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Leander Heldring  
James A. Robinson

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**ABSTRACT**

In this paper we evaluate the impact of colonialism on development in Sub-Saharan Africa. In the world context, colonialism had very heterogeneous effects, operating through many mechanisms, sometimes encouraging development sometimes retarding it. In the African case, however, this heterogeneity is muted, making an assessment of the average effect more interesting. We emphasize that to draw conclusions it is necessary not just to know what actually happened to development during the colonial period, but also to take a view on what might have happened without colonialism and also to take into account the legacy of colonialism. We argue that in the light of plausible counter-factuals, colonialism probably had a uniformly negative effect on development in Africa. To develop this claim we distinguish between three sorts of colonies: (1) those which coincided with a pre-colonial centralized state, (2) those of white settlement, (3) the rest. Each have distinct performance within the colonial period, different counter-factuals and varied legacies.

Leander Heldring  
University of Oxford  
Department of Economics  
Manor Road Building  
Manor Road  
Oxford, OX1 3UQ  
United Kingdom  
[leander.heldring@economics.ox.ac.uk](mailto:leander.heldring@economics.ox.ac.uk)

James A. Robinson  
Harvard University  
Department of Government  
N309, 1737 Cambridge Street  
Cambridge, MA 02138  
and NBER  
[jrobinson@gov.harvard.edu](mailto:jrobinson@gov.harvard.edu)

# 1 Introduction

What is the impact of colonialism on the economic development of Sub-Saharan Africa (Africa) or more generally the colonized countries? This is a question which has reverberated through the social sciences for over a century. In the context of the late 19th Century “Scramble for Africa”, Marxists like Lenin formed an unlikely consensus with colonial administrators in believing that European colonization would have very positive effects on African economic development. By 1926 a British academic was writing of an “Economic Revolution in British West Africa” unleashed by the colonial powers on backward Africa (McPhee, 1926). This consensus between left and right continues to the present, with Lenin being replaced by Birnberg and Resnick (1975), Warren (1980), and Sender and Smith (1986), who argue that the empirical evidence is consistent with the Marxist view that imperialism has dragged Africa closer to capitalism, and colonial administrators being replaced by Bauer (1972) and Ferguson (2002, 2011). Interestingly, these scholars refer to many of the same empirical outcomes though starting from a different set of presumptions about the intentions of the colonizers. Perhaps even more interesting, they often have the same counter-factual in mind - without colonial intervention Africa would have stayed backward. Opposed to this eccentric consensus is a vast literature blaming colonization for all the ills of former colonies, including persistent poverty and dictatorship.

Colonialism is neither a European phenomenon, nor is it restricted to the Scramble for Africa (which may itself not have been a completely European phenomenon since one can argue that Ethiopia under Menelik II also took part). Modern China is an Empire constructed over millennia primarily by the Han Chinese. The Ottomans constructed a vast empire in the late middle ages and Early Modern period which stretched from the Gates of Vienna to Iraq, Yemen and Tunisia. The Russians colonized Siberia and large parts of Central Asia and in the 100 years before the conquest of the Americas the Incas created a huge empire stretching from southern Colombia to Chile and northwestern Argentina. Britain was colonized by the Angles, Danes, Jutes and Saxons and subsequently the Normans.

In this essay we restrict attention to European colonization and focus on Africa since this has been the crucible of much of the academic debate and where the literature spans the entire spectrum of answers. We also restrict our attention to formal colonization rather than more general ‘interaction’ with potential colonial powers or the type of ‘informal empires’ postulated to exist by Gallagher and Robinson (1953). This means we leave a lot out. In the context of African development for instance we put aside the issue of the impact of the Atlantic and other slave trades on the development of Africa (Lovejoy, 1989, Nunn,

2008) except to the extent that it molds the initial conditions at the time of colonization. We also set aside the question of whether the huge adverse health effects of colonialism were really just due to ‘contact’ (and thus would invariably have happened in the wake of simple trade expansion) or can be attributed to colonialism. We also focus simply on the impact of colonialism for the development of the colonies not the colonizing country, even though this is an important topic (Williams, 1944, Acemoglu, Johnson and Robinson, 2005).

The obvious reason for the very wide dispersion of views about the role of colonialism is that it is very difficult to construct a convincing research design to examine its impact. Without such a systematic approach ideology has much more scope for allowing scholars to pick and choose facts which fit into their view of the world. Central is the problem that there is not a well defined counter-factual to answer the question: what would the income per-capita of Ghana be today if it had not been colonized? Though a few countries were not colonized by the Europeans such as China, Iran, Japan, and Thailand, one cannot use these as a control group because it is surely not a coincidence that these countries were not colonized, potentially biasing the findings. In other cases, such as Barbados or Mauritius which were uninhabited at the time of colonization, the counter-factual question becomes exceedingly speculative.

Nevertheless, it is also clear from Acemoglu, Johnson and Robinson (2001, 2002) that colonialism had very heterogeneous effects. It seems difficult to believe that in any plausible counter-factual Australia or the United States would today have higher GDP per-capita if they had not been colonized.<sup>1</sup> At the same time, as we will argue in the essay it is difficult (for us) to believe that the income per-capita of Botswana or Ghana would not be higher today had it not been colonized (as we argue in detail later). Even though Botswana has been an economic success since independence in 1966 this was not because of colonialism, but despite it (Acemoglu, Johnson and Robinson, 2003, Leith, 2005, Parsons and Robinson, 2006). Other cases are of course much more ambiguous. Most parts of Africa did not have the types of centralized political institutions that Botswana or Ghana had and even when they did they were often much less accountable and militarized, as in Buganda, Rwanda or Zululand.

Because colonialism was such a heterogeneous phenomenon taking different forms and interacting with different circumstances this means that it is not very interesting to inquire as to what the average effect of colonialism was on development. Of course this would not be true if ones approach was normative. We do not believe that colonialism could have ever have been good according to any coherent normative

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<sup>1</sup>This is not a statement about welfare since it is easy to argue that the indigenous people are much worse off than they would have been absent colonialism. In both Australia and the United States the vast majority of indigenous people were wiped out by the diseases imported by the Europeans and their ancestors today experience levels of human development far below the average of their societies. In Australia, for example, life expectancy of aboriginal people is 17 years less than non-indigenous people and average income about 62% of the non-indigenous level (see Australian Human Rights Commission, 2008).

criteria. When the focus is on development, income per-capita, average educational attainment, or average life expectancy, however, one cannot generally say colonialism was good or bad independent of context. If one accepts this position, then our inability to propose a definitive identification strategy to estimate “*the* causal effect of colonialism on development” turns out to be less of a problem. There is no one causal effect, but rather different effects working through different mechanisms and channels. Sometimes the net effect of these in a country is (almost surely) positive (Australia) sometimes it is (probably) negative (Botswana and Ghana). The more interesting thing is to conceptualize the mechanisms via which colonialism influenced development and try to investigate empirically how these worked. Providing causal estimates of the impact of specific mechanisms may be much more feasible and, subject to issues of external validity, it may even then be possible to aggregate these as one way to come to a conclusion about the net effect of colonialism.

That being said when the focus is on Africa the types of heterogeneity which characterize colonialism more generally are muted. There is no success story like Australia or the United States from which economically dynamic settler economies emerged. Moreover, we believe that it is possible to make some sensible counter-factual conjectures. This will be far from a definitive empirical exercise and it is offered more in the spirit of focusing the issues where we believe they should be focused. This being the case we do not restrict ourselves simply to mechanisms but also construct what we believe what the development consequences of colonialism were in Africa in the light of plausible counter-factuals.<sup>2</sup>

We emphasize four basic points that are critical in evaluating the African experience. First, at a purely factual level the impact of colonialism on development differed greatly within Africa. The broad pattern of GDP per-capita is that on average this increased in the places for which there is reliable data relative to the base year of around 1885. This is quite plausible. Europeans brought technology, such as railways and mining techniques and integrated their colonies more fully into world trade taking advantage of existing patterns of comparative advantage. Agriculture and mining exports certainly expanded relative to what they were at the time of the scramble for Africa. Nevertheless, the rates of economic growth were extremely modest. Existing incomplete data also suggests that stature and life expectancy improved as did literacy and educational attainment from very low bases (Prados de la Escosura, 2011, brings much of the available evidence together).

Second, and still at a factual level, that this happened on average does not imply that everybody’s living standards increased. Of particular relevance is the impact on African living standards. This appears to have differed depending on the type of colony. In Southern Africa and the white settler colonies simple calculations about the immiserizing impact of land expropriation and the creation of ‘dual economies’ (Palmer and Parsons, 1977, Bundy, 1979, Acemoglu and Robinson, 2012) on African incomes suggests that

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<sup>2</sup>See Austin (2010) for a rare attempt to tackle the same question.

Africans experienced a *severe* deterioration in living standards as the consequence of colonialism. Indeed, given the extent of land expropriated from Africans by Europeans, living standards might have fallen by about 50%. These calculations are supported by evidence on real wages (Wilson, 1972, Mosley, 1983, Bowden and Mosley, 2010, de Zwart, 2011). Falling African incomes in conjunction with rising average incomes implies that there was a huge increase in inequality as the consequence of colonialism. Outside of the settler colonies the situation was different. There is evidence that nominal and real wages in the formal sector increased in British West Africa (Bowden and Mosley, 2010, Frankema and van Waijenburg, 2011). This evidence of course tells us little about what was happening to the living standards of the vast mass of rural people. However, other evidence on development outcomes is relevant here. For example, recent research has shown that the stature of military recruits increased in Ghana and also British East Africa during the colonial period (Moradi, 2008, 2009, Austin, Baten and Moradi, 2011). Since military recruits likely represented a much more representative cross-section of society than those paid formal sector wage rates, this evidence is consistent with much more general improvements in living standards.

