

FINANCING THE AFRICAN COLONIAL STATE: THE REVENUE IMPERATIVE AND FORCED LABOR*

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Abstract

Recent studies on colonial public finance have pointed to the severe constraints to fiscal capacity building Sub-Saharan Africa, and to the inclination of colonial governments to avoid direct taxes when revenue from trade became sufficiently available. Although fiscal revenue was indeed a central pillar of the colonial state formation process, contributions from a widely used but *implied* source of government ‘income’ – that of forced labor (or ‘labor taxes’) – have so far been left out of the picture. Exploiting data on labor *corvée* schemes in French Africa between 1913-1937 (the *prestations*), this is the first paper to provide estimates of how much this in-kind form of revenue may have enhanced colonial budgets. I show that in most places labor taxes constituted the most important component of early colonial state income. My results imply that studies on historical fiscal capacity building efforts need to make a greater effort to estimate and integrate this significant source of state income into their analysis.

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“The heart of the revenue dilemma boiled down to converting the labor – the sole extractable resource – of state subjects into the ways and means of meeting state subsistence needs.”

(Crawford Young, *The African Colonial State in Comparative Perspective*, p. 126)

1. Introduction

In February 2014, France’s Representative Council of Black Associations (CRAN) urged the French state to pay reparations for ‘crimes against humanity’ that had been committed during the construction of the Congo-Ocean railway between 1922 and 1934.¹ The 311 miles long railroad, which connected the Atlantic coast at Pointe-Noire to the navigable parts of the Congo River at Brazzaville, had primarily been built with forced African labor. At the time, the French considered the route indispensable for the development of Equatorial Africa, as it would not only further open up the commercial potential of the region’s interior wood and rubber basins, but also end French dependence on the only alternative line in the neighboring Belgian Congo.²

Although reliance on forced labor for public works projects was common practice in colonial Africa, the Congo-Ocean line gained especial notoriety for its harsh working conditions and excessive mortality rates.³ The geographic environment of Central Africa posed serious challenges to the railway’s construction, as it was to cut through various climatic and ecological zones, ranging from swamps to dense forests to high elevations. This not only exposed workers to extreme temperatures, disease, and the dangers of falling rocks and mudslides, but it also meant that the construction process was labor-intensive and physically demanding.⁴ Until the early 1930s though, only few provisions were made for adequate nourishment to replenish workers’ physical strength after such strenuous labor, or for medical facilities to treat those that got injured or fell ill. It has been estimated that of the approximately 127,000 recruited workers, more than 14,000 lost their lives; the main reason CRAN seeks compensation eighty years later.⁵

¹ *Le Monde*, 25 February 2014, http://www.lemonde.fr/societe/article/2014/02/25/le-cran-poursuit-l-etat-pour-crime-contre-l-humanite_4373170_3224.html

² P. Manning, *Francophone Sub-Saharan Africa, 1880–1985* (Cambridge, 1988), 30.

³ G. Sautter, ‘Notes sur la construction du chemin de fer Congo-Océan’, *Cahiers d’Études Africaines*, 26:7 (1967): 219-299; R. Austen, *African Economic History* (London, 1987); Manning, *Francophone*, 31

⁴ M. Azevedo, ‘The Human Price of Development: The Brazzaville Railroad and the Sara of Chad’, *African Studies Review* 24:1 (1981): 1-19.

⁵ G. Sautter, ‘Notes’, 269-270.

Historians have long interpreted the use of forced labor as a response to the severe challenges of colonial rule in Africa; challenges that were at least partly rooted in the continent's specific factor endowments. In contrast with large parts of Asia, Sub-Saharan Africa had remained only sparsely populated, and labor, rather than land, was the scarce production factor.⁶ Endemic labor scarcity posed at least two labor-market related problems for the colonial state: not only did it make it difficult to accommodate a rapidly rising demand for African wage workers, scarcity also translated into a comparatively high price for labor.⁷ Nearly all colonial governments responded to these challenges by introducing coercive labor market institutions, such as land alienation programs, labor recruitment, and vagrancy laws, as to both enhance the supply of African labor and reduce its free market price.⁸

A generally well recognized, but little systematically researched channel through which labor coercion was to enhance the process of colonial state building, is that of its implied fiscal significance.⁹ Faced with near-insurmountable barriers to build revenue-raising capacity, practically all African colonial states used labor taxes and other forms of labor coercion to indirectly augment their small budgets. Although recent studies on colonial public finance have substantially enhanced our understanding of the patterns and logic that underpinned African colonial tax systems¹⁰, the role of forced labor has yet to

⁶ A. Hopkins, *An Economic History of West Africa* (New York, 1973); G. Austin, *Labour, Land and Capital in Ghana: From Slavery to Free Labour in Asante, 1807–1956* (New York: 2005); J. Herbst, *States and Power in Africa. Comparative Lessons in Authority and Control* (Princeton, 2000).

⁷ E. Frankema and M. Van Waijenburg, 'Structural Impediments to African Growth? New Evidence from Real Wages in British Africa, 1880-1965', *Journal of Economic History*, 72:4 (2012): 895-926.

⁸ P. Mosley, *The Settler Economies: Studies in the Economic History of Kenya and Southern Rhodesia, 1900-1963* (Cambridge, 1983); S. Bowden, B. Chiripanhura, and P. Mosley, 'Measuring and Explaining Poverty in Six African Countries: A Long-Period Approach', *Journal of International Development* 20:8 (2008): 1049–79; Frankema and van Waijenburg, 'Structural Impediments', 913-921.

⁹ Young explicitly addresses this issue in his seminal work on the African colonial state, but provides no estimates. See: Young, *African Colonial State*, especially p. 173-174.

¹⁰ E. Frankema, 'Raising Revenue in the British Empire, 1870-1940: How 'Extractive' Were Colonial Taxes?', *Journal of Global History* 5:3 (2010): 447-77, and 'Colonial Taxation and Government Spending in British Africa, 1880–1940: Maximizing Revenue or Minimizing Effort?', *Explorations in Economic History* 48:1 (2011); E. Frankema and M. van Waijenburg, 'Metropolitan Blueprints of Colonial Taxation? Lessons from Fiscal Capacity Building in British and French Africa, c. 1880-1940', *Journal of African History* 55:3 (2014): 371-400; L. Gardner, *Taxing Colonial Africa: The Political Economy of British Imperialism* (Oxford: 2012); 'Fiscal policy in the Belgian Congo in comparative perspective', in E. Frankema and F. Buelens (eds.), *Colonial Exploitation and Economic Development: The Belgian Congo and the Netherlands Indies Compared* (London, 2013), 130-152 136-49; E. Huillery, 'History Matters: The Long-Term Impact of Colonial Public Investments in French West Africa,' *American Economic Journal-Applied Economics* 1:2 (2009), and 'The Black Man's Burden: The Cost of Colonization in French West

be integrated in such efforts.¹¹ The ability of colonial governments to develop revenue-raising capacity was one of the most important and challenging elements of the early African state formation process, and a better comprehension of *how* they achieved this is more than warranted.¹²

Compared to the *monetized* part of colonial governments' budgets, how large and how significant were the *in-kind* contributions from labor taxes? This paper is a first step towards obtaining a better sense of this. To deepen our knowledge of the fiscal capacity building strategies in colonial Africa and the relative importance of forced labor therein, I exploit a unique set of quantitative and qualitative sources on labor *corvée* schemes in 15 French African colonies between circa 1913-1937. To the best of my knowledge, this is the first attempt to provide estimates of how much such labor taxes might have augmented colonial budgets, and how these relative contributions developed over time.

My earliest estimates reveal that the implied additional income French colonial states derived from *corvée* labor in the earliest stages of their existence in most cases far exceeded the total revenue reported in colonial budgets. This finding suggests that labor taxes constituted a significant, if not *the* central component of early revenue-raising strategies in large parts of colonial Africa. My results imply that historical studies on fiscal capacity building efforts in developing economies may want to make a greater effort to estimate and integrate this significant source of state income into their analysis.

This paper is set up as follows. Section two presents the main types of forced labor that were practiced in colonial Africa, followed by a discussion of their regulation and gradual abolition under growing pressure of the International Labour Organization in section three. Section four estimates the implied fiscal contributions of one of the main

Africa', *Journal of Economic History* 74:1 (2014); T. Mkandawire, 'On Tax Efforts and Colonial Heritage in Africa,' *Journal of Development Studies* 46:10 (2011).

¹¹ For a first general discussion of this issue, see E. Frankema and M. van Waijenburg, 'Metropolitan Blueprints', pp. 390-392.

¹² Moreover, the relevance of such clearer insights gains depth against an ever-expanding discussion about the long-run institutional and economic 'legacies' of colonial rule. In fact, ongoing research is increasingly unpacking some of the long-term negative consequences of labor coercion in the Belgian Congo, and points to a hampering effect that lingers until today. S. Lowes and Eduardo Montero, 'Blood Rubber: The Effects of Labor Coercion on Development and Culture on the DRC' Working Paper. Earlier, Mamdani argued that the forced labor, one of the ways in which colonialism's 'decentralized despotism' would have manifested itself, had a long-term effect on the political incentive structure of African societies, leaving it with deeply ingrained corruption. Mahmood Mamdani, *Citizen and Subject. Contemporary Africa and the Legacy of Late Colonialism* (Princeton, N.J.: Princeton University Press, 1996).

types of forced labor – *corvée* – in the French African colonies, followed by a discussion of varying labor *corvée* pressure in section six. Section seven assesses the possible upward and downward biases of my estimates, and their implications for the overall argument. Section eight concludes.

2.Variants of forced labor

The paradoxical nature of the widespread reliance on involuntary labor is well recognized by historians. After all, part of European justification for the colonization of Africa had been to *abolish* slavery, the most extreme variant of ‘unfree labor’.¹³ Although there are of course a number of conceptual differences between slavery and forced labor, the mere fact that Europeans resorted to labor coercion contradicted the very principles of free labor they had come to underwrite. However, the great difficulties that colonial officials faced in creating the infrastructural basis needed for territorial expansion and solidifying hegemony, meant that such larger metropolitan ideals of colonial rule often came second to practical realities on the ground.¹⁴ Faced with a limited voluntary supply of African labor and insufficient fiscal means to alter such labor supply conditions, colonial states came to rely, both directly and indirectly, on unfree African manpower.¹⁵

Similar to tax collection, the recruitment of forced workers was mostly carried out by indigenous leaders, who were incentivized through various ‘carrots’ and ‘sticks’. In exchange for cooperation, chiefs received either a salary from the colonial government or a percentage share of the collected revenue. Failure to deliver the requested amount of taxes and workers, however, could result in penalties that ranged anywhere between steep fines and removal from power. Above all, colonial states needed chiefs’ authority and

¹³ Hopkins, *Economic History*, 25-6; F. Cooper, *Decolonization and African Society. The Labor Question in French and British Africa* (New York, 1996); C. Ash, ‘Forced Labor in Colonial West Africa’, *History Compass* 4:3 (2006), 402; B. Fall, *Social History in French West Africa: Forced Labor, Labor Market, Women and Politics* (Calcutta, 2002), 5.

¹⁴ Jeffrey Herbst makes a similar argument with respect to the inherent flexibility of colonial theories in the context of ‘direct’ and ‘indirect’ rule. See: Herbst, *States*, 82.

