Speitkamp, 2014, pp.34–35). The abolishment of slavery and the German takeover of trade networks and plantation agriculture led to the marginalisation of the previous

Arab and Swahili elites while Indian traders were encouraged to expand their activities, laying the foundation for their quasi-monopoly over the inland trade throughout British rule (Coulson, 2013, pp.67–68). In terms of living standards, the African population at the end of German rule was likely worse off than in the middle of the nineteenth century. Colonial conquest, famines, and epidemics had decimated the Tanzanian population and made large areas uninhabitable. Changes in agricultural production and the spread of wage labour and labour migration led to crises in food production and nutritional decline (Coulson, 2013, pp.52–56; Kjekshus, 1977, pp.157–159; Turshen, 1977). World War I, which saw extensive military engagements between Germany and Britain on Tanzanian soil, made matters even worse.

1.5.3. Tanzania under British Rule

World War I devastated Tanganyika. Scores of porters were requisitioned, supplies were confiscated from African peasants, and villages were burned. The war effort, ensuing famines, and the Spanish flu, which arrived in East Africa in 1918, led to hundreds of thousands of casualties (Ellison, 2003; Maddox, 1986; Paice, 2007, pp.392–401, 2014). In addition to the human toll, much of the existing infrastructure was damaged or destroyed, and the expulsion of the German settlers led to many plantations lying fallow or overgrowing (Dougherty, 1966; Hill, 1957, pp.154–167; Kjekshus, 1977, pp.151–153; Turshen, 1977). In the aftermath of the war, German East Africa was divided between Belgium and Britain, Belgium gaining control over Ruanda-Urundi, and Britain over Tanganyika Territory. In 1916, Britain took control of most of the territory, and was formally granted a League of Nations Class B mandate to administer Tanganyika in 1922 (Bates, 1955).

Reconstruction was the first order of business. The restoration of the railway lines proved challenging as important economic considerations were overlooked during their construction. The Central Railway passed through large swathes of sparsely populated land unsuitable for agricultural cultivation while the Northern Line essentially duplicated the nearby Kenya-Uganda Railway across the border (Hill, 1957, pp.272–273). This made sense under German colonial rule, when economic nationalism was the norm, but not when Kenya and Tanganyika were both British domains. Apart from the challenges of restoring and profitably operating the existing infrastructure, the problem of building more infrastructure – either roads or railways – remained, since large areas of Tanganyika were still effectively inaccessible.

The war's death toll exacerbated an already major obstacle to economic development: adequate labour supply for expatriate and settler enterprises. African resistance during the Maji Maji revolt and other uprisings had shown that coercion would not solve this issue and the League of Nations mandate restricted the use of coercive policies further (Bates, 1955; Paton, 1995). Public opinion in Britain on its conduct in the colonies was also changing and in 1923, the principle of African paramountcy was set out in the Devonshire Declaration, stating that the interests of the African population should come first in colonial policy (Brett, 1973, p.217; Dougherty, 1966; Mangat, 1969, p.135).

From the beginning of British rule, the administration was thus committed firmly to the strategy of peasant development. While the plantation economy was revived and sisal was the most important export crop throughout British rule, this sector received little government support and European and Asian plantation owners frequently complained about shortages of (cheap) labour (Brett, 1973, pp.222–227; Dougherty, 1966; Ruthenberg, 1964, pp.45–46). Instead of using coercive labour mobilisation policies to address these complaints, as was done in neighbouring Kenya (Bigsten, 1987, p.34), the administration recommended that planters simply offer higher wages and better working conditions to attract more labourers (Paton, 1995, p.190).

Despite the difficult start after the destruction of World War I, and receiving little financial support from Britain, the Tanganyikan economy developed rapidly throughout the 1920s. By mid-decade, both African peasant production and estate production were approaching or exceeding their pre-war output. Employment and wages increased, and cash crops such as coffee spread rapidly in some areas (Coulson, 2013, pp.74–78; Dougherty, 1966).

The Great Depression disrupted this recovery. Prices for all of Tanganyika's exports fell. Plantations and the public sector dismissed scores of labourers and lowered wages, incomes from African cash crops declined, and welfare gains were reversed. The Depression also had a significant impact on revenue and the colonial government barely escaped bankruptcy. As a result, it drastically cut back its expenditures and investments (Bates, 1955; Coulson, 2013, p.73; Dougherty, 1966; McCarthy, 1977). To compensate for the decline in export prices, the British administration rolled out the Plant More Crops campaign, which tried to encourage African producers to grow more marketable crops. The direct impact of the campaign was limited. Agricultural output expanded throughout the 1930s, but this was due as much to rising prices, which provided incentives for Africans to return to cash cropping, as it was to government policy (Eckert, 2007, pp.52–53; Fuggles-Couchman, 1964, pp.18–19; McCarthy, 1977). Besides the exhortation of Africans to plant more crops, the colonial government did not make any significant efforts to develop the Territory during this period.

The recovery of the 1930s was cut short by the repercussions of another major international event: World War II. While the Tanganyika economy fared relatively well throughout the war, its increasing participation in the British war effort resulted in significant hardship for the African population, as export trade was disrupted and many were conscripted to work on the plantations (Ehrlich, 1964; Iliffe, 1979, pp.343–344). After the war, another phase of economic expansion began, driven by the expansion of African cash crop production. While plantation agriculture also increased its output, employment there and in the formal sector of the colonial economy stagnated, as employers sought to solve the persistent labour supply problem through increased mechanisation (Bryceson, 1980; Fuggles-Couchman, 1964, pp.62–63).

It was only in the 1950s that the colonial government intensified its development efforts. With independence on the horizon, and under mounting international pressure, education was expanded and the Africanisation of the public sector was pursued (Cooper, 1996, pp.444–448; Ehrlich, 1973). In the rural areas, a small army of extension agents attempted to promote a further expansion of cash crop cultivation, the implementation of new production methods, and measures for soil conservation (Anderson, 1984; Coulson, 1977). At the same time, and because of these efforts, African opposition to colonial rule was increasingly voiced (Coulson, 2013, pp.112–113). In urban areas, workers organised strikes for higher wages, while in the rural areas, peasants refused to follow the overbearing advice and copious regulations of the colonial administration (Coulson, 1977; Iliffe, 1979, pp.537–539; Swai, 1983).

1.5.4. Tanzania Independent

Tanganyika's independence process was rapid. By the mid-1950s, the independence movement was still embryonic. The Tanganyika African National Union (TANU), under the leadership of Julius Nyerere, Tanzania's first president, was only formed in 1954. Yet, in December 1961, Tanzania overtook its neighbours on the road to independence, becoming the second country in eastern Africa (after Somalia) to gain autonomy (Coulson, 2013, pp.144–145). In 1964, mainland Tanganyika merged with Zanzibar to become the United Republic of Tanzania.

Despite the economic progress made in the 1950s, Tanzania remained one of the poorest countries in sub-Saharan Africa (Bank of Tanzania, 1983, p.1; Ferreira, 1996) and independence initially brought little change in terms of economic policies (Bigsten & Danielson, 2001; Bryceson, 2010; Coulson, 2013, pp.156, 183–187; Sarris & van den Brink, 1993, p.10). Economic growth continued and even accelerated after independence, driven by African peasant production, but estate agriculture, facing increased uncertainty over its future in the territory, and targeted by policies such as minimum wage laws, stagnated. Industry, on the other hand, expanded. Even though Tanzania experienced some of the highest growth rates in the twentieth century during the first years after independence, economic development did not live up to the expectations of the new government or the Tanzanian people. While material welfare increased broadly, poverty overall declined slowly and signs of increasing inequality emerged (Bigsten & Danielson, 2001; Coulson, 2013, pp.156, 183-187, 205-208; Jerven, 2011).

To speed up the development process and to make it more equitable, the Nyerere government embarked upon a path of radical (economic) decolonisation. In 1967, the Arusha Declaration signalled the end of the colonial development strategy focused on a mix of (private) peasant production, industrialisation, and plantation agriculture, and initiated the implementation of African socialism, or *ujamaa*. Its goals were to spur agricultural development, improve food security, facilitate the provision of public services, and guarantee Tanzania's economic independence (Bank of Tanzania, 1983, p.234; Bryceson, 2010; Havnevik, 1993, pp.42–43; Nyerere, 1967, 1977).

