INCOME INEQUALITY IN COLONIAL AFRICA: BUILDING SOCIAL TABLES FOR PRE-INDEPENDENCE CENTRAL AFRICAN REPUBLIC, IVORY COAST AND SENEGAL

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Guido Alfani, Bocconi University, IGIER and Dondena Centre

guido.alfani@unibocconi.it

Federico Tadei, Universitat de Barcelona

federico.tadei@ub.edu

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Income Inequality in Colonial Africa:

Building Social Tables for Pre-Independence Central African Republic, Ivory Coast, and Senegal

Guido Alfani[1] and Federico Tadei[2]

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Abstract
Today, income inequality in Sub-Saharan Africa is exceptionally high. In this paper, we study whether present-day inequality can be traced back to the colonial period by reconstructing income distributions in a sample of representative colonies. To do so, we use data from colonial records to build new social tables for French colonies in West and Central Africa and we combine them with available information on British colonies in East and Southern Africa. We find that inequality in Africa is not a recent phenomenon. Income inequality was extremely high during the colonial period, in particular because of the huge income differential between Africans and European settlers. Nevertheless, it tended to reduce over time and the post-colonial period is characterized by much lower inequality. Interestingly, the decline of inequality is not necessarily a consequence of independence: the trends toward reduction started under colonial rule.

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[1] Bocconi University, IGIER and Dondena Centre, Via Roentgen 1, Milan 20136, Italy, guido.alfani@unibocconi.it
[2] Universitat de Barcelona, Department of Economic History, Avenida Diagonal 690, Barcelona 08012, Spain, federico.tadei@ub.edu

1. Introduction

Africa is currently one of the most unequal regions in the world. According to the estimates from the United Nations, the average GINI index for Sub-Saharan African countries is 0.46, while the world average is 0.38. Even compared with other developing regions, Africa's inequality is stark: Asian and Middle-Eastern countries' inequality is lower than the world average and only Latin America presents levels of inequality which are similar to those we find in Sub-Saharan-Africa (see table 1).

In this paper, we investigate whether the current high levels of African inequality can be traced back to colonial rule. Extractive institutions established by the colonizers in Africa have been blamed as one of the causes of current underdevelopment (Acemoglu, Johnson, and Robinson 2001; Acemoglu and Robinson 2012; Nunn 2008). In addition, by favoring the interests of European companies and settlers with respect to those of the majority of the African population, government institutions are frequently thought to have heavily affected the distribution of income and wealth in African societies (Acemoglu, Johnson, and Robinson 2005; Bolt and Hillbom 2016). If similar extractive institutions persisted over time, we may be able to identify the roots of current inequality by looking at patterns of income distribution during the colonial period.

The main problem in answering these questions is that we have very limited information about inequality during colonial rule. Figure 1 reports the scatter-plot of Gini indexes over time for all countries on which we have data. Each point represents a country/year. The contrast between the wealth of information available before and after independence is huge. Before 1960, data on income distribution are extremely rare. We have information from the 1950s for less than ten countries, and for just a few countries from earlier dates: Kenya since 1914 (Bigsten 1987), Botswana since 1921 (Bolt and Hillbom 2016), and Zimbabwe since 1945 (Adelman and Morris 1972). If we look at a level below current states, we have some information on income distribution in the Dutch Cape Colony between 1700 and 1753 (Fourie and Von Fintel 2011). If we focus on top incomes instead of on the full distribution, it is important to cite the work by Atkinson (2014) who analyses top incomes in 15 British African colonies from tax records.[3] Nevertheless,

[3] Some other studies focus on wealth inequality, for example Rönnbäck and Galli (2016) on Sierra Leone in 1831 and Fourie and Von Fintel (2010) on the Cape Colony (South Africa) in 1663-1757. For a synthesis of earlier works on wealth/land inequality in Sub-Saharan Africa as well as for additional insights, see Frankema (2010).

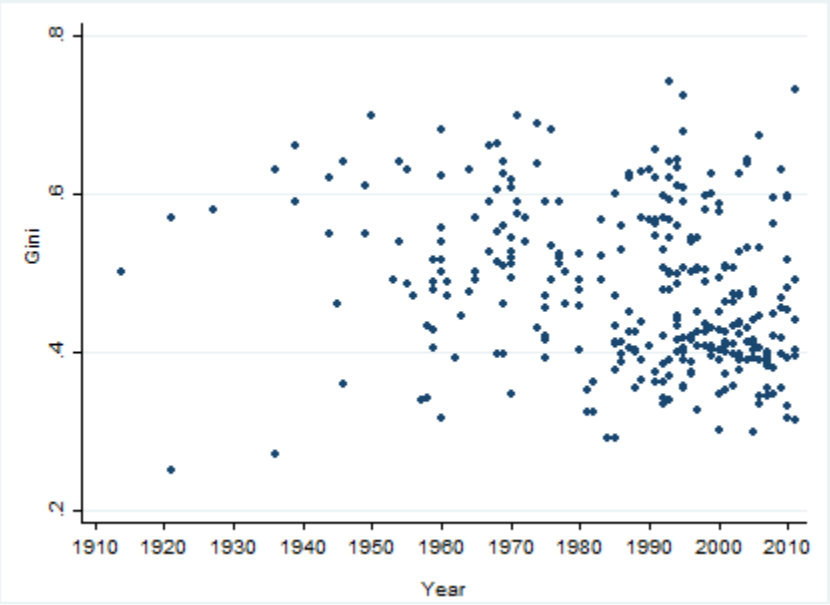
from this review, it is clear that most of our knowledge of inequality during colonial rule comes from information on British colonies in Eastern and Southern Africa. West African colonies and territories subjected to other colonial powers are much less well known.[4]

Table 1. Inequality in World Regions, 2010-2015

	GINI	min	max	# countries
Developing Countries	0.41	0.25	0.69	49
Sub-Saharan Africa	***0.46***	***0.31***	***0.69***	***12***
Latin America	*0.47*	*0.36*	*0.55*	*13*
Asia & Middle East	*0.36*	*0.30*	*0.45*	*14*
High Income	0.35	0.28	0.51	41
World	0.38	0.25	0.69	90

Average Gini across countries, 2010-2015. UN-Wider (September 2015).

Figure 1. Missing Gini during the Colonial Period



Our contribution is to help to fill this gap, by looking at income inequality in the other main colonial empire in Africa: the French one. In particular, we focus on three colonies in West and Central Africa: Senegal, Ivory Coast, and Ubangi-Shari (now Central African Republic) from the late 1930s to the 1950s. To reconstruct income distributions, we use the method of social tables. With this

[4] A notable exceptions are the very recent works by Alvaredo, Cogneau, and Piketty (2016), who report information on income inequality from tax records in Algeria, Tunisia, and Cameroon between 1920 and 1960.

technique, one can estimate overall inequality by dividing the society into social classes and computing the average income in each class. To implement this idea, we use new data collected from several colonial statistical publications.

This approach allows us to shed light on several questions. What was the overall level of inequality during the colonial period? Was inequality driven by the income differential between farmers and urban workers or by the one between Africans and Europeans? What was the trend over time? Did inequality patterns change after independence? Our results show that income inequality under French colonial rule was very high, in particular because of the huge income gap between rich Europeans and the majority of the African population. Nevertheless, over time income inequality tended to decrease with a trend starting even before independence.

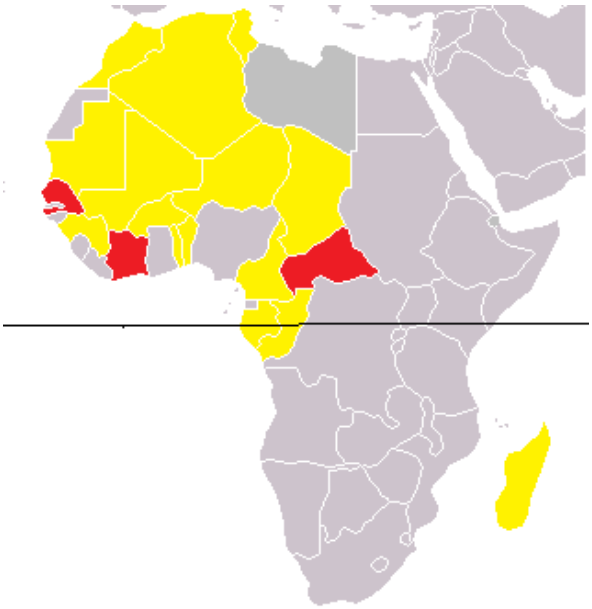
The paper is structured as follows: section 2 provides an overview of French colonization in sub-Saharan Africa and offers some key information about Senegal, Ivory Coast and Ubangi-Shari; section 3 discusses the method of social tables and applies it to our case study; section 4 analyzes the results by presenting Gini indexes and discussing potential explanations for inequality patterns; section 5 places the results in a longer time frame and further discusses them by applying the concept of "inequality possibility frontier" (Milanovic 2013); section 6 provides concluding remarks and directions for future research.