¹⁵ An alternative way to compensate for local labor shortages (other than coercing Africans) was of course to bring in labor from elsewhere, such as indentured Asian workers. Colonial governments did contemplate this, and relied to a certain extent on it, but they faced too great economic, climatic and social barriers to solving the ‘labor question’ this way. See: Anne Phillips, *The Enigma of Colonialism: British Policy in West Africa* (London: James Currey, 1989), pp. 37-39.

influence to compensate for their limited administrative capacity, but there were other advantages to doing so as well. For one, labor tributes to local chiefs often had deep pre-colonial roots, and provided colonial officials with opportunities to directly tap into such pre-existing systems.¹⁶ Additionally, by placing the primary responsibility for labor recruitment in a *local* context, colonial administrations were better able to exploit the nebulous distinction that still existed in many African societies between the concepts of ‘free labor’ and ‘slavery’.¹⁷

In the early phases of colonial rule and expansion, European administrators often turned a blind eye to domestic slavery, as not to jeopardize their more immediate and co-dependent objectives of establishing hegemony, raising revenue, and recruiting labor. For one, the ‘pacification’ of areas that had been secured in the carve-up of the continent, was in part achieved by not interfering too much with existing indigenous labor relations.¹⁸ In similar vein, the pressing need for a large supply of (cheap) labor left administrators few incentives to question the free status of the provided recruits; many of which were slaves. Martin Klein has estimated that, in the early 1900s, 30-40% of the population in Sénégal, 20-30% in the French Soudan (then *Haut-Sénégal-Niger*), and 50% in Guinée still had a slave status.¹⁹ Although colonial governments tried to hide this as much as possible from the critical eyes of anti-slavery activists, they widely ‘employed’ such slave recruits for head portage and the construction of public works projects.²⁰ Additionally, (fiscal) revenue was indirectly derived from slavery as well, as colonial states’ budgets consisted in part of trade duties on export crops that had been cultivated with slave labor.²¹ Such direct and indirect gains from slave labor were especially common in the earlier stages of colonization, but gradually disappeared in the course of the twentieth century.

¹⁶ P. Nayenga, ‘Commercial cotton growing in Busoga District, Uganda, 1905–1923’, *African Economic History*, 10 (1981), 175–95. Fall, *Social History*, 12.

¹⁷ *Ibid.*, 9.

¹⁸ Martin Klein, *Slavery and Colonial Rule in French West Africa* (Cambridge, 1998), Alienating chiefs over the question of slavery was frequently considered as politically too costly. Colonial officials showed frequent reluctance to enforce the free status of runaway slaves, which is indicative of their initially permissive stance vis-à-vis the persistence of domestic slave holding

¹⁹ *Ibid.*, appendix 1, pp. 252-256.

²⁰ Phillips, *Enigma of Colonialism*, 33.

²¹ Practically all colonizers found themselves crossing this fine line. See for accounts of slave labor cash-crop production in French Africa: Klein, *Slavery and Colonial Rule*; in British Africa: Mohammed Bashir Salau (2010), “The Role of Slave Labor in Groundnut Production in Early Colonial Kano”, *Journal of African History* 51(2): 147-165; and in Portuguese Africa: Jeremy Ball (2005), “Colonial Labor in Twentieth-Century Angola”, *History Compass* 3: 1-9.

Most other forms of coerced African labor, however, were neither so secretive nor so contested, and were widely and openly practiced until the Second World War. Outside forced cultivation²², two main other kinds of obligatory labor were at the heart of colonial labor policies. First, there were the so-called ‘labor taxes’, also known as *corvée* labor, which required Africans to work a fixed number of days per year on local public works projects without pay. Based on a systematic dataset of this kind of labor duties in French Africa, I will provide lower-bound estimates of the implied fiscal significance of labor taxes. I will describe the workings of this system in French Africa greater detail in the next section.

Next to labor taxes, colonial governments also enhanced the labor supply through conscription, and for which they placed the burden of recruitment on indigenous leaders as well. Conscript labor differed from labor *corvée* in at least three important ways. First, where *corvée* tended to be confined to relatively short periods of time, conscription was specifically introduced to secure workers for extended periods of time. Most large public works projects, such as railway construction, needed a steady supply of cheap year-round workers; something the free market for wage labor often failed to provide. Outside the larger cities, long-term voluntary wage labor proved difficult to obtain. The continent’s high land-labor ratios lowered the barriers to secure a livelihood from farming or herding, raising the opportunity costs of wage employment. Wage work was often only sought in agricultural slack seasons, and intended to supplement income from other sources.²³ By making workers sign long-term contracts – usually for the duration of six months to one year – conscript labor allowed colonial administrators to both increase the pool of workers and to control the erratic nature its supply.²⁴

Second, unlike *corvée* labor, most of the conscription work was remunerated and took place at sites far from workers’ place of residence. The wages that were ‘offered’ – that is, fixed by the state – fell by definition below free market rates, as supply only met demand under coercion. Although some provisions were made to compensate for the fact

²² Forced cultivation was also a widely practiced form of labor coercion, but differs in kind from the types of forced labor I am interested in in this paper, as it did not directly provide laborers for the state or private sector. See for further details and illustrations of forced cultivation: Conklin, *Mission*, pp. 223-235.

²³ Cash derived from wage income was, for example, used to purchase imported goods, to pay taxes, or as a source of savings for bride wealth. Most of these purposes, though, did not require long-term employment.

²⁴ Doing so repressed overall real wage levels in regions where this was practiced more intensely. See: Frankema and van Waijenburg, “Structural Impediments”.

that workers could not go home at night, such as free rations and housing, these kinds of labor conditions were often neglected and poorly supervised. But it were not just the remote locations, long durations of the contracts, and repressed wages that deterred many Africans from voluntarily seeking such wage employment. As exemplified by the Congo-Ocean railway in the introduction, which was largely built with conscript labor, the work itself was often physically demanding and the corresponding work sites were dangerous and unhealthy.

A final significant distinction between *corvée* and conscript labor resides in their differential application. Whereas the burden of labor taxes tended to fall relatively evenly on the (male) population, the nature of conscript labor allowed for greater discrepancies in terms of who was selected; both at the level of the chief and that of colonial policy makers. The quota-based nature of recruitment gave chiefs greater leeway to absolve sons of more influential families, and to relegate this labor burden to more vulnerable groups in the community, such as slaves and/or slave descendants.²⁵

The decision of officials, in turn, to recruit more in some areas than others, was driven by three – at times conflicting – motivations. The first two concerned the relative distance to the work sites. To reduce the costs and administrative hassle of transporting workers, it made sense to place a comparatively higher burden on areas in the vicinity of work sites. Labor recruited for the *Office du Niger*, for example, came in disproportional numbers from the nearby districts in the Niger Valley.²⁶ Yet, colonial governments also saw good reasons for bringing in workers from more remote areas. The larger physical, social and ecological distances workers crossed would have “limited the possibilities of escaping to a life of self-sufficiency”, and played an important role in the recruitment considerations of the Congo Free State’s railway.²⁷ Finally, European perceptions about the ‘quality’ of the labor recruits mattered. French colonial officials that were in charge

²⁵ Ash, “Forced Labor”, 403.

²⁶ M. Echenberg and J. Filipovich, ‘African Military Labour and the Building of the Office du Niger Installations, 1925-1950’, *Journal of African History* 27:3 (1986), 533-551. Most of the labor recruited for the Office du Niger came through a particular French constructions, in which colonial officials were able to recruit (paid) labor via the military. I will return to this issue in section 7.

²⁷ Benoit Daviron has recently drawn an analogy between the large distances that recruited workers crossed *within* colonies, and those common to indentured labor. Benoit Daviron, “Mobilizing Labour in African Agriculture: The Role of the International Colonial Institute in the Elaboration of a Standard of Colonial Administration, 1895-1930,” *Journal of Global History* 5(3), 487.

of providing conscript labor for the Congo-Ocean railway developed a clear preference for the Sara people of Southern Chad. Their allegedly “docile” nature made the French think of them as “*la belle race*”; a particularly suitable “reservoir of manpower.”²⁸

The insatiable demand for conscript labor did not exclusively come from the state. Colonial governments faced continuous pressure to deliver workers for the private sector as well, as the profitability of many European plantation owners and mining companies depended to a large degree on their access to a cheap and constant workforce. Perhaps even more so than on public works projects, conscript labor for private sector employers was prone to abuse. Not only did mining companies and planters ignore the minimum wage rates that had been fixed by the colonial state, they also turned their work sites into highly punitive and coercive environments. Employers used various tactics to enforce discipline and prevent desertion, such as withholding wages, beatings, and ‘locking in’ workers by fencing off worksites with gates.²⁹ Although colonial officials were generally uneasy about providing and supporting labor for the private sector, they believed the alternative – in which companies would be allowed to do it themselves – to be even worse. Or as perhaps most succinctly put by Anne Phillips, colonial powers were well aware that: “[I]n a world where labour depended on coercion, capital could not be trusted to act freely.”³⁰

3. The ILO and the limits of ‘unfree’ labor

Europeans were generally well aware that pragmatic considerations mainly determined labor policies in their African colonies, and how these contradicted the principles of free labor.³¹ The most contested and most sensitive issue, both for the European public and for

²⁸ Azevedo, “Human Price of Development”, 1.

²⁹ Vincent Houben and Julie Seibert, “(Un)freedom: Colonial Labor Relations in Belgian Congo and the Netherlands Indies Compared”, E. Frankema and F. Buelens (eds.), *Colonial Exploitation and Economic Development: The Belgian Congo and the Netherlands Indies Compared* (London, 2013), 180-192; and Alexander Keese (2012), “The Constraints of Late Colonial Reform Policy: Forced Labour Scandals in the Portuguese Congo (Angola) and the Limits of Reform under Authoritarian Colonial Rule, 1955–61”, *Portuguese Studies* 28(2): 186-200. See for early debates among colonizers at the International Colonial Institute about the legitimacy of the enforcement methods that were common on plantations: Daviron, “Mobilizing Labour”.

³⁰ Phillips, *Enigma of Colonialism*, 50.

³¹ See for a discussion of such debates Cooper, *Decolonization*, especially p. 24-27.

colonial policy makers themselves, was the condoning and reliance on slave labor.³² Although a committed attempt to eradicate slavery did in some colonies not occur until well into the twentieth century, the veil of secrecy and opaqueness that surrounded colonial states' prolonged dependence on slave labor tells much about their unwillingness to find justifications for it.³³ The line, therefore, of the *type of* unfree labor that was officially unacceptable, was at least in principle drawn at slavery.

A more blurry line characterized colonial officials' stance on the acceptability of other types of labor coercion; one they came to heavily debate in the course of the 1920s and 1930s. The overarching justification that was provided for forced labor was deeply embedded in the racist stereotypes of the 'civilizing mission', which stipulated that Africans were inherently idle when left to their own.³⁴ The conviction that Africans still needed to be taught a 'work ethic', was in some respects a convenient one, as it managed to merge the larger metropolitan ideals of free labor with local practices of coercion in an ideologically consistent manner.

Although all colonial powers subscribed to the 'civilizing merits' of compulsory labor, the *kinds* of coercion that were deemed acceptable, and the conditions under which they were to take place, became increasingly governed by international scrutiny in the early twentieth century. In particular the atrocities that had taken place in King Leopold's privately ruled Congo Free State (CFS) intensified public condemnation of involuntary labor practices.³⁵ The mass killings and mutilations of coerced Congolese workers who had failed to meet imposed rubber collection quotas, generated a massive public outcry in the early 1900s, culminating in the end of Leopold's rule in 1908.³⁶ The virtual absence of checks on Leopold's police force in the CFS and the lack of legislation to protect indigenous workers from severe abuse and brutalities had resulted in a tragedy; one that widely signaled a need for greater (forced) labor regulations.

The International Labour Organization (ILO), which had been founded in 1919 alongside the League of Nations, came to play a central role in the creation of 'universal'

³² Daviron, "Mobilizing Labour", 490.

³³ Phillips, *Enigma of Colonialism*, 30-32.

³⁴ For a broader description of the 'civilizing mission' see Conklin, *Mission*.

³⁵ Other forced labor scandals in the Portuguese colonies further contributed to such sentiments. See for example: Auguste Chevalier, *Le Cacaoyer dans l'Ouest Africain* (Paris: 1908)

³⁶ A. Hochschild, *King Leopold's Ghost. A Story of Greed, Terror, and Heroism in Colonial Africa* ((New York 1998).

standards for indigenous labor. Where the ILO's primary focus for metropolitan labor was on regulating industrial labor, its interference with colonial labor mainly centered around questions of indentured and forced labor.³⁷ With colonial powers still massively relying on labor coercion, both in Africa and elsewhere, immediate progress was sought in *curbing* rather than *ending* such practices. By 1930, when the organization adopted its first Forced Labour Convention³⁸, two main principles came to guide the employment of involuntary labor.

