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Decolonizing with data: The cliometric turn in African economic history*

Johan Fourie† and Nonso Obikili‡

Abstract

Our understanding of Africa's economic past – the causes and consequences of precolonial polities, the slave trade, state formation, the Scramble for Africa, European settlement, and independence – has improved markedly over the last two decades. Much of this is the result of the cliometric turn in African economic history, what some have called a 'renaissance'. Whilst acknowledging that cliometrics is not new to African history, this chapter examines the major recent contributions, noting their methodological advances and dividing them into four broad themes: persistence of deep traits, slavery, colonialism and independence. We conclude with a brief bibliometric exercise, noting the lack of Africans working at the frontier of African cliometrics.

Keywords. Africa, history, poverty, reversal of fortunes, sub-Saharan, trade, slavery, colonialism, missionaries, independence

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1 Introduction

Africa was not always the poorest continent. Although by 2016, Sub-Saharan per capita incomes (at 1,632 constant 2010 US$) was the lowest of the seven major world regions (The World Bank 2017)[1], this was not true, at least for certain parts of sub-Saharan Africa, only five decades earlier. This is demonstrated in an award-winning *Journal of Economic History*-article by Dutch scholars Ewout Frankema and Marlous van Waijenburg, a paper that has done much to showcase the contribution that quantitative African economic history can make to improve our understanding of Africa's development path. Frankema and Van Waijenburg (2012) show that mid-twentieth century urban unskilled real wages were well above subsistence levels, rising significantly over time. They also show that in parts of West Africa and Mauritius, wages were considerably higher than those of Asian labourers at the same time .

We also have good reason to suspect that Africa was not the poorest continent five centuries earlier. In what is now a seminal contribution, Daron Acemoglu, Simon Johnson and James Robinson (2002; 2010) famously described a 'reversal of fortunes'; the dense populations in parts of precolonial sub-Saharan Africa suggested high living standards around 1500, on par or even above living standards elsewhere. After the onset of the Industrial Revolution in Europe and then North America, and the consequences of colonisation, these fortunes were reversed.

What, then, were the reasons for the demise of Africa's comparative fortunes? Where and when did living standards rise, and why did they falter? What inhibited Africans from reaping the benefits of the technological and institutional innovations of the last two centuries? And, given the continent's current low living standards, to what extent can African economic history inform contemporary policy-making?

These are only some of the questions that have sparked a 'renaissance' in African economic history over the last decade (Austin and Broadberry 2014). A new generation of economists and economic historians are rewriting African economic history, aided by larger datasets and innovative empirical techniques (Fourie 2016). This is a sharp turnaround from the 'recession' in African economic history scholarship that began in the 1980s, the result of formalisation in economics, the cultural shift in history, and the 'Afro-pessimism' related to the poor economic performance of many African countries (Collier and Gunning 1999; Hopkins 2009; Austin and Broadberry 2014). It is therefore no surprise that with the rise in Africa's fortunes post-2000, and with the expectation of a demographic dividend in the coming century[2], interest in understanding Africa's economic past is at an all time high. To give one example: in the period 1997-2008, only 10 papers on Africa were published in the leading five economic history journals. Since then, 35 papers have appeared.

The 'renaissance' has been characterised by two approaches. The 'history matters'-school usually seek to establish a causal relationship between a variable in the (deep) past – like settler mortality in the case of Acemoglu, Johnson and Robinson (2002) – and an outcome variable in the present (or recent past). These approaches rely on rigorous econometric techniques, seek to establish singular causal relationships,

[1] Only slightly below per capita income in South Asia, at $1690.

[2] Today, one out of six people on Earth live in Africa. That has been projected to increase to one in four in 2050, and to one in three by 2100. See Pison (2017).

and typically use already-published source material, such as the Roome map, the Murdock Atlas or FAO crop suitability indicators, instead of collecting new primary materials from archives. It mainly exploits within-African spatial variation in development outcomes at one point in time rather than fluctuations and trends across time. In the econometric jargon, these are 'small T, large N' studies. By contrast, the 'historical reconstruction'-school typically seeks to fill gaps about our knowledge of Africa's economic past, such as long-term trends in population, taxation, wages, inequality, biological standards of living, education, social mobility, etc. Frankema and Van Waijenburg's (2012) contribution is an excellent example of this approach. In these studies, historical accounting and basic quantitative methods are often preferred to econometric techniques that allow for causal interpretation. Although these studies are also comparative (British versus French, settler vs peasant economies), their comparisons typically have a fairly small N. In other words: small N, large T.

This chapter will showcase the breadth and depth of both schools, noting, in particular, the use of cliometric analysis in understanding the causes and consequences of African historical development. We first discuss the latest evidence on Africa's fluctuating fortunes. We then turn to the possible explanations for the divergence of African economies in the late twentieth century. These include factors and events deep in African history, including the spread of agriculture, disease and cultural attributes. Slavery in Africa has received much attention as a cause for Africa's slow growth – and we review the literature on that in section four. In section five, we review the colonial impact of missionaries, settlers and the rise of post-colonial states, and its contribution to African economic performance. Finally, we discuss African economic history scholarship. Who gets to write about Africa's economic past? We conclude that more needs to be done to draw African scholars into the field.

2 Fortunes, reversed and revised

Africa has not always been the poorest continent, but measuring its fluctuating fortunes has not been easy. The lack of written records, especially for the precolonial period, complicates any long-run analysis, and has forced economic historians to develop creative approaches to measure the trajectory of living standards across time.

Unreliable population estimates, especially for the pre-colonial period, is one example of the difficulty of plotting continent-wide historical living standards. Frankema and Jerven (2014), in an attempt to backwardly project sub-Saharan population estimates, conclude: 'For the pre-colonial period the empirical evidence is so thin that it suffices to point to Thornton's work on baptismal records from missionaries in the kingdom of Kongo. The colonial censuses are in turn widely discredited, and therefore not used as authoritative benchmarks, and while the population in post-colonial Africa is better recorded, census taking has remained uneven, irregular, and incomplete.' Despite these shortcomings, Frankema and Jerven (2014) calculate that sub-Saharan Africa housed 240 million people in 1950. They then rely on population growth rates of other regions, notably South-East Asia, and modify growth rates for each individual region on the basis of their interpretation of historical events, to arrive at a population estimate of 100 million in 1850. This is in sharp contrast to earlier revisions by Manning (2010), who had used Indian population growth rates

to calculate a much higher pre-colonial population number for sub-Saharan Africa. Figure 1 compares the two revised estimates.