2. The French colonization of Sub-Saharan Africa: the case of Senegal, Ivory Coast and Central African Republic

The French colonized large parts of Africa between the mid-1800s and 1960, starting from a few bases established much earlier (for example in Senegal, the first French settlement was the port city of Saint-Louis, founded in 1659). In the continental Sub-Saharan part of their empire, they controlled thirteen colonies which they divided into two federations: French West Africa and French Equatorial Africa. Senegal, Ivory Coast, and Ubangi-Shari (now Central African Republic) can be taken as a representative sample of the different conditions of these colonies (figure 2).[5]

[5] The historical background of this section relies on Coquery-Vidrovitch (1972), Duignan and Gahan (1975), Hopkins (1973), Manning (1998), and Suret-Canale (1971).

Figure 2. Sample of colonies



Notes: Senegal, Ivory Coast, and Central African Republic are shown in red. The rest of the French colonies in Africa are shown in yellow.

At the beginning of colonization, the French struggled to control these territories. Between 1890 and 1920, Ivory Coast experienced several uprisings and revolts, following the imposition of colonial rule and the establishment of head taxes and forced public work programs. In 1928-31, a revolt broke out in Ubangi-Shari (the Congo-Wara rebellion) in response to the use of coerced labor for the construction of the Congo-Ocean railways and the brutal practices of concessionary companies involved in the collection of rubber. Senegal and Ivory Coast were two of the richest territories of French West Africa, while Ubangi-Shari was situated in the Equatorial federation and was much poorer. Overall, the economic structure of these territories was based on agriculture and most colonial activity relied on buying agricultural goods in Africa and reselling it at higher prices in Europe. A small number of large trading companies monopolized commerce and had great influence in determining the prices that the African producers could receive (Tadei 2015). Most agricultural production was done by African farmers and if in some cases European settlers established plantations, this remained a small proportion of total production, the Europeans accounting for a tiny percentage of the population. Important products were peanuts in Senegal, cocoa in Ivory Coast, and cotton in Ubangi-Shari.

Forced labor practices were widespread: until 1946, the inhabitants of French West Africa were compelled to work for a fixed number of days every year for the colonial government or for private enterprises. Compulsory cultivation systems were also implemented: in Ubangi-Shari between 1924 and 1956, for example, villages were responsible for providing cotton to the trading companies. The colonial powers invested very little in public goods. Huillery (2014) reports that on average between 1907 and 1956 there were only 1,000 teachers, 1,400 doctors and 300 schools serving the entire territory of French West Africa. During the Second World War, French West Africa was controlled by the Vichy regime, while Equatorial Africa sided with the Free France of General De Gaulle. After the war, under political pressure in the colonies and in France, the colonial system began to change. Forced labor was abolished in all of West Africa in 1946 (compulsory cultivation persisted longer), investments in public goods increased, and forms of political representation of Africans were established.

The three colonies we study obtained formal independence in 1960. The process leading to this change was generally peaceful, but did not necessarily lead to democratic regimes. In addition, during the post-colonial period the ex-colonies often experienced military coups and civil wars. Between 1960 and 1993, the Central African Republic saw a long series of subsequent coups and three different military governments (David Dacko until 1965, Jean-Bédel Bokassa 1965-1979, and André Kolingba 1981-1993). The first elections in 1993 did not bring peace, as the country's fragile institutions were shattered again by two other coups (one failed in 2001 and one successful in 2003) and by two civil wars, the first one between 2004 and 2007 and the second one still ongoing since 2012 (Bradshaw and Fandos-Rius 2016). In Ivory Coast instead, despite the lack of democracy, the rule of Félix Houphouët-Boigny (1960-1993) and Henri Konan Bédié (1993-1999) guaranteed a certain stability to the country until the late 1990s. After that, Ivory Coast experienced a long period of political instability, brought about by General Guéï's coup in 1999 and the two civil wars during Laurent Gbagbo's government, in 2002-2007 and 2010-2011 (Daddieh 2016). Senegal's post-colonial period, on the contrary, was characterized by peaceful political transitions. The only attempted coup in 1962 was repressed without bloodshed. Despite the apparent democracy, the length of tenure of Senegalese presidents might cast some doubts on the actual situation. In the almost 60 years since independence, Senegal had only four presidents: Leopold Senghor from 1960 to 1980 (with one only legal party from 1965 to 1975), Abdou Diouf from 1981 to 2000, Abdoulaye Wade from 2000 to 2012, and Macky Sall, currently in power (Clark and Philips 1994).

3. Constructing Social Tables for French Africa

Social tables – i.e., tables in which the population of a given country or society is divided into more or less homogenous groups or "classes", and information about the size (number of individuals or households) and the average income is provided – are a fairly popular method in studies of economic inequality, especially when more detailed information about the actual distributions is missing. The first known example is Gregory King's *A scheme of the income, and expence, of the several families of England; calculated for the year 1688* (see an analysis in Lindert and Williamson 1983), but many more recent social tables have also been produced. Milanovic, Lindert and Williamson (2011), for example, made an extensive use of this methodology in their seminal article on inequality extraction[6] and more recently, social tables have become a popular tool in the study of long-term inequality trends in preindustrial Asian societies, mainly due to their high comparability and relative ease of construction (see for example Saito 2010; 2015). Social tables have also been elaborated to study inequality in a few British colonies in Sub-Saharan Africa, such as Kenya (Bigsten 1987) and Botswana (Bolt and Hillbom 2016).

In the following paragraphs, we detail the archival sources we used to build our social tables for French Sub-Saharan colonies, as well as the actual methods we used to estimate the needed variables for different components of the colonial societies.

Data

To reconstruct income distributions, we use information from several editions of the *Annuaire Statistique de l'Afrique Occidentale* (1949; 1955), the *Annuaire Statistique de l'Afrique Equatoriale* (1955a), and the *Annuaire Statistique de l'Oubangi-Shari* (1955b). These yearbooks were published by the Service de la Statistique Générale of the two federations, West and Equatorial French Africa, and include a wealth of information on climate, population, production (agriculture, livestock, fisheries, forest, industries, and mines), transport, imports and exports, prices and wages, and public finance.

Overall, the yearbooks are the expression of the efforts that the colonial governments made since the 1930s to provide a detailed picture of the economic and social situation of the colonies. The first

[6] This line of study on social tables has also been recently renewed by Milanovic (2016).

volume of the *Annuaire Statistique de l'Afrique Occidentale* was published in 1936 and covered the years 1933-34. Two other volumes were published in 1937 and 1939, by the Service de la Statistique Générale de la France and the Ministry of Colonies. After the establishment of the Service Colonial de Statistique in 1943, local statistical offices were created in most territories. In 1945, the first statistical office of French West Africa was established in Dakar. This institution undertook the enormous task of gathering and standardizing all the reports and statistical documents which had been produced by each territory. The main fruits of these efforts were three new volumes of *Annuaire Statistiques*, published in 1950 (covering 1939-49), in 1955 (covering 1950-54), and in 1957 (covering 1955-56). Around the same time, also French Equatorial Africa published two statistical yearbooks, one covering 1936-50 and the other 1951-55.

By using information in these *Annuaires Statistiques*, we construct social tables every five years from 1939 to 1954 for Ivory Coast and Senegal. For Ubangi-Shari, we construct a social table for 1953. In total, nine different social tables are elaborated to evaluate income inequality in French Africa.[7]

Social classes

To reconstruct income distributions, we divide the population of each colony into an active and an inactive class (children, elderly, and unemployed). The active class is then subsequently divided between farmers and wage workers. In addition, we are able to further divide wage earners according to their occupation: heads of firms and colonial administrators, employees, skilled workers, and unskilled workers. Each subclass can be composed of either Africans or Europeans.

The first subcategory includes European governors and high-level administrators of the colonies, African chiefs, and heads of firms and plantation owners. Employees include administrative staff, public and private sector employees in agriculture, forestry, mining, industry, transport, public works, and commerce. Skilled workers include army, police, and technical and qualified workers in both public and private sector. Unskilled workers are laborers and apprentices. In total, the social tables include nine different classes of workers and two inactive classes[8]. Notice that the inactive component of the population is attributed zero income. This is because our social tables proxy

[7] Our social tables focus on labor income inequality. Capital and land rents are impossible to measure given the available information and are not included in the analysis.

[8] There are nine and not ten active social classes because there are no Europeans working as unskilled laborers.

personal, not household distribution, which means that inactive people belong to households which include one or more wage earners. This methodological assumption is common in studies of personal income inequality (see for example Hoeller et al. 2014, p. 16).

Wage workers

Colonial publications report the total numbers of Africans and Europeans living in the colonies. Data come from 1936, 1945, 1948, and 1955. To construct social tables every five years from 1939 to 1954, we estimate population figures by linear interpolation. We identify the active population by subtracting children (less than 15 years old), elderly, and unemployed from the total population of both Africans and Europeans in each year. In 1951, the European inactive population is reported to be 41% of the total number of Europeans in Senegal, 42% in Ubangi-Shari, and 54% in Ivory Coast. We use the same ratios to estimate the European inactive population in the other years. Similarly, we assume 50% of the total African population to be active.