Above all, the ILO prohibited forced labor “for the benefit of private individuals, companies, or associations”³⁹; a measure that was met with great resistance and hostility by private sector employers. For example, when the colonial government in Mozambique attempted to reform its labor policies along these lines, its Union of Traders objected that this would “profoundly disturb the economic life of the colony”.⁴⁰ Any modification of indigenous labor legislation, they maintained, had to be conditional on the state securing African forced workers six to nine months a year if voluntary supply would remain absent. Echoing the civilizing discourse, they appealed to the moral obligation of the colonial state, asserting that “labor constitutes a duty for all human beings, irrespective of the race he belongs to” and that it was “essential that this obligation is supported by legal sanctions.”⁴¹ Similar pressures came from private employers in other colonies.

Second, the ILO provided stricter guidelines for the use of forced labor for public sector purposes. Although all members were ultimately expected to “suppress the use of

³⁷ The emphasis on curbing forms of ‘unfree’ labor was at least partly the result of the organization’s growing involvement in the preparations for the League of Nation’s Slavery Convention of 1926. See for further elaboration: Susan Zimmermann, “‘Special Circumstances’ in Geneva: The ILO and the World of Non-Metropolitan Labour in the Interwar Years”, in: Jasmien van Daele, Magaly Rodríguez García, and Geert Van Goethem (eds.), *ILO Histories: Essays on the International Labour Organization and Its Impact on the World During the Twentieth Century* (Bern: Peter Lang, 2010), pp. 221-250.

³⁸ A second Forced Labour Convention was passed in 1957. International Labour Organization, *Abolition of Forced Labour Convention*. Adopted: Geneva June 25, 1957. Into force: January 17, 1959. Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C105#A2

³⁹ See in particular articles 4, 5 and 6 of the International Labour Organization, *Convention Concerning Forced or Compulsory Labour*. Adopted: Geneva, June 28, 1930. Into force: May 1, 1932. Available at: http://www.ilo.org/dyn/normlex/en/f?p=1000:12100:0::NO::P12100_ILO_CODE:C029. Note that forced cultivation also became prohibited (article 19), with the exception of “as a method of precaution against famine or a deficiency of food supplies and always under the condition that the food or produce shall remain the property of the individuals or the community producing it.”

⁴⁰ *Informations Sociales*, Volume XXXII, no. 4, October 28, 1930, p. 196.

⁴¹ *Ibid.*

forced or compulsory labour in all its forms within the shortest possible period”⁴², they maintained the right to use ‘obligatory labor’ for certain public works projects.⁴³ Among the exceptions were military service, exigency labor, and “minor communal services ... in the direct interest of the said community.”⁴⁴ Some of the imposed restrictions, such as the prohibition of forced labor for women and children, and a maximum of sixty days of *corvée* labor, were already – at least officially – in force in most colonies.

Other regulations, though, did try to curb colonial recruitment practices. An important restriction was that of only allowing forced labor that did not “involve the removal of the workers from their place of habitual residence.”⁴⁵ This requirement meant that labor for large public work projects, such as the construction of railways, could only be completed with ‘voluntary’ workers. In similar vein, the convention aimed to abolish “compulsory labour for the transport of persons or goods ... within the shortest possible period” and prohibited forced labor for “work underground in mines.”⁴⁶ All in all, the regulations that came to govern compulsory labor for the state thus had more restrictive implications for long-term recruitment than for labor *corvée* schemes.

The extent to which colonial governments *complied* with the convention varied both by and within colonizer. I will turn to some specific examples of ways in which the stipulations were ignored and circumvented in section seven, when I discuss the upward and downward biases of my estimates. For now it suffices to point out that forced labor practices in French and Portuguese Africa were generally considered as more coercive in nature, and that these colonial powers made greater efforts to evade compliance with ILO regulations.⁴⁷ Where the British, for example, immediately ratified the convention in 1930, and made – albeit selective – steps to comply with its terms, the French only signed it seven years later, and half-heartedly so.

The more coercive reputation of the French and Portuguese is partly rooted in the separate and rather repressive ‘indigenous code’ they used to govern their colonial

⁴² ILO, *Forced Labour Convention*, preamble

⁴³ Reflecting the changing international standards on compulsory labor, the French started to replace the term ‘forced labor’ by ‘obligatory labor’. See source French Africa early 1930s. René Mercier, *Le Travail Obligatoire dans les Colonies Africaines* (Paris: Larose Éditeur, 1933), 7. See also Fall, *Social History*, 12.

⁴⁴ ILO, *Forced Labour Convention*, article 2.

⁴⁵ *Ibid*, article 8.2

⁴⁶ *Ibid*, articles 18.1, and 21.

⁴⁷ Young, *African Colonial State*, 174; Cooper, *Decolonization and African Society*.

subjects. The *code de l'indigénat* provided French district officials with the authority to punish certain offenses directly, including refusals to pay taxes or provide the annually demanded labor duties.⁴⁸ Young describes the early days of the *indigénat* as ones in which local officials possessed “unrestricted arbitrary authority over their African subjects,” limited only by “their practical capacity to enforce it.”⁴⁹ A similar system existed in the Portuguese territories, known as the *indigenato*.⁵⁰ How widespread abuses of power were under these systems were we will never know, but that great brutality occurred under its existence is well documented.⁵¹ What matters here though, is that this legal framework made forced labor in French and Portuguese Africa easier to enforce, and resistance to it more costly.

How successful were the ILO’s attempts to curb and eventually abolish forced labor? All in all, the organization’s achievements before the Second World War remained limited. Their permissive stance regarding labor coercion for the public sector, combined with outright non-compliance and creative attempts of colonial officials to exploit various loopholes of the convention, meant that forced labor was still practiced on a large scale. That said, greater international pressure did reduce the ability of many private employers to get access to forced workers – with some notable exceptions there – and governments faced greater pressure to improve the conditions under which their recruits worked. Even at the notorious work sites of the Congo-Ocean railway, labor conditions seemed to have gradually improved by the early 1930s.⁵²

The turmoil of WWII temporarily undermined the ILO’s forced labor agenda, as all colonial powers – including the British – intensified their reliance on this again in this period.⁵³ However, by the end of the war, most European powers knew that a new era of imperialism had arrived; one in which forced labor had no place anymore. The French abolition of the *indigénat* in 1946, and the corresponding end of labor coercion, signaled

⁴⁸ Gregory Mann (2009), “What Was the *Indigénat*? The ‘Empire of Law’ in French West Africa”, *Journal of African History* 50(3): 331-353; Manning, *Francophone Sub-Saharan Africa*, 70.

⁴⁹ Young, *African Colonial State*, 116.

⁵⁰ Ash, “Forced Labor”.

⁵¹ See for example: *J. Suret-Canale, L’Afrique Noire. L’Ere Coloniale, 1900-1945* (Paris, 1962); Mann, “What Was the *Indigénat*?”, 334 n. 13;

⁵² Azevedo, “Human Price of Development”, 7-9.

⁵³ Cooper, *Decolonization and African Society*; Keese, “Constraints of Late Colonial Reform”, 188.

such a change of course.⁵⁴ It was only in Portuguese Africa that systematic labor coercion persisted well into the early 1960s, when – at last – the *indigenato* was abolished there too.⁵⁵

The multifaceted nature of forced labor, combined with growing ILO regulations and colonial evasion schemes thereof, make a *precise* way of estimating its implied fiscal contributions difficult. However, the purpose of this study is *not* to give exact estimates. The main goal is to get a better sense of the *orders of magnitude* we should be thinking off when assessing the role and *relative importance* of forced labor for colonial state and fiscal capacity building efforts. The relatively mild attitude of the ILO towards *corvée* labor makes this type of forced labor most suitable for estimations, as there was little need to hide these practices yet, and sufficient data and other records are available. The systematic way in which the French came to regulate and document labor *corvée* after the various forced labor scandals of the early 1900s, provides an excellent opportunity to get a better sense of the relative fiscal magnitude of these practices.

4. *Corvée* labor in French Africa quantified

The main idea behind my estimates of the implied fiscal value of *corvée* labor is straightforward. We could ask the question how much colonial states *would have had to pay* if they would have had to hire all these non-remunerated workers for a cash wage, and then compare these amounts with the revenue reported in the budgets. At the time, colonial officials themselves *also* saw the logic behind labor taxes in exactly the this manner, and defended it as such: “when it comes to work that in a civilized country would be executed with tax revenue paid by individuals, one is allowed to resort to forced labor.”⁵⁶ Expressing the contributions of this in-kind tax in monetary terms is thus an appropriate way of placing it in the picture of colonial public finance. How then did the *corvée* system work in French Africa and what data does it provide for such calculations?

⁵⁴ Cooper, *Citizenship between Empire*.

⁵⁵ Ash, ‘Forced Labor’, 405; Keese, “Constraints of Late Colonial Reform”

⁵⁶ The quote was derived from a decree from Tanganyika in 1927, which defended the use of forced labor. This decree was cited in *Informations Sociales*, Volume XXVII, no. 6, August 6, 1928, p. 163. See for this principle also Phillips, *Enigma of Colonialism*, 43.

Under the *prestations* decree of November 1912, adult male inhabitants of French West Africa (hereafter: AOF) in good health became officially subject to an annual tax that was to be paid in the form of labor on public work projects.⁵⁷ The design of this system was partly copied from already existing forms of official colonial labor service in the Dutch East Indies, Indochina, and Madagascar.⁵⁸ The Equatorial African federation, *l'Afrique Equatoriale Française* (hereafter: AEF), followed suit with a similar decree in 1915, and the system was further extended to those parts of Cameroun and Togo that became part of the French Empire after the First World War. The consecutive *corvée* decrees stipulated that the '*prestataires*', as the *corvée* workers came to be called, were only to work on projects within five kilometers of their place of residence. However, when this condition could not be met, they were to receive rations. Additionally, the new *corvée* regime specified that the levied days were not to coincide with agricultural high seasons.

Although *corvée* labor applied to *all* adult male French African inhabitants, some individuals were allowed to buy out their in-kind tax obligations against a fixed daily rate (*rachat des prestations*). In the early years of the *prestations*, this prerogative remained restricted to Europeans and a few so-called *évolués*; those Africans that the colonial state considered to have 'evolved' to a more 'civilized' French lifestyle.⁵⁹ As international pressure grew in the 1920s, though, French officials increasingly expanded this buy-out option to the rest of the population,⁶⁰ but only few Africans made use of this in practice.

Since *corvée* labor was intended for projects in the vicinity of workers' residence – mainly the creation and maintenance of a road and telegraph network – decisions about the amount of *corvée* days and the height of the buy-out rates were in most colonies made by local colonial administrators (*les commandants de circonscription*). As a result, the number of prestation days and the level of the buy-out rates often differed by year, by colony, and even by district.⁶¹ Each fiscal year, French colonial officials were required to publicly announce the *corvée* days and buy-out rates that would apply in the fiscal year

⁵⁷ Afrique Occidentale Française, *Journal Officiel*, 1913, 70-71.

⁵⁸ AOM 14MI -1575, S 22.

⁵⁹ The extent to which Europeans were liable to this tax differed though by colony. In some colonies they were officially listed as liable to *prestations*, but allowed to buy-out these labor duties against fixed rates.

⁶⁰ Conklin, *Mission*, 215; Young, *African Colonial State*, 175.

⁶¹ Conklin, *Mission*, 215

proceeding it. The stipulated outlet was the colonial state's official newspaper (*le Journal Officiel*), but often this information was taken up as well in an annexed section of the annual budgets. Although instructions to publish such information annually were not always followed up, sufficient documentation exists for the purposes of this study. I collected all data that was available in the *Journals* and annexes of the *Budgets* between 1913 and 1937. Further details about the data can be found in the appendix.