Third, one has to be very cautious in interpreting this evidence as saying anything about the impact of colonialism because this involves not just looking at the raw numbers but considering the counterfactual. To take this into account we have to think about what the trajectories of African societies would have been in the absence of colonialism. For example, would the type of immiseration of Africans documented by Wilson (1972) have happened if the Zulu state had taken over the Rand and developed the gold mining industry? If the Europeans brought technology or institutions, absent colonialism Africans could have adopted or innovated these themselves. In addition any of this data has to be seen in the context of pre-existing trends and international comparisons. Even in the absence of colonialism, technology diffuses across countries, including medical technology, and there are other instruments of diffusion such as missionaries who played a significant role in the spread of education before and during the colonial period in Africa (Nunn, 2012, Frankema, 2010, 2011). It seems plausible that even without the Scramble for Africa, the impact of missionaries would have been similar. Similarly many positive trends in human development outcomes in Africa since the 1960s have been more due to international NGOs, the World Health Organization and the World Bank (see Acemoglu and Johnson, 2007, of the impact of this dissemination which is independent of the actions of countries in Africa). This is brought out quite dramatically in the work of Prados de la Escosura (2011). For instance he finds that human development in Uganda increased monotonically during the murderous dictatorship of Idi Amin between 1971 and 1979 while a similar outcome arose during the maniacal regime of Jean-Bédél Bokassa in the Central African Republic between 1966 and 1976. That these outcomes arose despite the almost complete disregard these regimes showed for development indicates that taking into account world trends or other methods of dissemination

is critical in evaluating the impact of colonialism.

To make any type of conclusion therefore we need to be clear about the counterfactuals we conjecture. To do this we distinguish between three types of colony: the first are those with a centralized state at the time of Scramble for Africa, such as Benin, Botswana, Burundi, Ethiopia, Ghana, Lesotho, Rwanda, and Swaziland; the second, those of white settlement, such as Kenya, Namibia, South Africa, Zimbabwe, and probably the Portuguese cases of Angola and Mozambique as well; the third everyone else - colonies which did not experience significant white settlement and where there was either no significant pre-colonial state formation (like Somalia or South Sudan) or where there was a mixture of centralized and uncentralized societies (like Congo Brazzaville, Nigeria, Uganda or Sierra Leone). We believe it is reasonable to assume that all groups would have continued to experience the type of contact with the rest of the world they had had prior to the Scramble for Africa and which impinged on them when they were colonies and afterwards. This implies missionaries would have gone to convert people and built schools, the League of Nations would have tried to abolish coerced labor, and the World Health Organization would have tried to disseminate medical technology. Moreover, it implies that African countries would have continued to export, as many had prior to 1885.

The most important assumptions are about the counter-factual evolution of political and economic institutions. It seems unreasonable to assume that these would have changed dramatically in lieu of colonialism. In terms of political institutions in the first set of countries we assume that the type of state formation and development which had taken place in the 19th century would have continued. The evidence clearly suggests that states such as the Tswana states in Botswana, the Asante state in Ghana, or the Rwanda state were becoming more centralized and consolidated. This does not imply that economic institutions were necessarily becoming better. For instance, economic institutions in 19th century Rwandan deteriorated sharply as the state enserfed most of the rural population. Nevertheless, political centralization is a prerequisite for order and public good provision<sup>3</sup> and though states also collapse, once started there are strong forces leading political centralization to intensify. In the second and third sets we similarly assume that political institutions would have continued on the path they had in the 19th century. Absent colonialism, for instance, it does not seem reasonable to assume that a large centralized polity would have developed in Kenya or Sierra Leone. In the former, societies like the Masai or Kikuyu would have likely remained largely unchanged. In the latter, it plausibly follows from Abraham (2003) that even if a single Mende state would not have come into existence in the south of the country, there would have been fewer and more centralized and institutionalized Mende polities. In terms of economic institutions we similarly do

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<sup>3</sup>It is not a coincidence, for example, that it is countries like Ethiopia and Rwanda that are now able to experience by far the fastest growth rates in Africa.

not argue that radical change would have happened though we believe that these would have evolved under the influence of international forces, for example which led to the gradual abolition of slavery throughout the world in the 20th century including in places like Liberia and Thailand which were not colonized.

Finally, to understand the impact of colonialism on development one has to think carefully about what happened after colonialism as well. To judge the impact of colonialism on development in Africa simply by looking at outcomes during the colonial period is a conceptual mistake even with a well posed counterfactual. But interpreting what happened afterwards is just as fraught with conceptual issues as what happened during it. As we will see, after independence most African countries experienced economic decline. Thus, for example, if the increase in real wages during colonialism in Sierra Leone can be interpreted as evidence that colonialism improved development, this claim could be further bolstered by the fact that Sierra Leone is poorer today than it was at independence. Yet just as with interpreting the evidence for the colonial period, to be able to interpret the post-colonial evidence one also needs a counter-factual. Post-independence Africa looked nothing like it would have done in the absence of colonialism. Indeed, we will argue that in most cases post-independence economic decline in Africa can be explicitly attributed to colonialism because the types of mechanisms that led to this decline were creations of colonial society and institutions which persisted.

Bringing all the pieces of information and conceptual issues together we argue in this essay that in two sorts of colonies there is a clear case to be made for colonialism retarding development; those with centralized state at the time of Scramble for Africa and those of white settlement. In the former, just the assumption that the previous patterns of political development would continue is sufficient to argue that these countries would be more developed today. Colonialism not only blocked further political development, but indirect rule made local elites less accountable to their citizens. After independence, even if these states had a coherence others lacked, they had far more predatory rulers. It is true that the colonial powers brought technology and institutions that Africans did not have, but Africans in these types of polities were busy adopting these in any case in the 19th century and they were the most capable of doing so. These polities also suffered from the uniform colonial legacies of racism, stereotypes and miss-conceptions that the Africans did not have and which have since caused immense problems, most notably in Burundi and Rwanda.

In colonies of white settlement the most important factor was that the highly extractive nature of colonial rule and land grabs manifested themselves, as we noted, in quite serious immiseration of Africans during the colonial period. We know little specifically about the patterns of economic development in Zimbabwe under Ndebele or Shona rule prior to the annexation of the country by the British South Africa Company. Nevertheless, other sources (e.g. Bundy, 1979) suggest that rural Africans in southern Africa

were quite capable of responding to economic incentives and investing and adopting new technology. The evolution of the international dissemination and diffusion of technology plus the relative absence of slavery in this part of African makes it likely that, absent colonialism, African living standards would have slowly improved. This, plus the large increases in inequality and the racial and ethnic conflicts bequeathed to these colonies after the end of colonialism, make it plausible that development outcomes in places such as Zimbabwe would be better today and over the last century had it not been colonized.

The third set of cases are more complex because we do not argue that the pre-colonial institutions of Somalia, for example, were conducive to development or were undergoing a process of state formation. Yet even in many of these more ambiguous cases it seems hard to us to make a strong case in favor of colonialism actually fostering development that otherwise would not have taken place. It could be, to consider Uganda, that the British brought stability by stopping long-running conflicts between the pre-colonial states of Buganda, Bunyoro, Ankole or Tooro and that they brought technology that the Africans would not otherwise have had. Yet the evidence suggests that even these societies were very ready to adopt better technology when it appeared (see Reid, 2002, on Buganda) and any gains that there might have been in terms of stability were reversed when the British left in 1962, bequeathing to the “Ugandans” a polity with no workable social contract the result of which has been 50 years of political instability, military dictatorships and civil war with the conflicts often, interestingly, mirroring the patterns of pre-colonial conflicts (on this see Reid, 2007, and the sequel, Reid, 2011 and Besley and Reynal-Querol, 2012). As for other benefits, for example infrastructure, the Bugandan state had constructed an extensive system of roads prior to being colonized (Reid, 2002, Chapter 5). Though these colonies did not have the same level of inequality or heightened race relations as settler colonies did after independence, they shared many of the other problems.

All in all, we find it difficult to bring the available evidence together with plausible counter-factuals to argue that there is any country today in Sub-Saharan Africa which is more developed because it was colonized by Europeans. Quite the contrary.

The paper proceeds as follows. In the next section we summarize briefly our views on the nature of African economic development at the start of the colonial period as a base for the main discussion. Section 3 reviews in more detail the basic facts about what happened to various development outcomes during and after the colonial period (roughly from 1885 to 2010). Section 4 then discusses in more detail some mechanisms which have been proposed as connecting colonialism and development and we try to evaluate the evidence from them. Section 5 then proposes our very speculative balance of the evidence in more detail and section 6 concludes.

## 2 African Development on the Eve of the Scramble

To understand the impact of colonialism it is important to put it in the context of the level of African development in 1885. One of the main pieces of evidence for those who favor the conjecture that colonialism was good for development is that Africa was very poor in 1885 compared to the rest of the world. It had backward technology indicative of which was that writing, the wheel and plow were not used in Africa outside of Ethiopia (Goody, 1971, Law, 1980, Austen and Headrick, 1983). Some societies, for instance the pre-colonial Rwandan state, did not even use money. Though it is hotly debated, some would also argue that Africa did not have economic institutions which were conducive to development (see the debate between Hopkins, 1973 and Dalton, 1976). We would argue (following Acemoglu, and Robinson, 2010, 2012) that the preponderance of evidence is more consistent with the view espoused by Dalton. Table 1 reproduces evidence from Dalton (1976) based on studies by the United Nations from the 1950s. It illustrates that even in the late colonial period most Africans were engaged in subsistence activities outside of the formal economy. Other evidence on economic institutions comes from the fact that slavery was endemic in the 19th century, with various estimates suggesting that in West Africa the proportion of slaves in the population was between 1/3 and 1/2 (Lovejoy, 2000, surveys the evidence). It is also true that the state tended to heavily limit the extent of private enterprise, for instance in Asante (Wilks, 1989) and Dahomey (Law, 1977, Manning, 2004). One could also argue that other types of economic institutions were not conducive to development, for example Goldstein and Udry (2008), show that in contemporary Ghana the fact that land rights are allocated by chiefs means that nobody without political connections has secure property rights. Though this situation is partly a consequence of the impact of indirect rule, at least to some extent it mirrors the pre-colonial situation as well.