To estimate the size of the wage-earner classes, we start with data from 1954. Colonial publications report the number of Senegalese wage workers in the private sector for each of the four sub-classes in 1954. To include public sector workers, we increase each category by applying, for Europeans and Africans separately, the average proportion of public vs. private sector workers in the entire French West Africa. For Ivory Coast, we do not have direct information on the number of workers in each category and we estimate them by applying the proportion of French West Africa to the total number of African and European workers in Ivory Coast. To estimate the number of workers in each category in 1939, 1944, and 1949, we compute the proportion of each category with respect to the total population in each colony and ethnic group in 1954 and apply them to total population figures in the other years. For Ubangi-Shari, we have direct information on the number of workers for all categories, except heads of firms/administrators and European employees. We compute them by applying the proportion of workers in this category in the whole of Equatorial Africa to the total number of workers in Ubangi-Shari.

Colonial publications also report the average salary of each wage earner category. We transform all hourly or daily wages into monthly wages, by using information from the *Annuaires Statistiques* indicating a 40-hour / 5-day work-week after 1953 and a 48-hour / 6-day work-week before then.[9]

[9] These assumptions are similar to those used in Frankema and Van Vaijenburg (2012)'s analysis of real wages in British Africa (25-26 working days per month and 48-54 hours per week with a six-day week).

In case of missing data, we proceed in the following way. If available, we use ratios of wages in other French colonies, keeping the year and ethnicity constant. The reason for doing so is that we want to correctly compare the level of inequality across years and ethnicities, before comparing it across colonies. For example, to estimate the wage of African employees in Senegal in 1939, we compute the ratio of the employees' wage vs. skilled workers' wage in Ivory Coast in 1939 and multiply it by the wage of Senegalese skilled workers in the same year. Alternatively, we use information from the same colony and year, but different ethnic group. For example, the wages of African heads of firms are computed by applying the wage ratio of heads of firms vs. employees and skilled workers among Europeans to the wage of African employees and skilled workers in each colony and year. Overall, we estimate in this way 21 out of 56 cases (2 colonies x 7 ethnic group/job category x 4 years). For Ubangi-Shari, in some cases (5 out of 10) we use average wages from Equatorial Africa.

Farmers

We estimate the number of farmers as the difference between the active population and the total number of wage workers. Farmers derive their income from agricultural production and livestock. Colonial statistics report total production for the main agricultural commodities (12 different crops in Senegal, 12 in Ubangi-Shari, and 23 in Ivory Coast). Each crop could be produced for local consumption (food crop), destined for export (cash crop), or both. However, sometimes only commercialized production is recorded. To take into account the entire production, we increase by 1/3 food-cash crops for which only the commercialized part is reported and we increase by 100 times food crops for which only the commercialized part is reported.[10] In some cases, specific commodities are not reported in every year. To estimate missing data, we construct an index of the variation of the total agricultural production across years and apply it to the production of that commodity in the closest year for which we have information. Total livestock production is computed from slaughterhouse data, which report the total number of heads of cattle which are slaughtered. For each category of animals (cows, pigs, goats), we take the average weight and the proportion of the edible part to compute the amount of meat which is produced. Total fish production is also included.

[10] We derive these estimates from a few cases in which we have both the production for consumption and the production for export.

Agricultural total income is then computed by multiplying the total production of each item by its price in Dakar, Abidjan, or Bangui. The reason why agricultural production is evaluated at urban instead of at farm-gate prices is to be able to compare the income of farmers to that of urban wage workers. Missing prices for some commodities/years are estimated by applying an index of general price variation to years for which we have information. Finally, per capita income is computed by dividing the sum of the values of all production by the total number of farmers. To evaluate per capita income for African and European farmers separately, we divide the total value of production proportionally to their wage. For example, we assume that if European wages are 5 times those of Africans, also European farmers will earn 5 times more than African farmers.

4. Results

Tables 2 to 10 show our social tables. Before discussing income distribution, let us point out some basic descriptive statistics. The French colonies were characterized by small populations: about 3 million people in Ivory Coast, 2 million in Senegal, and 1 million in Ubangi-Shari. Almost 90% of the population was composed of farmers. Europeans accounted only for a small minority, reaching at most 2% of the total population in Senegal (less than 1% elsewhere).

In all of the three colonies, over 25% of European workers were employed in the top category as colonial administrators or heads of firms, compared to only 0.1-0.2% of African workers. The vast majority of Africans (95% of all workers) was either a farmer or employed as an unskilled worker. Looking at income differentials, the wage of the top category was about twice that of skilled workers in Senegal and Ivory Coast, and about thrice in Ubangi-Shari. In Senegal, farmers received an income which was about 30% of the skilled worker wage, while in Ivory Coast they became relatively richer in time. In 1939 they, too, received 30% of the skilled worker wage, but by the late 1940s they had matched it. The skill premium varied: the wage of unskilled workers was about 30% to 60% of the skilled wage.

Table 2. Income distribution in Senegal, 1939

	number of people	**monthly income**	**share workers**	**share income**
Africans	1,817,049			
wage workers				
directors/administrators	1,563	1,068	0.17%	0.60%
employees	10,299	875	1.12%	3.25%
skilled workers	40,437	505	4.41%	7.36%
unskilled workers	50,549	192	5.52%	3.50%
farmers	805,676	202	87.94%	58.59%
inactive/unemployed	545,115	-		
children	363,410	-		
Europeans	16,546			
wage workers				
directors/administrators	2,016	15,182	0.22%	11.02%
employees	2,535	12,439	0.28%	11.36%
skilled workers	751	7,184	0.08%	1.94%
farmers	2,310	2,870	0.25%	2.39%
inactive/unemployed	5,460	-		
children	3,475	-		
TOTAL	1,833,595			
TOTAL ACTIVE	916,135			

Income is in CFA francs.

Table 3. Income distribution in Senegal, 1944

	number of people	**monthly income**	**share workers**	**share income**
Africans	1,879,508			
wage workers				
directors/administrators	1,617	1,752	0.17%	0.35%
employees	10,653	1,260	1.12%	1.64%
skilled workers	41,827	994	4.40%	5.08%
unskilled workers	52,287	326	5.50%	2.09%
farmers	833,371	712	87.73%	72.49%
inactive/unemployed	563,852	-		
children	375,902	-		
Europeans	22,008			
wage workers				
directors/administrators	2,681	21,590	0.28%	7.07%
employees	3,371	15,890	0.35%	6.55%
skilled workers	998	11,875	0.11%	1.45%
farmers	3,073	8,751	0.32%	3.29%
inactive/unemployed	7,263	-		
children	4,622	-		
TOTAL	1,901,516			
TOTAL ACTIVE	949,878			

Income is in CFA francs.

Table 4. Income distribution in Senegal, 1949

	number of people	**monthly income**	**share workers**	**share income**
Africans	1,995,395			
wage workers				
directors/administrators	1,717	10,413	0.17%	0.65%
employees	11,310	7,039	1.12%	2.88%
skilled workers	44,406	5,961	4.39%	9.57%
unskilled workers	55,510	3,037	5.49%	6.10%
farmers	884,755	2,093	87.49%	66.95%
inactive/unemployed	598,619	-		
children	399,079	-		
Europeans	29,462			
wage workers				
directors/administrators	3,589	46,550	0.35%	6.04%
employees	4,513	31,467	0.45%	5.14%
skilled workers	1,336	26,649	0.13%	1.29%
farmers	4,114	9,355	0.41%	1.39%
inactive/unemployed	9,722	-		
children	6,187	-		
TOTAL	2,024,857			
TOTAL ACTIVE	1,011,250			

Income is in CFA francs.

Table 5. Income distribution in Senegal, 1954

	number of people	**monthly income**	**share workers**	**share income**
Africans	2,150,066			
wage workers				
directors/administrators	*1,850*	*13,696*	*0.17%*	*0.68%*
employees	*12,187*	*9,625*	*1.11%*	*3.14%*
skilled workers	*47,848*	*7,510*	*4.38%*	*9.63%*
unskilled workers	*59,813*	*3,856*	*5.47%*	*6.18%*
farmers	953,335	2,408	87.22%	61.52%
inactive/unemployed	645,020	-		
children	430,013	-		
Europeans	39,077			
wage workers				
directors/administrators	*4,760*	*64,500*	*0.44%*	*8.23%*
employees	*5,986*	*45,327*	*0.55%*	*7.27%*
skilled workers	*1,773*	*35,369*	*0.16%*	*1.68%*
farmers	5,456	11,338	0.50%	1.66%
inactive/unemployed	12,895	-		
children	8,206	-		
TOTAL	2,189,143			
TOTAL ACTIVE	1,093,008			

Income is in CFA francs.