A closer look at the buy-out rates reveal some interesting patterns. Figures 1a-c plot the average daily buy-out rate in a given year against the average nominal day wage rate for unskilled adult male labor in that same year for three colonies: Soudan, Cameroun, and Dahomey. To produce this scatter, as well as for further calculations in this study, I constructed a new wage series for all 15 included African colonies between 1913 and 1937, based on the wages of more than 58,000 unskilled workers (*manoeuvres*). I collected wage data from annual government budgets and, when available, from their annexed railways budgets; sources that specify wages paid to each employed unskilled worker. Further details about the construction of this series can be found in appendix 2.

Figures 2a-c show a remarkably strong positive relationship between the average buy-out rates and average wage rates. This combined with the slope value ranges of 0.5-1.1, suggest that colonial governments saw a systematic connection between them. That is, it is likely that decisions about the level of the buy-out rate were related to levels of local unskilled labor. The variation found in terms of slope *values*, however, points to two different kinds of relationships.

On the one hand, as illustrated by figure 1a for Soudan, a fitted line that is close to 45 degrees (and thus having a slope value of around 1) suggests that the buy-out rates in such colonies were to directly reflect prices of unskilled day workers. This observation gains significance in the context of the relative paucity of wage data for Africa. Although economic historians have recently retrieved wage information on various labor types for the colonial capitals, comparable labor prices for most of the rural areas are still very hard to come by, if at all believed feasible to ever find out.⁶² Although the buy-out rates are not a *perfect substitute* for unskilled adult male wage data, a case can be made that, for

⁶² Bowden et al., 'Measuring'; Frankema and van Waijenburg, 'Structural Impediments' and 'Metropolitan Blueprints?'

Figure 1a: Average wage rate vs. average buy-out rate in Dahomey, 1913-1937

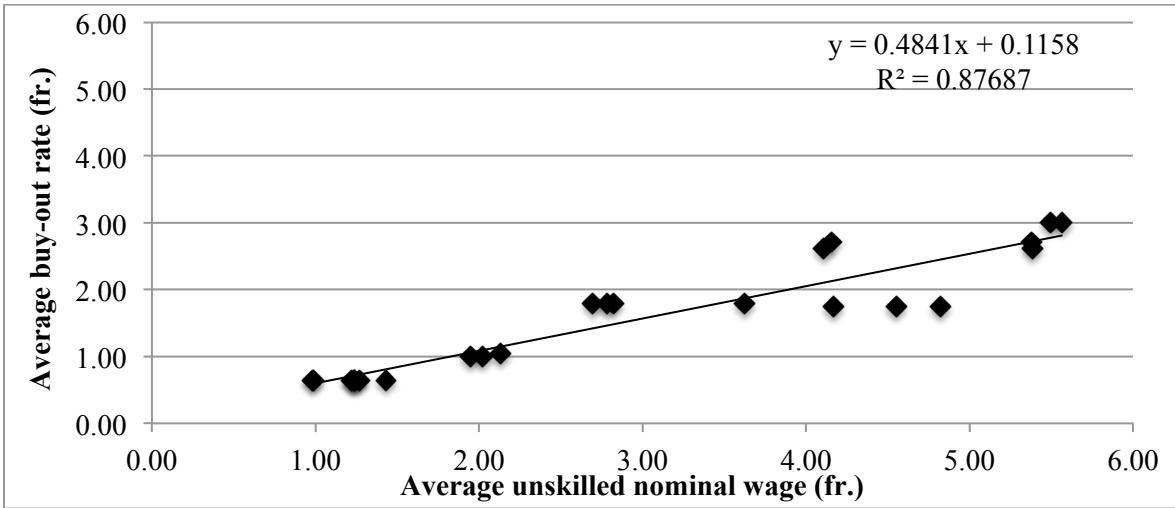


Figure 1b: Average wage rate vs. average buy-out rate in Cameroun, 1913-1937

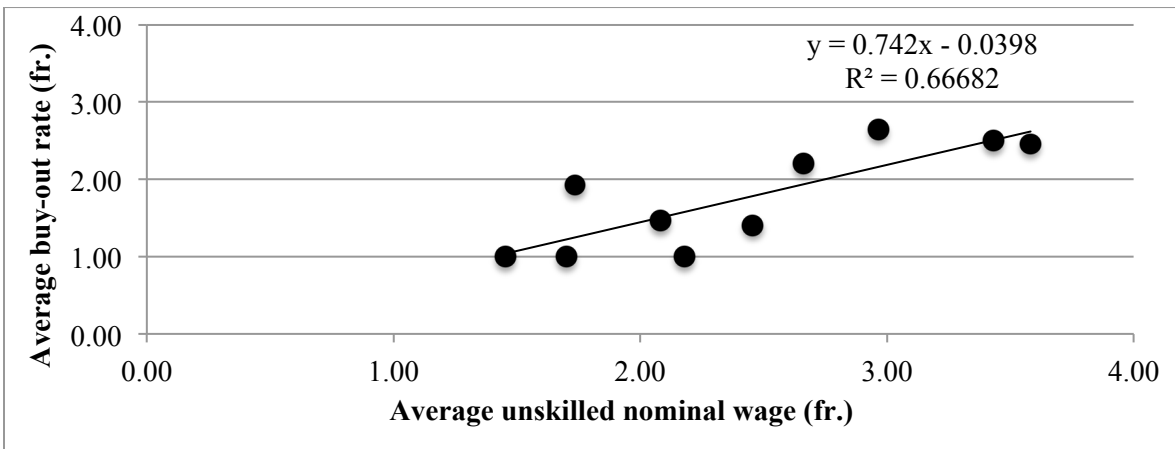
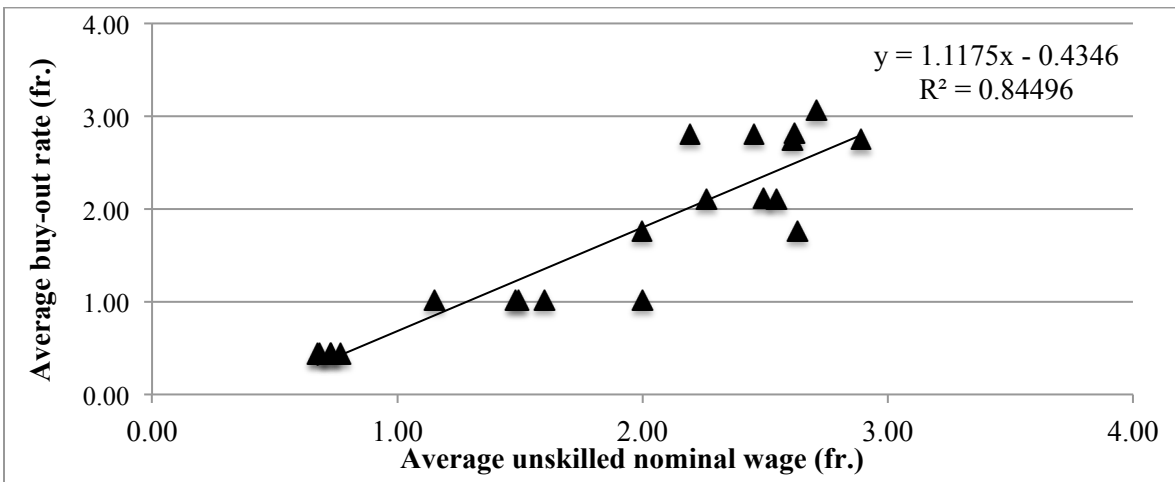


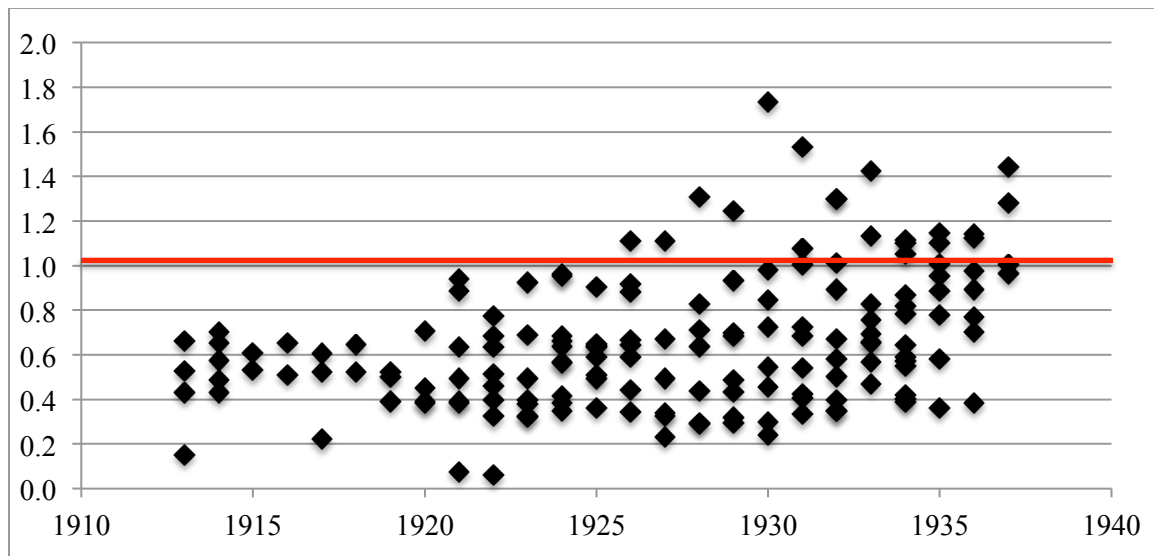
Figure 1c: Average wage rate vs. average buy-out rate in Soudan, 1913-1937



some colonies, this is our *best alternative*. The unusually strong correlation between the two variables at least makes this a worthwhile topic for further exploration

On the other hand, when the average value of the buy-out rate was systematically below the average unskilled wage rate in a given colony, as for Dahomey and Cameroun, it would have been more financially lucrative to work for a cash wage and buy out ones' *corvée* duties. Considering colonial governments' emphasis on rapidly developing a wage labor market, it is not surprising that setting a buy-out rate slightly below the going wage rate was part of official colonial policy-making. In Togo, where the practice of buy-outs took off much faster than elsewhere, it reads in the motivation section of the 1926 budget that: "the native understands his interest in working for a normal rate for the price of a day of labor, to subsequently buy-out his *prestations*".⁶³ Figure 2 below, which plots all average wages against their corresponding buy-out rates in my sample, suggests that the latter scenario was much more common.

Figure 2: Average wage rate vs. average buy-out rate in all colonies, 1913-1937



Based on the new unskilled wage data-set, the number of imposed *prestations* days, and improved population estimates, it is possible to make conjectures of the implied

⁶³ Territoire du Togo, *Budget Local*, p. xxxi. A similar statement can be found for Guinee at AOM 14MI-1574 S21, document number 586B.

fiscal value of prestatory labor. The first step is to provide plausible estimates of the share of the population that would have been subject to *corvée* labor. That is, how large was the proportion of healthy adult males between the ages of, roughly, 18 and 60? I believe that a conservative estimate would range around 20 percent, reflecting a demographic composition with relatively high fertility rates, and therefore a larger share below the minimum *corvée* age of 18.⁶⁴ Such a ‘young’ demographic structure is still common in developing regions.