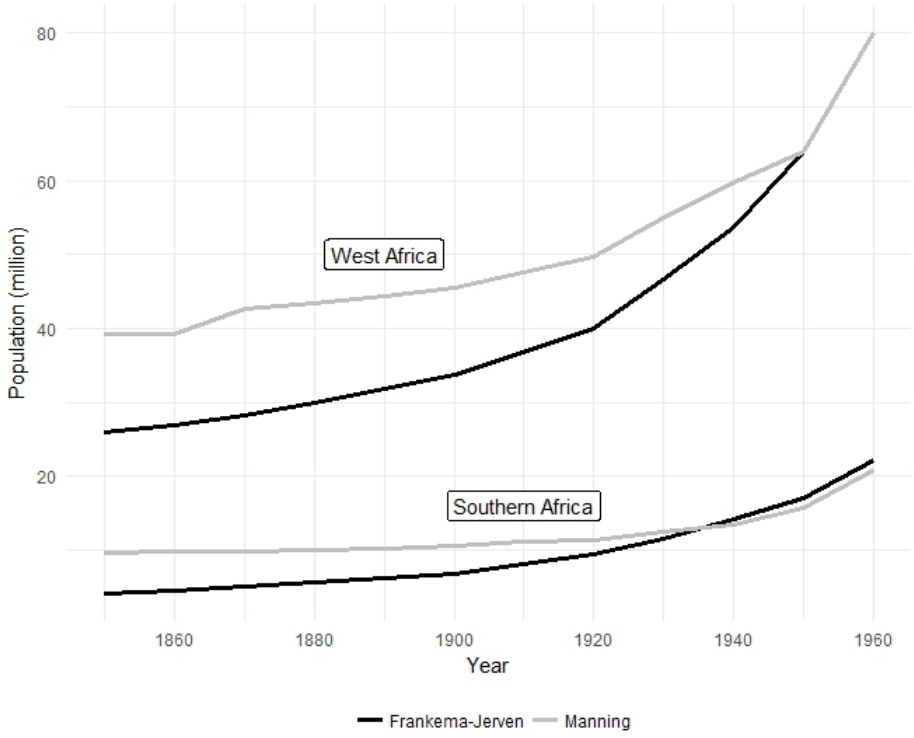

Figure 1: Population size for Southern and West Africa

Source: Frankema and Jerven (2014)

Getting population numbers right is necessary to understand the process of economic development in Africa. Population density is frequently used as a proxy for precolonial prosperity; more densely populated areas, it is assumed, live off a greater surplus (Acemoglu, Johnson, and Robinson 2002). But as Frankema and Jerven note, population numbers, even into the colonial era, may be severely biased and thus result in incorrect assertions about economic outcomes. Fourie and Green (2015) offer one example. They combine household-level settler production in the eighteenth-century Dutch Cape Colony with anecdotal accounts about Khoesan farm labourers to show that the Khoesan, while not formally recorded by the colonial authorities, was an important component of farm labour on settler farms. By obtaining more accurate population numbers, Fourie and Green (2015) show that previous research had overestimated slave productivity, social inequality and the level of gross domestic product.

Gross domestic product, of course, provides a far more reliable picture of the rise

and fall of living standards than mere population numbers. But such estimates are notoriously unreliable, even today. Morten Jerven (2010, p. 147), analysing historical GDP statistics of African territories, agrees: 'Data on the post-colonial period are less reliable than is commonly thought.' In a widely-acclaimed book, Jerven (Jerven 2013b) warns against the uncritical use of post-colonial GDP statistics in cross-country regressions, noting the errors and biases in the sources from which these estimates are generated. For these reasons, and despite some attempts to construct historical GDP series of African countries or regions (Fourie and Zanden 2013; Jerven 2014; Bolt and Zanden 2014; Inklaar et al. 2018), few African countries can boast reliable long-run GDP series (Jerven 2013a).

In the absence of reliable GDP statistics, wages offer an alternative. Frankema and Van Waijenburg (2012) note that real wages have 'the advantage that they better reflect the living standards of ordinary African workers... they focus on the purchasing power of African laborers leaving aside the significantly higher income levels of European settlers and/or Asian migrant workers'. While they were not the first to calculate real wages in Africa (Bowden, Chiripanhura, and Mosley 2008; De Zwart 2011; Du Plessis and Du Plessis 2012), they were the first to do so across several countries and for multiple years of the colonial period. Using a standardized basket of goods to calculate real wages (Allen et al. 2011), their results were the first to reveal the unexpectedly high relative living standards of West Africans compared to unskilled labourers in Asian countries during most of the colonial period, a result, they suggest, that 'call for a reinterpretation of the path-dependence nature of African economic development'. Many more have continued to expand the corpus of historical wage data for African territories (Rönnbäck 2014; Bolt and Hillbom 2015; Juif and Frankema 2016).

One concern is that wages are biased towards urban laborers. Based on a wealth of previously unused rural survey and census data from the colonial and early post-colonial period, De Haas (2017) reconstructs typical farm size, production and income to calculate real income from farming activities in Uganda. His novel approach suggests that farmers, similar to their urban unskilled counterparts, were living well above subsistence levels at a level 'remarkably constant over time' (De Haas 2017, p. 628). De Haas (2017) also show that during the 1950s and 1960s urban wages and rural incomes strongly diverged. Internal and external political pressures in the wake of independence drove urban wages upwards, but cash crop prices and resultant rural incomes did not experience a similar sustained improvement. Taxes, price controls and other constraints on agriculture meant to keep food prices low and to stimulate industrialisation were important aspects of this. Increasingly, urban laborers became an economically privileged group. If the experience of Uganda can be generalized, the large rural-urban income gap that characterized many post-colonial African economies may find its roots in this period. Bossuroy and Cogneau (2013) use backward projection of present day household survey data to show that rural-urban income gaps were particularly large in three former French colonies compared to three former British colonies. Cohort analysis, as employed by Bossuroy and Cogneau (2013), is an innovative way to uncover trends during the late-colonial and post-colonial period.

In response to the poor aggregate data quality of African economic history, an exciting development is the turn to a 'history from below', or the use of individual-level records (Fourie 2016). More precise measures of income, wealth and production are available, for example, in probate inventories and tax censuses. These records are expensive to transcribe but are invaluable in studying the transfer of wealth across generations, notably in populations where almost all individuals are farmers. Fourie (2013) use more than 2500 probate inventories of the eighteenth-century Dutch Cape Colony to show that earlier depictions of the Cape as a 'social and economic backwater' are not supported by the empirical evidence. These records are, unfortunately, limited to settlers only.

Economic historians are becoming increasingly creative. Individual-level records that survive in government or church archives, like military attestation records and police personnel files, or baptism, hospital and marriage records, encoded information that can now be used for reasons orthogonal to its original purpose, circumventing the potential biases of the colonial authorities. Church records allow investigations into social mobility (Meier zu Selhausen, Van Leeuwen, and Weisdorf 2017; Cilliers and Fourie 2017) and gender inequality (Meier zu Selhausen 2014; Meier zu Selhausen and Weisdorf 2016), although such records also do not escape the pitfalls of selection biases (De Haas and Frankema 2017). The extensive British colonial Blue Books, even if limited and biased in their own ways, can be used to reconstruct historical income inequality through social tables (Bolt and Hillbom 2016). There are several new, large research projects underway to digitize and transcribe more of these records.

One individual-level source of notable importance is attestation forms. These records often include the height of recruits. Human height, or stature, is widely used as a proxy for living standards, as it captures not only genetic traits but also environmental conditions like access to nutrients and the disease environment (Steckel 1995; Baten and Blum 2012). While stature was first used to document the living standards of Africans shipped to the Americas as slaves (Steckel 1979), Baten and Moradi (2005) and Moradi (2010) were the first to use African heights, obtained from twentieth-century household surveys, to plot living standards and inequality on the continent. The challenge was to find evidence for the early colonial and even pre-colonial period. Moradi (2009) turned to individual-level records to do this. Using the attestations of Kenyan army recruits, Moradi (2009) finds an upward trend during both the colonial and post-colonial period. His results suggest that 'however bad colonial policies and devastating short-term crises were, the net outcome of colonial times was a significant progress in nutrition and health.' More recently, Van den Eyde et al. (Van den Eynde, Kuhn, and Moradi 2017) use the records of colonial Kenyan police officers to show how the rise of ethnic politics around Kenya's independence influenced policemen's behaviour. For South Africa, Mpeta, Fourie and Inwood (2018) have used a combination of military attestations, cadaver records and household surveys to plot the changes in the heights of black South Africans over the twentieth century. As earlier sources that measure height are uncovered and transcribed, the living standards of Africa's diverse people will be traced deeper into history.