Leaving aside economic institutions, when considering development, the nature of state and political institutions are also critical. Improvements in health, education and infrastructure typically require actions by the state and investments in public goods. Some African states did provide public goods: for example Asante, Buganda, Dahomey, and Ethiopia all built extensive road systems and many provided legal systems and methods of conflict resolution (the Kuba state even independently created trial by a jury of one's peers, see Vansina, 1978). Yet political centralization lagged in Africa relative to the rest of the world. Consider Abraham's (2003) depiction of the state system in Mendeland, southern Sierra Leone, in the second half of the 19th Century. Mendeland was divided into a system of nine competing and warring states in the second half of the 19th Century. He makes a distinction between 'territorial states', which had well defined territories, such as the Sherbro, Lugbu, Gallinas, Bumpeh and Kpaa-Mende states, and which were not identified with a single person, and the 'hegemonies', such as the Tikongoh state of Makavoray and the

Luawa state of Kai Londo, which were. Nevertheless, even the territorial states were not bureaucratized and did not collect systematic taxes from their inhabitants, though they did collect tribute and organize compulsory labor and armies. It is very difficult to imagine these states providing infrastructure or cooperating to build a railway, for example. Lack of political centralization clearly had important implications for development, for example in terms of the provision of order (see Speke, 1863, Douglas, 1962 or Colson, 1969, for examples). This can be seen empirically using the Standard Cross-Cultural Sample (SCCS) a database of “pre-modern” or perhaps “traditional” societies coded by anthropologists over many decades (see Murdock and White, 1969). The SCCS contains a coding of the extent of political centralization and Osafo-Kwaako and Robinson (2012) show that this is very strongly positively correlated with the provision of public goods, such as roads, money, and the existence of written record keeping. It is also positively related to measures of economic development, for example the existence of loom weaving or metal smelting (though one has to be very cautious in asserting anything about the causal relationships between these variables).<sup>4</sup>

But as we argued in the introduction, the trends in these institutions during the 19th century are more relevant to developing counter-factuals which can help us evaluate the consequences of colonialism. To take economic institutions, on the one hand after the abolition of the slave trade in West Africa there were clear signs of commercial dynamism and expansion, for example during the “period of legitimate commerce” (see the essays in Law ed., 2002). On the other hand the evidence suggests that this trade expansion went along with an increased intensity of domestic slavery as slaves were re-deployed to produce domestically for export (Lovejoy, 2000). In the political sphere there were places where there seems to have been little trend towards greater centralization, for example Somalia. But there were also places where there were positive trends. Abraham (2003) clearly saw a trend in Mendeland towards greater centralization and stability compared with the first half of the 19th century. Elsewhere there are clear patterns of reform. For example in Buganda the Kabaka was gradually in the process of removing the power of clan heads and replacing them with “the king’s men” - political centralization in action - a process culminating in the reforms of Mwanga which were stopped in their tracks by British colonization (see Fallers ed., 1964). The situation in Asante is similar with Wilks (1966) making a comparison to trends in the bureaucratization of European states in the early modern period. In southern Africa the 19th century also saw processes of political centralization, most notably that of the Zulu state (see Eldredge, 1992) and it also saw processes of positive change in economic institutions as well, at least in the Ciskei and Transkei (Bundy, 1979).

All in all we believe that the evidence is consistent with the view that development outcomes and

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<sup>4</sup>Gennaioli and Rainer (2007) and Michalopoulos and Papaioannou (2012) have further shown that pre-colonial political centralization is positively correlated with public good and development outcomes today in Africa.

probably potential in Africa prior to the Scramble for Africa were bad compared to the rest of the world.<sup>5</sup> The evidence from Table 1 is consistent with this and the heavy involvement of the state in trade and commerce and the incidence of slavery meant that economic institutions in Africa were not conducive to the spread of modern technologies or the basics of economic growth. This situation was further exacerbated by the relative lack of political centralization, even though clear processes of centralization were taking place in parts of the continent. Still, the fact that Africa was behind economically in 1885 implies nothing about the impact of colonialism. It does imply that there was plenty of scope for colonialism to improve institutions, thus boosting development, but this does not imply that colonialism actually did so. For instance, even though slavery in Africa was abolished during colonialism, though it took decades, it was abolished in other non-colonial places at more or less the same time, suggesting that it probably would have happened in any case

### 3 Patterns of Development during and after Colonialism

We now present some basic facts about the evolution of development during and after the colonial period. The natural place to start is with estimates of income per-capita updated from the work of Maddison (2007) which we reproduce in Figure 1. In some places, such as South Africa or Zimbabwe, one has quite solid numbers, in other places one has to rely on more creative approaches such as that of Szereszewski (1965) who used information in colonial Blue Books to produce estimates for national income in the colonial Gold Coast. Despite problems with some of the specific numbers the picture that Figure 1 gives is supported by many other types of evidence (see Prados de la Escosura, 2011). This picture is one of gradually increasing levels of income per-capita during the colonial period followed in most cases by declines after independence lasting until the year 2000 after which growth turned positive. The timing of the decline varies. Kenya did quite well in the 1960s with decline setting in only during the 1980s, while in Ghana decline began in the late 1960s. The one glaring exception to this is Botswana which grew very modestly until independence in 1966 and then exhibited the fastest rate of economic growth in the world over the subsequent period.

A remarkable fact about the figure is that in 2008, the most recent year from which Maddison has data, many African countries are poorer than they were at independence, this is true of Burundi, the Democratic Republic of the Congo, Rwanda, Sierra Leone, Zambia and Zimbabwe. Ghana finally managed to return to the level of income per-capita it had attained at independence in 1957 in around 2005.

Figure 2 uses the data from Benavot and Riddle (1988) to look at one of the most important inputs into income, human capital. In particular it shows data on the primary school enrollment rate during the period 1870 to 1940 which covers most of the colonial period. The picture is quite similar to the part of

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<sup>5</sup>This view is definitely not uncontroversial, see Thornton (1992) and Jerven (2010).

Figure 1 which covers the colonial epoch. Just as Africa started with very low income levels, indeed many countries were down at the \$400 a year which is Maddison's minimum income level, it started out with very low levels of school enrollment, close to zero. The colonial period saw slow and steady growth of this though to extremely modest levels. For example in 1940 school enrollment was 4.9% of the relevant population in Sierra Leone, 0.6% in Angola, 3.5% in Tanzania. Elsewhere the numbers were much higher, 15.6% in Zambia and 47.1% in Malawi. Like income per-capita, school enrollment improved from very low levels. The situation with literacy is similar. Prados de la Escosura's estimates (2011 Table D-2) suggest that adult literacy in sub-saharan Africa improved from 3.4% in 1880 to 9.3% in 1938 and 19.5% in 1960. Since then there has been a dramatic increase with average literacy reaching 61.8% in 2007. His data on primary school enrollment rates is similar with educational expansion increasing after 1960 to reach 52.8% in 2007.

The evidence for life expectancy and stature is very similar to that for human capital, though less comprehensive. Figure 3 reproduces data from the influential work of Riley (2005). Data for Uganda, Sierra Leone and Zimbabwe, where we have real historical studies, also suggest a figure of around 24 for the 1930s for Africans. For Botswana and Rwanda, also with real evidence, suggests a higher figure of around 33 in the 1930s. All countries experienced sustained monotonic improvements after the second world war. Prados de la Escosura's synthesis estimates for life expectancy at birth (2011 Table D-1) suggest that life expectancy was higher historically, 25.5 years in 1880 in sub-saharan Africa improving slowly to 31.6 years in 1938. Thereafter improvement was more rapid with life expectancy climbing to 41.0 in 1960 and 51.8 in 2007.

This evidence is supported by a recent wave of important studies using different types of historical records to examine the trajectory of stature during and after the colonial period in various African countries. Cogneau and Rouanet (2011) use cohort analysis from World Bank Living Standards surveys to show that the height of successive generations of men went up during the colonial period by about 5 cm in Côte d'Ivoire and 3 cm in Ghana. For women the numbers are smaller, around 1 to 1.5 cm. Strikingly their data also shows that height of people born in Ghana after 1960 fell. The research of Austin, Baten and Moradi (2011) using the heights of military recruits from during and after the colonial period finds evidence for falling heights in the 1880s and 1890s during the transition to colonial rule but then monotonic increases until around 1970 after which heights fell. In Kenya Moradi (2009) finds evidence of increasing height after 1920 and lasting until 1980. These scholars all explicitly interpret their findings as demonstrating that colonialism had positive effects on development in Africa (see Moradi, 2008, for the boldest statement).

To complement this picture of the evolution of different development indicators let us finally consider the evolution of real wages for Africans. In the absence of convincing evidence on incomes the availability

of data on wages and prices has encouraged a great deal of important work on their historical evolution. This is another powerful way to examine the consequences of colonialism. The seminal study in the African context is that of Wilson (1972) who used company records to study the wages of gold miners in South Africa between 1911 and 1969. Wilson showed that the impact of the Native Land Act of 1913 in South Africa and the spread of such institutions as the Colour Bar lead to a steep decline in the nominal and real wages of black gold miners. Figure 4 plots his data illustrating the 20% fall in real wages after 1911. By the end of his sample real wages were around their 1911 level despite the fact that average living standards rose in South Africa over that period (e.g. Feinstein, 2005). We complement this data with earlier information on South African real wages from de Zwart (2011). de Zwart finds quite severe falls in the real wages of Africans in the half century leading up to the period Wilson studied. Since gold miners were something of a labor aristocracy one might conjecture that the fall in the real living standards of Africans was much greater elsewhere in the economy. Bowden and Mosley’s evidence (2010), also plotted on Figure 4, indeed suggests very large falls in African real wages in settler colonies. Their data for both Kenya and Zimbabwe suggests a 50% fall in real wages in the decade after 1914/16 with real wages not returning to the 1914/16 levels until the early 1950s.