Table 2: total number of *corvée* days specified in colonial reports vs. my estimated total number of *corvée* days

colony	year	total days specified	total days computed	difference (%)	actual pop. share (%)
Côte d'Ivoire	1917	4,646,798	4,812,370	3.56%	19.3%
Dahomey	1914	1,312,134	1,702,918	29.78%	15.4%
Dahomey	1915	1,375,109	1,715,341	24.74%	16.0%
Dahomey	1916	1,519,173	1,727,854	13.74%	17.5%
Guinee	1921	1,730,388	1,965,943	13.61%	17.6%
Guinee	1922	2,747,910	1,999,364	-27.24%	27.5%
Guinee	1923	2,911,218	2,033,353	-30.15%	28.7%
Guinee	1924	2,968,014	2,067,920	-30.33%	28.7%
Soudan	1916	8,938,070	5,026,287	-43.77%	35.4%
Soudan	1933	6,518,846	5,509,092	-15.49%	23.7%
Soudan	1934	6,408,166	5,467,937	-14.67%	23.5%
Congo	1926	864,860	1,108,460	28.17%	15.6%
Tchad	1923	2,129,682	2,688,680	26.25%	15.8%
Tchad	1926	3,031,536	2,794,907	-7.81%	21.7%
weighted average				-8.2%	23.3%

Sources: *Journals Officiels*

⁶⁴ Note that the minimum age was not 18 in all colonies. A lower age would make the 20 percent an even more conservative estimate, and bias my findings of table 3 downward.

The second step is to multiply these estimates of the eligible *corvée* labor force by the average of the number of days that were requested. This will yield the total number of imposed unpaid workdays. Fortunately, it is possible to cross-check the plausibility of this number on the basis of a few colonial records that contain more detailed about the actual number of *prestation* days that were requested. Note that from these sources it was not always clear whether all districts were included in the total number of days specified. However, if a few would still be missing it would only bias the figures above opposite to my argument. Table 2 presents all years for which I was able to locate such data, and how they compare with my estimated total number of *corvée* days. Although there is some fluctuation around my estimate numbers – and which could possibly come from missing districts – it seems that maintaining a share of 20% of the population is overall on the more conservative side indeed.

Finally, to arrive at how much it would have cost colonial states to pay this many unpaid laborers, the total number of workdays requested are multiplied by the average price for unskilled labor in each colony. Table 3 presents the results of this exercise for five benchmark years.⁶⁵ The reported percentages in the table indicate the relative implied additional value of these labor taxes vis-à-vis the reported fiscal revenue taken up in the budgets. Above all, the very high percentages for the first benchmark year stand out. In many French African colonies, the implied additional income the colonial state derived from forced labor was almost as large as, if not larger than, the entire budget. These results suggest that labor taxes, rather than the capitation taxes, were the primary cornerstone of the early stages of the colonial state formation process.⁶⁶

Part of the reason that some of these shares are so large for the earliest benchmark is of course because of the still relatively small value of the denominator (public revenue) with respect to the numerator (implied additional income from *corvée* labor). However, it

⁶⁵ These benchmark years were not randomly chosen. The first benchmark year represents the earliest year for which such calculations are possible. The 1920 benchmark represents the first year after which some of the post-war adjustments of the system had taken place. The 1925 benchmark was selected to have an observation in the mid-1920s. The years 1929 and 1934 were selected to have benchmark years right before and after the Great Depression.

⁶⁶ For this same time period, Young maintains the following: “By an imposing demonstration of extractive capacities, Bula Matari rapidly increased the revenue flow in the first decade of the century. By the time of World War I, with the head tax leading the way, most colonial territories had achieved a basic equilibrium between the requirements of hegemony and revenue.” Young, *African Colonial State*, 129.

is precisely the *interaction* between these two changing components that helps us better understand how colonial states dealt with the enormous challenges they faced to raising revenue. Unfortunately, there is no systematic data available for *corvée* labor before 1913, whereas colonial state building efforts started, in most places, well before that. Given the even greater financial constraints in these early decades, it would thus be very valuable to get a sense of the relative size of implied labor tax income vis-à-vis the size of colonial state budgets in the period before 1913.

Table 3: Implied additional income colonial state from prestations (%) relative to the size of the budget

	% value prestatory labor vis-à-vis budget				
	1913/1915	1920	1925	1929	1934
Côte d'Ivoire	50%	24%	15%	11%	21%
Dahomey	21%	14%	15%	18%	47%
Guinée	41%	21%	16%	16%	18%
Haute Volta	–	97%	48%	38%	32%
Mauritanie	68%	57%	71%	36%	21%
Niger	57%	31%	26%	27%	9%
Sénégal	–	12%	15%	6%	21%
Soudan	42%	24%	26%	15%	21%
Congo	31%	21%	14%	13%	26%
Gabon	31%	24%	9%	15%	10%
Oubangui-Chari	142%	58%	30%	16%	41%
Tchad	97%	31%	29%	29%	51%
Cameroun	–	88%	35%	35%	29%
Madagascar	12%	11%	11%	11%	14%
Togo	–	–	27%	42%	22%

Sources: Population data from Frankema and Jerven (2014); public revenue, wage and prestations data documented in the appendix

Notes: The year 1913 has been substituted for 1915 for the AEF, as these were the first years for which data on prestations was available. If one of the main components for the calculation was missing (Gross Public Revenue, number of *corvée* days, or wage information) the closest year was taken.

Although no data exists to do so, it is possible to do a *thought experiment* that would give us some sense of this on the basis of the method used for table 2. We could start from the assumption that the number of *corvée* days of the early 1910s are a reasonable approximation of the number of forced labor days that were requested under the less organized system that existed before, and correct this amount for population growth that occurred in the intermediate years. After all, systematic way in which the French came to organize labor *corvée* in 1912 had partly been intended to better regulate the pre-existing practices.⁶⁷

Even though we will never know exactly how many labor days were requested before the *prestations* were installed, various historical accounts underline that this must have been substantial. Many French African railways, for example, were built well before 1912, and mostly with unpaid or underpaid forced labor.⁶⁸ Additionally, head portage was in many places still the main mode of transporting export commodities, and was a major source of demand for labor.⁶⁹ In fact, with even *less* revenue available to hire labor for competitive wages, with an even *greater* need for labor to rapidly build infrastructure, and *less* accountability on labor requisitioning, it is not unthinkable that the number of forced labor days in this period was much *larger* than what we observe in 1913.

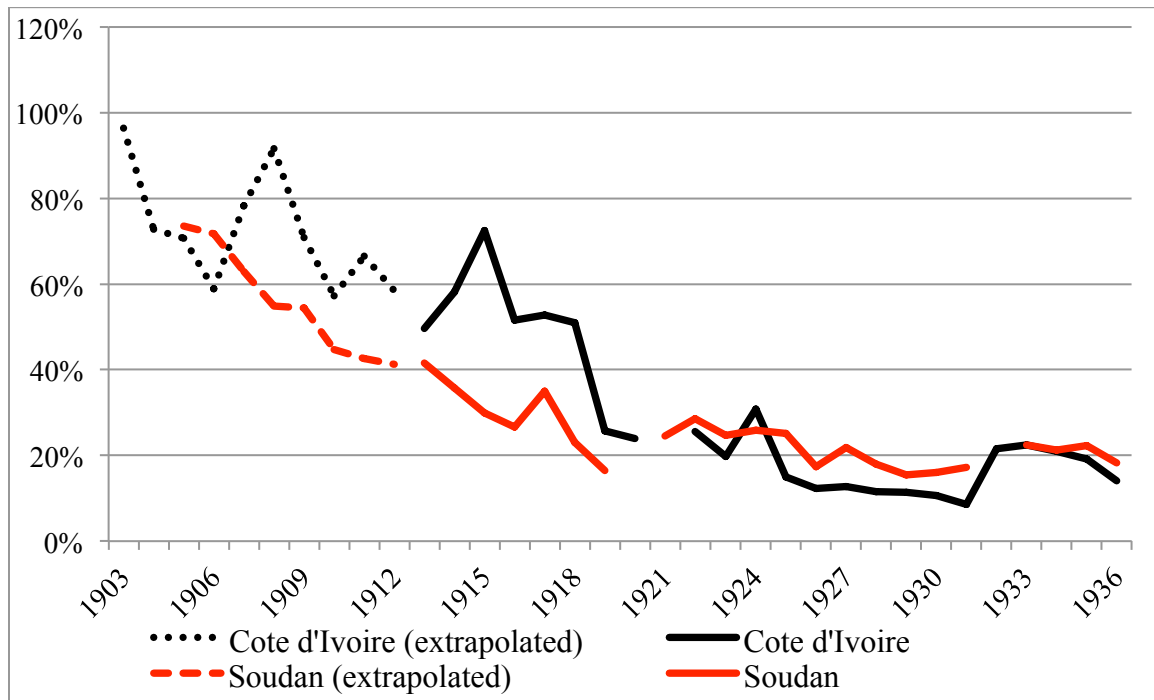
After adjusting the population estimates and wage rates for the year of interest, we can then apply the same calculation: how much monetary revenue was raised, and how much would similar degree of forced labor reliance have generated as implied additional state income? Figure 3 illustrates this exercise for 2 French African territories. For Côte d'Ivoire, such a computation for the early 1900s yields figures in the order of 90%, as compared to about 50% for the earliest benchmark. For Soudan a similar backwards extrapolation gives a comparable growing magnitude, rising from 42% in 1913 to about 75% eight years earlier. These trends fit in well with the overall declining percentages in the course of the 1920s and 1930s.

⁶⁷ Fall, *Travail Forcé*, 201.

⁶⁸ Fall, *Social History*, 8.

⁶⁹ Young, *African Colonial State*, 129-130.

Figure 3: Implied additional income colonial state from *prestations* (%) in Côte d'Ivoire and Soudan, 1903-1937 relative to the size of the budget



The rapidly rising shares when we extrapolate backwards are of course largely a reflection of the even smaller budgets in the early colonial period, but it does underline that when *faced* with such limited sources of revenue, the *relative importance* of implicit forced labor income was absolutely crucial for the early colonial state formation process. Again, we should think of these figures as experimental conjectures. However, the rapidly growing proportions of these implicit sources of revenue when we go further back in time make very clear that, in many places, the African colonial state formation process was inextricably rooted in forced labor practices.

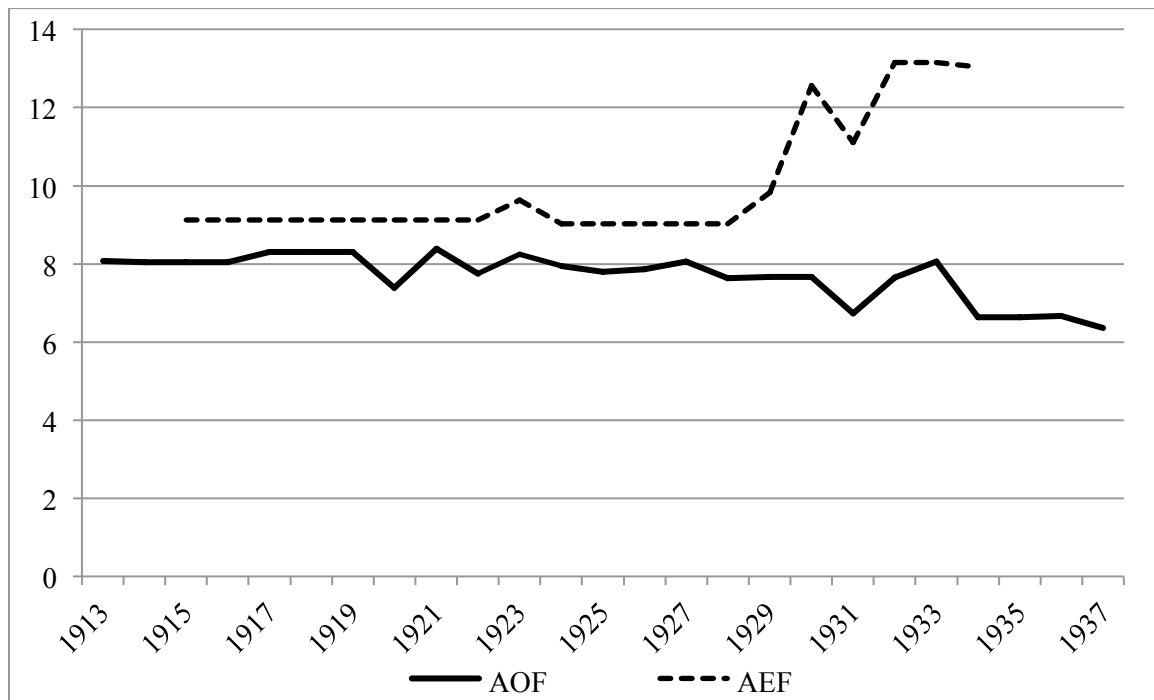
6. Varying *corvée*-pressure

With the central, if not primary, importance of labor taxes for early African colonial state development now more firmly established, a question remains why relative reliance on this practice differed between and within colonies and over time. Contemporary sources suggest that regional variation in imposed *corvée* days was amongst others driven by

population density, the occupational structure of the population, and the relative importance of the infrastructural projects.⁷⁰ Unfortunately, the quality of the data and its temporal and spatial availability is too weak to subject it to the kind of statistical testing needed to reliably identify the effects of these factors. That said, it is worthwhile to take a look at some of the macro-level trends that can be observed in the data.