African socialism in Tanzania encompassed, as one might expect, classic socialist policies such as the nationalisation of major enterprises and the collectivisation of agriculture. What made it stand out, however, was its most ambitious project: villagisation. Villagisation envisioned the resettlement of the entire rural population of Tanzania into centralised villages. This policy was the cornerstone of the effort to improve provision of public services, such as health and education, and to promote development through collectivised and modernised agricultural production (Bank of Tanzania, 1983, pp.22–23; Bryceson, 2010; Havnevik, 1993, p.44). At first, the resettlement was intended to be a voluntary endeavour, but slow progress led to an increasing reliance on coercion from 1974 onwards (Bank of Tanzania, 1983, pp.23–24, 79; Lal, 2010).

Until the mid-1970s, economic growth continued apace, while the policies implemented under the auspices of African socialism kept income inequality low. Yet, these policies, especially villagisation and nationalisation, also increasingly strained the economy (Biermann & Wagao, 1986; Coulson, 2013, pp.228–236). At the same time, a series of crises disrupted the Tanzanian economy. The first was the international Oil Crisis of 1973, followed by Tanzania's war with Uganda in 1979, the second Oil Crisis in 1979-80 and a gradual drying-up of international aid flows beginning in 1980 (Bevan et al., 1988). The internal and external crises resulted in the collapse of the Tanzanian economy and by the early 1980s, average incomes and living standards had fallen back to their immediate post-independence levels (Bevan et al., 1988; Collier, Radwan & Wangwe, 1990, pp.8–9, 65; Coulson, 2013, p.240).

The collapse of the Tanzanian economy meant that external support and economic reform were urgently needed. As was the case elsewhere in sub-Saharan Africa, international institutions, especially the International Monetary Fund (IMF), stood ready to provide funding under the condition that certain structural reforms be implemented. Wanting to safeguard the gains made in the provision of social services and in reducing inequality, the Tanzanian government was initially reluctant to concede to the conditionality demanded from the IMF. Since homegrown reforms failed, however, and after Nyerere stepped down as president, a structural adjustment programme was implemented from 1986 onwards (Biermann & Wagao, 1986; Bigsten & Danielson, 2001; Harrison, 2001; Hyden & Karlstrom, 1993).

While structural adjustment halted the economic decline, it would not bring the promised return of growth, with both inequality and poverty now rising (Ellis & Mdoe, 2003; Ferreira, 1996; Sarris & van den Brink, 1993, p.3). Only in the mid-1990s did economic growth return –not abating until the Covid-19 pandemic spread across the globe in early 2020. Initially, high growth rates did not seem to translate into poverty reduction and increased living standards (Atkinson & Lugo, 2010; Matotay, 2014). After the turn of the millennium, however, this changed. Poverty decreased substantially and the poverty headcount ratio fell from 86.2 percent to 28.2 percent between 2000 and 2011.[22] At the same time, levels of income inequality remained low and with a Gini coefficient of 37.8 in 2011, Tanzania remains one of the most equal countries in sub-Saharan Africa today (Odusola et al., 2017).

1.6. Summary of Papers

Of the following manuscripts, Papers I and II are single-authored. Paper III was co-authored with Maria Fibaek and Erik Green. I was responsible for the data work, the analytical framework, the discussion of the overall results, and the sections discussing Tanganyika in detail. Maria Fibaek contributed the raw data for rural wages and rural prices, assisted with the literature review and the framing of the paper, and wrote the sections discussing Kenya. Erik Green contributed to the framing and the literature review and wrote the sections on Nyasaland. Paper IV was co-authored with Morten Jerven, who assisted in re-structuring the original draft and provided input on the overall framing of the paper.

[22] These figures are for the poverty headcount ratio at $1.90 a day (in purchasing power parity adjusted $2011). Data was taken from the World Bank Database (https://data.worldbank.org/indicator/SI.POV.DDAY?locations=TZ).

1.6.1. Paper I: Skill, Race, and Income Inequality in the Wage Sector in British Tanganyika

Paper 1 focuses on levels and trends income inequality in the wage sector in British Tanganyika. The paper takes its starting point from two recurrent themes in the literature on wages and income inequality in colonial sub-Saharan Africa: high racial inequality between European colonisers and the colonised African population and high skill premiums, a measure of the ratio of skilled to unskilled wages (Alfani & Tadei, 2019; Atkinson, 2015a; Bigsten, 1987; Bolt & Hillbom, 2015, 2016; Cooper, 1996; de Zwart, 2011, 2013; Hutt, 1964; Frankema & van Waijenburg, 2012; Fajana, 1975; Aboagye & Bolt, 2021).[23] In the African context, high skill premiums have been relegated to a mere confirmation of the frequent complaints over skilled labour shortages by colonial officials (Bolt & Hillbom, 2015; Frankema & van Waijenburg, 2012). However, skill premiums have been identified as an important driver of income inequality in industrialised countries, as an indicator of human capital formation, and as a predictor of long-run growth (Acemoglu, 2002; Acemoglu & Autor, 2012; Frankema & van Waijenburg, 2019; Goldin & Katz, 2008; Tinbergen, 1974; van Zanden, 2003, 2009), topics which warrant further investigation in the colonial context.

To this end this paper provides first-time income inequality estimates (in the form of Gini coefficients) for the wage sector in British Tanganyika and decomposes them to disentangle the role of racial discrimination, skill premiums, and sector composition in determining inequality levels and trends. In doing so, the paper provides an in-depth look at human capital formation, the nature of racial discrimination, and the process of Africanisation in the formal economy and the colonial public sector in British Tanganyika.

The Gini coefficients were estimated using social tables for the years 1930, 1938, and 1947, and income data from labour and tax reports for 1949-59. The estimates, presented in Figure 1.3, show that income inequality in the wage sector was high. The trends in total and within-African income inequality mirror each other until 1950 and diverge during the last decade of colonial rule. Towards the end of the decade, within-African inequality was rising while overall inequality declined.

[23] Note that, in contrast to the literature on skill premiums in industrialised countries, "skilled" and "unskilled" labour here are not classified according to years of education. Instead, the categorisation follows that of the colonial sources, which commonly provided wages for workers categorised literally as "unskilled" or "skilled", with unskilled labour encompassing farmhands, manual labourers, etc., while skilled labour encompassed artisans, carpenters, masons, etc., in blue-collar occupations, and clerical workers in white collar occupations.

Before World War II, the primary drivers of income inequality were large income differences between skilled and unskilled African labourers (skill premiums) and between different racial categories (race premiums). The prevalence of high skill premiums is explained by the theory of skill-biased technological change. Colonisation introduced a wide range of new technologies, which led to a high demand for skilled labour. Skilled labour supply could not meet that demand, due to low levels of colonial educational provision, resulting in the high skill premiums observed. To alleviate skilled labour shortages, the colonial authorities imported skilled labourers from overseas, which explains part of the large differences in average incomes between different racial categories. Imported labour, recruited at competitive rates in their home markets, often commanded higher wages than Africans did. The importation of skilled labour meant that the share of skilled labourers amongst Asians and Europeans was much higher than amongst Africans, which contributed to the large differences in average incomes between the groups. In 1930, a European worker would earn on average forty to sixty times more than an African worker, and around thirteen times more than an African white-collar skilled labourer.

Figure 1.3: Gini coefficients for the wage-earning sector.
Source: see Paper I, Figure 2.2.

Outright wage discrimination and occupational segregation played an important role in determining the level of racial income differences, however. While racial income differences in specific occupations were substantially lower, a European during the peak of racial income inequality in 1935 would still earn around seven to eight times the African wage in the same occupation. Racial wage discrimination did increase employment opportunities for Africans as it incentivised the substitution of higher-paid (European) labourers for lower-paid (African) labourers of the same skill level. This was counter-acted, however, through institutionalised occupational segregation (colour bars), especially for higher positions in the colonial administration. In the 1950s, these colour bars were eased and the public sector became increasingly Africanised. Coupled with an increase in educational provision, this led to a slow decline in racial and overall inequality, although the growing share of African skilled labourers increased within-African income inequality.

While racial discrimination was an important determinant of income inequality in British Tanganyika, the principal barrier to African advancement in the wage sector and to greater income equality was the lack of educational provision. It hampered the development of the non-agricultural sector of the colonial economy and meant that, in the early days of independence, large income disparities were a defining feature of the Tanganyikan labour market. These results contradict Bowden et al.'s (2008) hypothesis that colonial policies in peasant colonies led to higher investments in human capital when compared to settler-dominated colonies. Instead, this paper argues that the Tanganyikan administration's focus on peasant development and African agriculture led to a significant underinvestment in human capital.

1.6.2. Paper II: Welfare and Unequal Development in Rural Tanganyika, 1920-60

Paper II shifts the focus from the formal wage sector analysed in Paper I to the rural sector, specifically African agriculture. If, as argued in Paper I, the colonial administration's focus on peasant development led to a neglect of the formal economy, did it at least succeed in raising the living standards of the majority of rural Tanganyikans, who were primarily engaged in agricultural production?