3 Deep roots of divergent development

The lack of empirical evidence at the individual level for the pre-colonial period has not prevented a new generation of social scientists from investigating how deep historical factors still shape African economic development today. In fact, the ability to now spatially map environmental, political and cultural factors in deep history and overlay it with contemporary outcomes allow economists to expose correlations – and even causality – that was simply not possible in the age before sufficient computing power, accessible software and, most importantly, rigorous econometric techniques. The deep roots of divergent development has indeed attracted most interest from cliometricians of Africa.

These deep roots, some argue, go back as far as the migration of Homo Sapiens out of Africa 70,000 years ago. In a seminal if controversial study, Ashraf and Galor (2013) present empirical results that show an inverted-u correlation between the distance from Ethiopia – considered the route by which Homo Sapiens left Africa – and incomes today. Too much and too little genetic diversity is bad, argue Ashraf and Galor (2013), which is why Native American and African populations have lagged behind Europe and Asia.

In response to Ashraf and Galor (2013), anthropologists and other social scientists noted several inconsistencies in the their data quality and assumptions (Guedes et al. 2013). They note, for example, the poor data quality used for calculating population densities in 1500 – Ashraf and Galor (2013) use figures, they show, that are largely outdated. Ashraf and Galor (2013) also make assumptions inconsistent with research in other fields; Guedes et al (2013) point to the lack of research, for example, that link genetic diversity to general diversity.

Some have attempted to replicate Ashraf and Galor's methods in different settings. Using African countries only, Asongu and Kodila-Tedika (2017) find contrasting results, suggesting that 'poverty is not in the African DNA'. Others have used the migratory distance, the instrument used by Ashraf and Galor (2013), to investigate outcomes like cultural traits instead of genetic inheritance (Gorodnichenko and Roland 2017; Desmet, Ortuño-Ortín, and Wacziarg 2017), or have used more precise genetic traits, like DRD4 exon III allele frequencies, to infer its impact on economic development (Gören 2017). As more precise genetic information becomes available, especially in Africa with its diverse genetic composition, deep history as reflected in genetic inheritance is likely to be a fertile area for new research.

The reason for Africa's genetic diversity is, inter alia, the result of a rich variety of environmental conditions and its effect on natural selection. But it was not only humans that evolved to fit their environment; insects did too. The TseTse fly, found in tropical areas throughout Africa but not on any other continent, transmits a parasite that is harmful to humans and lethal to livestock. Alsan (2015) is the first to investigate empirically the long-run effects of the TseTse fly on economic outcomes. She first shows, repeated in Figure 2, that the TseTse fly was predominantly found in the regions most suitable for agriculture. Alsan (2015) then demonstrates that the presence of the TseTse fly reduced the agricultural surplus of farmers, as they were less likely to use domesticated animals and the plow, had lower population densities and were less politically centralized.

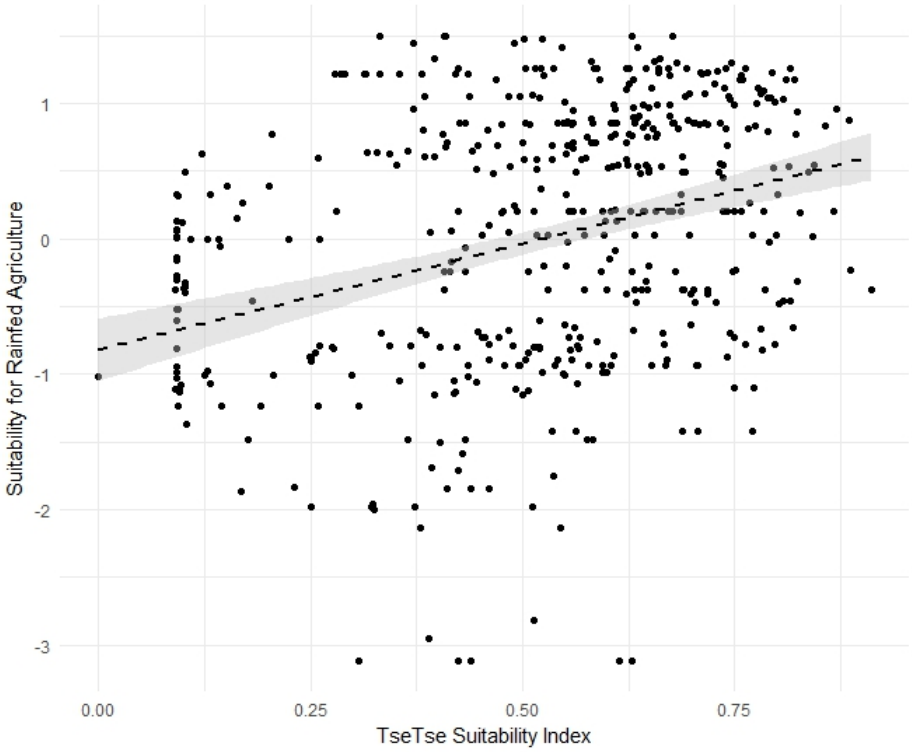

Figure 2: Correlation between rain-fed agriculture and TseTse fly suitability

Source: Alsan (2015)

Climate and environmental conditions also shaped the type and speed of agricultural adoption. Michalopoulos, Putterman and Weil (2016) find that individuals from ethnicities that derived a larger share of subsistence from agriculture in the pre-colonial era are today more educated and wealthy. The reasons for this, they suggest, are differences in attitudes and beliefs and differential treatment by others.

One alternative mechanism through which these early agricultural practices may persist is the complexity of precolonial political regimes that resulted from them. Gennnaioli and Rainer (Gennaioli and Rainer 2007) show that the strength of precolonial political institutions was an important factor in the capacity of colonial and postcolonial governments' provision of public goods. In a groundbreaking study, Michalopoulos and Papaioannou (2013) show how the spatial distribution of precolonial ethnicities affects contemporary economic performance. Areas that had higher levels of political centralization in pre-colonial times today exhibit more economic activity, as proxied for by satellite images of light density at night. This association, they find, is independent from geographic features or other observable ethnic-specific cultural and economic variables.

The persistence of political centralization – or formal institutions – and their interaction with attitudes and cultural norms and beliefs – or informal institutions – within Africa is the subject of a large recent research project on the Kuba Kingdom of Central Africa. Lowes et al. (2017) conduct experiments on descendants of individuals that lived within and just outside the borders of the seventeenth-century Kuba Kingdom, a centralized state with an unwritten constitution, a judicial system with courts and juries, a police force, taxation, and public goods provision. The experiments – the Resource Allocation Game and the Standard Ultimatum Game – are performed on 499 individuals. One subgroup of these individuals are the descendants of the Woot, a group of culturally similar people that had lived both inside and outside the Kuba Kingdom. Lowes et al. (2017) find that the descendants of those groups that settled outside the Kuba Kingdom are today *more* likely to have strong norms of rule-of-law and a lower propensity to cheat than the descendants of those that lived within the Kuba Kingdom, with its strong formal institutions. They argue that this is consistent with a 'model where endogenous investments to inculcate values in children decline when there is an increase in the effectiveness of formal institutions that enforce socially desirable behaviour' (Lowes et al. 2017, p. 1065).