Figure 4 presents a population-weighted average of the officially levied number of days in the two largest administrative regions of French Africa. Not only does the figure show a slightly higher level of labor *corvée* pressure in Equatorial Africa, it also points to a rising trend from the late 1920s onwards. Although some caution is warranted for interpreting the official data as it does not incorporate any abuses of the system (more on this in the next section), a couple of remarks can be made at this stage about plausible explanations for the differences found.

Figure 4: Population-weighted regional averages of officially requested labor *corvée* days in French West Africa (AOF) and French Equatorial Africa (AEF), 1913-1937



Sources: labor *corvée* days from various *Budgets Locals* and *Journals Officiels* (see appendix), population data from Frankema and Jerven (2014).

Notes: Years for which average colony-level data was missing were interpolated with the average for that colony of the last available year. See for further details and motivation, appendices 2 and 3.

⁷⁰ Dahomey, *Budget Local* 1924, Annexe no. 5, p. 1.

In contrast to their West African counterparts, the Equatorial African colonies had much greater difficulties to get on a virtuous ‘revenue-trade cycle’, in which collected customs revenue was reinvested in infrastructural facilities to further boost trade and the colonial budget. As illustrated in table 4 below, the region was fiscally struggling well into the late 1920s, and was the only part of the French African empire that was – against metropolitan principles – structurally depended on grants-in-aid from Paris for its existence.⁷¹ In face of prolonged economic struggle and fiscal unviability, it is thus possible surprising that the Equatorial colonies seem to have leaned more heavily on *corvée* labor. The more limited degree of monetization in the AEF may have also raised barriers to the collection of cash taxes, thereby fuelling the need for a larger in-kind component of the overall tax burden.

Table 4: Average Gross public revenue per capita by colonizer and sub-regions (in 1911£)

	1911	1925	1934	1911	1925	1934
	<i>non-weighted averages</i>			<i>population weighted averages</i>		
French Africa	0.15	0.22	0.28	0.12	0.19	0.22
French West Africa	0.16	0.31	0.25	0.16	0.30	0.25
French Equatorial Africa	0.13	0.12	0.30	0.07	0.08	0.18
British Africa	0.24	0.32	0.25	0.16	0.24	0.17
British West Africa	0.36	0.44	0.30	0.21	0.25	0.14
British East Africa	0.12	0.20	0.19	0.11	0.22	0.19

Sources: Data from Frankema and van Waijenburg, ‘Metropolitan Blueprints’

It is tempting to directly map the observed pattern of African colonial states’ preference for reducing their reliance on native taxes when sufficient revenue from trade had become available, on that of labor taxes.⁷² After all, *corvée* labor too had a greater potential to incite revolt than less invasive forms of revenue extraction, and colonial governments may have been eager to abandon them when fiscally feasible. However, the relationship between commercial development and forced labor is more complex. When examining the patterns of ‘*corvée*-days pressure’ across districts, for example, it seems that some of the more commercialized and monetized centers faced *higher* labor duties

⁷¹ Although the coastal areas of Gabon and the French Congo of course developed more rapidly than the interior parts of the region, even the system of federal tax redistribution was for a long time insufficient to offset the fiscal drain of Tchad and Oubangui-Chari.

⁷² See: Frankema and van Waijenburg, ‘Metropolitan Blueprints’, pp. 385-387.

again during the peak of their development than the poorer and less integrated hinterland territories.

From a labor market perspective, there may have been good reasons to do so. If colonial administrations indeed had such a strong preference to rely on trade revenues as soon as they could, they also had greater *long-term* incentives to *temporarily* increase labor taxes in those areas that held greater commercial potential. To facilitate the rapid development of the infrastructural projects needed to spur the economic promises of such areas, colonial administrations may have been more willing to sacrifice short-term local political stability to achieve long-run fiscal objectives. It is not unlikely that, at a more aggregate level, the rapid increase observed for the AEF was motivated by such factors. It was exactly in the late 1920s that the region's commercial development finally started to accelerate, and which allowed them to reduce the fiscal gap with other parts in British and French Africa. One way or another, the fact that labor taxes were more integrated with varying local labor needs and long-term fiscal strategies than cash native taxes, makes them different in nature and application.

7. Upward and downward biases

The main purpose of estimating the implied fiscal value of labor taxes is to get a better sense of their order of magnitude relative to the overall budget, and the preciseness of the calculations is therefore not a primary concern. However, there are ways in which my computation method may either lead to either substantial under- or overestimations of the shares reported in table 2, and they need to be discussed in explicit terms. All things considered, I believe that my figures are much more likely to be underestimations, and that the orders of magnitude I show in this study represent a lower bound of forced labor contributions.

The largest source of upward bias would come from the fact that my computation method assumes full labor input, and therefore does not correct for shirking or desertion of the work sites. How large such effects were is impossible to find out, but it certainly occurred. Occasional accounts suggest that desertion rates may have been in the order of

10 percent of the workers, if not more.⁷³ Yet, it should be kept in mind that such extreme incidences of desertion mostly occurred where the abuses of forced labor were most severe as well; abuses that I in turn do not include in my estimation of the number of workdays.

What on paper appeared as a relatively well-regulated system was often far from so in reality. The limited administrative capacity of African colonial states meant that public works projects were often poorly supervised, and that regulations were frequently ignored. According to Babacar Fall, among of the frequent abuses of *corvée* labor were the “retention of the ‘prestataires’ longer than the allowed period and practice of using the same workers twice.”⁷⁴ Mahmood Mamdani maintains that:

Recorded in the books as basically ten to twelve days a year, this official limit was rarely adhered to. Because every canton was taxed according to its registered population, labor days owed by those absent or deceased were divided among those present. Should a task be considered of “urgent necessity” by the authorities, it could always be added on; a refusal by the population was sure to invite collective punishment.⁷⁵

Contemporary sources also suggest that the actual incidence of *corvée* labor in the French colonies widely exceeded the amount that was demanded on paper. The levels of abuse were at times so severe in the early years that local colonial officials sent alarming reports to the higher levels of administration. One such letter from the Côte d'Ivoire states that in order to construct the requested long roads:

[H]e was forced to considerably raise the number of *corvée* days. Some natives had worked for several months consecutively. Cultivation (of crops) had been neglected and famine ran rampant in the region. This explains, if it does not excuse, the acts of cannibalism that occurred among some, and of which we just became aware.⁷⁶

⁷³ Echenberg and Filipovich, ‘African Military Labour’, 544.

⁷⁴ Fall, *Social History*, 10.

⁷⁵ Mamdani, *Citizen and Subject*, 150.

⁷⁶ AOM, 14MI-1575, S 22. Letter from March 12, 1914 with document number 59.

Although the reference to cannibalism is likely a product of either colonial or indigenous imagination, ample such letters to the federal government about excess *corvée* days exist.

Reports of abuse persisted well into the colonial period. In an evaluation from the mid-1930s on the state of the AOF's economy, the system of the *prestations* is described as remaining "as before". Not only were "[O]nly a limited few are permitted to settle this tax in money," it claims that "for the majority it means thirty to forty long days' work in the year, and sometimes at the most inconvenient season."⁷⁷ The discrepancy between such descriptions, and the official number of *corvée* days in French West Africa, which was about eight per year at the time, is substantial.

A similar observation was made in the late 1930s by Marcel de Coppet, the then newly appointed governor-general of the AOF, after he had toured the region. Although de Coppet himself was not against the principle of community service, he had witnessed violations of the *prestations* "constantly and everywhere" with his own eyes. He amongst others reported works sites that were too far away from the villages, which imposed additional travel time that did not count towards fulfilling ones' labor duties, and women and children performing *corvée* labor.⁷⁸

Even though there is only limited evidence on this, the entire idea that the French practiced more like a month of *corvée* labor is well in line with what was common among other colonial powers; both in their African and non-African colonies. The Portuguese, infamous for their persistent abuse of forced labor, pushed it to the maximum that was officially allowed: sixty days per year. The Belgians followed closely with about 45-60 days a year.⁷⁹ In Spanish Guinea, labor taxes in the urban centers were 40 days per year.⁸⁰ Even in British Africa, often seen as the more benign colonial power that relied the least on forced labor, *corvée* duties were fairly high as well, fluctuating between 30-60 days

⁷⁷ E.J. Arnett (1935), "Economic Conditions in French West Africa," *Journal of the Royal African Society* 34(137): 445.

⁷⁸ Cooper, *Decolonization and African Society*, 88. Note that women, who were in theory exempt from any form of forced labor, often participated in many ways, as their labor was needed for cooking and other kinds of provisioning.

⁷⁹ Crawford Young, *Politics in the Congo: Decolonization and Independence* (Princeton, N.J.: Princeton University Press, 1965).

⁸⁰ *Informations Sociales*, Volume XXIX, no. 6, February 11, 1929, pp. 199-200.

per year.⁸¹ That said, unlike other colonizers, the British already increasingly started to remunerate *corvée* labor in the course of the 1920s.⁸²

There is another good reason to believe that the actual number of labor tax days was higher in reality than on paper. When Africans were unable to meet their annual cash tax obligations, it was not uncommon to settle such deficits in additional forced labor days. When the government of Tanganyika defended the use of recruiting 33,097 porters to the ILO in 1927, they found it “necessary to add” that among them were “natives who had not paid their taxes”.⁸³ It is therefore more than likely that the downward bias that comes from such sources of higher labor-tax incidence far outweighs the upward bias from deserting work sites. Moreover, the extent to which *other colonizers* relied on labor *corvée* suggests that my estimates for French Africa may even be on the lower bound for colonial Africa as a whole.

The matter of frequently forcing African laborers to work in places that were far removed from their place of residence is another factor that has a downward effect on my estimates. I arrive at the value of the implied revenue from labor duties by multiplying the number of workdays levied by a daily wage rate for ‘regular’ unskilled labor tasks. Yet, when unskilled labor takes place in a context that is either exceedingly physically strenuous or that poses serious (health) risks, such as in the mining sector or at dangerous construction sites in areas with a high disease environment, this would result in higher wages in a free market – ones that include health and risk premiums – as to compensate for such effects. My unskilled wages do not reflect such compensations, and are therefore a conservative estimate of at what price the state would have had to buy such labor if it would not have exercised coercion.⁸⁴

Colonial officials believed that labor supply remained low because Africans were inherently ‘lazy’ after they met their subsistence needs, and still needed to be taught the virtues of wage labor and consumerism. Their interpretation implied that Africans would have not at all, or only to a limited extent, been sensitive to market signals and incentives,

⁸¹ Phillips, *Enigma of Colonialism*

⁸² *Informations Sociales*, Volume XX, no. 13, December 27, 1926 p. 678-683; and Volume XXXII, no. 8, August 19, 1929, p. 305-307.

⁸³ *Informations Sociales*, Volume XXVII, no. 6, August 6, 1928, p. 164.