Recent research has shown that living standards of the African population increased in colonial Africa, especially in peasant-export colonies (Bowden, Chiripanhura & Mosley, 2008; de Haas, 2017; Moradi, 2008, 2009). It has been hypothesised that in poorer peasant colonies like Tanganyika, we should see similar developments, albeit to a lesser degree (Austin, 2010; Prados de la Escosura, 2012). In contrast, earlier studies on Tanganyika found that rural living standards were very low (Brooke, 1967; Bryceson, 1990, p.46; Maddox, 1986; Turshen, 1977). At the same time, it has been argued that benefits of development under colonialism were disproportionately distributed and led to the emergence of a wealthy rural capitalist elite (Aboagye & Bolt, 2021; Austin, 2010; de Haas, 2017).

This paper investigates these competing narratives and offers two regional case studies, focusing on the important cash crops, coffee and cotton, to discover whether rural development was broad-based or whether it benefited mostly an emerging elite of rural capitalists.

To encourage African agricultural production and increase productivity, the British administration pursued two major policies: the Plant More Crops campaign during the interwar period, and a series of comprehensive development schemes targeting strategic areas after World War II. The Plant More Crops campaign, aimed at counteracting the negative effects of the Great Depression on agricultural production, was only a moderate success. Cash crop production increased in some areas, although this was largely the result of the incentives provided by rising export prices. Food crop production, in contrast, remained relatively stagnant, and food shortages remained a frequent occurrence across Tanganyika (Brooke, 1967).

After World War II, African cash crop production saw strong growth. From 1949 to 1952, the quantity of output almost tripled and the value of exports almost doubled. High inflation, however, meant that increases in real per capita incomes from African export agriculture did not grow as much as the total export figures suggest. Moreover, this increase was primarily driven by a few provinces, leading to an uneven distribution of the benefits of the cash crop boom, as illustrated in Figure 1.4. Food production, likewise, lagged. Tanganyika was dependent on staple crop import for most of the 1950s and food shortages increased in frequency.

Developments in the two main cash cropping regions, Lake and Northern Provinces, show that the expansion of African coffee and cotton production also led to increasing differentiation within regions, although the extent depended on the type of crop grown and the existing social and economic structures in the areas. Incomes from both coffee and cotton in Lake Province were more evenly distributed, and lead to only limited economic diversification. In the coffee-producing Northern Province, in contrast, a small elite of rural capitalists emerged. This group used coffee incomes for extensive diversification. Mixed farming, an increased utilisation of animal inputs, and mechanised agriculture spread widely, the portfolio of marketed crops expanded, and incomes from cash crops led to significant investments in public infrastructure.

Overall, African agriculture developed very unevenly, both between and within regions. At the beginning of British rule, cash cropping was already concentrated in regions with better market access and the British agricultural policies exacerbated this imbalance. At independence in 1961, some areas had seen significant improvements, while others remained at very low levels of living standards and agricultural output.

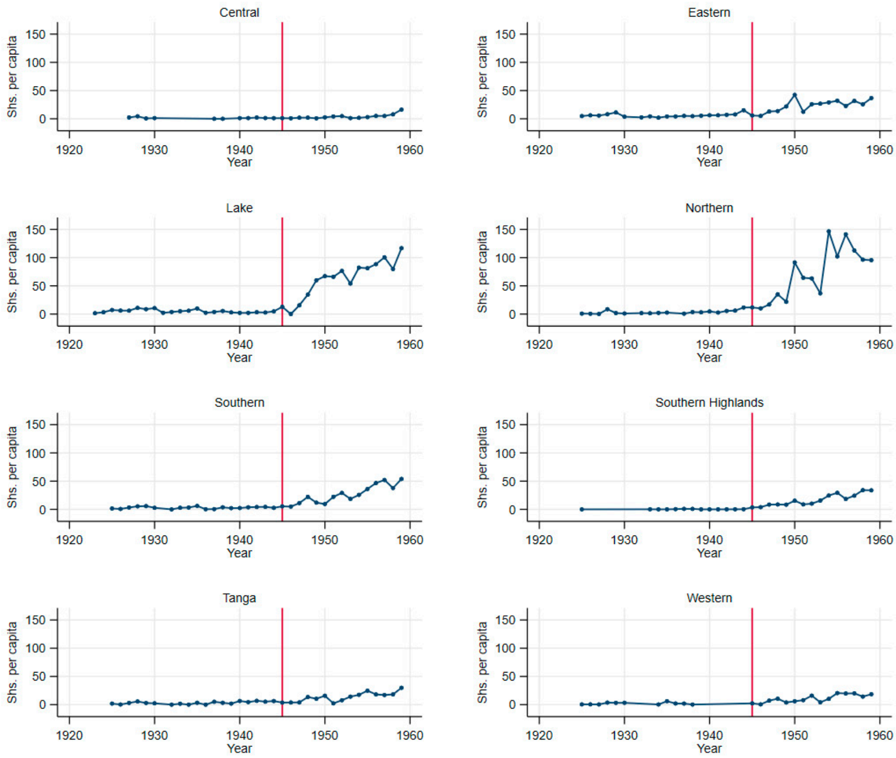


Figure 1.4: Cash crop incomes by region, shillings per capita.
Source: see Paper II, Figure 3.4.

1.6.3. Paper III: Rural Real Wages in Eastern Africa, 1920-60

Having found that developments in Tanganyika's formal sector and in African agriculture fell short of the improvements hypothesised in the existing literature, Paper III pursues this avenue of investigation further. It provides a comparative analysis of rural real wages for unskilled labourers in Tanganyika, Kenya, and Nyasaland. Existing comparative studies on wage trends in colonial Africa tend to focus on and generalise from cases on the ends of the spectrum of colonial ideal types, ranging from peasant-export colonies like Ghana and Uganda to settler colonies like South Africa. An important theme emerging from these studies is the existence of a negative correlation between the level of real wages and the number of settlers present in a colony

(Austin, 2008b; Bowden, Chiripanhura & Mosley, 2008; Frankema & van Waijenburg, 2012). The general argument underlying this *settler hypothesis* is that coercive colonial policies like taxation and land alienation, enacted on behalf of the settlers, forced Africans into the labour market and suppressed real wages (Austin, 2016; Collier & Lal, 1986; Phimister & Pilossof, 2017), mirroring the argument made by the radical literature of the 1970s (Arrighi, 1970; Bundy, 1979; Stavenhagen, 1975; Wilson, 1972).

In contrast to the settler hypothesis, recent literature on agricultural development in sub-Saharan Africa argues that an expansion of large-scale farming (the modern equivalent to colonial settler farms and plantations) improves living standards by generating employment opportunities for the rural population. Since such enterprises often hire predominantly unskilled workers, they provide a chance for the poorest to move out of poverty (Cramer, Oya & Sender, 2008; Sender, Oya & Cramer, 2006; Van den Broeck, Swinnen & Maertens, 2017). This relationship we denote as the *opportunities hypothesis*.

To test which hypothesis more accurately reflects developments in the colonial labour market, we create a labour supply and demand model representing the dynamics outlined in the two hypotheses. We then use this model to analyse rural real wage trends for our three neighbouring colony cases, Kenya, Nyasaland, and Tanganyika, which fall somewhere near the middle of the colonial ideal-type spectrum. To account for rural-urban price differences and to add to the scarce quantitative evidence on rural real wages in colonial Africa, we create a novel rural price dataset to estimate rural real wages for all three colonies in the form of welfare ratios, illustrated in Figure 1.5.

The levels and trends in rural real wages do not support the settler hypothesis. Rural real wages were highest in Kenya, where settlers were most powerful in shaping colonial policies, followed by Nyasaland, and then Tanganyika, where settlers had the least power. The average rural welfare ratios are 1.53 for Kenya, 1.23 for Nyasaland, and 1.20 for Tanganyika. While both Kenya and Nyasaland saw an increase in the welfare ratio between 1920 and 1960, the welfare ratio for rural wage labourers in Tanganyika, despite fluctuating throughout the colonial period, was not substantially higher in 1960 than in 1920.

We find that, in agreement with the literature, the Kenyan regime enacted the most coercive policies in our sample, ranging from land expropriation and the establishment of Native Reserves to prohibitions on African cash crop production. In both Tanganyika and Nyasaland, such policies were either absent or much more restricted. However, in contrast to earlier research, we argue that it was not the coerciveness of the colonial regime, but the access to opportunities overall that mattered most. Here, the role of settlers is ambiguous, and three overlooked aspects of colonial settlement explain why the wage trends do not conform to the settler hypothesis. They are 1) the role of labour demand, 2) endogenous mechanisms underlying the expansion of settler agriculture, and 3) changes in colonial policies over time.