Reflecting their novel methodological contributions, both the Michalopolous and Papaioannou (2013) and Lowes et al. (2017) studies are published in *Econometrica*. They reflect the frontier of cliometrics in Africa; first, in using innovative contemporary outcome variables – satellite images and experiments – and, second, their careful use of *causal* interpretations. Michalopoulos and Papaioannou (2013) explicitly acknowledge that their evidence should not be interpreted causally – '(s)ince we do not have random assignment on ethnic institutions, this correlation does not necessarily imply causation'. While Lowes et. al (2017, p. 1089) can exploit the random assignment of those treated in the Kuba Kingdom and those outside its borders, they are careful to note that their experiment can only test the 'causal impact of a particular bundle of state institutions'. The exercise of *causally* linking anthropological evidence of the pre-colonial period to both formal and informal institutions today are fraught

with difficulties. Carefully selected instruments may offer a solution. We'll next see how this strategy was used to investigate the consequences of Africa's most infamous historical episode: the Atlantic slave trade.

4 The slave trades: causes, consequences and controversies

Historians of Africa have for long studied the devastation caused by Africa's slave trades. With an approximate 12 million Africans shipped in the Atlantic slave trade, and another combined 6 million in the three other trades – the trans-Saharan, Red Sea and Indian Ocean – between 1400 and 1900, the population of Africa, according to some estimates, was only half of what it would have been had the slave trades not taken place (Manning 1990).

The study of Africa's slave trades was one of the first topics in African economic history that made use of large data sets and statistical analyses (Eltis 1977; Eltis 1987; Inikori 1976). A generation later, and with the advancement of computing power and easily-accessible statistical software, the African slave trades remains one of the most studied topics in African history. We separate these studies into two main focus areas: first, the study of the trade itself, its size, causes and mechanics, and, second, its consequences.

Demand and supply explain why the Atlantic slave trade, by far the largest of the overseas trades, arose in the 16th century, and why the majority of slaves was of African origin. On the demand side, African labour was highly productive in much of the New World, 'discovered' and colonized by Europeans from the late 15th centuries. Eltis et al. (2005, p. 696) calculate that, in the Caribbean over the period 1674-1790, 'total factor productivty in slave agriculture increased markedly, and the demand for slave labour increased by a factor of at least four'.

On the supply side, Africans' resistance to tropical diseases and their proximity to the Americas made them more attractive than European, Indian and Chinese labourers (Bertocchi and Dimico 2014; Angeles 2013). This was possible, Angeles (2013) argues, because of the low costs of slave capture in Africa, which was mostly undertaken by Africans themselves. Because slaves were mainly obtained from different ethnic groups, Africa's ethnic fragmentation, itself the consequence of few large states and limited penetration of any of the world's major religions, is one reason for the low cost of slave labour on the continent, and the profitability of the slave trade.

Climatological conditions also affected slave supply. Fenske and Kala (2015) find that more slaves were exported in colder years along the African coast. This is because lower temperatures reduced mortality and raised agricultural yields, lowering the costs of slave transport. Their results suggest that a temperature increase of 1C reduced annual exports by roughly 3,000 slaves per port (Fenske and Kala 2015). Rainfall, or the lack of it, mattered too. Levi Boxwell (2017) show that 19th century drought increased the number of slaves exported from a given region. He also uses geocoded data on 19th century African conflicts to show that drought increased the likelihood of conflict, but only in the slave exporting regions of Africa.

European technology, notably guns, played a key role in the slave trade too.

Whatley (2017) use a Vector Error Correction Model of annual slave and trade statistics to show that gunpowder imports and slave exports were co-integrated in a long-run relationship. Gunpowder imports 'produced' additional slave exports, and additional slave exports attracted additional gunpowder imports. He makes use of several placebo tests, as well as an instrumental variable of excess capacity in the British gunpowder industry to support the Gun-Slave hypothesis.

The slave trade itself was highly inefficient. Dalton and Leung (2015) find that voyage output, measured as the number of slaves that disembarked in the Americas, varied substantially across voyages by ships from different European countries. The dispersion in output was the highest across Portuguese voyages, lower across French voyages, and lowest across British voyages. Dalton and Leung (2015) then calculate the total factor productivity gains had the dispersion of distortions disappeared. Their results show that the dispersion of distortions had the smallest damage to total factor productivity in Great Britain, followed by Portugal, and then France.

While historians are interested in the causes of African slavery, economists tend to focus on its consequences.[3] What had been difficult to ascertain, however, was the extent to which the slave trades were responsible for the poor economic performance of many African countries by the late twentieth century. Nathan Nunn's job market paper, published in the *Quarterly Journal of Economics* in 2008, was a first attempt at a *causal* interpretation (Nunn 2008). Nunn first shows that countries that had higher number of slaves removed, are also poorer today. He then makes two arguments in favor of a causal relationship: first, from historical and basic descriptive evidence, it would seem that it was the more prosperous regions, and not the poorest regions, that selected into the slave trades. The novelty of Nunn's contribution, however, rests on his second approach, the use of an instrumental variable. His instrument is the distance from each African country to the slave markets in the Americas: the greater the distance, the lower number of slaves were shipped from that African country. This requires the author to make the assumption that the distances are unrelated to economic outcomes today, except through the effect of the slave trade. Nunn's IV-estimates support the OLS-estimates and his argument: the slave trade still had a negative effect on African economies in the late twentieth-century.

Nunn's causal interpretation ignited interest in identifying the *mechanisms* that explain the persistent effect of slavery he had found. Nunn himself first attempted to address this in the final section of his 2008 paper, noting ethnic fractionalization and state development as two plausible explanations. But it would be his later work, on ruggedness and trust, that would offer more sophisticated explanations for slavery's persistence.

With Diego Puga, Nunn postulated that one mechanism through which the slave trades could affect present-day outcomes is geography (Nunn and Puga 2012). Rugged terrain, they argue, afforded protection to those being raided during the slave trades. Many Africans thus escaped to rugged areas, terrain that is 'tough to farm, costly to traverse, and often inhospitable to live in' (Nunn and Puga 2012, p. 20). These areas, however, while offering protection, were less likely to generate large surpluses, or offer better trade opportunities. Africans' economic prospects were thus stymied

[3] See Bertocchi (2016) for an extensive review of the slave trade legacies.

by their rugged location, a consequence of the centuries' long slave trade.