⁸⁴ How much such health, risk and distance premiums would have been though, is impossible to estimate, as we do not know the labor supply curve.

and that higher wages would not have solved the problems of endemic labor shortages. Africans of course *did* respond to decent pay and work conditions. The cocoa plantations in the Gold Coast, for example, offered competitive wages and managed to draw thousands of migrant workers each year from the neighboring French territories.⁸⁵ Even at some of the most dangerous and unhealthy work sites, such as the Congo-Ocean railway, gradual improvements in wage rates and labor conditions translated in a greater number of voluntary workers.⁸⁶

By 1930, the ILO insisted that public work projects that needed long-term labor and took place at distant sites were – with a few exceptions – only to be carried out with voluntary workers. In this scenario, the free market would thus determine the equilibrium price for labor; one that would certainly be higher than the one offered under coercion. Most colonizers, however, were unable and unwilling to comply with this, and used the various exceptions and loopholes of the convention to continue their forceful recruitment of workers. The most notorious example of such creative evasion was the way in which the French used military recruitment to draft men for public works, and which had its roots in the labor policies practiced in Madagascar.⁸⁷ The basic idea was that Africans who were neither selected for direct military service nor deemed unfit for service, would no longer automatically be on a stand-by status, but become eligible for service in ‘second portion military labor’ (*deuxième portion du contingent*). Under this system, they would perform work on public work projects for up to three years. Although it went directly against the wishes of the French military, the Ministry of Colonies accepted the proposal from the governor of Madagascar in 1926, and made provisions for other colonial governments to adopt this labor system.⁸⁸

Within a year, the administration of Soudan had implemented a second portion labor service as well. Most of the workers recruited through this route were allocated to the *Office du Niger*; a project responsible for the construction of a large dam that was to

⁸⁵ Migrant workers were in part drawn by the labor conditions and pay at the Ghanaian cacao plantations, but were also fleeing from the more coercive labor policies that the French exercised in Upper Volta and Cote d’Ivoire. See: Gareth Austin, *Labour, Land and Capital*, see for relative wage levels Frankema and van Waijenburg, ‘Structural Impediments’

⁸⁶ *Informations Sociales*, Volume XLII, no. 1, April 4, 1932, p. 20. See also: Azevedo, “Human Price of Development”.

⁸⁷ *Informations Sociales*, Volume XXXVII, no. 12, March 23, 1931, pp. 441-446.

⁸⁸ Echenberg and Filipovich, ‘African Military Labour’, 538.

irrigate one million hectares of unproductive land for cotton cultivation. Between 1928 and 1946, more than fifty thousand Africans were drafted for full-time service on the *Office du Niger*. Both labor conditions and pay were poor, consisting of “six nine-hour days of hard construction labour” with insufficient rations and medical facilities, against “roughly one half of the rate of daily unskilled labor in FWA.”⁸⁹ The service was so unpopular that men not only resisted via the more common ways, such as fleeing from military recruiters and desertion, but even by voluntarily applying for the first portion of military service.⁹⁰

Although the ILO convention did maintain the right to recruit labor “in virtue of compulsory military service laws” it only allowed this “for work of a purely military character.”⁹¹ The French system clearly violated this line, and it became a major bone of contention between the ILO and the French government. France publicly defended its use of second portion labor on the ground that military recruitment was a matter of “national sovereignty” and thus “none if the ILO’s business.”⁹² According to Frederick Cooper, France refused to ratify the convention “not because it opposed in principle the ban on forced labor for private enterprise, but because it wanted to set the terms in which the government used it.”⁹³ Although French colonial officials were certainly more interested in securing their own labor supply, the prohibition on private sector recruitment was often ignored as well, especially in those colonies that relied most heavily on it.⁹⁴

The extent to which forced labor was abused relative to the guidelines that were officially proclaimed, was likely larger before the First World War, when colonial governments did not face a similar level of scrutiny from the ILO yet. Moreover, the fact that many recruited laborers were slaves in this period, may have further enhanced the possibilities to exploit forced labor practices. One way or another, the various ways in which colonial states ignored their own principles and labor regulations, and violated those of the ILO, all suggest that my estimations are very much on the conservative side.

⁸⁹ Ibid., 543.

⁹⁰ Ibid., 547.

⁹¹ ILO, *Forced Labour Convention*, article 2a.

⁹² Cooper, *Decolonization and African Society*, 38.

⁹³ Ibid., 88.

⁹⁴ Ibid., 150.

8. Conclusion

The growing body of scholarship on colonial public finance, and the improved empirical foundations that underpin these studies, have deepened our understanding of the African colonial state formation process. However, a central element of colonial state building efforts and the development of revenue-raising abilities – the role of taxes in the form of labor services – has yet to feature in this expanding wave of studies. In this paper, I have made a first attempt to provide some empirical foundations for doing so.

Although it is impossible to arrive at *precise* estimates of how much forced labor practices implicitly augmented colonial state income, there are ways to get a much better sense of a lower-bound *order of magnitude* of the amounts involved. Using quantitative sources on prestatory labor in French Africa, I revealed the very large contribution of these taxes relative to the reported state cash-revenues. Especially in the early colonial period, the implicit value of unpaid labor obligations often well exceeded the total size of French African budgets. The findings suggest that we should make a greater effort to integrate the contributions of labor taxes into historical accounts of fiscal and state capacity building.

APPENDIX 1: SOURCES

The forced labor, public finance and wage data were all derived from the following three French colonial publications:

1. *Budgets Generals, Budgets du Service Locals, and the (Budgets) Annexes*

These annual published colonial government budgets were mainly produced to provide an estimation of expected revenue and expenditure (*les prévisions*). Many of them also include overviews of the actual collected amount of revenue and expenses in preceding years (*les recouvrements effectués*).

The titles *Budgets Generals* refer to the publications for the French West and Equatorial federations, in which the amounts of federally collected revenue (e.g. customs, consumption taxes, excise, domains) are stated. I collected these collectively gathered taxes from the *Budgets Generals* where retroactive statements of federal revenue sources were available. Additionally, I resorted to using the *prévisions* if I could not locate the *Compte Définitifs* of the budgets (see 2). The differences between the actual collected revenue and the *prévisions* was generally small, and any biases that may originate from such slight difference will have a negligible effect for the overall results of this study.

The *Budgets du Service Locals* refer to the individual colony level budgets, and contain information on both local tax revenue (e.g. native taxes, licenses and patents, and withdrawals from reserve funds) and subsidies, loans or reimbursements received from the federal or metropolitan governments. The *Budgets Locals* also contain a wealth of wage data in the expenditure sections, where the salaries and wages paid to government personnel is reported for each years. Since the *Budgets* tended to be the place where these detailed figures were reported (and not the *Comptes Définitifs*), all wage data used on this study come from this source.

Finally, there are the various annexes or that belong to the ‘*Budget series*’. The *Budgets Locals* usually contain a section at the end in which the tax regime is specified (*les Tarifs des Taxes*). These sections not only cover the various tax rates that apply in the colony at a given year, but also have descriptive sections for each different kind of tax that provide valuable information about the application of these taxes. For most places and years, information about the number of *corvée* days and level of the buy-out rates is

available in these sections. Additionally, these sections on the *prestations* contain further information about the organization of the system.

Many of the *Budgets Locals* also contained annexed budgets, in which, amongst others, revenue and expenditure for the railways was specified (*Budgets du Chemin de Fer*). By the 1930s, other large public works programs also became reported in a separate annexed budget. In the early colonial period, the budgets of some colonies that had been ‘pacified’ relatively late were published as annexes to budgets of more developed areas. For example, until the late 1910s, the budgets of Niger (then *Territoire Militaire du Niger*) and Mauritanie (then *Territoire Civil du Mauritanie*) were added to the budgets of either Soudan (then *Haut-Sénégal-Niger*) or the federation.

2. Comptes Définitifs du Budgets Generals, Locals, and (Budgets) Annexes

As explained in the previous section, these publications provide the final counts of the annual budgets. Where available, I used the *Comptes Définitifs* to construct the public finance data instead of the *Budgets*. Most *Comptes Définitifs*, however, do not contain any information on the nature of the tax regime, and the salary and wage data reported in this publication is limited and irregular.

3. Journals Officiels

Individual colonies and the federations published a government news bulletin under the title of *Journal Officiel*. In most places, the *Journal Officiels* appeared on a weekly or bi-weekly basis, predominantly containing information on recently passed legislation or decrees. Since colonial governments were required to publicly announce fiscal policies for the subsequent year in these official news bulletins, the *Journal Officiels* also contain information on the *prestations*, such as buy-out rates and labor *corvée* days. For years when such data was not available in the *Budgets Locals*, I searched for it in the *Journal Officiels*. Unfortunately, colonial officials did not always comply with the instructions to annually publish regulations regarding the *prestations* in this outlet, and it seems that not all issues from the *Journal Officiels* have survived either. As a result, while I collected all available data from these sources, my dataset still has some gaps in it. Further details about how I accommodated data gaps are discussed in Appendix 2.

APPENDIX 2: DATA CONSTRUCTION

1. *Prestations days data*

The amount of labor *corvée* days could vary both over time and across districts and sub-districts. Unfortunately, it is impossible to create a population-weighted average number of days for the colonies. Not only is district-level demographic data for the districts rarely available, it is also unreliable and changes too much over time to compute such averages consistently. Consequently, I computed an unweighted average of *corvée* days for each colony. As illustrated in table A.1 below, the within-colony variation in labor *corvée* days was relatively small in most places though (or even non-existent), and potential biases stemming from taking an unweighted average should thus be minimal. It is worthwhile to emphasize here again that my estimates are not intended to be precise at this micro-level to begin with. Rather, they are *approximations* of the *lower bound* of implied government revenue from *corvée* labor.

Table A.1: Decadal average and maximum coefficient of variations of *corvée* days

	1910s		1920s		1930s	
	average	max	average	max	average	max
Côte d'Ivoire	0.03	0.05	0	0	0.06	0.09
Dahomey	0.13	0.13	0.16	0.20	0.01	0.11
Guinée	0	0	0	0	0	0
Haute Volta			0.14	0.21	0.05	0.05
Mauritanie	0	0	0	0	0.19	0.20
Niger	0	0			0.24	0.33
Sénégal			0	0	0	0
Soudan	0.34	0.34	0.12	0.14	0.05	0.08
Congo	0	0	0	0	0.08	0.09
Gabon			0	0	0.09	0.08
Oubangui-Chari	0	0	0.02	0.10	0.10	0.13
Tchad			0	0	0.09	0.35
Cameroun	0	0	0	0	0	0
Madagascar	0	0	0	0	0	0
Togo	0	0	0	0	0	0

Sources: Budgets Locals and Journals Officiels

Additionally, for the sake of creating a time-series that is as complete as possible, I had to make decisions regarding years for which information was either missing or ambiguous. To interpolate years for which data on the number of days was missing, I maintained the following principle. Since it is plausible that the amounts of days may have only been reported when changes took place in them (that is, colonial governments may have only published information on it when a new number of *corvée* days applied), I chose to stick to the value of the last available observation for missing years. Table xx in appendix 3 presents all average labor *corvée* days that were computed for this study, and the interpolated years are indicated in red for transparency.

A.2: Prestations buy-out rates data

The average annual buy-out rates were calculated in a similar way as the average number of *corvée* days. They are unweighted averages of the rates that applied in the districts. Some districts, however, consisted of various sub-districts, and in such instances I first took an unweighted average of the sub-districts to get at the district level value.