Table 6. Income distribution in Ivory Coast, 1939

	number of people	**monthly income**	**share workers**	**share income**
Africans	3,913,859			
wage workers				
directors/administrators	4,277	823	0.22%	1.24%
employees	33,353	610	1.70%	7.19%
skilled workers	69,117	369	3.53%	9.02%
unskilled workers	123,995	117	6.33%	5.13%
farmers	1,726,188	117	88.09%	71.26%
inactive/unemployed	1,174,158			
children	782,772			
Europeans	4,506			
wage workers				
directors/administrators	699	11,697	0.04%	2.89%
employees	706	8,674	0.04%	2.16%
skilled workers	300	5,250	0.02%	0.56%
farmers	954	1,661	0.05%	0.56%
inactive/unemployed	1,217			
children	631			
TOTAL	3,918,366			
TOTAL ACTIVE	1,959,588			

Income is in CFA francs.

Table 7. Income distribution in Ivory Coast, 1944

	number of people	**monthly income**	**share workers**	**share income**
Africans	4,027,310			
wage workers				
directors/administrators	*4,401*	*1,529*	*0.22%*	*0.68%*
employees	*34,319*	*995*	*1.70%*	*3.45%*
skilled workers	*71,121*	*744*	*3.53%*	*5.35%*
unskilled workers	*127,589*	*299*	*6.33%*	*3.86%*
farmers	1,776,225	458	88.06%	82.19%
inactive/unemployed	1,208,193			
children	805,462			
Europeans	5,812			
wage workers				
directors/administrators	*901*	*21,590*	*0.04%*	*1.97%*
employees	*910*	*14,050*	*0.05%*	*1.29%*
skilled workers	*387*	*10,500*	*0.02%*	*0.41%*
farmers	1,230	6,465	0.06%	0.80%
inactive/unemployed	1,569			
children	814			
TOTAL	4,033,122			
TOTAL ACTIVE	2,017,084			

Income is in CFA francs.

Table 8. Income distribution in Ivory Coast, 1949

	number of people	**monthly income**	**share workers**	**share income**
Africans	2,115,635			
wage workers				
directors/administrators	*2,312*	*9,458*	*0.22%*	*0.49%*
employees	*18,029*	*6,393*	*1.69%*	*2.58%*
skilled workers	*37,361*	*4,586*	*3.51%*	*3.84%*
unskilled workers	*67,025*	*1,958*	*6.30%*	*2.94%*
farmers	933,090	4,118	87.71%	86.04%
inactive/unemployed	634,691			
children	423,127			
Europeans	10,234			
wage workers				
directors/administrators	*1,587*	*46,550*	*0.15%*	*1.65%*
employees	*1,603*	*31,467*	*0.15%*	*1.13%*
skilled workers	*682*	*22,574*	*0.06%*	*0.34%*
farmers	2,166	20,270	0.20%	0.98%
inactive/unemployed	2,763			
children	1,433			
TOTAL	2,125,869			
TOTAL ACTIVE	1,063,856			

Income is in CFA francs.

Table 9. Income distribution in Ivory Coast, 1954

	number of people	**monthly income**	**share workers**	**share income**
Africans	2,411,773			
wage workers				
directors/administrators	*2,635*	*11,226*	*0.22%*	*0.36%*
employees	*20,552*	*8,301*	*1.69%*	*2.05%*
skilled workers	*42,591*	*6,398*	*3.51%*	*3.28%*
unskilled workers	*76,407*	*2,944*	*6.29%*	*2.71%*
farmers	1,063,700	6,795	87.63%	87.04%
inactive/unemployed	723,532			
children	482,355			
Europeans	13,444			
wage workers				
directors/administrators	*2,084*	*64,500*	*0.17%*	*1.62%*
employees	*2,106*	*47,694*	*0.17%*	*1.21%*
skilled workers	*896*	*36,762*	*0.07%*	*0.40%*
farmers	2,846	39,044	0.23%	1.34%
inactive/unemployed	3,630			
children	1,882			
TOTAL	2,425,217			
TOTAL ACTIVE	1,213,818			

Income is in CFA francs.

Table 10. Income distribution in Central African Republic, 1953

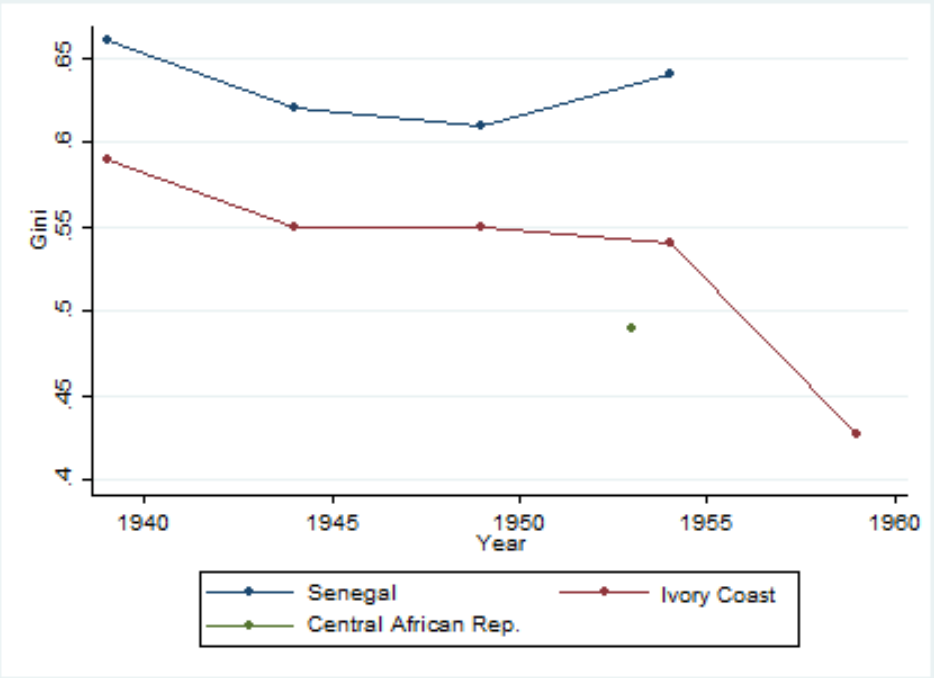
	number of people	monthly income	share workers	share income
Africans	1,089,000			
wage workers				
directors/administrators	*576*	*12,740*	*0.09%*	*0.48%*
employees	*8,348*	*5,502*	*1.25%*	*2.98%*
skilled workers	*12,123*	*4,280*	*1.82%*	*3.37%*
unskilled workers	*27,007*	*1,615*	*4.05%*	*2.83%*
farmers	*615,591*	*1,915*	*92.39%*	*76.47%*
inactive/children	*425,355*	-		
Europeans	4,930			
wage workers				
directors/administrators	*838*	*140,000*	*0.13%*	*7.61%*
employees	*1,010*	*57,500*	*0.15%*	*3.77%*
skilled workers	*728*	*50,000*	*0.11%*	*2.36%*
unskilled workers	*59*	*40,000*	*0.01%*	*0.15%*
inactive/children	2,296	-		
TOTAL	1,093,930			
TOTAL ACTIVE	666,279			

Income is in CFA francs.

Detailed information on income distribution provided by social tables can be used to produce measures of inequality. Figure 3 shows the trend in the Gini indexes for the colonies under analysis from 1939 to 1959. Senegal had the highest level of inequality, with a Gini index ranging from about 0.65 to 0.60.[11] Ivory Coast, on the other hand, shows Gini indexes from 0.60 to 0.45. Central African Republic instead had lower inequality with a Gini below 0.50 in the early 1950s. Considering that today's average world Gini is 0.38, it is clear that inequality in the colonial period was particularly high.

[11] The Gini index has been standardized to vary between values 0 and 1. A value of 0 corresponds to perfect equality, i.e. all individuals have the same income, while 1 corresponds to perfect inequality, i.e. one individual earns the entire national income.

Figure 3. Inequality Trends during Colonial Rule



We explore two possible explanations for this phenomenon. The first is that the high inequality depended on income differentials between the modern urban sectors of the society and the traditional rural sector. The second is that it depended on the much higher standards of living of European settlers with respect to those of the African majority.

Table 11 explores the rural-urban income gap. Overall, it was larger in Senegal and Ubangi-Shari than in Ivory Coast. In all colonies farmers accounted for about 90% of the working population and received 61 to 77% of income in Senegal and Ubangi-Shari, and 72 to 88% of income in Ivory Coast. Senegalese urban workers received about three times their proportional income share, while the share of income for wage workers in Ivory Coast was proportional to their population. In short, even though we observe an income gap between wage earners and farmers, this does not seem to be enough to account for the very high levels of inequality that we find in all colonies. Interestingly, this is generally true also for post-colonization societies, as suggested by a study of a group of Sub-Saharan African countries in the 1980s and early 1990s (Cogneau et al. 2007, pp. 27-28). This study includes Ivory Coast where in 1985-88, even though the income ratio of non-agricultural to agricultural households was 2.4, inequality between farmers and the rest accounted for no more than 15% of overall inequality (decomposition obtained by means of Theil index: see later).