The falls in real wages and living standards in settler colonies can be substantiated with a simple calculation. Even leaving aside any existing source of information, the fact that the Europeans came and evicted Africans from the best agricultural land, for example the Kenyan ‘white highlands’ implies that Africans must have seen their living standard deteriorate sharply. A simple way to get a sense of the order of magnitude of this effect is as follows. Let  $L$  be the total stock of land and  $N$  be the black workforce. Denote  $w^b$  the living standards of Africans before land expropriation and  $w^a$  the level afterwards. Assume that output is generated by a Cobb-Douglas production function using land and labor as inputs and subject to constant returns to scale and assume that factor markets are competitive. This last assumption is clearly not the case for the examples we are looking at, since there was extensive coercion of black labor and wages were no doubt forced below competitive levels. In this case however our estimates will provide some sort of lower bound for the impact. Under these assumptions we can say that Africans ought to be paid the value of their marginal product and hence prior to land expropriation we have

$$w^b = \alpha AN^{1-\alpha} L^{\alpha-1} \tag{1}$$

where  $A$  is total factor productivity and  $0 < \alpha < 1$  is a constant. Now using the statistic for South Africa that the Native Land Act of 1913 allocated 7% of land to Africans we have that after land expropriation African living standards are given by

$$w^a = \alpha A ((0.07) N)^{1-\alpha} L^{\alpha-1} \tag{2}$$

Now divide (2) by (1) to derive

$$\frac{w^a}{w^b} = (0.07)^{1-\alpha}$$

If all factor and product markets are competitive then we can calibrate this equation by setting  $\alpha$  equal to the share of wages in national income. This is a rather heroic set of assumptions in the context of 1913 South Africa and indeed any colonial economy. Nevertheless, imagine it were true. Then, for  $\alpha = 2/3$  we get  $\frac{w^a}{w^b}$  is approximately 0.41 suggesting that expropriating 93% of the land would lead to a 59% decline in African living standards. Note that this calculation is completely unchanged if one assumes that Africans were being paid the value of the average product before and after land expropriation.<sup>6</sup> That this figure is quite reasonable is seen from looking at de Zwart's (2011) data. Though his data comes only from the Cape Colony and is before the 1913 Land Act he finds, using a barebones consumption basket, an approximate 50% fall in African real wages. As noted above this number also appears in Bowden and Mosley (2010). Wilson (1972) found a smaller fall but of course the reality is that the 1913 act just institutionalized a process that had been ongoing for a long time. Wilson's data may therefore reflect more the introduction and intensification of the Colour Bar and it is possible that the smaller fall in wages is also due to the fact that gold miners were a labor aristocracy and in high demand relative to other African workers.

Nevertheless, this calculation is of course only relevant to places where colonists engaged in large land grabs. Figure 5 plots data from Frankema and van Waijenburg (2011) who used information on nominal wages and prices extracted from colonial Blue Books to construct real wage series for a number of British African colonies. This data is quite noisy and represents only the formal economy, a small part of the labor market. Nevertheless, though there are examples of quite large falls in real wages, for example in Uganda and Southern Nigeria, there is also evidence of improvements in real wages for the colonial period taken as whole, for example in Ghana and Sierra Leone (where the large drop in real wages in the 1890s coincides with the incorporation of the interior (the Protectorate) with Freetown and the Western Area (the Colony)).

The fact that income per-capita rose in many places but the real wages of Africans fell suggests that there ought to have been very large increases in inequality. Unfortunately there is very little work reconstructing historical data from Africa. Figure 6 shows the data from one study that does exist, Bigsten (1986, 1987), indicating that inequality may have risen by 40% between 1914 and 1950 in Kenya, a quite plausible number. In South Africa and Zimbabwe the increase must have been considerably larger. Indeed, van de Walle (2009) has recently argued that the structures created during colonialism in Africa are the prime determinant of high levels of inequality.

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<sup>6</sup>Of course Africans were working in the 'European economy' as well not just the 'African economy' (the Bantustans), but the idea here is that the value of the marginal productivity of labor in these pinned down the wage in the European economy since it was the outside option (Lundahl, 1982).

The final key set of variables which it is interesting to examine are institutional ones. Here we are able to take advantage of a unique empirical project undertaken by Johannes Fedderke along with his colleagues and students. An important series of papers Fedderke, de Kadt and Luiz (2001), Fedderke and Garlick (2010), Fedderke, Lourenco and Gwenhamo (2008), Gwenhamo, Fedderke and de Kadt, (2008), Luiz, Pereira and Oliveira (2011) and Zaaruka and Fedderke (2010, 2011) has used contemporary codings of economic and political institutions and extended these back to the colonial period for a number of African colonies. Figure 7 plots the data for some of these countries for an index of political freedoms, which has never been coded for colonies before (since these are not included in datasets such as POLITY). Unfortunately, with the exception of Namibia and Tanzania, the data does not cover the entire colonial period and even there it does not extend into the pre-colonial period. An interesting question is whether or not colonialism led to a severe contraction in political freedom. Certainly Africans had no political power in the early colonial period, but the change has to be compared to pre-colonial African polities. Indeed, the index is based on such things as voting rights, freedom of association, freedom of assembly, freedom of expression, the extent of arbitrary executive power, government secrecy or indemnity, due process of law and freedom of movement. It is obviously a tall order to code these variables for the colonial period, let alone the pre-colonial period and it is not a priori obvious in which way colonialism changed these variables. There was a lot of variation in pre-colonial African political institutions. For instance the centralized states in Buganda, Dahomey or Rwanda were quite despotic and militarized. Citizens did not vote for the Kabaka, Akhosu or the Mwami whose power was not checked by counterbalancing institutions. So although the colonial citizens of Uganda, Benin and Rwanda did not vote either perhaps there was no change in political freedom? Yet Buganda, Dahomey and Rwanda were probably the exception rather than the rule. Though there were despotic states in Africa prior to 1885, particularly during the heyday of the Atlantic slave trade, there were also many mechanisms of political participation and accountability in many pre-colonial African polities, even the Zulu state. The literature on indirect rule in British Africa also emphasizes that African political systems were typically far more fluid and open to talent and upward mobility than the colonial system of chiefs and we discuss this in more detail later in the case of Sierra Leone. In other cases, for example Somalia prior to colonialism, there was a quite democratic structure of political rights which was common in stateless societies so that adult males made collective decisions for the clans by consensus or sometimes something more like majority rule. Thus it is plausible that on average the political rights of Africans did decline with the imposition of colonial rule and this is an issue which could be researched using ethnographic information, for example from the Murdock Ethnographic Atlas or the SCCS.

Leaving this issue aside Figure 7 shows some very interesting patterns. In the case of Namibia political

rights fall almost monotonically through from colonization by the Germans in 1884 up until independence from South Africa in 1990. In Tanzania they decline non-stop until after the second world war. Interestingly the takeover of Tanzania by Britain from Germany after the first world war coincides with a deterioration rather than an improvement of political rights. The pattern of deteriorating political rights is quite common and shows up similarly in the case on Malawi, Zambia and Zimbabwe. This increases rapidly around the time of independence only to fall back again as African leaders consolidated one-party states and outlawed political competition. Improvements in political rights then begin again in the 1990s with the wave of democratizations that rolled over the continent.

Figure 8 shows the data from these studies on the extent of private property rights. This index is very interesting because it is meant to capture the property rights for the mass of the population. In this case one can say something more definitive about the consequences of transition from pre-colonial to colonial rule, at least in the colonies with significant white settlement. The massive expropriation of land from Africans must surely coincide with a significant deterioration in the security of property rights for the vast mass of the population. Figure 8 reveals no obvious general pattern during the colonial period. In some places, such as Malawi, Namibia or South Africa, property rights deteriorate. In other places they stay constant or increase. There does not however seem to be a general positive effect of colonialism on the extent of private property rights and even when the data is truncated so that, for example, they do not include the mass land expropriations that took place in South Africa or Zimbabwe.

How are we to make sense of these various findings? Some of them seem quite contradictory. For example, how can expanding education and life expectancy after independence coincide with falling income per-capita? From a production function point of view these things must be reconciled by large falls in total factor productivity (see Nkurunziza and Ngaruko, 2007, for such a calculation in the case of Burundi) suggesting that capital was very inefficiently used. This was precisely the conclusion of Pritchett (2001) who argued that the most likely reason why expanding educational attainment in the developing world did not show up as increased income is that poor institutions lead to human capital to be allocated to unproductive activities such as rent seeking.

Another puzzle is the simultaneous evidence of increasing stature and falling real wages for Africans, for example in Kenya. One possibility is suggested by the work of Troesken (2004) who showed how in the 19th century US enfranchised whites were prepared to invest in public health investments which benefited blacks and poor whites to the extent that they were themselves threatened by the negative externalities which diseased blacks and poor people could create. If the blacks came down with cholera it would quite likely spill over to the whites. It is quite likely that this could help explain the simultaneous occurrence of falling real wages and improving stature. For example, in the case of Zimbabwe Phimister (1988, p. 261)

quotes a white official as observing the need to “. tackle infectious disease in the native ... if we want to have a healthy white nation” and Phimister quotes from a 1944 report of the native production trade commission that ““drastic and immediate action” was needed with respect to the appalling public health conditions and it was “not only humane, it is mere self-protection” ... Health services for the African had become essential because “... as we want to have a healthy white nation we have got to tackle infectious diseases in the native. The native is the reservoir of these infectious diseases ”. Though this may have ultimately been good for the health of Africans it is not exactly the civilizing mission.

Despite quite a few puzzles the overall picture is quite clear. Income per-capita increased after the scramble for Africa quite steadily during the colonial period, if not at the rates experienced in countries which autonomously modernized, such as Japan after 1868 or Turkey after the 1920s. After independence the general pattern of income per-capita was decline from the mid 1960s until the 1990s while after 2000 there has been modest positive economic growth. Human capital, life expectancy and stature also increased slowly during the colonial period and generally continued to increase afterwards though we have seen that stature in Ghana did start to fall, reflecting the economic collapse of the 1970s and Prados de la Escosura (2011) does identify several cases of falling human development, for example in the Democratic Republic of the Congo in the 1980s and 1990s and quite a few others during the 1980s. Meanwhile real living standards of Africans experienced severe deterioration in colonies of white settlement, while they slowly increased along with income per-capita in the other two types of colonies. In the former set of colonies Africans also experienced a decline in institutional quality with mass insecurity of property rights though elsewhere institutional change was muted. Europeans did bring new institutions, forms of rule, fiscal systems and financial institutions, but these did not reach the vast mass of the population.