The role of labour demand in determining the overall wage level was crucial. The initial willingness of the administration in Kenya and Nyasaland to implement coercive labour mobilisation policies meant the creation of rent-seeking opportunities in settler agriculture and stimulated its expansion. Beginning with the interwar period, internal and external pressure led to a gradual relaxation of these coercive policies that, coupled with a high level of labour demand, led to rising rural real wages. In Tanganyika, in contrast, coercive labour mobilisation policies were not employed to a great extent, preventing the expansion of settler agriculture at the outset, and resulting in stagnant rural real wages.

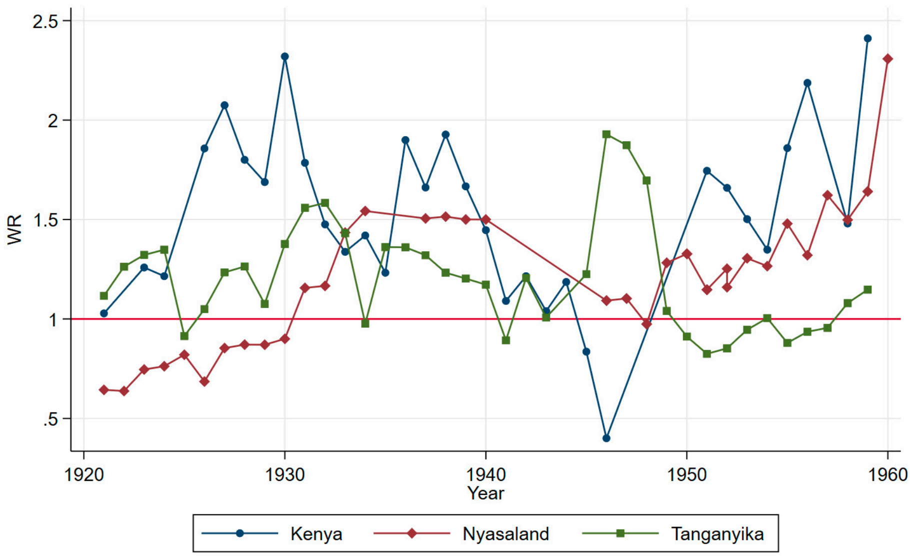


Figure 1.5: Welfare ratios for African unskilled agricultural labourers, using rural price levels.
Source: Paper III, Figure 4.6.

Thus, while settlers actively (and often successfully) tried to suppress African real wages, these attempts set in motion an endogenous process of economic expansion which inadvertently expanded the cash-earning opportunities of the African population and led to increasing rural incomes. Moreover, settlers were not the only factor that influenced the access to income-earning opportunities overall. Both infrastructure and market integration were essential in determining the potential of African cash crop production and throughout the colonial period, which saw growing populations and rising demand for cash, wage labour became an increasingly important alternative for those living in the most disadvantaged and disconnected areas.

1.6.4. Paper IV: The Nexus between Growth, Inequality, and Poverty: Lessons from Long-term Trends in Tanzania, 1961-2017

Having analysed various aspect of the trends in inequality and living standards in Tanzania under British rule, the last paper of this dissertation shifts the focus from the colonial era to the six decades after independence. At the centre of the analysis is the relationship between growth, inequality, and poverty, the so-called growth-inequality-poverty (G-I-P) nexus (Bourguignon, 2004; Thorbecke & Ouyang, 2018).

Since the mid-1990s, sub-Saharan Africa had been experiencing more than two decades of uninterrupted growth, a so-called "African growth miracle" (Young, 2012, p.696). Despite this impressive record, poverty reduction was slow and the absolute number of poor people on the continent increased (Beegle et al., 2016; Clementi, Fabiani & Molini, 2019). This brought questions concerning the relationship between growth, inequality, and poverty to the forefront of contemporary development analysis.

Relatively little is known about the long-term relationship between growth, poverty, and inequality in Africa, since the history of poverty and inequality tend to start around the year 1990 in the development literature, with many studies limiting the scope of their analysis to a decade or two (Jerven, 2018; Simson & Savage, 2020). In this paper, we make three distinct contributions. First, we offer a unique long-term perspective on G-I-P trends covering the full independence period in Tanzania. Second, we establish aggregate patterns of development using triangulation of existing data points to evaluate the many contradictory narratives concerning Tanzania's post-independence economic history. Here, we also introduce the inequality extraction ratio as a tool to assess the complex interrelations in the G-I-P nexus (Milanovic, 2018; Milanovic, Lindert & Williamson, 2011). Third, we highlight the role of changing development strategies and concrete policies in shaping these interrelations.

The long-term trends in growth, inequality, poverty, and extraction are presented in Figure 1.6. We find two extended growth episodes, the first from independence in 1961 to the late 1970s, and the second from the late 1990s to the present. Both growth episodes led to a decline in poverty, but the gains of the post-independence growth era were all but reversed by the severe economic crisis of the late 1970s and early 1980s and subsequent economic stagnation. Income inequality declined from independence, continuing the trend that began in the late colonial period (as discussed in Paper I). Here, the Tanzanian government's development strategy of African socialism (*ujamaa*) played an important role. Under *ujamaa*, a series of egalitarian and distributional policies, including land reforms, public sector salary reforms, and, importantly, the large-scale resettlement of the rural population, were implemented with the goal of reducing inequality. To some extent, these policies were successful, and helped to spread the gains from growth more evenly across Tanzanian society. Yet, they led to major economic disruption and were the principal cause of the economic collapse that began in the late 1970s. While this collapse, as noted, reversed previous improvements in living standards, the reductions in inequality that took place during the *ujamaa* period persisted, underpinning the pro-poor growth that occurred after the turn of the millennium.

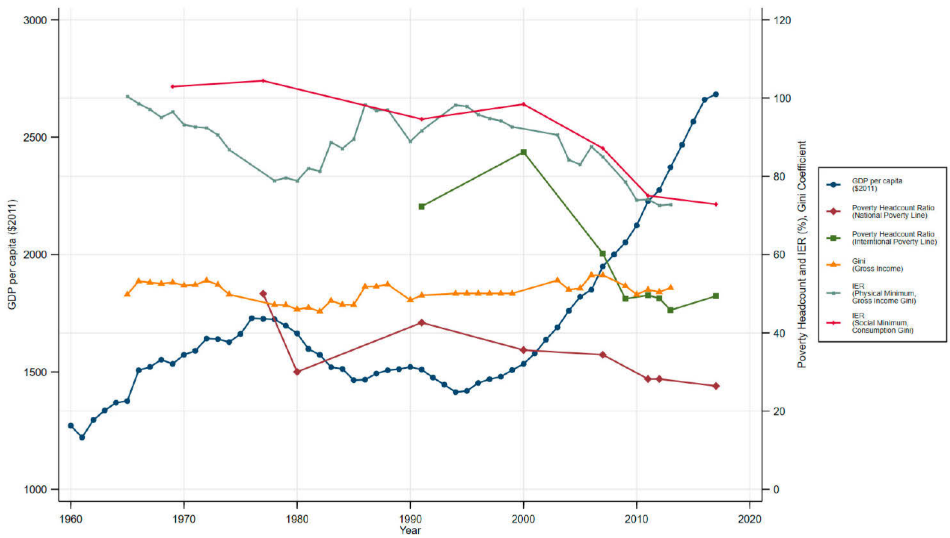


Figure 1.6: Growth, inequality, poverty, and extraction in Tanzania, 1960-2017.
Source: See Paper IV, Figure 5.9 for a full-page version.

Overall, our study shows that the nature of the G-I-P linkages is not predetermined and depends strongly on the chosen development strategy. In those periods during which growth was accompanied by a strong commitment to poverty reduction, for example during the *ujamaa* period, it was more pro-poor than in periods when such a commitment was lacking. We show that the role of inequality in the development process is ambiguous. During the first growth episode after independence, comparatively high levels of inequality were not a constraint to growth. Conversely, the economic collapse after the *ujamaa* period led to a decline in inequality, but it also reversed most of the improvements of living standards made since independence. We also underline the challenges involved in finding the right strategy to break from previous development paths and to bring about rapid, pro-poor growth. While African socialism was successful in the former, the same policies that helped overcome the colonial legacy of inequality also laid the groundwork for economic decline and eventually incurred high social and economic costs.