Table 11. Inequality between Wage Workers and Farmers: the Share of Wage Workers

	share workers	share income	share income/ share workers
Senegal			
1939	11.8%	39.0%	3.3
1944	11.9%	24.2%	2.0
1949	12.1%	31.7%	2.6
1954	12.3%	36.8%	3.0
Ivory Coast			
1939	11.9%	28.2%	2.4
1944	11.9%	17.0%	1.4
1949	12.1%	13.0%	1.1
1954	12.1%	11.6%	1.0
Central African Rep.			
1953	8.0%	24.0%	3.0

Another possibility is that inequality was driven by the income differential between Africans and Europeans. Table 12 explores this hypothesis. In Ivory Coast, Europeans were between 0.1% and 0.7% of the working population and received between 4% and 6% of total income. In Senegal, inequality was even larger: despite accounting for only 0.8-1.6% of the working population, European settlers received from 14% to 27% of the total income. Considering the entire period, Europeans received from 7 to 45 times their proportional income share.

Table 12. Inequality between Europeans and Africans: the Share of Europeans

	share workers	share income	share income/ share workers
Senegal			
1939	0.83%	26.71%	32.2
1944	1.07%	18.36%	17.2
1949	1.34%	13.86%	10.3
1954	1.64%	18.84%	11.5
Ivory Coast			
1939	0.14%	6.17%	45.5
1944	0.17%	4.47%	26.3
1949	0.57%	4.11%	7.2
1954	0.65%	4.56%	7.0
Central African Rep.			
1953	0.40%	13.90%	34.8

One might wonder whether this huge income differential was due to the fact that Europeans were employed in more lucrative professions with respect to Africans. Indeed, over one fourth of Europeans worked as colonial administrators or head of firms, compared to just 0.1-0.2% of African workers. It is unclear whether this patterns depended on the difference in education and skills between Africans and Europeans or on the fact that the colonial economy offered better job opportunities to Europeans workers. However, even though it is true that the proportion of Europeans with high-paying jobs was higher than the proportion of Africans, wage gaps existed at all levels. Table 13 shows that within the same occupation, the wages of Europeans were between 5 and 14 times higher than those of Africans. Other sources from the secondary literature confirm this finding: Europeans received higher wages and benefits in both the private and the public sector (Berg 1957).

Table 13. Ratio of European vs African Wages

	1954	1949	1944	1939
Senegal	4.7	4.5	12.3	14.2
Ivory Coast	5.7	4.9	14.1	14.2
Central African Republic	11.0			

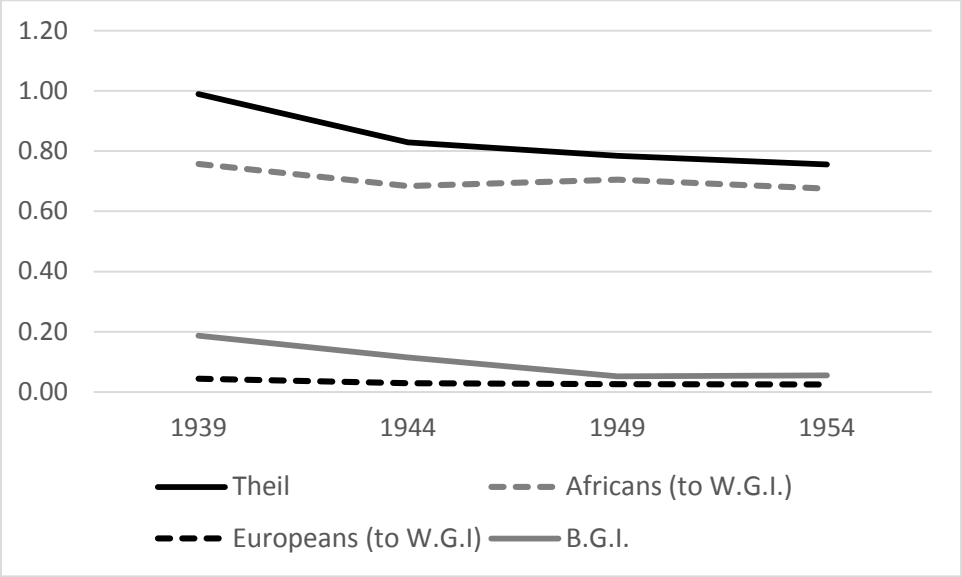
Reported ratios are the average of ratios of European and African wages within the same job category.

Europeans, however, were few and this somewhat limited the potential impact of African-European wage differentials on overall inequality levels. To explore this further, we made use of Theil indexes, which can be perfectly decomposed into "between" and "within" group inequality. Thus, they allow us to discover whether, for example, changes in inequality levels were shaped by changes in the ethnic composition of the colonies (as Europeans earned much larger wages, inequality is expected to increase/reduce in unison with their prevalence in the overall population), or by changes in inequality "within" each ethnic group.[12] In Figure 4, we charter the trends of the Theil indexes and of its components: B.G.I. (Between Group Inequality) and W.G.I. (Within Group Inequality). The latter is further subdivided into the contribution to W.G.I. of the Africans and the Europeans respectively. So for example, in 1939 Senegal a B.G.I. of 0.68 and a W.G.I. of 0.81 (0.56 due to inequality among the Africans, and 0.25 among the Europeans) added up to a Theil index of 1.49. By 1954 the composition of inequality had significantly changed, with a B.G.I. of just 0.29 and a W.G.I. stable at 0.81 (increased at 0.63 among Africans, declined to 0.18 among Europeans) adding up to a Theil of 1.1.

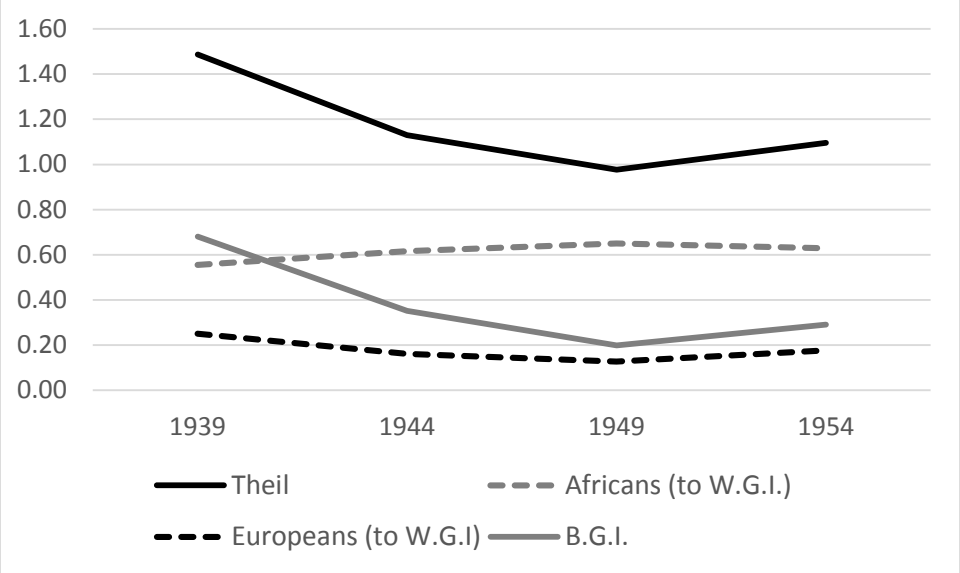
[12] For examples of the use of the Theil index to study inequality in past societies, see Alfani (2010) and Santiago-Caballero (2011). About the characteristics of the Theil index, see Shorrocks (1980; 1984).

Figure 4. Inequality Decomposition: Theil indexes

a. Ivory Coast



a. Senegal



Decomposing inequality highlights the fact that in both Senegal and Ivory Coast, the overall decline in inequality in the period 1939-54 was mostly due to a reduction in Between Group Inequality. This is the combined consequence of the reduction in the ratio of European to African wages (Table 13) and of the related reduction in the share of income absorbed by the Europeans, which counter-

balances a certain increase in their prevalence in the two colonies (Table 12). This process seems to connect with a progressive change in the nature of the European (mostly French) presence in the two colonies. Since the 1930s in fact, political movements in France and in the colonies had begun to demand better conditions for workers and after World War 2 the colonial governments tended to employ less extractive policies. One of the main results of this process was the abolition of forced labor all across French West Africa in 1946 (Cooper 1996; Fall 1993).

Figure 4, however, also reveals important differences in the dynamics affecting Senegal and Ivory Coast. In Senegal, a sharp reduction in Between Group Inequality counter-balanced some increase in inequality within the group of the Africans. Instead in Ivory Coast – where already by 1949, B.G.I. accounted for a very small part of the overall inequality – the trend was driven to a significant degree by inequality decline among the Africans. This provides a hint about the underlying causes of the processes which occurred in the following decades, as discussed in the next section.