Soon after Nunn and Puga (2012), Nunn published another paper, this time with Leonard Wantchekon as co-author, that postulated a second mechanism to explain the persistent effects of the slave trade. Nunn and Wantchekon's 'Slave Trade and the Origins of Mistrust in Africa' published in the *American Economic Review* (2011) argues that the greater involvement of the slave trade resulted in lower levels of trust, as seen in Figure 3, and that these cultural norms persisted over time. They use the distance of ethnic groups from the coast at the time of the slave trade as an instrument for the number of slaves taken. A number of falsification tests that examine the reduced-form relationship between distance from the coast and trust inside and outside of Africa suggest that the exclusion restriction is satisfied. Nunn and Wantchekon (2011, p. 3223) explain: 'Places farther from the coast had fewer slaves taken, and therefore exhibit higher levels of trust today. If distance from the coast affects trust only through the slave trade, then there should be no relationship between distance from the coast and trust outside of Africa, where there was no slave trade. This is exactly what we find.'

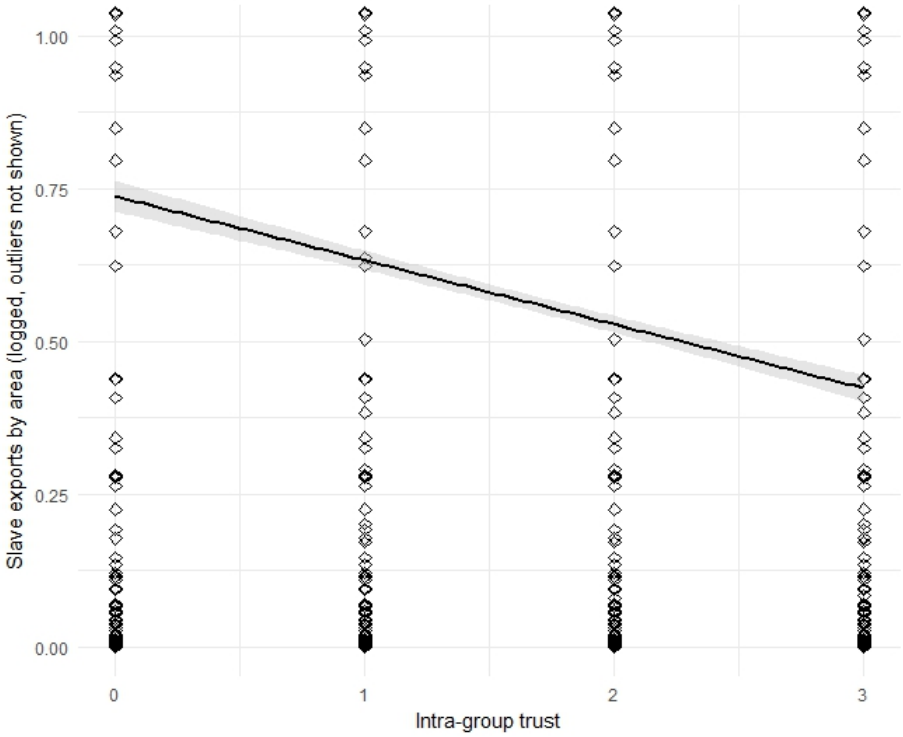

Figure 3: Correlation between slave exports and intra-group trust

Source: Calculated from Nunn and Wantchekon (2011)

That the slave trade causally affects trust several centuries later is an important

empirical finding, but it still does not explain the mechanism – or channel – that is responsible for this persistence. Nunn and Wantchekon (2011) put forward two possible explanations. First, the slave trade altered the cultural norms of the ethnic groups exposed to it, making them less trusting of others. Second, the slave trade may have caused the deterioration of legal and political institutions. Individuals in heavily affected regions may be less trusting today because their leaders and institutions are less trustworthy. The authors conduct three exercises to measure the size and significance of each of these two mechanisms. All three exercises show that both channels are important, but that the internal channel – the effect through cultural norms – is at least twice as large as the external channel.[4]

Did the slave trade not perhaps bring beneficial outcomes for African traders and farmers? Rönnbäck (2015) argues that the demand for provisions from the external slave trade was too small to have any substantial effect on African commercial agriculture. Focusing on the Gold Coast, he shows that some African laborers located in the coastal European enclaves experienced an initial boost to living standards, but then their conditions declined. It was only a small group of highly privileged employees that benefited consistently, exacerbating social stratification. Dalrymple-Smith and Frankema (Dalrymple-Smith and Frankema 2017) agree. Exploring the provisioning strategies of 187 British, French, Dutch, and Danish slave voyages conducted between 1681 and 1807, they show that during the 18th century, an increasing share of the foodstuffs required to feed African slaves were taken on board in Europe instead of West Africa. Although there were considerable variation in provisioning strategies among slave trading nations and across main regions of slave embarkation, the average slave trade-induced demand impulse was weak.

The focus, however, has been on the long-term persistent consequences of the trade, and the mechanisms through which the shock of slavery persist into the present. Education is one example. Using slave data and colonial censuses of Nigeria and Ghana, Obikili (2015b) finds a negative and significant correlation between slave export intensity before the colonial era and literacy rates during the colonial era. Using contemporary data, he shows that this relationship persists into the present.

Violence and conflict, and how it reinforces itself in a low-level equilibrium, is another channel. Fenske and Kala (2017) find a discontinuous increase in conflict after 1807 in areas affected by the slave trade. In areas where the slave trade declined, they argue, political leaders resorted to violence to maintain their influence. The slave trade shifted south and east, associated with an increase in violence in those regions.

The slave trade also resulted in political fragmentation. Although this channel was first proposed by Nunn (2008), it has found additional support in Obikili (2016). He shows that villages and towns of ethnic groups with higher slave exports were more politically fragmented during the precolonial era, and that this fragmentation is reflected in political outcomes today.

And then there are the myriad social beliefs, norms and other informal institutions that were affected. Obikili (2016) shows, for example, correlations between slavery, political fragmentation and the propensity to bribe or be corrupt. The slave trade also

[4]In a replication study with an updated dataset, Deconinck and Verpoorten (2013) confirm the authors' results.

help to explain different rates of polygamy in western and eastern Africa. More male slaves were exported from western Africa, while more female slaves were exported in the Indian Ocean trade. Dalton and Leung (2014) link historical slave trade data with current rates of polygamy, and find that the transatlantic slave trades cause polygamy at the ethnic group level, while the Indian Ocean slave trades do not.

And its long-term consequences can even affect outcomes like access to finance. Pierce and Snyder (2017) show that the slave trade is strongly correlated to reduced access to the formal and trade credit markets. The effect is particularly strong for capital investment in smaller firms that are not business groups. Because the slave trade cannot explain any other business obstacle, the authors argue that its effects persist through informal institutions like mistrust and weakened institutions. Levine, Lin and Xie (2017) confirm this channel, noting that the 'slave trade is strongly, negatively related to the information sharing and trust mechanisms but not to the legal mechanism'.

In the end, Nunn's cliometric contribution not only sparked interest in the consequences of African slavery, but also caused some debate in the field of African economic history, notably from historians concerned with the quality of the source material (Reid 2011; Austin and Broadberry 2014). Gareth Austin, for example, while welcoming the new interest in Africa's past, cautioned against the 'compression of history', the practice of conflating different data-generating processes across decades or even centuries (Austin 2008). Anthony Hopkins, too, welcomed the new approaches for 'their boldness, their freshness and their potential for re-engaging historians in the study of Africa's economic past', but criticized them on methodological and empirical grounds (Hopkins 2009, p. 155). He notes, in particular, the poor data quality – 'the population figures they assemble ... are insufficiently robust to carry the explanatory weight placed on them' (Hopkins 2009, p. 166) and then notes that the 'regression analysis is only as robust as the numerical evidence it draws on' (Hopkins 2009, p. 168).[5]

Debates about data quality and source bias are not limited to slave data, of course. Colonial-era written records would introduce new forms of measurement error and bias that would have to be accounted for.