1.7. Synthesis and Discussion

After identifying and analysing trends in inequality and living standards and their drivers for different historical periods and different sectors of the Tanzanian economy, it is time to take a step back and look at the big picture. From afar, Tanzania's economic history evokes the image of what Le Roy Ladurie (1976) called *l'histoire immobile*, stationary history. For almost a century, observers have remarked on the low living standards and widespread poverty in Tanzania (Becker, 2014; Brockington, 2021; Bryceson, 1990; Tagart, 1933; Twining, 1951). Income inequality today stands at its 1960s level (see Paper IV). Regardless of whether the country was under colonial rule, undergoing a process of radical decolonisation, or witnessing several decades of uninterrupted growth, "lived poverty at the grassroots remain[ed] little changed" (Dulani, Mattes & Logan, 2013, p.2).

The evidence presented in the different papers confirms this impression to some extent. Throughout the twentieth century, average living standards were very low. In colonial times, most Tanzanians lived close to or below the basic needs poverty line and food shortages occurred frequently (Paper II). Poverty rates remained high after independence, and only with the turn of the millennium could a strong decrease in poverty and broad-based improvements in living standards be observed (Paper IV). In recent years, this downward trend has come to a halt, and around half of Tanzania's population still lives below the international poverty line of $1.90 a day. Yet, despite an overall impression of strong continuity, there are several episodes in which living standards improved, both in the colonial and post-colonial periods, even though such improvements were not always evenly distributed.

The long-term trend in overall income inequality likewise shows variation. Inequality rose during the interwar years and in the early 1950s, before beginning a slow and steady decline continuing until the 1980s. Since then, inequality has been increasing again, slowly. As measured by the Gini coefficient, the level of income inequality has usually been low to moderate, but, as discussed in Paper IV, this is also related to the fact that the inequality possibilities frontier in Tanzania is constrained by low levels of average per capita income.

What are the underlying causes of these trends? Here, there is no simple answer. Tanzania still has a predominantly pre-industrial economy.[24] As is common in such economies, we find no systematic relationship between economic development and inequality (Lindert & Williamson, 2017; Milanovic, Lindert & Williamson, 2011). Instead, in different historical periods, different market mechanisms and structural factors drove the overall inequality trend, and not always in the same direction. For most of the colonial period, inequality increased, both in times of economic contraction (the 1930s) and during the economic expansions (after World War II). High levels of income inequality were the result of a combination of institutional discrimination that limited the participation of Africans in the economy (Paper I), and the uneven spread of economic development (Paper II). Those who managed to gain a foothold in the colonial economy – as skilled labourers or cash crop farmers – could benefit significantly. Most Tanzanians, however, could not. Their access to markets was limited, preventing them from profitably producing cash crops. Access to alternative income opportunities, especially wage labour, was similarly limited. Opportunities for educational advancement or to move up the occupational ladder were very restricted. The inequality of outcomes – the unequal distribution of wage and cash crop incomes – discussed in Papers I and II was thus primarily a result of inequality of opportunities. In the formal sector, opportunities were unequal by design. In the agricultural sector, they were the result of economic constraints.

While the institutional causes of inequality, especially racial discrimination, were slowly being dismantled at the end of the colonial period, income inequality declined. Growth continued, and a larger share of the Tanzanian population managed to benefit from it, despite that share still being very limited (Bank of Tanzania, 1983, p.243). The Tanzanian government at the time assessed the situation differently, and saw increasing inequality, again as a cause of uneven growth, as a major problem to be addressed, prompting a radical policy change – the implementation of African socialism – to

[24] To clarify: at least until the recent growth spurt beginning in the late 1990s, Tanzania had not embarked upon a path of modern economic growth as defined by Kuznets (1973). Since the mid-1990s, growth outside the agricultural sector increased significantly, yet formal employment remains limited (at five percent of the total labour force in 2013), peasant agriculture remains the main economic activity, and agricultural productivity remains low (Matotay, 2014; Moyo et al., 2012). However, that does not mean that Tanzania is a pre-modern country. Without entering a lengthy debate on the meaning of "modernity", Tanzania has been integrated into the global political and economic system since the first half of the twentieth century (for a discussion of this interpretation of modernity see Milanovic (2018)) and many products of industrialisation and globalisation, for example, modern communication technology, have been spreading rapidly in the country (Brockington et al., 2021).

eliminate remaining inequalities and accelerate an increase in living standards across the board. As discussed in Paper IV, income inequality was further reduced, but sustained improvements in living standards did not materialise.

At first glance, income inequality does not explain a great deal of the *persistence* of low living standards for the majority of Tanzanians. Instead, the main identifiable cause has been the overall low level of economic development, resulting in low levels of mean income, and a failure to embark on a path of sustained growth and structural transformation throughout the twentieth century. This, however, leaves the fundamental question of *why* Tanzania struggled to develop, unanswered. While there is no systematic relationship between economic growth and income inequality, the causes of income inequality in colonial times point to colonial legacies that, while not leading to persistence in income inequality as such, did impact the long-term development prospects of Tanzania. Here, then, it is worthwhile to examine the findings of the different papers in relation to one another to identify some of these specific causes and their impacts on the long-term trends observed.

1.7.1. Legacies of British Rule

Rising inequality in the formal sector in British Tanganyika was primarily the result of institutional factors related to colonial rule, notably racial wage discrimination and occupational segregation. Throughout that sector, a high degree of "natural" and institutional segregation existed in the public and private sphere. The skill demands of the public sector, including English language proficiency and literacy, meant that Africans initially struggled to access better-paying occupations, even when they were not formally barred from them. Deficiencies in educational provision for Africans meant that this natural barrier persisted, as the colonial administration, faced with financial constraints after the Great Depression and concerned about the impact of an educated African elite on the stability of colonial rule, made little efforts to expand education (Bates, 1955; Smith, 1965). When educational policy changed after World War II and the colonial government decided to push for higher levels of African education, the legacy of interwar educational policy, including a shortage of schools and teachers, prevented its rapid expansion (Paper I).

Africans also faced high barriers to entry in the private sector. They tended to lack the capital, the experience, and the national and international networks that Europeans and Asians, who had been established in their roles for decades, had fostered. Here, the colonial administration made few attempts to remedy the situation and rarely provided entrepreneurial training or facilitated the establishment of African businesses (Bryceson, 1990, pp.141–142; Ehrlich, 1973; McCarthy, 1977). African integration into existing European or Asian enterprises remained limited due to organisational structures and language barriers (Bryceson, 1990, p.142), which is exemplified best by the virtual monopoly on commerce held by Asian family firms (Ghai & Ghai, 1965; Mangat, 1969; Rothermund, 1965).

The analysis in Paper I also highlights the important role of market mechanisms in determining income inequality, first reinforcing and then counter-acting racial inequality. From the 1920s, the expansion of the colonial wage sector led to a high demand for skilled labour. Because of the shortcomings in colonial education, skilled labour supply did not meet that demand. Following the predictions of the theory of skill-biased technological change, this led to high skill premiums amongst African labourers. While the expansion of education and vocational training during the last decade of British rule led to a decline in skill premiums, an increase in the share of African skilled labourers meant that intra-African income inequality kept rising. It also led to increasing Africanisation of the economy and administration, so that overall income inequality declined, both in terms of Gini coefficients in the wage sector (see Paper I) and in terms of top income shares for the whole economy (Atkinson, 2015a).

In African agriculture, discussed in Paper II, the main driver of increasing inequality across regions was the unequal access to markets and opportunities for cash crop cultivation. In the first decades of British rule, the administration attempted to bring about widespread agricultural transformation. The cultivation of new crops was encouraged (or mandated) and research into better cultivation methods was conducted. Without improved market access, however, these policies showed limited success. Over time, the administration's focus narrowed and eventually, policies only targeted those regions, or even individuals, that were already ahead (Coulson, 1977). Within regions, cash crop production also led to income inequality, but its extent depended strongly on differences in the societal and institutional frameworks in different regions (Iliffe, 1979; McLoughlin, 1972; Moore & Puritt, 1977; Spear, 1997). In contrast to the inequality of opportunities in the wage sector, inequality within cash crop producing regions did not hamper economic development. In Northern Province, for example, a small elite of large-scale growers quickly emerged with the expansion of coffee cultivation in the 1920s. This, however, did not discourage or prevent the participation of small-scale growers, and their number expanded continuously throughout the colonial period (see Paper II).