## 4 Mechanisms

The literature has proposed various types of mechanisms via which colonialism influenced development in Africa. On the benefit side Europeans brought better technology such as writing or steam engines. Particularly important was medical technology. Indeed, Ferguson (2011) argues that if Europeans had not colonized the tropical world there would not have been the stimulus required to develop cures and vaccines from tropical diseases. Many have also argued that Europeans improved institutions, (eventually) ending slavery, introducing modern legal systems and methods of administration and eventually constructing modern democratic institutions. They argue that economic institutions improved, not just because slavery was abolished but also because Europeans made property rights secure, a dubious claim in general as we have already seen, and brought to an end conflicts within African society (which they had previously

heavily exacerbated by generously supplying anyone who could pay with firearms, see for instance Inikori, (1977).<sup>7</sup> They also started schools where there were none.

On the negative side many different mechanisms have been suggested via which colonialism reduced development. An earlier generation of scholars (e.g Rodney, 1981) emphasized the sheer looting of African societies by the colonial powers which undoubtedly took place, particularly in the Congo. More recently scholars point to the perverse effects of particular colonial institutions, such as agricultural marketing boards (Bates, 1981). They also argue that the arbitrary state system created and defended by European powers has led to political conflicts, instability and dictatorship (Engelbert, 2000). Another argument is that the colonial authorities created “gate-keeper states” which were only interested in ruling rather than in developing the countries and these have left a path dependent legacy in the state structures of post colonial Africa (Cooper, 2002). Others have proposed that the political authoritarianism of the colonial state is a direct source of the authoritarianism that has plagued Africa since independence (Young, 1994). Put another way, it is impossible to conceive of Robert Mugabe and the way he and his supporters have run Zimbabwe since 1980 without thinking how Ian Smith and the whites ran and structured the society prior to 1980. Thus the fall in GDP per-capita after 1980 in Zimbabwe is as much a part of the economic impact of colonialism as whatever increase in real wages Africans may have experienced after 1950. There are various mechanisms that could generate this. One could just be a simple reaction to the racism and inequality of the white controlled regime which either unleashed some impetus to enact revenge for the immiseration it had initially unleashed, or to re-wind the impact of mass land expropriations. Alternative mechanisms feature the continuation of the extractive colonial state. Independence in Zimbabwe saw not the destruction of this state but rather a transfer of control from the whites to ZANU-PF and President Mugabe. Mugabe was then in charge of a state which otherwise would not have existed and which he could use with even fewer constraints.

These last ideas points to the importance of the impact of colonialism on civil conflict in postcolonial Africa. In line with this Michaelopoulos and Papaioannou (2011) show that the scramble for Africa had severe implications for the intensity of ethnic conflict in regions where ethnic groups were separated by a border that was established in the conference of Berlin (for a general treatment of ethnic violence, see Horowitz, 2000). Colonialism changed the nature of civil conflict even if it did not necessarily the identity of the warring parties or the places in which conflict took place (Besley and Reynal-Querol, 2012). In some places, like Swaziland, colonialism seriously warped traditional African political institutions making them much less accountable and more autocratic (This could also be read as part of an explanation for the

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<sup>7</sup>Though Bates (2012) makes the opposite argument that warfare in pre-colonial Africa was important in state formation so that by stopping warfare the colonial powers inhibited state formation.

Zimbabwe example). Though the Swazi state in 2012 is not a poster child for development, the Swazi state today is different from what it would have been had it not been for the fact that the British ruled Swaziland indirectly (Mamdani, 1996, for the general argument, Bonner 2002, on Swaziland). Most plausibly, the Swazi state is much more despotic and unrepresentative than it would have been absent colonialism. In other places, like Sierra Leone or Nigeria, the system of indirect rule contributed to power relations that did not reflect the de facto relative power of different groups in society (see the examples for Sierra Leone and Ghana below). Finally, and more subtly, there are arguments about how colonial rule shaped identities and created cleavages where none existed or hardened pre-existing distinctions and identities, as in Rwanda (see Ranger, 1985, for an illustration from colonial Rhodesia and Spear, 2003, for an overview of the British cases). This could easily have itself been an independent source of conflict and underprovision of public goods after independence. To take perhaps the most salient example, most academic studies agree the distinctions and conflicts between Hutu and Tutsi in Rwanda, though they pre-dated colonialism (Vansina, 2004), were made considerably worse by the fact that the German and Belgian colonial administrations recognized the Tutsis as a governing elite and after 1932 introduced identify cards that defined one as either Tutsi, Hutu or Twa. Though such identity cards were not unique in colonial Africa (South African pass cards recorded one's "group") it seems undeniable that these policies played a significant role in intensifying Hutu-Tutsi tensions and ultimately leading to a genocide in which 800,000 people perished (Des Forges, 1999, Mamdani, 2002). The identity cards were only abolished in the wake of the genocide. This too is part of the legacy of colonialism for development.

Doing justice to all of these different mechanisms is impossible in the short space of a paper and we have tried to introduce quite a few of these as we have gone along. We have already seen from the work of Fedderke and his collaborators that there seem to have been no consistent tendency for either basic political or economic institutions to improve during the colonial period. Let us restrict attention to just the important issues of slavery. The colonial project in the 19th century was heavily motivated by such apparent goals as the eradication of slavery and the fact that slavery did disappear in most African colonies during the colonial period could be chalked up as an institutional improvement which colonialism brought which would otherwise not have happened. To assess this argument one has to take into account several things. First, it took a long time to abolish slavery in most African colonies. For example, in Sierra Leone it was only finally made illegal in 1928, in Ghana 1930 and in Nigeria 1936 (see Lovejoy and Hogendorn, 1993, on northern Nigeria and the essays in Miers and Roberts eds., 1988, and Klein and Miers eds., 1998). Second, even then it is not clear to what extent slavery vanished because of these laws (which had to be enforced) or because of economic changes. At least in the Ghanaian case such changes had little to do with the colonial powers (see Austin, 2008). Third, the colonial state extensively used forced labor to

build infrastructure (see Mason, 1978, and Thomas, 1973, on Nigeria and Ghana). Finally, slavery was coming to an end everywhere in the world in the 20th century and it is in fact not clear that slavery ended any faster in places that were colonized. For instance slavery was abolished in 1915 in Thailand and 1928 in Iran (Klein ed., 1993, for these dates). Even in Africa the non-colony of Liberia was forced by international pressure in the 1920s to abolish, if not slavery, then something very close to it. Thus the claim that colonialism generated a net institutional benefit through the abolition of slavery is implausible.

## 5 The Balance of the Evidence

So far we have argued that though colonialism had uniform effects, one can make clear distinctions between three types of African colonies. Those which coincided, usually coincidentally, with pre-colonial African polities, the colonies of white settlement and finally those which either had no centralized states or were a heterogeneous mixture (like Nigeria) and or lacked white colonization.

Putting the evidence and arguments about counter-factuals and mechanisms together we argue that in first and second sorts of colonies there is a clear case to be made for colonialism retarding development. Making this case entails counter-factuals for both the colonial and post-colonial period. In the introduction we proposed some simple ones, based really on continuity with the pre-colonial experience. In colonies which coincided with relatively centralized polities there was the essentials of order and public goods provision which could have been the basis for development (Warner, 1999). Botswana is a perfect case. Though Botswana has been an African success since independence it is likely that absent British colonialism Botswana would be a great deal more developed today. Prior to the colonial period Tswana elites were already reforming institutions and showing an extraordinary ability to negotiate with external forces, traits which reproduced themselves after independence. Yet during the colonial period institutional reform was held in check in Botswana and instead chiefs and elites had to fight a rearguard action to stop such forces as indirect rule and mining from destroying their polities and the fruits of their previous institutional innovations. At the same time the British provided more or less nothing in terms of education, health, infrastructure or other types of public goods. After independence Botswana was able to benefit from its coherence as a polity and because the pre-colonial institutions which persisted were ones that promoted accountability. Generally, there is a negative correlation in Africa between pre-colonial political centralization and the extent of such accountability institutions (for example using the data in the Standard Cross-Cultural Sample, see Osafo-Kwaako and Robinson, 2012) and the state in Rwanda, for example, lacked the type of accountability mechanisms the Tswana had. Nevertheless, it is overwhelmingly plausible that Botswana would be much more developed today had it not been colonized. Variation in the region

supports this claim. Botswana did better than Lesotho, which had very similar pre-colonial institutions, because it was able to preserve its pre-colonial systems of representation and political institutions which were heavily distorted by indirect rule and the desire to mobilize labor for the mines in South Africa in the latter country (Ashton, 1947, Eldredge, 2002, Acemoglu, Johnson and Robinson, 2003).

Another polity in this first set, Rwanda, is also very plausibly less developed than it would otherwise have been. The dominant mechanism is that it suffered the most extreme example of colonial powers shaping identities in ways which guaranteed intense conflicts for power after independence. In Rwanda this tragically interacted with what were already highly hierarchical class relations by African standards to completely discredit the traditional political system and create intense conflict.

In Ghana, also in this class, it would not have been possible to create the type of cleavage that tore Rwanda apart, but instead colonialism created a situation where a large centralized state, Asante, was placed into a “nation state” consisting of a plethora of groups who lacked a national identity and working social contract and saw Asante dominance as the main threat. The arrival of British colonialism stopped Asante expanding and Asante chiefs were made into the tools of indirect rule and to the extent that they were accountable to their people, they became less so. At independence politics became dominated by Kwame Nkrumah and his Conventional People’s Party which found a common cause in opposing Asante. Nkrumah moved to emasculate the Asante chiefs (Rathbone, 2000) and initiated a cycle of anti-Asante and pro-Asante regimes. The fight for power after 1957 led to political instability, coups, military rule, the expropriation of the cocoa farmers who were at the heart of the most dynamic sector of the economy. The nature and structure of this conflict was entirely a legacy of the colonial state. In the absence of colonialism a plausible counterfactual is that Asante would have expanded and formed a “nation state”. This might not have been developmental, but it certainly would have avoided the perverse institutional dynamics of indirect rule (moving the traditional leaders further from being accountable) and it would not have led to the political instability which plagued the country and undermined the economy for 25 years. Today the two main political parties revolve around this cleavage. In Uganda the situation is quite similar with pro and anti-Buganda cleavages, while in Burkina Faso it is a pro or anti-Mossi cleavage.