5 Colonialism and independence

The age of slavery was followed by the age of colonialism. By the nineteenth-century, European missionaries and explorers were entering deeper into the African interior in search of souls and treasure. They were soon followed by settlers and imperialists, claiming large parts of the continent for European powers.

There are at least two economic questions that deserve our attention: First, what explains the emergence of colonialism? Colonialism – or colonisation – was,

[5]Hopkins' empirical concerns would trigger a response from James Fenske, then a young Economics PhD graduate from Yale University. Fenske cited the interest in African economic history that Nunn's work had generated, noting that these studies are 'not distinguished by their broad theories, but by their careful focus on causal inference'(Fenske 2010, p. 177). Both Hopkins and Morten Jerven responded, with another response by Fenske (Hopkins 2011; Jerven 2011; Fenske 2011).

of course, not one thing. It was a heterogenous *process* of political, economic and psychological subjugation and dispossession with the aim of advancing the political and financial power of the colonizer. But why did it emerge when it did, and what explains the variety of colonial regimes? A second question, perhaps more difficult to answer, is: What were its consequences? What did missionaries do, and how would that shape Africans' attitudes, beliefs and freedoms? What was the response to the arrival of European settlers, with new crops, technologies and diseases, and how did it affect local production systems, labour markets and demographic trends? These are difficult questions to answer, of course, because, as Heldring and Robinson (2012, p. 4) observe, 'we have to think about what the trajectories of African societies would have been in the absence of colonialism.' Such counter-factual thinking requires us to be precise about our assumptions and honest about the potential biases. This is where the rigour of cliometrics can be of great value. To elucidate these two questions, we first consider the effect of missionaries, take a detour to pre-industrial South Africa, and then consider the Scramble for Africa and colonial era.

Christian missionaries brought profound changes to African societies.[6] New religious beliefs are, of course, the most obvious change. Nunn (2010) shows that Africans who inhabit regions where European missionaries settled are today more likely to be Christian. In other words, missionaries seems to have had the effect that was, ostensibly, their main intention – to convert souls. But missionaries also provided education, now in great demand by African converts. Within the new colonial economy, reading and writing suddenly paid off. Soon it was mostly Africans themselves that carried the gospel to new regions. Gallego and Woodberry (2010) use regional data for 180 provinces in African countries to show that the presence of Protestant missionaries in the past are more correlated with schooling variables today than similar measures for Catholic mission activities. The reason, they argue, is the increased competition between Protestant and Catholic missionaries within Catholic colonies. Although the overarching aim of mission stations may have been for religious conversion, Frankema (2012) uses the British colonial Blue Books to show that prior to 1940, mission stations explain nearly all of the variation in school enrollment rates for African countries. Says Frankema (2012): 'Christian education was effective in leading indigenous people into the Christian faith and essential to raise the number of converts over time, because educated converts helped spread the Christian message in the local vernacular.' Missionaries did not only create a demand for reading, but also the ability to supply books. Cagé and Rueda (2016) build a geocoded dataset of European Protestant missions and their printing investments in 1903. They show that regions close to mission stations with an early printing press have higher newspaper readership, trust, education and political participation today. In new work, they also show the link between mission stations and the prevalence of HIV/Aids today (Cagé and Rueda 2017). Fenske (2015) shows that districts of French West Africa that received more colonial teachers and parts of sub-Saharan Africa that received

[6]Missionaries had already arrived in South Africa during the eighteenth-century, setting up stations like Genandendal aimed at converting indigenous Khoesan people, but the expansion of Christian missionaries in South Africa and throughout the continent would mostly be a late nineteenth-century phenomenon.

Protestant or Catholic missions have lower polygamy rates in the present. He finds no evidence of a causal effect of modern education on polygamy.

The concern, of course, is that missionaries do not randomly assign themselves across the continent. Most authors acknowledge this shortcoming, but mostly assume that it is unlikely to affect their results. And even if placement was random, the mechanism of persistence remains unclear. Was it indeed early educational attainment that paved the way for current generations to have higher years of schooling and incomes, or were there unobservables that may explain the correlation? Fourie and Swanepoel (2015) use mission stations in South Africa to argue that migration may explain much of the persistence. Mission stations attracted the best and brightest, often from afar. Once migration is controlled for, they show, the effects of early education disappears.

Another concern is the use of missionary maps that are partial to European missionaries. European-run mission stations are the minority of total missions in sub-Saharan Africa; in fact, they only represent roughly 10% of all missions. In new work, Jedwab, Meier zu Selhausen and Moradi (2018) show that a more careful analysis of mission activity in colonial Ghana reverses many of the long-term effects when a map of only European-run mission stations are used. They repeat the exercise for the rest of Africa, with similar results. What is clear is that much more careful work is required to ascertain not only the impact of missionaries but the mechanism through which the impact persists.

Before the Scramble for Africa at the end of the the nineteenth century, Europeans had already settled the southern tip of the continent. As the Dutch East India Company expanded their reach in Asia in the seventeenth century, ship traffic around the Cape of Good Hope increased rapidly. They needed refreshments of fresh water, food and fuel, and so the Lords XVII decided to establish a station in Table Bay that would supply passing ships. In April 1652, a motley crew of officials and workmen arrived that were to build a fort, farm vegetables and trade meat with the indigenous Khoesan. The plan was poor, and the Company was soon forced to settle more land and release workmen to become free farmers. Colonization at the southern tip of Africa had begun.

Fourie (2013) uses probate inventories to ascertain the wealth of the settlers at the Cape. He finds evidence of 'remarkable wealth'; the average Cape farmer owned, for example, 54 head of cattle and 350 sheep. The high level of wealth was both a consequence of demand for Cape goods (Boshoff and Fourie 2010) and low production costs, notably the acquisition of land at low cost and the use of imported slaves as farm labour. Human capital and strong property rights, in both land and slaves, also mattered (Fourie and Fintel 2014; Fourie and Swanepoel 2018). But access to inexpensive labour was critical to the success of the Cape economy. Malaysia, Indonesia, India, Madagascar and Mozambique were the main places of origin for Cape slaves. Combining court records with slave records, Baten and Fourie (2015) calculate numeracy rates for the different regions of slave origin, providing an estimate of comparative living standards in the eighteenth-century Indian Ocean economies.

For most of sub-Saharan Africa, though, the colonial experience is tied to the Scramble for Africa at the end of the nineteenth century. A first, obvious question

is about the timing of the Scramble. Frankema, Williamson and Woltjer (2018) use a new commodity trade dataset to show that nineteenth-century sub-Saharan Africa experienced a terms-of-trade boom in the five decades before the Scramble for Africa (1835-1885). Given the larger weight of West Africa in French imperial trade, the authors argue, it made economic sense for French conquest of the interior of West Africa.