In terms of living standards, the colonial era saw opportunities for some to make significant improvements. This included blue- and white-collar skilled labourers and cash crop producers. Especially Northern Province saw a notable increase in incomes and a rapid expansion of social infrastructure, to the extent that this area was described as "rich even by European standards" (Bates, 1955, p.34). Improvements in living standards were as unequally distributed as incomes, however, and for most Tanganyikans there was little positive change. Real incomes for unskilled workers were low and stagnant, both in absolute terms and compared to neighbouring Kenya and Nyasaland (Paper III). Agricultural production also lagged behind that of the neighbouring colonies and was barely sufficient to provide enough food for subsistence (Gale, 1960). Food shortages and malnutrition were common across the Territory, especially in more remote areas where cash crop production was difficult and where the population relied on labour migration to earn cash incomes (Paper II).

1.7.2. The Colonial Roots of Underdevelopment?

These developments stand in contrast to the expectations based on previous literature, which suggested that welfare improvements in Tanganyika, while lower than those in peasant-export colonies like Ghana or Uganda, should nonetheless have been noticeable, and at least higher than in a settler colony like Kenya (Austin, 2008b; Bowden, Chiripanhura & Mosley, 2008; Prados de la Escosura, 2012). Instead of being a case of relatively benevolent colonial rule under international mandate, authors like Brett (1973) and Turshen (1977) argue that colonial Tanganyika looks like an example of colonial extraction and purposeful underdevelopment, which prevented economic growth since independence and caused persistent poverty into the new millennium (Amin, 1972; McCarthy, 1977; Raschke & Cheema, 2008; Rodney, 1982; Wayne, 1975).

Proponents of the underdevelopment approach argue that colonial policies were designed to force the colony into a position of dependence on the metropole. This was done to facilitate surplus extraction through the export of primary resources and the exploitation of colonial labour, while simultaneously providing a market for consumer goods produced in the metropole (Brett, 1973, pp.18–19; Rodney, 1982, pp.14–15). Others highlight the (purposeful) disruption of African agricultural production to mobilise labour for settler and expatriate enterprises (Amin, 1972; Lofchie, 1975; Turshen, 1977).

Did the British administration underdevelop Tanzania? As discussed in the different papers, colonial extraction took place, both through taxation and, to a lesser extent, land alienation. Taxation required the Tanzanian population to generate cash incomes, either through the production of marketable crops or through wage labour. Even though the central administration received much of the tax income, a comparatively large share was retained by the native administrations (Brett, 1973, p.228). In addition, African wage labourers helped generate profits for their non-African employers, and cesses and duties were levied on African cash crops. However, this in and of itself did not only extract resources. Colonial rule served to mobilise many of these resources in the first place, creating cash-earning opportunities, and facilitating a wide range of new economic activities. It thus initiated a series of important structural changes that have been observed in nearly all colonial economies. These include increased market penetration, a higher degree of monetisation of the economy, the introduction of new crops, an increased commercialisation of agriculture, the expansion of infrastructure, the expansion of wage labour, the establishment of a national administration, and the creation of a system of Western education. Doing so, the British administration laid several of the foundations generally considered necessary for economic development (Austin, 2010).

African cash crop agriculture especially benefited from these developments and expanded continuously until (and after) independence (Paper II). Contrary to the common perception of the "thriftless" or "ignorant" peasants responsible for their own misery (Becker, 2014; Handy, 2009; Platt, 1947), African farmers were usually eager to adopt new crops like maize and took up cash cropping when the opportunity to do so profitably arose. By the end of colonial rule, the cultivation of most cash crops, including coffee, cotton, cashew nuts, and pyrethrum, was firmly in African hands and African cultivators competed successfully with estate agriculture in all crops grown in the Territory. The main problem was that such opportunities were extremely limited and depended chiefly on the provision of infrastructure and market access by the colonial administration (Brett, 1973, pp.199–200; Fuggles-Couchman, 1964, pp.53-54; Maddox, 1986).

While the colonial wage sector also expanded throughout most of the colonial period, it remained relatively small. At its peak, only 14 percent of the total labour force were engaged in wage labour, unskilled wages were barely above subsistence level, and estate agriculture remained the most important employer (Papers I and III). Although the share of skilled labourers and the share of African employees in the colonial administration grew, the educational system remained underdeveloped, struggling to meet the demand for skilled labour. After independence, the skilled labour supply proved insufficient to satisfy even the labour demand of the new government, let alone be the catalyst for the structural transformation of the Tanzanian economy (Rothermund, 1965).

Together, the rudimentary foundations for economic development laid by the colonial administration were insufficient to initiate the kind of rapid structural transformation underpinning modern economic growth or to even bring about sustained increases in living standards. In part, the lack of structural transformation is rooted in policy decisions. British policy in Tanganyika was driven by a desire for "orderly development". The overall goal was to develop Tanganyika in a way that would maintain “traditional” order and society and avoid the widespread disruption and conflict that had characterised economic development in industrialised nations and other colonies (Bernstein, 2006; Brett, 1973, pp.75–76; Coulson, 2013, p.102; Ehrlich, 1973; Hall, 1936, pp.93–94; Hutt, 1964, p.149; McCarthy, 1977).

The desire for ordered development and the maintenance of an idealised “traditional order” underpinned the strategy of peasant development that, by and large, ran counter to any kind of economic transformation. Since the colonial administration decided that African agricultural production would be the best way to develop the Tanganyikan economy and improve living standards of the largely rural population, industrial development was discouraged (Brett, 1973, pp.45–50, 266–272; Coulson, 2013, p.102; Eckert, 2007, p.51). The most damaging aspect of this policy was the failure to expand education, which was deemed unnecessary, costly, and of little use for individuals engaged mainly in agricultural production (Smith, 1965). The failure to promote human capital formation, including skilled labour provision and entrepreneurial activity, had a long-lasting impact, as it stifled widespread structural transformation in its infancy (Ehrlich, 1973; McCarthy, 1977).

The lack of educational provision was also related to the quest for stability: there was a general concern over the impact highly educated Africans might have on social order in the colony. It was widely assumed that an educated and wealthy elite would challenge colonial rule and colonial policies. This assumption was not wrong. In areas with higher levels of income and education, like the coffee-growing parts of Lake and Northern Province, the African population engaged in frequent protests and challenged the colonisers in court (Coulson, 2013, pp.124, 146–147; Doyle, 2016; Iliffe, 1979, pp.279–282). To maintain stability, the colonial government did its best to co-opt these educated elites and integrate them into the bureaucratic economy – either into the administration or into government-sanctioned and controlled marketing cooperatives (Curtis, 1992; McCarthy, 1977). Marketing cooperatives were also important in managing the development of peasant agriculture. Here, too, there was an aversion to the “chaos” brought by the unregulated market of small traders and the uncontrolled spread of enterprise (Cooper, 1981; Ehrlich, 1973; McCarthy, 1977). The colonial authority did not just rely on cooperatives to manage African agriculture but interfered extensively in all aspects African production. Again, the purpose was the prevention of potential disruptions, socially, economically, and ecologically, that uncontrolled development might bring (Anderson, 1984; Coulson, 1977; Swai, 1983).

The policies pursued under the auspices of orderly peasant development have been identified as a major cause of the lack of structural transformation and are taken as evidence for the purposeful underdevelopment of Tanzania (Brett, 1973, pp.273–281). However, the major factor holding back economic development in colonial Tanganyika was a persistent shortage of capital, both financial and physical. This shortage lay at the root of colonial underinvestment in infrastructure, businesses outside the agricultural sector, and even contributed significantly to low levels of educational provision. The main source of private capital in the colonies were settlers and foreign investment (Brett, 1973, pp.45–50; Coulson, 1977). As discussed in Papers I and III, the colonial government's focus on peasant development and its refusal to enact coercive labour mobilisation policies or to invest in skilled labour limited the profitability and potential for expansion of non-African enterprise. The restrictions imposed by the League of Nations mandate and continuous uncertainty concerning the future of Tanganyika reinforced this problem (Brett, 1973, p.83; Ehrlich, 1973; Fuggles-Couchman, 1964, p.18; McCarthy, 1977; Turshen, 1977). Consequently, little European capital was attracted. Asian investment was more forthcoming but remained insufficient to kick-start a widespread economic development (Ghai & Ghai, 1965; Mangat, 1969; Rothermund, 1965).

Public investment could similarly not fill the gap. Like all British colonies, Tanganyika was supposed to be financially self-sufficient. Given the low initial levels of economic development, the revenue base was very limited, and matters were made worse by the Great Depression. This shortage of revenue played an important role in the decision to drastically cut educational expenditure in the 1930s (Paper I). It also limited the development of infrastructure, which was crucial for the expansion of market access and opportunities for economic participation, especially in terms of cash crop production. The cost of infrastructure investments was usually prohibitively high, given the large size of Tanzania, the geographic and climatic conditions, low population densities, and widely dispersed settlement. Even existing infrastructure was underutilised and could barely be operated without significant losses (Brett, 1973, pp.141, 199–200; Ehrlich, 1964; Hill, 1957; Maddox, 1986).