Accepting these arguments could it have been that colonialism brought enough to Ghana to offset these negative mechanisms? We believe the answer is no. The economic growth of Ghana during the colonial period was not because of the British colonial states but in spite of it (Hill, 1963, Austin, 2005). The export dynamism was a wholly African development which would plausibly have occurred without British intervention since the area had seen export dynamism before in the 19th century, for example in the export of slaves and then kola nuts and other tropical products. Other economic institutions, such as the allocation and regulation of land, were probably made less efficient by colonialism since indirect rule

made the chiefs in charge of them less accountable (Colson, 1971, Goldstein and Udry, 2008). It is true that the British built railways and roads and though these did bring some economic growth (Jedwab and Moradi, 2011) their location was often determined more by the desire to rule, not develop (evidence for this is presented in Chaves, Engerman and Robinson, 2012, who show that the colonial states had to force Africans to move their goods on the railways because they were not in the right place from an economic point of view), and the only reason that Asante had not previously built a railway to the coast was because the British colonial office had blocked it (Chaves, Engerman and Robinson, 2012). Possibly the British brought education where it otherwise would not have existed? Possibly, but as Frankema (2010, 2011) has shown missionaries were the driving force behind educational expansion in British colonies and a reasonable counterfactual is that absent colonization the missionaries would have come and started schools since prior to 1885 missionaries were already fanning out over Africa, converting and educating. It is hard for us to see where the enduring counter-benefits of colonial rule are.

It is possible that the Zulu state could have developed in diamonds of Kimberly and the gold of Johannesburg in just as predatory manner as the Apartheid state. But we think this is unlikely. No indigenous African state would have had the massive coercive, military and ideological dominance over its people that the white state of South Africa had over the black population.<sup>8</sup> Moreover, the Zulu state would not have had such a well defined subject population to repress and discriminate against.

The other clear case for colonialism retarding development is in the colonies of white settlement. Here, as we have documented, the extractive nature of colonial rule and mass expropriation of land manifested itself in serious immiseration of Africans during the colonial period and a massive increase in inequality. There is some conflicting evidence on some of these cases as we have pointed out and there is clearly important research to do here to reconcile these different sources of information. It is possible that in settler colonies, because whites came en masse, they actually brought more potential benefits. We discussed one earlier when we asked how could one reconcile falling real wages for Africans with Moradi's evidence for increased stature in Kenya. Having a lot of whites might have created positive externalities for Africans absent in colonies such as Sierra Leone. We accept that this might be the case, so that ultimately there were offsetting benefits for Africans once they recovered from the immiseration. By the 1950s African wages were rising in Zimbabwe, as they were in South Africa by the 1970s. From this point on, and especially after independence, they might have been able to benefit from the legacy of the more intense colonization (though in fact Fedderke's research thus far does not suggest great institutional benefits in these colonies relative to others). Yet these examples suggest that there are far more powerful countervailing mechanisms

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<sup>8</sup>To give a Latin American example, the Spanish took over the tribute systems of indigenous states such as the Incas, by far the most organized in the Americas, yet the evidence is that they were able to make the institutions considerably more extractive than they had been during the Inca period.

at work. Since 1980 Zimbabwe has experienced not the benefits of white rule but the consequences in terms of inequality and conflicts and a legacy of racial discrimination which Sierra Leone did not have to suffer from. These cases therefore demonstrate some of the most perverse post-independence dynamics. van de Walle (2009) and Bowden and Mosley (2010) argue that this is precisely due to the very high levels of inequality in such countries which were directly a result of the way that they were colonized. We therefore believe that, despite some of the contradictory facts, to argue in these cases that colonialism promoted development one would have to have in mind a completely implausible counter-factual where colonialism stopped an even worse immiseration. This seems very difficult to believe.

The final set of cases are more complex. It is plausible, for example, that places dominated by acephalous societies, such as Somalia or South Sudan, would have similar levels of development today absent colonialism. To get a sense of what might be a credible line of argument for the other mixed cases let us focus on Sierra Leone. It is likely that the lack of political centralization and instability in Sierra Leone inhibited development prior to colonialization and stopped the creation of public goods or the adoption of better technology. Colonialism led to the construction of railways, the cessation of hostilities between African polities, and the creation of an administrative structures such as courts and the elements of a modern fiscal system. It also led to the construction of what was the first school in the interior in Bo (outside of Freetown and the Western peninsula which had been a British colony since 1806). Had the British not annexed the interior it is quite plausible that the political instability would have continued and the basic state structure would have been unchanged (though one could use the evidence in Abraham, 2003, to argue that there was some of trend towards more bureaucratized and stable polities, at least in Mendeland). Do these clear benefits from colonialism imply that Sierra Leone is more developed today than otherwise it would have been? Though one could argue in either way, we believe the probable answer is again no. Yes railways were constructed, but as in Ghana, they were positioned not to develop the country but to rule it. Indeed, after the Hut Tax Rebellion of 1898 the route of the railway was changed with a view of controlling Mendeland, the heart of the rebellion. Yes schools were built but little pretense was made to educate the population. Bo school was focused on educating the sons of the Paramount Chiefs and the elite which the British had themselves created and who were used to govern the colony indirectly. As in Ghana it was missionaries who did what little educating there was. Similarly with the administrative system. The system of indirect rule in essence created a system of hierarchy and indigenous elites which had not existed before in Sierra Leone. Paramount Chiefs were elected for life by majority vote of the Tribal Authority, an electorate made up of elites. To become a Paramount Chief one had to come from a 'ruling family' basically a short list of elites recognized, and sometimes created, by the British. This was a classic case of indirect rule creating a type of political despotism that had not previously existed. Sierra Leone gained

independence as a salutary example of a state lacking a national identity and working social contract where the electorate was polarized into a north (Temne and Limba) versus south (Mende) cleavage. As elsewhere this led to military coups, political instability and eventually a one party state. All this disintegrated in 1991 into a horrific 10 year civil war at least one motivation for which was animosity against the local despotism of chiefs and political exclusion (Richards, 1996, Keen, 2005). Certainly in 2012 development outcomes in Sierra Leone are better than they were in 1896 when the colony was formed, but little of this was due to the direct intervention of the British during the colonial period. Much more was due to missionaries or other forms of dissemination while the very negative development dynamics experienced after 1961 are closely related to the way the British formed and governed the colony. It is clear moreover that colonies of this type had independent dynamics that might have offset the potential benefits. The fact that they lacked centralized political authority prior to colonization created opportunities for colonial rule to bring benefits as we have observed. Yet at the same time this created a more intense indirect rule which persisted after independence precisely because there was no large pre-colonial polity. In Ghana the remnants of the Asante state was too threatening to his power for Nkrumah to rule indirectly, this was not true in Sierra Leone where to this day indirect rule is the favored method for national politicians to rule the rural areas. Though no doubt every case has its differences, even this apparently ambiguous case does not support an optimistic interpretation of the impact of colonialism on development in Africa.

## 6 Conclusions

In this essay we have tried to evaluate the impact of European colonialism on development in the case of Sub-Saharan Africa. Though this is only a very small part of colonial experiences in world history it covers all of the methodological problems involved in answering this question and spans many of the potential mechanisms. As we emphasized right at the start, at our current level of understanding it is impossible to make general strong claims about the causal impact of colonialism on development because of the absence of a well defined counter-factual. We argued in general this is not much of a drawback because colonialism was such a heterogeneous phenomenon that it is not very interesting to be able to identify the average effect of colonialism and in any case examining specific mechanisms may be more productive and easier to identify econometrically.

Nevertheless, we have also argued that the extent of the heterogeneity of the colonial experience in Africa is much less than in the entire colonial world. This being the case we have not restricted ourselves simply to the important task of giving an overview of some of the facts and the mechanisms which have been suggested. We have also attempted to give a very subjective and speculative view of what we believe

the balance of evidence says in the light of what we argue are plausible counter-factuals. We do this without any pretence of being definitive and merely to try to move the debate forward. In particular we emphasized that to evaluate the impact of colonialism on development it is not enough to show that development outcomes improved during the colonial period. This is for at least two reasons; first, we do not know what would have happened in the absence of colonialism; second, a full evaluation of the impact of colonialism must take into account how development outcomes after independence were shaped by the way colonialism structured society.

Our conclusions are that the case for the pessimists about the impact of colonialism on development is far stronger than the case for the optimists. There are clear cases, such as the settler colonies or colonies which coincided with established pre-colonial centralized states, where the preponderance of evidence and plausible argument supports the idea that colonialism retarded development. Other cases are more ambiguous, but even there we argue that it is difficult to come up with convincing scenarios under which colonialism promoted development. Though colonialism was indeed heterogeneous, in the end, it is very likely that if one could estimate the average effect of colonialism on development in Africa, it would be negative.

We make these arguments accepting that Africa was poor, technologically backward and poorly developed (in terms of the measures we have discussed in this paper) in the first half of the 19th century. Nevertheless, other parts of the world were also poor and underdeveloped in this period, for example Japan or Thailand and most parts of Latin America, and they are much more prosperous than Africa today. It is possible for societies to change their institutions and move onto better development paths though it is not of course inevitable that they will do so. European colonialism did bring some proximate benefits in terms of technology, a sort of peace and a sort of access to and implantation of modern institutions. Yet little attempt was really made to make such benefits, such as they were, endure, and many of which, like peace, were restricted to the colonial period. Europeans also brought racism, discrimination, inequality and seriously warped many African political and economic institutions. Once the European powers left, much of what was positive was ephemeral and went into reverse while many of the negatives endured.