Even though a more systematic process of exploration and annexation was well under way by the 1860s, it would be the Berlin conference, organized by Otto von Bismarck from November 1884 to February 1885, that would embody European colonization in Africa. In a seminal paper, Michalopoulos and Papaioannou (2016) investigate one consequence of the Berlin conference, the arbitrary partitioning of land: 'While the Berlin conference discussed only the boundaries of Central Africa (the Congo Free State), it came to symbolize ethnic partitioning because it laid down the principles that would be used among Europeans to divide the continent. The key consideration was to preserve the status quo preventing conflict among Europeans for Africa, as the memories of the European wars of the eighteenth and nineteenth century were alive. As a result, in the overwhelming majority of cases, European powers drew borders without taking into account local conditions.' They employ this exogenous shock as a 'quasi-natural' experiment to assess the impact of ethnic partitioning on civil conflict. Using a dataset that reports georeferenced incidents of political violence between 1997-2013, they show that the likelihood of conflict is approximately 40 percent higher in areas where partitioned ethnicities reside as compared to homelands of ethnicities that have not been separated by national borders. In short: the arbitrariness of the colonial partitioning helps explain some economic and political outcomes today.

It is now widely agreed that colonialism had many undesirable economic and political consequences, most notably through its effect on institutions. Acemoglu, Johnson and Robinson (Acemoglu, Johnson, and Robinson 2002) famously described a 'reversal of fortunes' in global incomes between 1500 and 2000 – and that the *extractive institutions* of colonialism were one reason for this reversal. But what exactly these extractive institutions were, remains the subject of debate. Econometric techniques that allow causal inference can help. As discussed, Michalopoulos and Papaionnou (2016) show an effect working through the arbitrariness of colonial borders. Acemoglu, Reed and Robinson (2014) use a survey of village elders combined with regression analysis to show that the distribution of ruling families in Sierra Leone, first recognized by British colonial authorities, explain development outcomes today. Lowes and Montero (Lowes and Montero 2016) use a geographic regression discontinuity design along former concession boundaries in the Congo Free State to show that one specific type of extractive institution – private companies that used violent tactics to collect rubber – have persistent negative effects on education, wealth and health outcomes today. Lechler and McNamee (2017) use spatial discontinuity of colonial rule within Namibia to show the effect of direct versus indirect colonial rule on democratic participation. Meier zu Selhausen, van Leeuwen and Weisdorf (2017) use intergenerational occupations available in marriage registers to show that Ugandan chiefs actually lost their advantage to place their sons into elite positions

by the late-colonial era. Archibong (2018) show that current ethnic inequalities are the result of historical heterogeneous federal government policies towards different groups in Nigeria.

In some colonies at certain times, European powers, mostly out of self-interest, invested in physical and social infrastructure. Railroads was one such investment. Herranz-Loncán and Fourie (2017) calculate that railways in the Cape Colony can account for between 22-25 percent of the increase in the Colonys labor productivity from 1873 to 1905. Jedwab and Moradi (2016) exploit the construction and eventual demise of colonial railroads in Ghana, to study how colonial infrastructure affected later economic outcomes. They show that railroads had a large effect on the distribution of economic activity during the colonial era, and that these effects, despite the railroads falling into disuse, have persisted to date. Replicating the methodology for Kenya, they show how railways determined the location of European settlers, Asian traders and the main Kenyan cities at independence (Jedwab, Kerby, and Moradi 2017). Despite the decline of the railways, the spatial distribution of the colonial era persist. Bertazzini (2018) finds similar spatial persistence for the road network built in Ethiopia by Italians between 1935 and 1940.

Education also improved, although, as we have seen, that was mostly as a consequence of missionary activity. Huillery (2009) show that current educational outcomes in French West Africa have been more specifically determined by colonial investments in education than health and infrastructure. This is because of the strong persistence of investment: 'regions that got more at the early colonial times continued to get more' (Huillery 2009, p. 176).

Cogneau and Moradi (2014) use the partition of German Togoland after World War I as a natural experiment to test the impact of British and French colonization. Data of recruits to the Ghanaian colonial army 1908–1955 allow them to show that literacy and religious affiliation diverge at the border between the parts of Togoland under British and French control as early as in the 1920s. This, they claim, is because of policy differences towards missionary schools. Dupraz (2017) use the partition of Cameroon between France and the United Kingdom after World War I and its reunification after independence to show that Cameroonians born in the 1970s are 9 percentage points more likely to have completed high school if they were born in the former British part. 'French and British Cameroon started diverging after partition', he finds, 'but the British advantage disappeared when the French increased education expenditure in the 1950s'. A British advantage reemerges, however, because of high repetition rates in the formerly French part.

Bolt and Bezemer (2009) on the other hand argue that the impact on education was not driven only by missionary activity but by broad exposure to Europeans and European-style education. The find that the colonial education influenced subsequent development and that was influenced by the density of the European population. Wantchekon, Klašnja and Novta (2014) use the random allocation of regional schools in colonial Benin to assess the impact of colonial education on the descendants of those that first attended school. They find a significant effect on the first and later generations, as well as large village-level externalities: 'Descendants of the uneducated in villages with schools do better than those in control villages.'

Obikili (2015a) highlights the role of social capital in generating human capital. Using expenditure data off Western Nigerian cocoa farmers in 1952, he shows that farmers in towns with greater social capital, spend more on education today. This relationship is not only limited to contemporary outcomes, he shows, but was already present during the colonial era (Obikili 2015a).

Colonial governments also invested in health. Doyle et al. (2018) demonstrate, based on mission hospital patient records, the benign health outcomes of Christian conversion during the colonial period. Arthi and Fenske (2016) use a year-long panel of time-use data from colonial Nigeria, complemented by ethnographic approaches, to show that health shocks imposed time costs that followed the gender division of labor. Whether individuals could respond by recruiting substitutes depended on their social standing, urgency of work, and type of illness. Lowes and Montero (2017) use medical campaigns to treat and prevent sleeping sickness by French colonial governments to examine the effects on health attitudes and outcomes today. They show that in places where villagers were forcibly examined and injected with medicines, inhabitants today have less trust in medicine, and World Bank projects in the health sector are less successful.

How costly, then, was colonization, both for European powers and African citizens? Huillery (Huillery 2014) uses France as one case study. She shows that French West Africa took only 0.29 percent of French annual expenditures, of which only 0.05 percent was for development. West Africans, instead, carried the heaviest burden, disproportionately funding French civil servants' salaries. Gardner (Gardner 2012) came to the same conclusion for most of British Africa. Because colonial officials did not have the capacity to tax Africans beyond a certain limit (Frankema 2010; Frankema and Waijenburg 2014), forced labor was often used instead. Van Waijenburg (2018) use data on corve systems in French Africa to calculate a lower bound of how much forced labor augmented colonial governments' revenue base. She finds that 'labor taxes constituted in most places the largest component of early colonial budgets' (Van Waijenburg 2018, p. 40).

One way to improve public sector accountability is potentially through greater decentralization. Gardner (2010) investigates the decentralization of tax collection in British colonial Africa to argue that corruption in local governance in Africa has a long history. She shows that the devolution of authority over tax assessments to district officers and their delegates in the early colonial period resulted in widespread corruption. 'These problems were exacerbated when authority was devolved further to the local level in the 1940s, a pivotal decade in the development of the local authorities inherited by post-independence governments' (Gardner 2010, p. 213).

One area of limited progress is in the monetary and financial histories of the colonies. There are two notable exceptions. Gardner (2014) use a case study of Liberia to illustrate that new states in Africa during the gold standard era faced many limitations, even in the absence of formal colonial rule. She also investigates the 1922 demonetization of the French 5-franc coin in the Gambia, showing how demonetization 'cost the colonial administration over a year's revenue, affecting the later development of the colony' (Gardner 2015, p. 291).