The almost 80 years of colonial rule in Tanzania brought widespread disruptions to pre-colonial economic, social, and political systems. The negative effects of large-scale social and economic change, for example on nutrition, are not unique to Tanzania, or even to colonised countries (Fleuret & Fleuret, 1980; Komlos, 2019; Komlos & A'Hearn, 2019), and the administration was both aware of and concerned about them (Bernstein, 2006; Hall, 1936, pp.72, 92–93; Hutt, 1964, p.114; Maddox, 1986; Platt, 1947). Combined with the hardships wrought by the social, economic, and ecological crises following in the wake of German conquest, these negative effects lay at the heart of the overall low living standards and widespread poverty. Whereas the disruption caused by industrialisation in the Global North eventually led to significant improvements in incomes and living standards for most of the population, the disruptions caused by colonialism did not initiate such a process in Tanzania.

With the benefit of hindsight, it is easy to find fault with any colonial policy or attempt to stimulate development. Yet not all negative outcomes of colonial policies could have been foreseen.[25] Many of the changes that had a significant negative impact on overall living standards, such as the expansion of wage labour and cash crop production or the introduction of maize as a new staple, were initiated by the colonial authorities, but also voluntarily adopted by the Tanganyikan population (albeit more enthusiastically in the case of cash crops and maize than in the case of wage labour) (Coulson, 1977; Fuggles-Couchman, 1964, pp.43–44, 61). While early colonial policies, both German and British, were largely extractive, as the literature on the nature of colonialism would suggest, neither the Germans nor the British could unilaterally enforce their will on the Tanganyikan population. Both African resistance and cooperation were crucial in shaping colonial development, although this lesson had to be learned at great cost to the Tanganyikans, as illustrated most tragically by the suppression of the Maji Maji revolt. Consequently, throughout the colonial period, government policies and approaches changed. The late German period already saw a shift towards more balanced development that attempted to take better account of the well-being of the population. This trend was even more pronounced under British rule – if not necessarily out of benevolence, then at least due to the watchful eyes of the international community and the anti-colonial lobby in Britain (Bonnecase, 2018; Dougherty, 1966; Hall, 1936; Twining, 1951).

Overall, then, the story of colonial Tanzania is not so much one of intentional underdevelopment by extractive colonisers, but one more accurately described as a "deepening of relative poverty" (Austin, 2008a, p.999). This was caused by a failure to bring about widespread and sustained economic development, and exacerbated by the, often unintentional, side effects of colonial rule and socio-economic transformation. Thus, at independence, the new Tanganyikan government was faced with a situation of very low levels of economic development, widespread poverty, and a high economic inequality.

1.7.3. Overcoming Colonial Legacies

The independent government under Nyerere was in an unenviable situation. Like the radical literature of the 1970s, the Tanzanian population and the new government saw the root cause of inequality and low living standards in colonial rule. The general

[25] The problem of disentangling intent from unintended consequences is not limited to economic history and the study of colonialism. In contemporary development studies, the same problems persist. Gabay (2012), for example, notes such reductionist tendencies in the evaluation of the outcomes of current development policies.

expectation was "that things could only get better", and the leadership was gripped by a "technocratic optimism" (Becker, 2014, p.65; Cooper, 1996). Despite the challenging starting position, the first decade of independence looked promising, as the country experienced strong growth accompanied by declining inequality and increasing living standards (Paper IV).

Concerning the reduction of existing inequalities, those determined chiefly by colonial institutions and settlement – racial wage inequality and settler-African land inequality – were easiest to overcome and most successfully tackled by the Tanzanian government. In the private and public sector, wage and salary reforms were implemented, including the introduction of higher minimum wages and the lifting of colour bars (Bank of Tanzania, 1983, p.235; Bryceson, 1990). Africanisation was pursued vigorously, not only to overcome the racial colonial legacy, but also as a way of promoting economic development (Bigsten & Danielson, 2001). The process of Africanisation, both public and private, faced several obstacles: the underdeveloped non-agricultural sector, the undereducated labour force, and inexperience of Africans in running private enterprises. The Africanisation of commerce was slow and in the early 1960s, the independent government still relied on Asian clerks, including new migrants from India, to fill empty positions (Rothermund, 1965).[26]

The land question, similarly, did not pose an insurmountable challenge. In contrast to South Africa or Latin America, where the original settlers were, at independence, firmly rooted in society, settlers only constituted a small part of Tanzania's population, and their estates and industries could more easily be nationalised and/or redistributed. With the Arusha Declaration in 1967 marking the beginning of African socialism and radical (economic) decolonisation in Tanzania, this was precisely what happened (Dias, 1970; Lal, 2015, pp.31–32). The Nyerere government even went one step further and, through villagisation and the resettlement of almost the entire Tanzanian rural population between 1967 and 1979, enacted comprehensive land reforms (Bank of Tanzania, 1983, pp.23–24). Consequently, land access or inequality were not a major issue until the turn of the millennium, by which time population growth had eventually led to a closure of the land frontier (Brockington, 2021; Bryceson, 2010; Collier, Radwan & Wangwe, 1990, pp.50–54; Ellis & Mdoe, 2003; Sarris & van den Brink, 1993, p.137).

In contrast to the institutional legacies, the problem of low living standards and widespread poverty proved difficult to resolve. As discussed in Paper IV, some initial,

[26] Here, too, there were exceptions, especially in the centres of commercial agriculture where crop marketing was organised by African cooperatives already under British rule (Bryceson, 1990, p.142; McLoughlin, 1972; Moore & Puritt, 1977).

albeit limited, progress in poverty reduction took place in the first decade and a half after independence (Bank of Tanzania, 1983, p.233). This was not to last, and it took until the turn of the millennium for another significant decline in poverty to take place. Until the end of the twentieth century, the Tanzanian government struggled to overcome the colonial legacies precluding structural transformation. The underlying developmental challenges were the same ones faced by the colonisers. This included generally low agricultural productivity, the widely dispersed population, a lack of infrastructure to connect more remote areas to the market, and problems of providing public services like education to the entire population.

Much like the colonial authorities, the Nyerere government exhibited hostility towards private entrepreneurial activity and saw the future of Tanzania principally in peasant development, instead of industrialisation (Bryceson, 1990, pp.141–142, 2010; Coulson, 2013, pp.183–187; Havnevik, 1993, pp.37–39). To promote peasant development while overcoming the wide range of structural challenges, the government chose a radical solution: villagisation. While questions of economic inequality and land reform were also targeted by the policy, its chief goals were the improved provision of public services and the modernisation of agricultural production (Bank of Tanzania, 1983, pp.20–24; Bryceson, 2010; Havnevik, 1993, p.44; Scott, 1998). With villagisation, the Nyerere government believed it had found a shortcut to progress.

Yet, when it came to "modernising" the agricultural sector and increasing agricultural productivity, villagisation, like the colonial policies of peasant development, found little success. Problems of food storage, which already aggravated food shortages under British colonialism, were prevalent even in the late 1970s. Mixed farming, the holy grail of increased African agricultural productivity for the Agricultural Department in colonial Tanganyika, was likewise something the Nyerere government was still *trying* to expand (Bank of Tanzania, 1983, p.82). Increased capitalisation in agriculture, promoted since the end of World War II, made little headway. Mechanised agriculture proved unsuccessful (the presence of ox ploughs on farms did not necessarily imply their usage) and agricultural land continued to be worked primarily by hand (Bank of Tanzania, 1983, pp.81–82; Havnevik, 1993, p.309; Sarris & van den Brink, 1993, p.143).

Radical decolonisation and peasant development under African socialism did reduce income inequality across Tanzania. Political reforms addressed the main institutional drivers of income inequality, such as racial income differences, occupational segregation, and unequal public salary scales. They also tried to address inequality stemming from uneven (agricultural) development, although here, the decline in inequality was as much related to economic decline as it was to the reforms (Paper IV). Radical decolonisation and peasant development did not manage to address the root causes of low levels of development – a lack of access to economic opportunities – and thus did not manage to deliver widespread improvements in living standards. Instead, African socialism moved the Tanzanian economy further away from the kind of structural transformation deemed necessary for modern economic growth and did not correct the mistakes of the colonial administration.[27] Even the educational policies pursued were inspired by the colonial notion of "practical education" for agriculture (Coulson, 2013, p.118), and bore little fruit in the long run. Education remains unevenly distributed in Tanzania and is a major differentiator between the haves and the have nots (Brockington, 2021; Ellis & Mdoe, 2003; Ferreira, 1996; Green, 2005). By 2013, formal sector employment still only accounted for around five percent of the total labour force, less than half, in relative terms, of what it was in the early 1950s (Matotay, 2014).