5. Discussion: Inequality Extraction and Extractive Institutions

The significance of the time trends which we reconstructed for the period 1939-54 can be fully understood only if we place them into a broader perspective. This means not only assessing the potential impact of institutions on inequality levels as well as on inequality change in time, but also extending our time series to incorporate the most recent observations available.

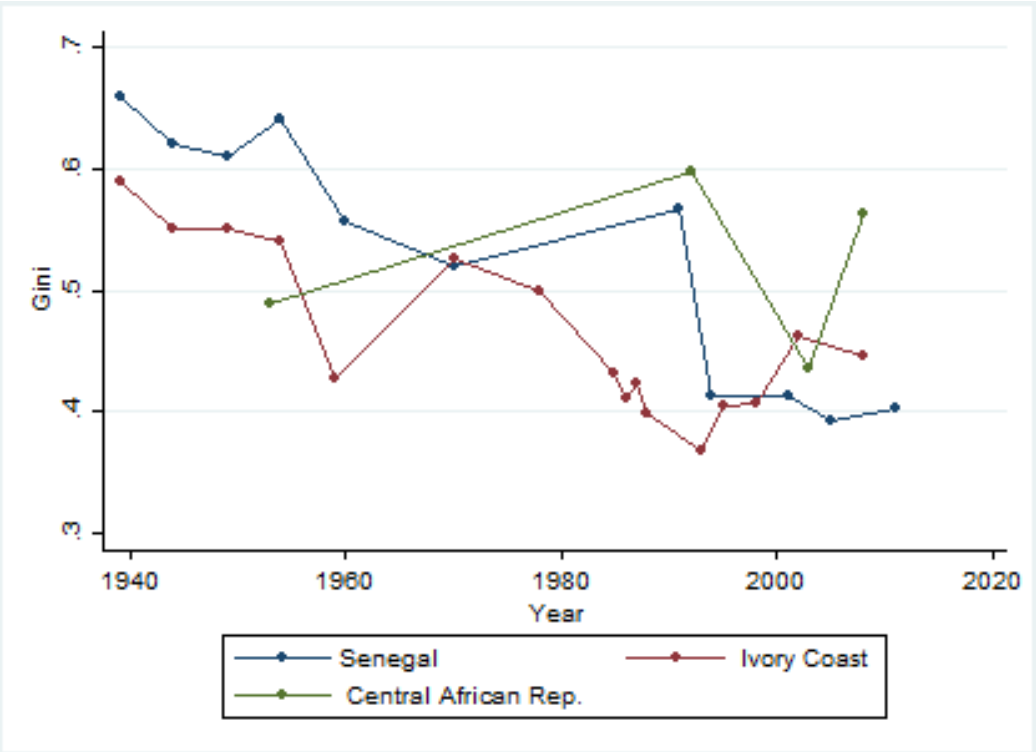
A Long-Term View on Inequality

In Figure 5, we piece together the Gini indexes computed from our social tables with those available in the post-independence period from the UNU-WIDER database (we consider only measures of personal income inequality).[13] The overall trend is an almost continuous reduction in the level of inequality from colonial times to today. The Gini index in Senegal decreased from 0.67 in the late 1930s to 0.39 in the late 2000s, while in Ivory Coast it diminished from 0.59 to 0.45. Central African

[13] UNU-WIDER, 'World Income Inequality Database (WIID3c)', September 2015, https://www.wider.unu.edu/project/wiid-world-income-inequality-database. When UNU-WIDER provides more than one observation per country and year, we use the mean. We dropped the observation for Senegal 1971 because it is not consistent with the series and particularly with the observation we have for 1970. Again for Senegal, for the period 1994-2008 we rely on Kireyev (2013), p. 9 instead of UNU-WIDER.

Republic seems to be an exception, but the limited amount of data on this country prevents us from reaching more definitive conclusions.

Figure 5. Inequality Trends during Colonial Rule and Post-Independence



A first and crucial question to answer is whether this reduction in inequality was a consequence of independence – which seems the logical consequence of what suggested by a large part of the literature, which argues that Europeans introduced extractive institutions in their African colonies. Considering that in our case studies, the high level of colonial inequality we measured for 1939 was mostly driven by the income differential between Europeans and Africans, this might seem a plausible hypothesis.

However, our data show that this is not the case. Inequality started to decrease even during the colonial period. All three colonies acquired independence in 1960. Between 1949 and 1959-60, the Gini index diminished from 0.67 to 0.56 in Senegal and from 0.59 to 0.43 in Ivory Coast. Interestingly, all of the reduction of inequality in Ivory Coast happened during colonial rule. In both colonies, income inequality between Africans and Europeans decreased from the 1930s. In 1939 the

share of income of European workers in Senegal was 32 times more than their proportional share, while in 1954 it was only 11 times. In Ivory Coast, this share was 45 times in 1939 and 7 times in 1954 (see Table 12).

As revealed by the decomposition of inequality we performed using the Theil index (see Figure 4), Between Group Inequality declined steadily in this early period. In 1939, it accounted for 45.8% of the overall inequality in Senegal and for 19% in Ivory Coast, but by 1954 its share had declined to 26.5% and 7.3% respectively. There are good reasons to think that, especially in Senegal where B.G.I. was still high in the 1950s, the process of convergence in wages between Africans and Europeans continued also in the following years, fueled by independence. Additionally, the prevalence of the population with European origins declined. In Senegal, the 39,077 Europeans were 1.8% of the total population in 1954. Today, the population with French origins is at most the same size (about 40,000, with some uncertainty) but this accounts for just 0.3% of an overall population which increased seven-fold from 1954, to 13.5 million. If in the pre-independence and immediately post-independence period the reduction of African-European wage differentials and demographic factors (quicker growth of African vs European population) shaped the trend in inequality change, in the later period it was affected almost exclusively by inequality change among the Africans.

It is important to underline this factor, which is not the sole result of the end of colonization. As a matter of fact, the original (pre-colonization) African society might have had relatively very high inequality levels – especially in areas, like the coasts of West Africa, where the native population was actively involved in the slave trade and seems to have had relatively hierarchical societies with a very uneven distribution of power and access to resources. Slavery was a common practice: some estimates report that in the nineteenth century slaves accounted for more than one third of the total population of West Africa (Lovejoy 2000). Private enterprise was often restricted by the State, e.g. in Asante (Wilks 1979) and Dahomey (Law 1977; Manning 2004), and the systems of land allocation based on chiefs generated inefficient ownership structures and limited the possibility of economic development (Goldstein and Udry 2008).[14] In other words, it is possible that African societies had a relatively marked extractive character, in terms of their ability to concentrate resources and redistribute them unequally. This is an aspect on which further research would be needed – after all, even for early modern Europe it has been argued that inequality growth was due to a significant degree to the development of "extractive" states that redistributed resources

[14] The above account of extractive institutions in precolonial Africa is based on James Robinson's lecture on "Why is Africa Poor?", given at the University of Groningen on April 8, 2013.

unequally (Alfani 2015; Alfani and Ryckbosch 2016). Consequently, at present we cannot be sure that pre-colonization African states were exceptionally extractive in absolute terms, although this seems to be a reasonable hypothesis.

Inequality and Extractive Institutions

Until now, we have used the word "extraction" when referring to institutions allowing to concentrate (more or less forcefully) resources in few hands and consequently, to increase inequality. Recently, however, the concept of "inequality extraction ratio" has been introduced, which aims to measure how much inequality is "extracted" in a society, relative to the maximum feasible inequality which can be derived by taking into account that everybody needs to receive subsistence (Milanovic 2006; Milanovic et al. 2011; Milanovic 2013). The maximum feasible inequality increases as a society becomes able to generate greater surplus (as reflected in per-capita GDP levels). Formally,

$$G^* = 1 - \frac{s}{m}$$

where G* is the maximum attainable Gini, m is the mean income in the economy, and *s* is the subsistence minimum. The inequality extraction ratio (IER) can then be expressed as the ratio between the actual measured Gini (G) and G*:

$$IER = \frac{G}{G^*}$$

While we might expect that the inequality extraction ratios change in unison with inequality levels (as measured by Gini indexes), this depends in fact on the relative movement of per-capita GDP (which can be used as an estimate of *m*) and inequality. As shown by recent applications to European history, we can have, for example, periods of economic decline coupled with inequality increase and a sharp rise of inequality extraction ratios, or trends in inequality change which are similar between countries but which correspond to dissimilar trends in inequality extraction ratios (Alfani 2015; Alfani and Ryckbosch 2016).