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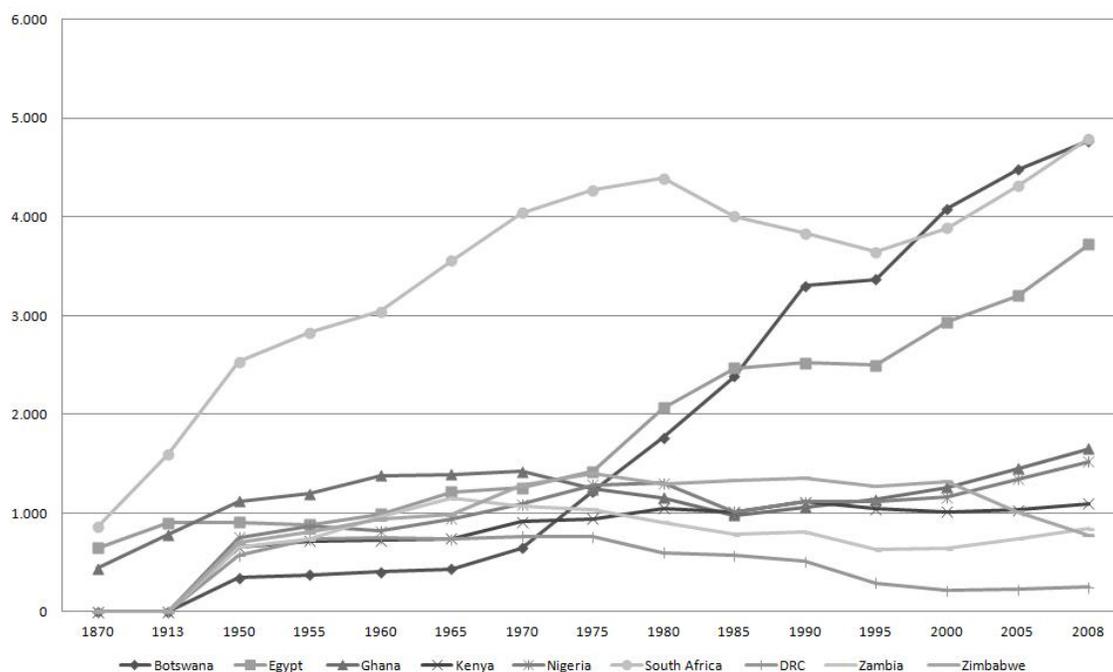
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Table 1: Classification of Area under Indigenous Cultivation (in thousands of hectares)

Territory and period	Crops mainly for export		Crops partly for export and partly for local consumption		Crops mainly for local consumption		Total Area	Subsistence employment percent
	area	percent of total	area	percent of total	area	percent of total		
Belgian Congo, 1947-1950	49	2	587	27	1577	71	2213	41
French Equatorial Africa, 1948-1950	297	21	25	2	1065	77	1387	62
French West Africa, 1947-1949	305	3	1487	16	7796	81	9588	77
Gold Coast, 1950	728	45	-	-	884	55	1612	21
Kenya, 1947-1950	-	-	18	5	352	95	370	70
Nigeria, 1950/1951	242	3	1891	2	6494	75	8627	57
Southern Rhodesia, 1950	-	-	-	-	912	100	912	51
Taganyika, 1952	146	6	81	3	2209	91	2436	63
Uganda, 1948-1950	700	28	-	-	1835	72	2535	59
Total	2467	8	4089	14	23124	78	29680	

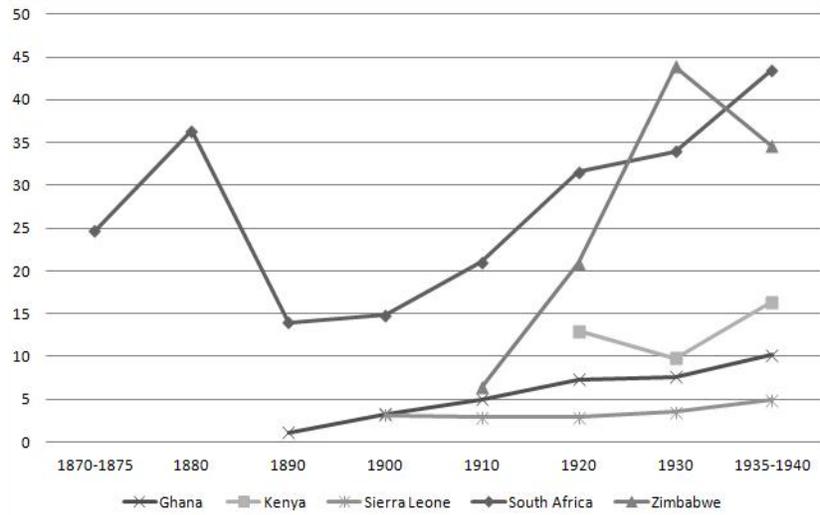
Source: see Dalton (1976), Table 1, Table 6 and references therein. The subsistence employment figures refer to percentage of male population over 15 years of age engaged in subsistence agriculture.

Figure 1: GDP for selected countries



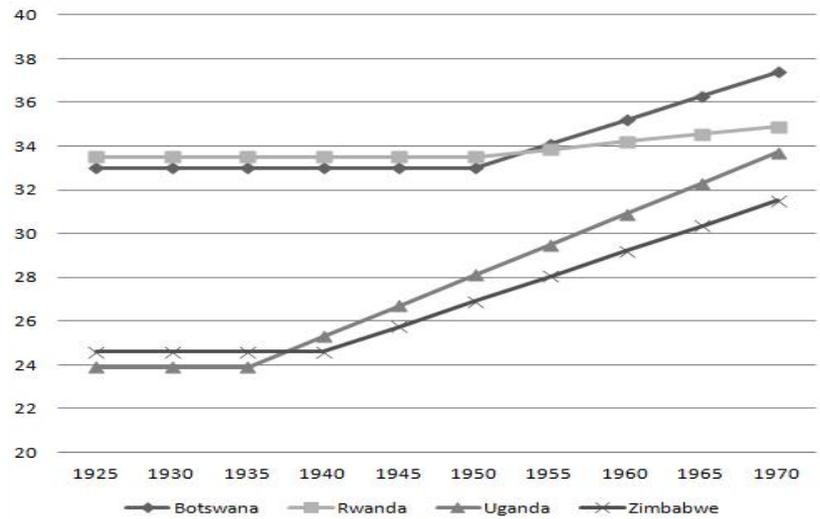
Source: Maddison (2007). GDP is measured in 1990 International Geary-Khamis Dollars.

Figure 2: Primary Enrollment ratios



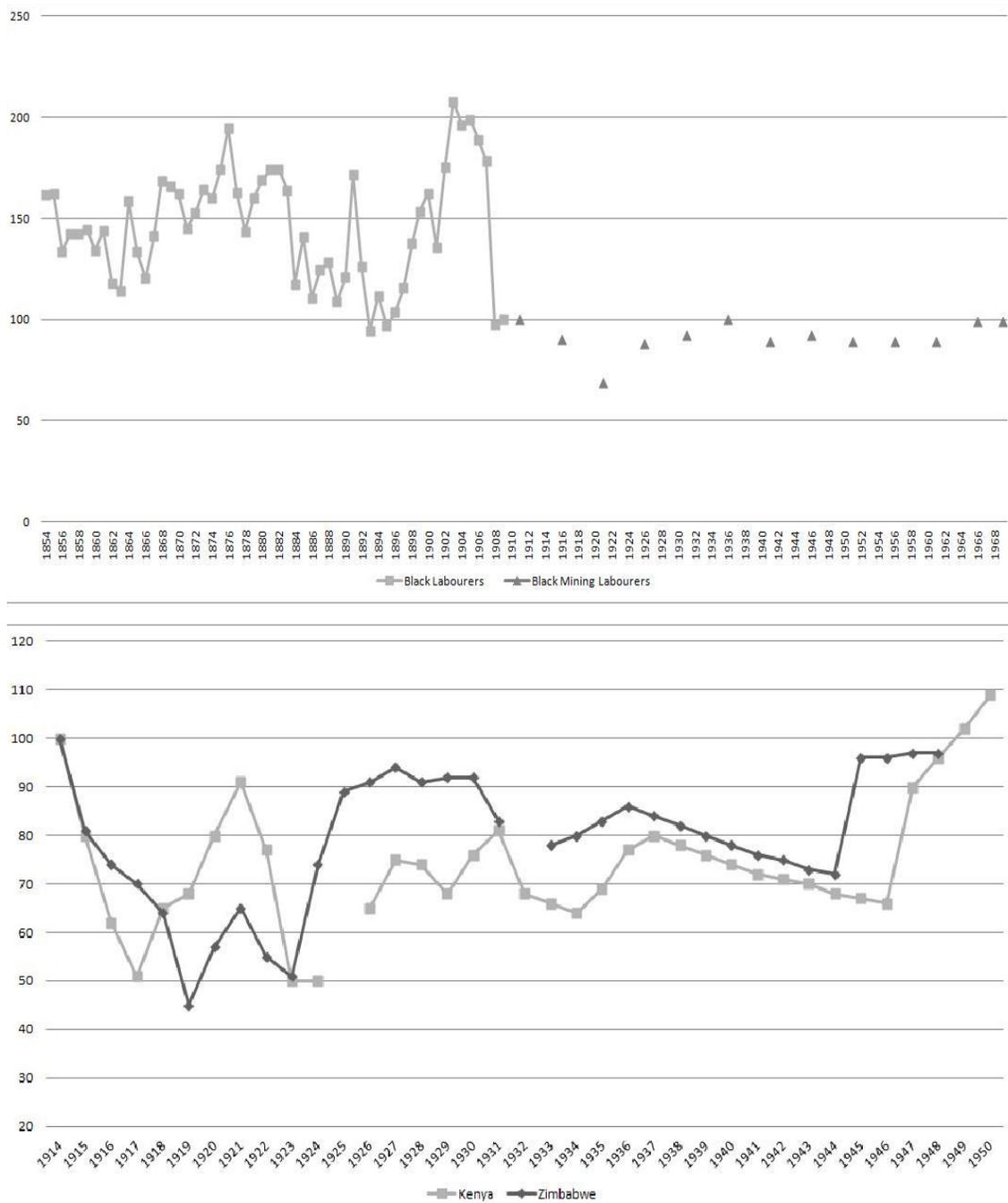
Source: Benavot and Riddle (1988).