Re-examining colonial policies in light of the post-colonial development attempts, it appears that it was not simply the sheer unwillingness of the British to develop peasant agriculture in Tanganyika or excessive surplus extraction that led to the Territory gaining its independence as one of the poorest and economically least-developed nations in the world. Rather, structural challenges such as an unfavourable geography, little integration of the poorest in market processes, and a lack of access to diversified income-earning opportunities lay at the heart of the generally low levels of living standards seen in Tanzania and continued to do so by the close of the twentieth century (Collier, Radwan & Wangwe, 1990, p.77; Sender & Smith, 1990, p.3).

1.8. Concluding Remarks

The picture of long-term trends in inequality and living standards in Tanzania over the last century is a bleak one. At the best of times, at least half the Tanzanian population lived at or below the poverty line. Income inequality has been comparatively low, especially since independence. However, it could often not have been much higher, since, even if redistributive intentions existed, there was little income above subsistence to redistribute.

The colonial development model focused primarily on the agricultural sector. The aim was to modernise African peasant production by creating "modern farmers", increasing productivity, and expanding food and cash crop production to achieve higher levels of food security and increased export earnings. The post-colonial development strategy

[27] Thus, while in many ways, African socialism did represent radical decolonisation, the underlying development mindset, including views on the peasantry, was similar to colonial ideas.

echoed these goals, now with more ambitious plans guided by ideas of African socialism. The methods were similar, too, but much more comprehensively implemented, and included the large-scale resettlement of the rural population. Neither policy regime succeeded in fundamentally transforming the underlying social and economic structures or bringing about lasting improvements in average living standards. The structural adjustment that followed failed to fundamentally alter this situation. By the early 1990s, there were few signs of modernisation in the agricultural sector, which continued to dominate the Tanzanian economy. Recurring episodes of growth brought brief, and often unequally distributed, spurts of increased average incomes and welfare improvements, but petered out time and again. In short, eight decades of peasant development, while causing significant social and economic disruption, did little to bring about a structural transformation of the Tanzanian economy.

Since the mid-1990s, however, Tanzania has been experiencing its longest growth episode to date. The available evidence suggests that this time, growth *has* resulted in relatively rapid and widespread poverty reduction, while income inequality has remained stable at relatively low levels. Earlier scepticism as to whether this growth was pro-poor remains, but recent studies and the evidence presented in this dissertation suggest otherwise (see Paper IV). The lag in poverty reduction observed in earlier studies could be due to the measurement of poverty more than anything else, as Tanzanians used their rising incomes to invest in productive assets and not only to increase consumption (Ponte & Brockington, 2020).

An important driver of the recent developments is one which has received relatively little attention historically: the exploitation of natural resources. While mining was increasingly important in the late colonial economy, the post-independence government decided not to pursue this growth path. As such, the sector's potential for contributing to national development went largely unanalysed (Bryceson, 2010). Now, the resource boom is beginning to attract more attention. It is too early to tell whether Tanzania will follow the path of the many sub-Saharan African countries which fell prey to the so-called resource curse,[28] or whether it will follow in the footsteps of Botswana, which succeeded in improving overall incomes and living standards while maintaining exceptional levels of political stability despite high levels of inequality (Acemoglu, Johnson & Robinson, 2003; Hillbom & Bolt, 2018).

[28] The term *resource curse* is used to illustrate the observation that countries in possession of abundant natural resources like oil and precious metals often experience social conflict and civil war, due to struggles over the distribution of the incomes derived from them (Ross, 2004; van der Ploeg, 2011).

On the one hand, the institutional legacy of radical decolonisation, which helped reduce inequality after independence, appears to persist into the present. On the other, tensions in society have been rising in recent years, and the Tanzanian government has been taking an increasingly authoritarian turn (Paget, 2017, 2020). Whether this continues under the new president, Samia Suluhu Hassan, sworn in in March 2021, is unclear (Hartung, 2021). Likewise, it is too early to predict what impact the Covid-19 pandemic, which Suluhu's predecessor Magufuli addressed primarily through denial, will have on the Tanzanian economy and the trends in living standards and inequality. Across the developing world, the pandemic is expected to lead to significant increases in poverty, reversing years of progress (United Nations Development Programme, 2020). It remains to be seen whether these new challenges will lead to an increase in conflict over the spoils of the resource boom. Plausible, too, is that the egalitarian structure of the Tanzanian economy and society, established under African socialism, could help maintain social stability, help alleviate the consequences of the pandemic, and lead to an equitable distribution of the fruits of growth once it returns. In the past, there has been widespread agreement that Tanzania has the potential for rapid development, but how to actualise this potential was not clear (Ellis & Mdoe, 2003). Perhaps the country has finally, after a long struggle, found a path towards a more fundamental and sustainable transformation of the Tanzanian society and economy.

What are the overall lessons from the Tanzanian experience? First, the relationship between growth, inequality, and poverty is complex and requires a careful analysis of the specific context. While part of income inequality throughout Tanzanian history was driven by institutional discrimination, it was to a large extent the *result* of uneven development and an uneven access to opportunities. While uneven development, especially in the case of African agricultural production, lead to income inequality, the higher incomes of some did not come at the expense of others. If policies only focus on equalising outcomes without taking its causes into account, inequality might decline, but not because all boats are lifted, but because all boats float lower.

Second, the Tanzanian experience underlines again that increasing the opportunities for individuals to participate in the economy is still the most promising way to improve living standards across society. Thinking about the growth-inequality-poverty relationship on an abstract level and primarily from the perspective of inequality can create the somewhat misleading impression that growth just happens, and if it does not trickle down to the poorest quickly enough, then redistribution is needed. Looking beyond such abstractions, we can see that growth *driven* by the increasing participation of the poorer strata of society is important for improving this group's living standards. This means that the focus should be firmly on identifying and eliminating the barriers to economic participation faced by the poorest which historically, in Tanzania, stemmed from a lack of diversified economic opportunities.

Third, the Tanzanian experience highlights that economic development is often slow, arduous, and disruptive. Trying to fast track this process, while not impossible, is a risky endeavour. In post-colonial Tanzania, this attempt failed, with the result that, in addition to an absence of development, previous achievements were reversed. In a similar vein, attempts to suppress the disruptive impact of development as much as possible succeeded mostly in slowing down economic transformation, while doing little to prevent change and disruption overall.

The aim of this dissertation was to chart and explain the long-term trends in income inequality and living standards over the last century. It provided new evidence and insights concerning inequality, living standards, and uneven development during the colonial era and analysed continuities and change in the post-colonial period. Still, there is room for further research both on the specific topics of this dissertation and beyond.

A first avenue for further research concerns the measurement of inequality and living standards in the colonial era. An estimation of complete social tables for the British period and a temporal extension of the social tables into the German colonial era, the precolonial period, and the early postcolonial period would allow for the creation of a comprehensive and consistent long-term series of income inequality spanning over a century, filling some of the many remaining gaps in our knowledge on inequality. As recent debates concerning the measurement of living standards using the welfare ratio approach have shown, there is a need to improve and harmonise our estimates to more accurately gauge and interpret living standards in the past, and to link these estimates with contemporary data. Here, the underutilised colonial-era research on nutrition could provide helpful insights.

While many new questions emerge from the research presented here, two aspects stand out. The first is the ambiguous role of settlers in terms of long-term economic development. As has been discussed extensively, their presence is commonly perceived to have negatively impacted incomes, living standards, and development in colonial sub-Saharan Africa. This dissertation, especially Paper III, and other recent research efforts (for example Broms (2017)) have called this narrative into question, highlighting the expansion of opportunities accompanying settler agriculture. More research on this issue is not only of historical interest. It mirrors contemporary debates on the benefits of large-scale agriculture over the prevalent focus on smallholder production in sub-Saharan Africa (Sender & Johnston, 2004; Sender, Oya & Cramer, 2006; Van den Broeck & Maertens, 2017).

This also links to the second question: Why did agricultural development in Tanzania face so many problems, and why did an agricultural and structural transformation not take place? As the rapid adoption of New World staples such as maize and the expansion of cash cropping not only in Tanzania, but across most of sub-Saharan Africa, show, the problem does not appear to be that African peasants were "backward", "ignorant", or "too traditional" to change their ways. And yet, despite the rapid diffusion of crops, changes in production methods were much less pronounced and even more unevenly spread. Answering this question does not only hold importance for the explanation of colonial and early post-colonial development failures, but also has implications for (agricultural) development today and for explaining sub-Saharan Africa's development deep into the precolonial past.

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