Sub-Saharan African countries tend to have the double record of being both the most unequal, and the most extractive (in terms of inequality extraction ratios) of contemporary societies.[15] Surely, the countries which today are characterized by exceptionally high inequality extraction ratios are concentrated in this area (see Milanovic et al. 2011, pp. 263-4). In Figure 6 we provide these measures for our three African states. As can be seen from Figure 6a, in Ivory Coast and in Senegal inequality extraction ratios declined in the post-independence period, but analogously to what we found when analyzing the trend in Gini levels, this process began before independence. In Senegal, the inequality extraction ratio was close to the frontier in 1939 (94.7%), but on the eve of independence (in 1959) it had declined by almost 25 percent points (70.3% in 1960) as the result of both a significant reduction of the Gini level (see above) and of an increase in per-capita GDP of about 40% from 1939 to 1960. In fact, per-capita GDP peaked immediately before independence (1,445 International 1990 GK$[16]) but declined in the second half of the twentieth century, so that inequality extraction ratios stagnated even in the presence of declining inequality. Only since the mid-1990s has the process of decline in inequality extraction resumed.

The case of Ivory Coast is only partially similar and is singled out in Figure 6b. Here, too, most of the reduction in inequality extraction occurred before independence (obtained in 1960), as in the period 1939-59 it declined from 92.5% to 57.2%. The overall trend was still oriented towards the development of a less extractive society in the following decades, with a minimum of 47.7% reached in 1993.[17] This was mostly due to a large decline in the Gini index (from 0.53 in 1970 to 0.37 in 1993), as per-capita GDP, which grew in the immediately post-independence decades peaking at 2,041 International 1990 GK$ in 1980, has been declining ever since (1,174 International 1990 GK$ in 2008). Since the mid-1990s, overall inequality as measured by the Gini index has been growing again (the Gini was 0.45 in 2008). So for about twenty years now, Ivory Coast has been experiencing the worst-possible scenario, of growing inequality with declining per-capita income, which has resulted in a quickly growing inequality extraction. By 2008, at 60.1%, it was even slightly higher than the immediately pre-independence level. A recent study of human development in Africa

[15] Sub-Saharan African countries also tend to have the lowest levels of human development in the world: see Prados de la Escosura 2013; 2015.

[16] All the measures of per-capita GDP used throughout the article (including for calculating inequality extraction ratios) come from The Maddison-Project, http://www.ggdc.net/maddison/maddison-project/home.htm, 2013 version (for details, see Bolt and Van Zanden 2014). For Senegal and Ivory Coast before 1950, we used Prados (2012) estimates of per-capita GDP in 1938 and hypothesized linear change during 1938-50.

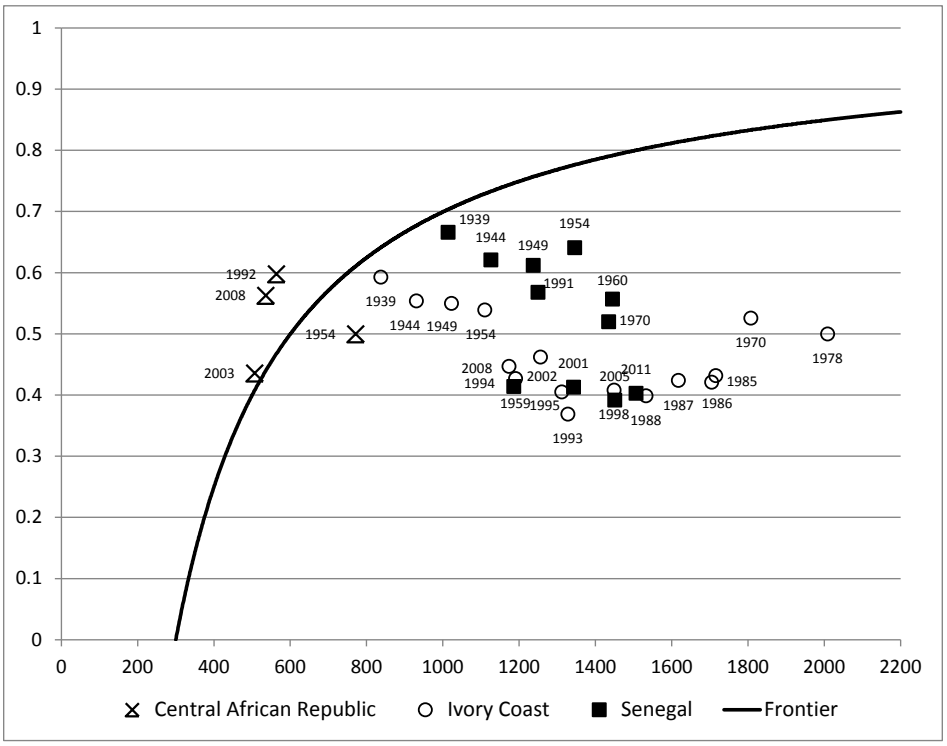
[17] The relatively favourable conditions of Ivory Coast in the early 1990s is confirmed by Cogneau and Mesplé-Somps' study of "inequality of opportunity for income" covering a sample of sub-Saharan African countries (Cogneau and Mesplé-Somps 2008). The data they use for Ivory Coast related to the period 1985-88.

confirms this unfortunate halt in the process of social and economic development in Ivory Coast (Prados de la Escosura 2013).

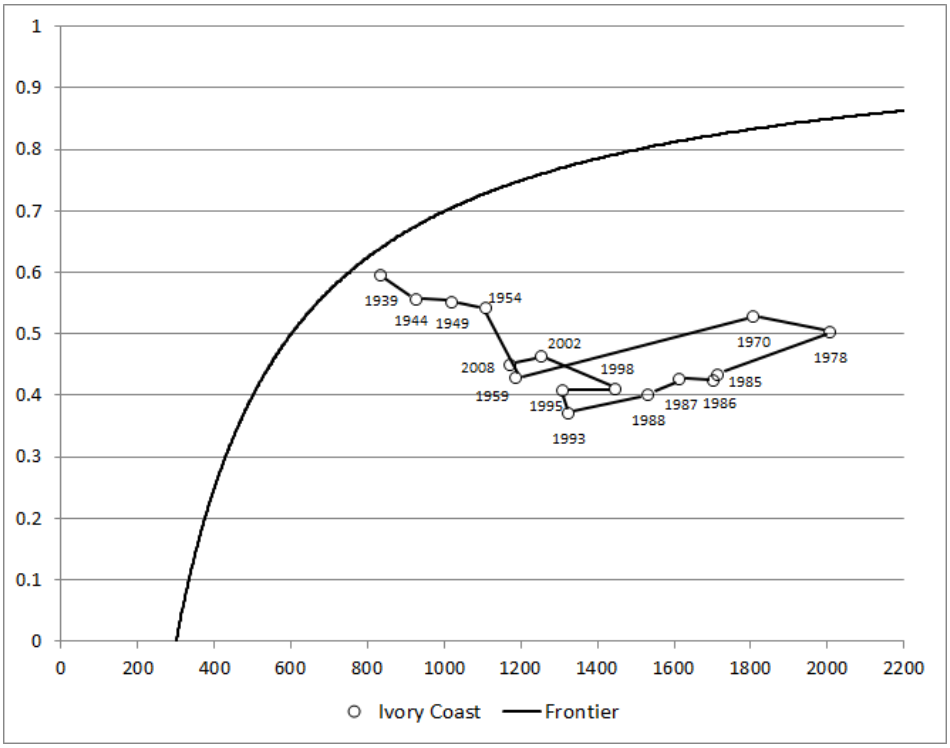
It would seem plausible to attribute this growth in inequality extraction to the phase of political instability triggered by General Robert Guéï's coup d'état in 1999 and by the two civil wars which ravaged the country during 2002-07 and 2010-11. Recently, Milanovic (2013, pp. 20-3) has argued that a high inequality extraction ratio is a good predictor of civil war, as it "conveys the information about the relative «rapaciousness» of the elite and combines in its formulation two aspects that are often found important for the explanation of civil conflict: the average level of development of a country (its GDP per capita) and its income distribution" (p. 20). However, the story of Ivory Coast does not fit this trend, as there inequality and inequality extraction had been declining, and per-capita GDP growing, before the beginning of the civil war. Additionally, its pre-civil war inequality extraction ratio was lower than both the mean and the median characterizing countries with civil conflict (that Milanovic estimates at 50.6% and 48.1% respectively). On the contrary, it was civil war itself that inverted the positive tendencies in growth and distribution of GDP that began in colonial times.

Figure 6. Inequality Extraction Ratios

a. Ivory Coast, Senegal and Central African Republic compared



b. The path of Ivory Coast



At least in the two ex-colonies of Ivory Coast and Senegal, it seems that the economic growth which occurred in the late period of colonial rule was coupled with processes of distribution of the growing income which resulted in an altogether less extractive society. We do not know whether the same happened in the Central African Republic as we have no observations before 1953. What is clear, though, is that this very poor country (one of the poorest in the world, with a per-capita GDP of just 536 International 1990 GK$ in 2008, i.e. less than half that of Ivory Coast and little over one-third that of Senegal around the same year) experienced a quick growth in extraction ratios after independence. From a level of 81.8% in 1953, extraction ratios peaked at 127.8% in 1992 and were still at about the same exceedingly high level in 2008. These levels are among the highest recorded for a contemporary society (Milanovic et al. 2011, p. 264 report an inequality extraction ratio of 123.1% in Congo in 2004). Over-the-frontier extraction ratios are indicative of a very difficult situation, in which a society experiences extreme levels of concentration of the surplus being produced – a small surplus, in this case - , and where the subsistence minimum might not be assured to everybody. In fact, the Central African Republic is today the country of the world with the highest prevalence of chronic malnutrition, and with one of the lowest levels of human development (Prados de la Escosura 2013). It is also a country which, post-independence, was plagued by political unrest, violent overthrowing of governments, and civil war. Differently from Ivory Coast, this seems to be associated with growing inequality extraction ratios after independence – although as we lack information for the period 1954-92, the direction of causality is unclear. What is sure, is that the older inequality extraction ratio we measured (for 1953) was unexceptional in the context of sub-Saharan Africa.