6 Decolonizing with data

The data and cliometric revolutions have significantly improved our knowledge of Africa's economic past. There are at least two reasons for this. First, where African histories are largely based on colonial documentation and where such scholarship is often undertaken by non-Africans, the fear is that these histories could suffer from the implicit biases of both the source material and the researcher. Quantitative records – often used for purposes orthogonal to its intended reason for collection – suffer less from such biases. Second, in areas where both quantitative and qualitative source material is weak or completely missing, economic historians have uncovered and used innovative alternatives. For example, climate data going back into the distant past can help explain the slave trade (Fenske and Kala 2017), or tree rings in Zimbabwe may help show how an Indonesian volcano caused a period of tribal warfare in early nineteenth-century Southern Africa (Hannaford and Nash 2016). Such quantitative records help to 'decolonize' African economic histories often distorted by the imprints of the colonial regime.

But a second aspect of 'decolonization' is to encourage greater participation of scholars from the continent. African cliometrics is mostly a non-African field. To show the underrepresentivity of African scholars, we use data from ISI Web of Science (WoS) and Elsevier's SCOPUS database to conduct a simple bibliographic exercise. We make use of WoS and SCOPUS for the simple reason that they include information about the attributes of both the authors and the papers they have published in accredited scholarly journals.[7]

Because Economics journals also frequently publish Economic History papers, we take advantage of the available information on author names, paper titles, abstracts and key words as organized in WoS and SCOPUS to classify Economic History papers separately from mainstream Economics papers. To accomplish this, we build up a database of EH papers that include the words 'economic history' or 'history' in their title, keywords or abstract, from a sample of journals. The rest we classify as ECON papers. We then use a random 70% (5,643) of the EH and ECON papers to train a Support Vector Machine (SVM) machine learning algorithm on the words used in the respective titles, abstracts and keywords of the respective two groups. We use the remaining random 30% (2,419) of the papers to test the prediction accuracy of the resulting algorithm. Below is the Confusion Matrix from the test indicating a 98% prediction accuracy for ECON papers with a 2% confusion for EH papers and 96% prediction accuracy for EH papers with 4% confusion for ECON papers.

We then apply the algorithm to the 49,444 papers in a database of 17 Economic History journals[8] and the top 25 Economics journals published since 1992, and classify

[7] In parallel to these two databases on research output, Google Scholar has risen to prominence lately. Unlike WoS and SCOPUS, Google Scholar gathers information about any published document – even those published as Working Papers. It therefore has a more extensive list of citations. It follows that the number of citations accounted for in this analysis will be significantly less than what may appear in a Google Scholar search.

[8] These are *Economic History Review*, *Journal of Economic History*, *European Review of Economic History*, *Explorations in Economic History*, *Cliometrica*, *Economic History of Developing Regions*, *South African Journal of Economic History*, *Australian Economic*

Table 1: Confusion matrix

	ECON	EH	TOTAL	ECON	EH
ECON	1269	30	1299	98%	2%
EH	44	1076	1129	4%	96%
	1313	1106	2419		

them as either ECON or EH. We obtain 18,835 EH papers with a 96% accuracy. We select from this list all the papers that mention 'Africa' or any of the current or historical names of African countries in their titles, keywords or abstracts. This leaves us with a list of 238 papers published between 1992 and 2017 in both Economics and Economic History journals. It is from this list that we compile an H-index and an Euclidean index of the top economic historians working on Africa.

Table 2: Euclidean index ranking for economic history scholars on 'Africa'

	Author	H-index	E-index	G-index	Cit.	Pub.	Country
1	Nunn, N.	5	167.2	7	337	7	USA
2	Austin, G.	5	94.7	7	171	7	UK
3	Williamson, J.	4	88.7	6	133	6	USA
4	Huillery, E.	3	68.3	3	102	3	France
5	Frankema, E.	7	60.9	9	156	9	Netherlands
6	Richardson, D.	3	41.3	3	71	3	USA
7	Eltis, D.	3	37.2	3	60	3	USA
8	Baten, J.	4	35.5	4	58	4	Germany
9	Robinson, J.	2	32.1	3	34	3	USA
10	Bates, R.	2	30.1	4	32	4	USA
11	Shatzmiller, M.	3	28.3	3	417	3	Canada
12	Allen, R.	2	27.5	2	32	2	UAE
13	Lewis, F.	2	25.6	2	33	2	USA
14	Fourie, J.	3	24.8	4	43	4	South Africa
15	Von Fintel, D.	3	22.8	4	36	4	South Africa
16	Moradi, A.	2	22.8	2	30	2	United Kingdom
17	Pamuk, S.	2	18.0	2	25	2	Turkey
18	Fenske, J.	4	14.9	5	35	10	UK
19	Jerven, M.	3	13.7	3	19	3	Norway
20	Van Leeuwen, B.	2	10.6	2	15	2	Netherlands

It is important to note that our method is not perfect. Nunn and Wantchekon's (2011) paper on slavery and trust is, for example, classified by our algorithm as ECON rather than EH, despite the clear relevance to Economic History.[9] Despite

History Review, *African Economic History*, *Scandinavian Economic History Review*, *Low Countries Journal of Social and Economic History*, *Revista de Historia Economica*, *The Indian Economic and Social History Review*, *Journal of European Economic History*, *Revista di Storia Economica* and *Research in Economic History*

[9]We tried several versions of the algorithm, but because the word 'History' is not included

these concerns, though, we believe that the analysis provides a fair reflection of the state of the field.

Table 2 reports the results for the top 20 authors in African economic history, ranked according to their Euclidean index (Perry and Reny 2016). Several trends are immediately apparent. Besides two authors affiliated to Stellenbosch University in South Africa, the leading African economic historians are based outside the continent. Of the 18 scholars based outside, not one is African. This trend is mirrored in the citations of this chapter, with only a handful of African authors cited for their cliometric contributions. Fourie (2016) notes two ways to address this clear imbalance: First, more should be done to recruit African scholars to good PhD programs, notably those in the United States and Europe where most of the leading scholars are based. Second, more should be done to appoint qualified African scholars in these scholars' research programs – as postdocs or tenure-track faculty. Large research programs on African economic history funded by European or US donors still frequently lack African participants. Building stronger networks with African universities can help speed this process (Green and Nyambara 2015; Austin 2015).

The good news is that the trend is slowly shifting. More than half of participants at the African Economic History Network meetings in 2017 were African, many of them Masters or PhD students. A free textbook project, coordinated by Ewout Frankema, Ellen Hillbom, Ushehwedu Kufakurinani, and Felix Meier zu Selhausen is one attempt to expose younger scholars to African economic history.[10] The future of African cliometrics hinges on the ability of the field to draw these passionate young scholars into their networks, and equip them with the scientific tools and academic freedom to explore the economic histories of their own continent.

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in either their title, abstract or keywords, our algorithm fails to classify the paper as EH. For future work, it might be useful to include historical topics – like the Atlantic slave trade, or colonialism – as part of the training algorithm.

[10] The good news is that most of the chapter downloads in 2017 were from African countries, suggesting that the textbook is reaching its intended audience. For more information, visit http://www.aehnetwork.org/textbook/.

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