Figure 3: Life Expectancy



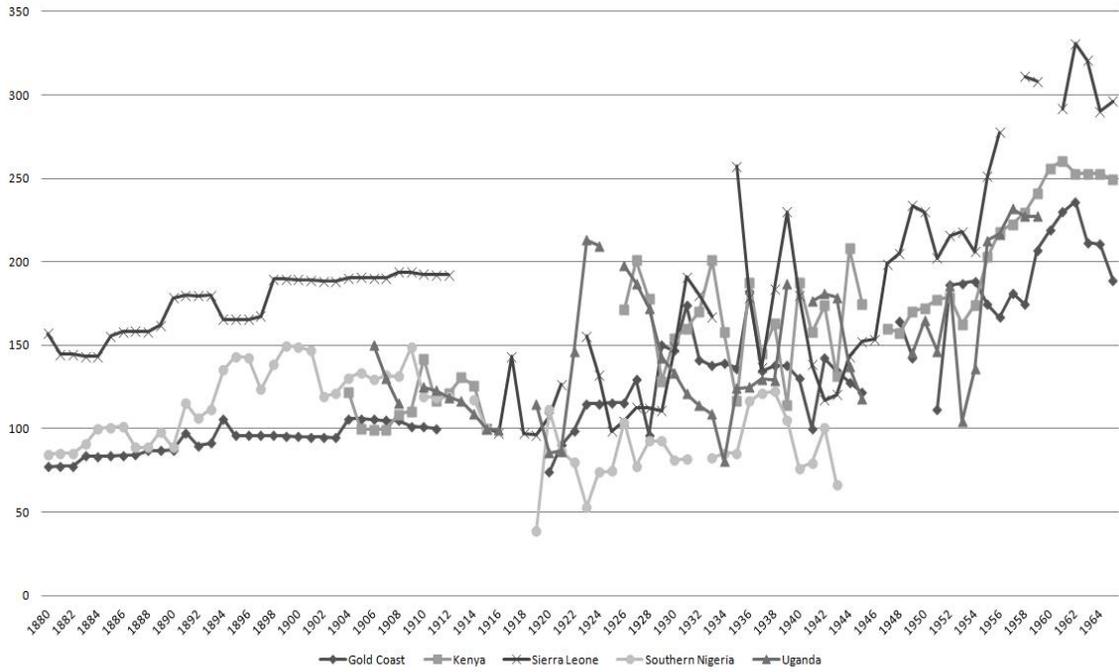
Source: Riley (2005).

Figure 4: Real Wages



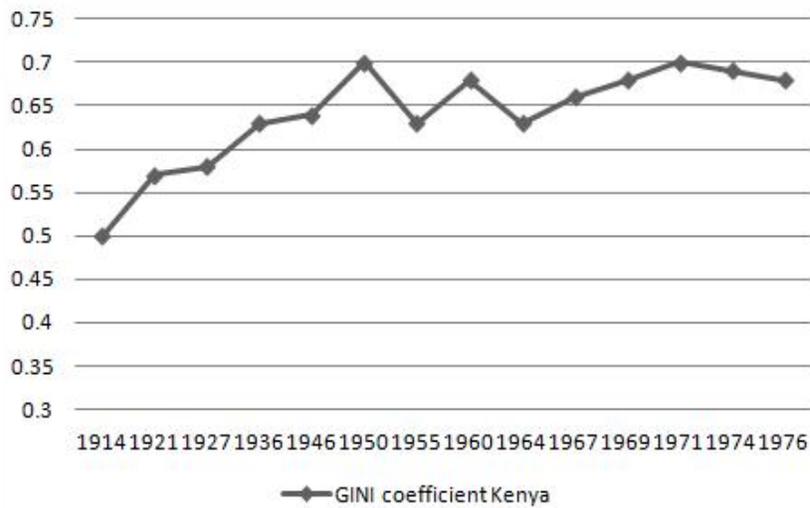
Source: Top panel: Black Labourers, de Zwart (2011); Black Mining Labourers, Wilson (1972). Bottom Panel: Bowden and Mosley (2010). These are index figures, set to 100 in 1909 (Labourers) and 1911 (Mining Labourers) in the top panel; and 1914 in the bottom panel.

Figure 5: Real Wages



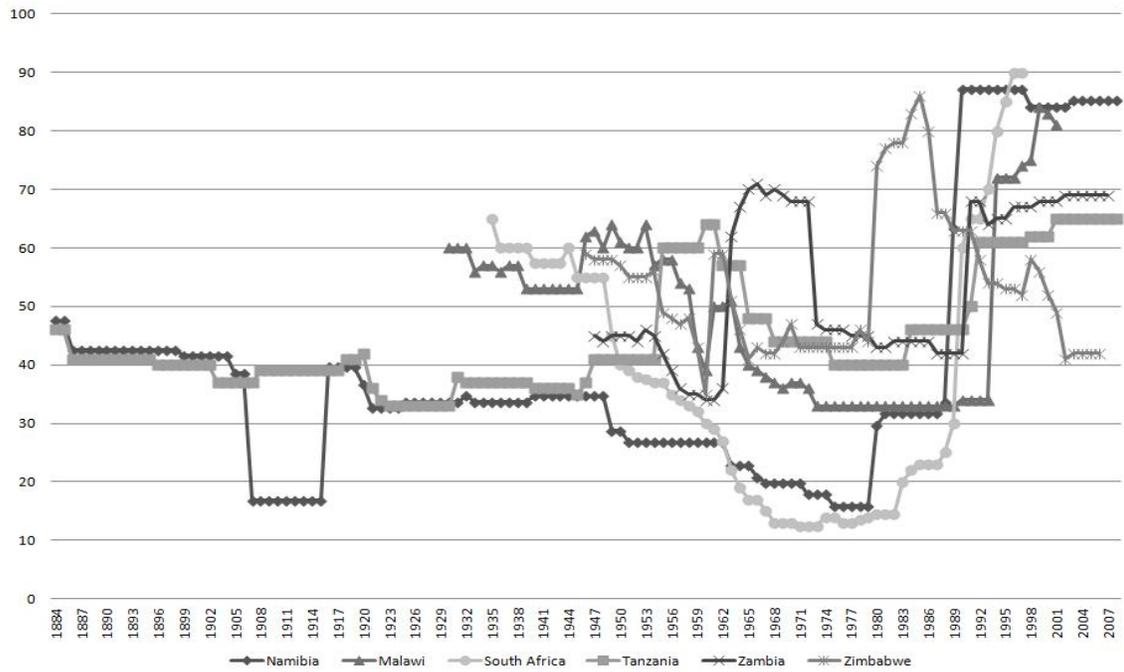
Source: Frankema and van Waaijenburg (2005). Index figures, 1915=100.

Figure 6: Inequality in Kenya



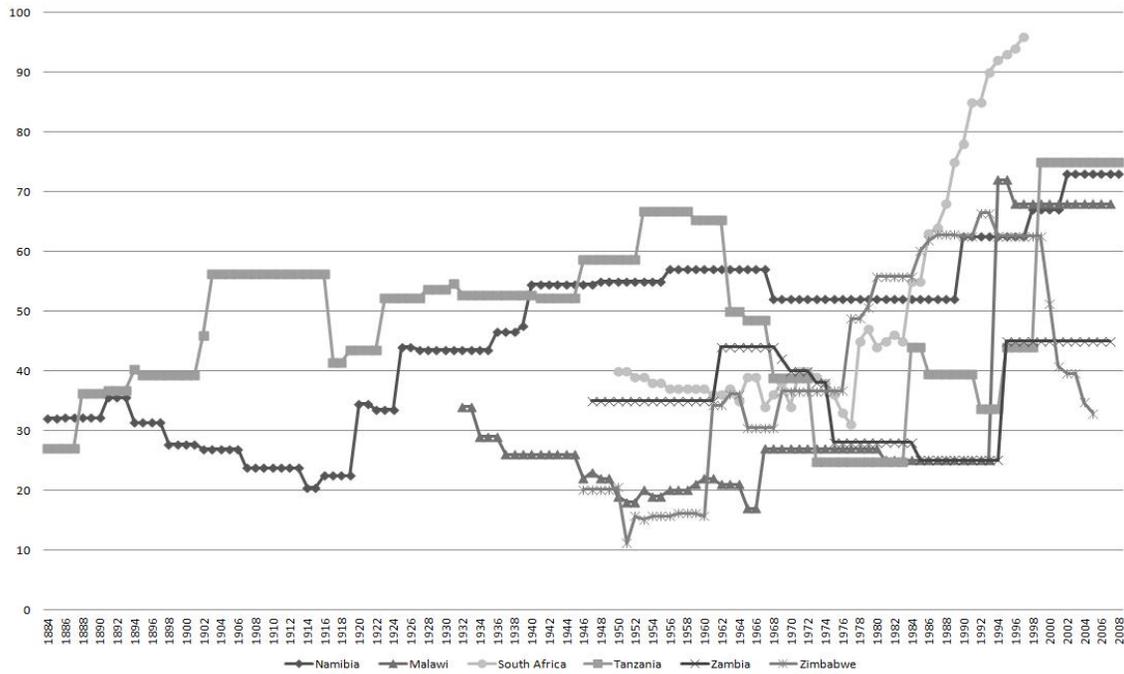
Source: Bigsten (1986).

Figure 7: Index of Political Freedom



Source: Namibia: Zaaruka and Fedderke (2011); Malawi: Fedderke and Garlick (2010); South Africa: Fedderke, De Kadt and Luiz (2001); Tanzania: Zaaruka and Fedderke (2010); Zambia: Fedderke, Lourenco and Gwenhamo (2008); Zimbabwe: Gwenhamo, Fedderke and de Kadt (2008).

Figure 8: Index of Property Rights Protection



Source: Namibia: Zaaruka and Fedderke (2011); Malawi: Fedderke and Garlick (2010); South Africa: Fedderke, De Kadt and Luiz (2001); Tanzania: Zaaruka and Fedderke (2010); Zambia: Fedderke, Lourenco and Gwenhamo (2008); Zimbabwe: Gwenhamo, Fedderke and de Kadt (2008).