A.3: Unskilled wage data

Compared to British Africa, wage data that is available for the colonial period in French Africa is much richer, but also more labor-intensive to process. Where the British *Blue Books* offer average or minimum and maximum wage rates for unskilled workers, similar aggregated numbers are unfortunately not available for the French colonies until after WWII. However, the French colonial expenditure lists provide a detailed account of every single salaried official and paid day laborer that was employed by the government. I collected all wage information for the category '*manoeuvre*' (laborer) available in the budgets, and weighed these wages by their relative frequencies on the pay list. In case the category '*manoeuvre*' was not available, which occasionally occurred in the earliest years of colonial rule, I took the category '*planton*'. Years for which data was available for both *manoeuvres* and *plantons* indicate that going wage rates for these categories were generally at par with one another in the early colonial period. In later years though, the rates of *plantons* seem to rise at a faster pace, but I do need not use them anymore as sufficient data is available then on the *manoeuvres*.

To create as large a sample as possible, I exploited the railway budgets as well when they were available to supplement wage data from the regular government budgets. Depending on the administrative capacity and organization of each colony and its overall level of development, the total number of observations could be derived from the *Budgets* varied by colony and over time. Table A.2 below presents the average annual number of unskilled wage workers that I was able to find for each colony in this study, expressed in decadal averages. The total number of unskilled wage observations that were extracted from the *Budgets* is 58,709; a number that is expected to rise with future archival work (see note under table).

Table A.2: Number of unskilled workers annually reported in decadal averages

	1900s	1910s	1920s	1930s
Côte d'Ivoire	74	443	527	804
Dahomey	*	113	109	59
Guinée	1,190	468	93	131
Haute Volta	–	–	31	91
Mauritanie	3	2	6	7
Niger	*	20	36	125
Sénégal	*	21	29	55
Soudan	102	106	250	126
Congo	*	9	5	14
Gabon	*	2	4	14
Oubangui-Chari	*	6	3	6
Tchad	*	9	8	5
Cameroun	–	–	1,090	1,379
Madagascar	*	690	849	602
Togo	–	–	540	736

Sources: Budgets Locals and Budgets Annexes du Chemin de Fer

Notes: The numbers reported in this table are preliminary, as additional archival work is required to gather wage data from pages not collected in earlier visits. Additionally, for some non-reported decades the data is currently still under construction, and which are indicated with *.

The advantage of using all unskilled wage observations available in the *Budgets* is that it creates an average that is based on various regions. Colonial governments hired unskilled labor all throughout their colony: in the ports of the main cities, along each station of the railways, and in rural public schools and agricultural stations. As a result,

the weighted average of all workers on the pay-list that I took are to reflect large parts of the colony; one that is this sensitive for the inclusion of areas with lower labor costs than just the colonial capital. Although my new wage series can possibly be further fine-tuned, I believe that its construction is a step forward in the wage data collection effort for (colonial) Africa, and that it is suitable for the purposes of this study.

Two other questions need to be addressed regarding the unskilled wage series: Are they likely to reflect public sector bias, meaning a systematically different wage scheme for unskilled labor in the public and private sectors? And does the presence of unfree labor markets affect their representativeness? With respect to the former, colonial governments were often *the* largest employers of unskilled workers, and actively regulated wages for private sector employment as well (mainly by imposing a minimum). It is thus not surprising that – based on years for which we have wage information for both private and public sector workers in colonial Africa⁹⁵ – pay differences between these sectors tended to be minimal or even non-existent. Moreover, since this study is ultimately interested in the question what *colonial governments* would have had to pay if they would have had to hire all these *corvée* workers for a cash wage, taking public sector based wages is certainly appropriate. That said, based on the reasoning above, I believe that my dataset is suitable for other studies as well.

Finally, there is the question of the effect of labor coercion on my wage rates. As discussed in section two of this paper, a large number of unskilled laborers that worked at public works projects (especially railways) were recruited by force, and their wages are thus by definition below free market rates. One of the main reasons that these rates were too low is that they did not compensate for the inconvenience of being distant from one's home. That is, wages paid to these imported workers were likely a reasonable reflection of what *local* labor costs in that area were supposed to be, but did not include any further premiums necessary to incentivize Africans to take up long-distance jobs voluntarily.⁹⁶ As such, these wages may thus still be a decent reflection of local wages rates, assuming that demand in that region was not so large that imported workers were necessary. For

⁹⁵ Note that this is derived from examples in British Africa.

⁹⁶ It is good to keep in mind that voluntary labor migration *did* occur in those parts of colonial Africa where wages *were* competitive enough. The cocoa plantations in the Gold Coast, for example, were able to draw an annual flow of labor migrants from neighboring French territories.

this study, however, the possibly too low wages do not affect my findings in a problematic way, as any potential biases on my estimations in section 5 would be downward ones.

A.4: Public finance data

The first starting point that I applied is that the colonial budgets should reflect the regular annual and *locally raised* sources of revenue. That is, we should look at the revenue that was collected outside occasional subsidies, loans, or reimbursements from metropolitan governments and/or federations, and withdrawals from reserve funds. Not only did such types of revenue vary substantially by year, and thereby complicating the selection for appropriate benchmark years, they also obscure what colonial states' actual local tax base was. I, therefore, subtracted all such amounts – both from the sections of 'ordinary' and 'extraordinary' revenue – from these total amounts reported in the budgets.

Additionally, most French colonies included in this study were part of one of the two federations. This had implications for their fiscal organization, as all revenue derived from customs, consumption taxes, excise and domains, was automatically siphoned off the federal budget. For most of the colonial period, these sources of revenue constituted about 90% of the federation's locally raised revenue. The federation used this money to pay for certain collective expenses and to transfer federal subsidies to individual colonies. To make the budgets of colonies that were incorporated in a federal structure comparable to those that were not, I adjusted for the 'federal effect'. That is, I subtracted subsidies from the federal government, and reallocated the collectively collected revenue from the federal budget back to the colonies from which it was derived.

For most years, the federal budget specified how much revenue came from which colony for each category involved (customs, consumption taxes, etc.). For those years where I was unable to find such a breakdown though, I took the following approaches for interpolating missing years. When the gaps of missing years were small, I maintained the relative shares of the preceding or subsequent years. When such gaps were so large that the shares between the two closest years was too variable, I relied on the distribution found in the *Budgets* to inform the total amount found in the *Comptes Définitifs* if this was available.

A.5: Demographic data

It is well-known that colonial population statistics were often inaccurate, as they either failed to incorporate all inhabitants living in more remotely located areas, or because colonial government grossly overestimate the size of population in their territories. In recent years, economic historians have made great progress to improve population figures for the colonial period, and I rely on these estimates instead of those made by colonial administrations.⁹⁷ Since these figures do not take into account any territorial changes, I adjusted for these when necessary.

Haute Volta was only a separate colony between the years 1919-1932. Its territory and population had been first part of Côte d'Ivoire and Haut-Sénégal-Niger and was later subdivided between Côte d'Ivoire, Soudan and Dahomey. Based on available maps of the territories, I allocated 50% of the population of Haute Volta to Côte d'Ivoire and 50% to Haut-Sénégal-Niger for the years before 1919, and for the period after 1932 again 50% to Côte d'Ivoire, 33% to Dahomey and 17% to Soudan. Although these, lacking precise local demographic data, are of course rough estimations, it should be kept in mind that the effect on my total estimates is small, as only 20% of these shares enters in my calculations.

⁹⁷ I use the dataset constructed recently by Ewout Frankema and Morten Jerven (2014).

APPENDIX 3: DATA

Table A.3: Average annual *corvée* days in French West Africa

	CIV	DAH	GUI	HAU	MRT	NER	SEN	SOU
	av. days	av. days	av. days	av. days	av. days	av. days	av. days	av. days
1913	10.13	7.07	6.00		5.00	5.00		8.55
1914	10.00	7.07	6.00		5.00	5.00		8.55
1915	10.00	7.07	6.00		5.00	5.00		8.55
1916	10.00	7.07	6.00		5.00	5.00		8.55
1917	10.00	7.07	8.00		5.00	5.00		8.55
1918	10.00	7.07	8.00		5.00	5.00		8.55
1919	10.00	7.07	8.00		5.00	5.00		8.55
1920	12.00	7.07	8.00	10.00	5.00	5.00		8.55
1921	12.00	7.07	6.00	10.00	5.00	5.00	10.00	8.67
1922	12.00	8.29	6.00	10.00	5.00	5.00	4.00	8.67
1923	12.00	8.29	6.00	10.07	5.00	5.00	8.00	8.67
1924	12.00	8.86	6.00	8.36	5.00	5.00	8.00	8.67
1925	12.00	8.77	6.00	7.65	5.00	5.00	8.00	8.64
1926	12.00	8.77	6.00	7.95	5.00	5.00	8.00	8.67
1927	12.00	8.77	6.00	7.95	5.00	5.00	8.00	9.81
1928	12.00	8.77	6.00	8.25	5.00	5.00	4.00	9.81
1929	12.00	9.23	6.00	8.25	5.00	5.00	4.00	9.81
1930	12.00	9.23	6.00	8.25	5.00	5.00	4.00	9.82
1931	6.00	10.00	6.00	7.82	5.00	5.00	4.00	9.00
1932	10.00	10.00	6.00	7.82	5.00	7.69	4.00	9.00
1933	9.43	10.00	8.00		5.22	7.69	4.00	9.00
1934	9.43	10.00	8.00		5.22	8.72	4.00	8.82
1935	9.43	10.00	8.00		5.22	8.91	4.00	8.85
1936	9.48	10.00	8.00		5.33	8.91	4.00	8.86
1937	9.48	6.00	8.00		5.33	8.91	4.00	8.86

Sources: Budgets Locals and Journals Officiels

Notes: Colonies are indicated on the basis of the current three-digit country ISO-code. When the name was different in the colonial period, the first three letters of the colonial name were used. For convenience sake I will list the names here: CIV is Côte d'Ivoire, DAH is Dahomey (current Benin), GUI is Guinée, HAU is Haute Volta (current Burkina Faso), MRT is Mauritanie, NER is Niger, SEN is Sénégal, and SOU is Haut-Sénégal-Niger/Soudan (current Mali)

Table A.4: Average annual *corvée* days in French Equatorial Africa, Cameroun, Madagascar and Togo.

	COG	GAB	OUB	TCD	CMR	MDG	TGO
	av. days	av. days	av. days	av. days	av. days	av. days	av. days
1913							
1914							
1915	10.00	12.00	12.00	7.00		8.00	
1916	10.00	12.00	12.00	7.00		8.00	
1917	10.00	12.00	12.00	7.00		8.00	
1918	10.00	12.00	12.00	7.00		8.00	
1919	10.00	12.00	12.00	7.00		8.00	
1920	10.00	12.00	12.00	7.00		10.00	
1921	10.00	12.00	12.00	7.00		10.00	12.00
1922	10.00	12.00	12.00	7.00	10.00	10.00	12.00
1923	10.00	12.00	12.00	8.00	10.00	10.00	12.00
1924	10.00	12.00	9.50	8.00	10.00	10.00	12.00
1925	10.00	12.00	9.50	8.00	10.00	10.00	12.00
1926	10.00	12.00	9.50	8.00	10.00	10.00	12.00
1927	10.00	12.00	9.50	8.00	10.00	10.00	12.00
1928	10.00	12.00	9.50	8.00	10.00	10.00	12.00
1929	15.00	12.00	9.50	8.00	10.00	10.00	12.00
1930	14.54	14.25	14.18	10.88	10.00	10.00	12.00
1931	14.60	14.25	14.18	8.00	10.00	10.00	12.00
1932	14.66	14.25	14.18	12.00	10.00	10.00	12.00
1933	14.66	14.25	14.18	12.00	10.00	10.00	6.00
1934	14.74	12.75	14.18	12.00	10.00	10.00	6.00
1935					10.00	10.00	6.00
1936					10.00	10.00	6.00
1937					10.00	10.00	

Sources: Budgets Locals and Journals Officiels

Notes: Colonies are indicated on the basis of the current three-digit country ISO-code. When the name was different in the colonial period, the first three letters of the colonial name were used. For convenience sake I will list the names here: COG is Congo, GAB is Gabon, OUB is Oubangui-Chari (current Central African Republic), TCD is Tchad, CMR is Cameroun, MDG is Madagascar, and TGO is Togo.