The very high inequality extraction ratios characterizing Ivory Coast and Senegal in the late 1930s (90.81% and 93.7% respectively in 1939) were similar to those characterizing European societies immediately before the onset of the Industrial Revolution. For example, in 1750 the Florentine State and the Sabaudian State in Italy had an inequality extraction ratio of 98% and 91% respectively, while the southern Low Countries (nowadays Belgium) had 87% (Alfani and Ryckbosch 2016, p. 4). In these areas, however, inequality extraction ratios had been growing during the early modern period (in the Sabaudian State for example, the inequality extraction ratio was “just” 75% ca. 1500) so that we need to be careful against assuming that the levels of inequality extraction ratios characterizing sub-Saharan countries in the first half of the twentieth century were “normal” for a preindustrial society. On this issue, more research is surely needed.

Comparing French Africa to Other Colonies

In the literature on Africa, differences in development paths are often attributed to the identity of the colonial power. It has been argued that the British, more aware of the disadvantages of excessive exploitation of the colonies, implemented less extractive institutions, while the French made larger use of trade monopolies and forced labor practices (Brett 1973; Duignan and Gahan 1975). These policies were particularly effective in extracting wealth from the African populations: for example, Tadei (2015) finds that thanks to trade monopsonies and labor coercion, the French colonizers were able to pay African agricultural producers prices much below world market prices.

In addition to the identity of the colonizer, another important determinant of institutions established by the colonial power was the type of colonies. Austin (2010) highlights in particular the distinction between *settler* and *peasant* colonies. In the first type of territories, Europeans settled in large numbers, expropriated land and employed African man-power in European-owned plantations. In the second type of colonies instead, European presence was much more limited: the land remained mostly in African hands and the colonizers focused on trade with the African populations.

Can differences in the type of colony or the identity of colonial power help to interpret our previous findings on inequality and extraction? Given that our analysis suggested that the income differential between Europeans and Africans was a major determinant of inequality, it is plausible that the distinctions between peasant and settler colonies or between more-extractive French and less-extractive British have some explanatory power. To give a preliminary answer to this question, we compare French Africa with other African colonies. Figure 7 shows the evolution of inequality since colonial times in our two French territories (Ivory Coast and Senegal) and in two British colonies for which we have information (Kenya and Botswana).[18] The comparison with Kenya is particularly interesting as it was one of the main examples of settler colonies in Africa, while Senegal, Ivory Coast, and Botswana were peasant colonies.

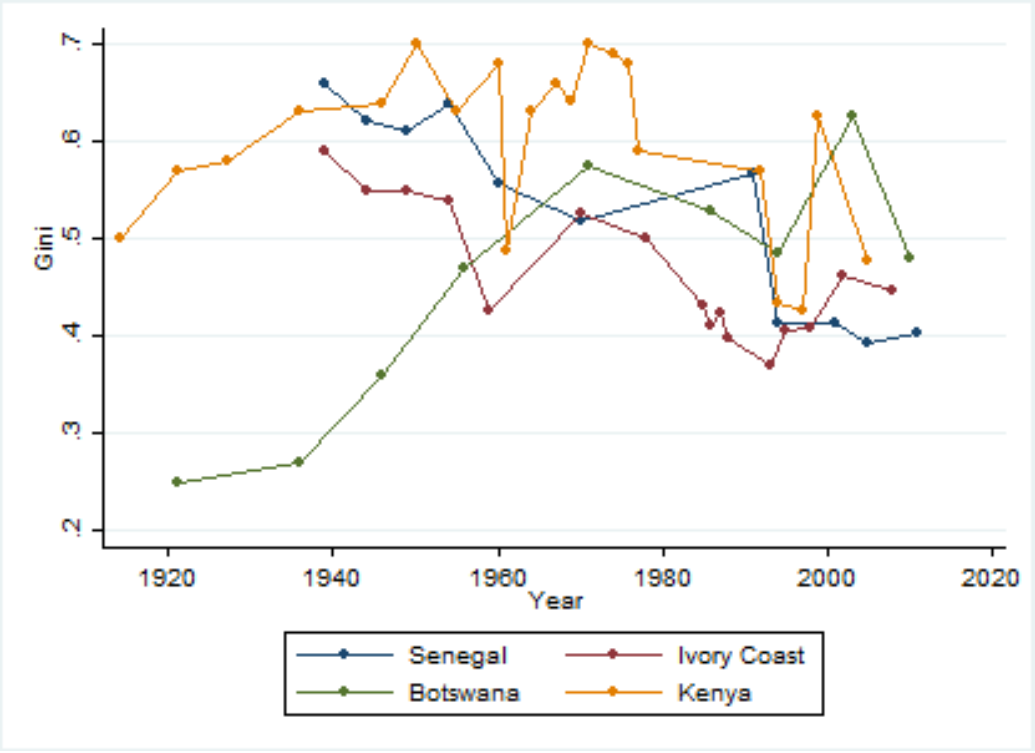
At the beginning of the period, Senegal and Kenya had high and similar levels of inequality, while income distributions in Ivory Coast and in particular Botswana were more egalitarian. Nevertheless, these colonies experienced different trends. In Senegal and Ivory Coast, inequality decreased even during the colonial period. In Kenya, it tended to increase, stabilizing at high levels from the 1940s

[18] We use Gini from UN-Wider (2015) for Kenya and for Botswana post-1960. For Botswana, in 1921, 1936, 1946, 1956, we use Ginis published in Bolt and Hillbom (2016), p. 1283.

to the 1960s, and started to decrease only after independence in the 1970s. In Botswana inequality increased both in the pre- and post-colonial period. For Kenya, Milanovic et al. (2011, pp. 263-4) calculated an inequality extraction ratio of 100% in 1927, which declined to 57.2% by 1998. The initial level, as well as the overall decline in inequality extraction during the second half of the twentieth century, is very similar to those of Senegal which moved from 93.7% to 53.2% between 1939 and 2001.

The classic distinction between peasant and settler colonies seems thus to have only limited explanatory power: if it is able to account for the persistence of high inequality in Kenya, a settler colony, it is not able to account for the similar levels of inequality extraction ratios in Kenya and Senegal, a peasant colony. The identity of the colonial power can explain even less as for example, within the same colonial empire, Kenya and Botswana follow different paths. Overall, this analysis highlights the complexity of inequality patterns in colonial Africa. Kenya, a British settler colony in East Africa, followed a pattern not too dissimilar from Senegal, a French peasant colony in West Africa. If we want to understand inequality in colonial Africa, we need to look at more complex frameworks than those based on the identity of the colonizer or the type of the colonies (peasant or settler colony).

Figure 7. Comparing with Other Colonies



6. Conclusions

Income inequality in Africa is today very high. In this paper, we study whether this can be traced back to the colonial period. The main problem in answering this question is that information on inequality during colonial rule is extremely limited. To contribute to filling this gap, we reconstruct income distribution for a sample of French colonies between the 1930s and the 1950s by using the method of social tables and new data collected from colonial reports. We find that income inequality was very high in the colonial period and that this was driven mostly by the huge income differential between Africans and European settlers. Nevertheless, inequality tended to decrease over time and this reduction started even before independence. By using Theil indexes to identify the single components of inequality, we show that the first phase of inequality reduction was the consequence both of changes in the social-economic structures of the colonies, reflected in a progressive reduction in the African-European wage differentials, and of demographic forces. The prevalence of Europeans tended to decline as the growth rates of the African population started to increase – beginning, again, before independence.

To better understand the significance of our findings, we placed them into a broader picture, both chronologically (extending our analysis of inequality changes to the post-colonial period) and geographically (comparing our French colonies with the British colonies in Africa for which information about inequality in colonial times is available). The use of the recently-introduced concept of the "inequality extraction ratio" allowed us to go deeper and to unearth differences in the paths followed by each colony which would have been hard to notice, had we relied solely on more traditional measures of inequality. Our overall conclusion, is that to fully understand inequality in colonial Africa, as well as the post-colonial developments, we need to apply complex analytical frameworks – as colonies belonging to the same broad categories well established in the literature (for ex., British vs French colony; peasant vs settler colony) might still have followed very different paths.

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