A Radical Journal of Geography

ANTIPODE

Check for updates

Colonial Financial Infrastructures and Kenya's Uneven Fintech Boom

Nick Bernards

Global Sustainable Development, University of Warwick, Coventry, UK; n.bernards@warwick.ac.uk

Abstract: Kenya is a widely cited case for proponents of fintech for development. This article shows how Kenya's fintech boom replicates patterns of uneven development inherited from the colonial era. In particular, fintech use is unevenly distributed between urban and rural areas, and heavily concentrated on Nairobi and Mombasa in particular. The article seeks to explain these patterns by situating them in relation to the spatiality and political economy of settler-colonial agriculture, tracing successive (unsuccessful) efforts at reforming the financial system to ameliorate social and spatial disparities inherited from the colonial era. It does so drawing on recent debates about "financial infrastructures", alongside considerations of the political economy of land, property relations, and the state.

Keywords: fintech, colonialism, uneven development, Kenya, infrastructures

Introduction

Kenya is a paradigmatic case for promoters of fintech. The rapid, widespread adoption of mobile payment service M-Pesa, and the more recent rise of a wide range of digital finance applications, it is claimed, has allowed Kenya to "leapfrog" the constraints of its existing financial system: "new technologies solve problems arising from weak institutional infrastructure and the cost structure of conventional banking" (Aron 2017:5). Suri and Jack (2016:1292), in a widely cited article, suggest that mobile payments, enabling "a more efficient allocation of labour, savings, and risk", directly moved 194,000 households (2% of the country's population) out of poverty. This figure has been widely circulated and cited not just by academics, but especially in popular media and development policy-making (e.g. UN 2018).

Critics have shown that such narratives of fintech-enabled growth mask emergent and deep-rooted patterns of exploitation and stratification (Bateman et al. 2019; Bhagat and Roderick 2020; Mann and Iazzolino 2021; Natile 2020). These arguments speak to a wider critical response to the rise of fintech for "financial inclusion". Authors have questioned the developmental benefits of fintech (Bernards 2019; Langevin 2019; Natile 2020), highlighting disciplinary tendencies implicit in new modes of credit scoring (Aitken 2017; Gabor and Brooks 2017) and emergent forms of monopoly power in new platforms (Clarke 2019; Langley and Leyshon 2021; Mann and Iazzolino 2021).

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.
This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

Yet, the *unevenness* of fintech, in Kenya and elsewhere, has gone under-examined. Fintech applications, especially for credit, are used primarily by urban households, predominantly in Nairobi and Mombasa. Notably, this pattern closely mirrors the contours of the country's colonial-era financial system. Ironically, given predictions of fintech-enabled "leapfrogging" (e.g. Aron 2017), fintech has largely worked through pre-existing patterns of uneven development. This article aims to explain the persistence of colonial financial geographies in the rollout of Kenyan fintech.

In order to do so, like a number of recent analyses of colonial durabilities in East African development (often focused on transport mega-projects (e.g. Aalders 2021; Enns and Bersaglio 2020; Kimari and Ernstson 2020; Lesutis 2021), I draw from infrastructure studies. "Infrastructures" are understood here in the broad sense of backgrounded socio-technical systems allowing basic functions and circulations to be carried out (cf. Karasti et al. 2016; Star 1999; Van Veelen et al. 2021). A number of recent contributions have applied this kind of perspective to debates about finance (Aitken 2017; Bernards and Campbell-Verduyn 2019; de Goede 2021). Financial markets are made up of material flows that move through durable infrastructures—backgrounded means of assessing risks, settling payments, calculating values. Financial infrastructures in this sense include, for instance, physical buildings, record-keeping systems, means of communication, and routinised formulae, standards and metrics. These durable systems form the "installed base" (per Star 1999) into which new technologies must normally be fitted.

(Financial) infrastructures are a key mechanism through which spatial patterns rooted in settler-colonial practices of racialisation and exploitation have persisted long after the formal end of colonialism. They are "imperial remains" in the sense highlighted by Kimari and Ernstson (2020:827)—"entangled colonial practices that have racialism immanent to them, and which continue to occur in an, ostensibly, postcolonial state". Indeed, Kenyan financial infrastructures, as with infrastructures more generally, not only made racial difference durable, but were "themselves productive of race", in Sherman's (2021) words. The entangled geographies of racialised land ownership, labour exploitation, and financial infrastructures that were built up around Kenya's settler colonial agriculture in the early twentieth century not only sedimented but also *produced* and *reproduced* distinctive patterns of racial stratification.

As Cooper (2005:17 – 18) rightly notes, we should be wary of "leapfrogging legacies" in discussing the enduring impacts of colonialism—of claiming that "something at time A caused something in time C without considering time B, which lies in between". It is not enough to show a correspondence between past and present patterns without either tracing patterns of continuity and change over time, or showing how continuities are reproduced. Equally, while the materialities of colonial infrastructures clearly matter, they are not mechanistically replicated over time—"the ruins of empire—both material and metaphorical—are durable but do not determine the present" (Aalders 2021:997). It's thus helpful to read the materialities of financial infrastructures alongside shifting dynamics of accumulation and political power (cf. Bernards and Campbell-Verduyn 2019).

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

Colonial financial geographies have persisted in Kenya for two related reasons. First, financial infrastructures bound accumulation with the contradictory configurations of land, property, and labour relations implicit in Kenyan settler colonialism. Second, while the colonial and postcolonial state has at different times been controlled by different political factions organised along different class, racial, and ethnic lines, it has consistently "laboured under a palimpsest of accumulation and control", in Lonsdale and Berman's (1979:491) phrase. It has thus been unable to substantially disrupt ongoing accumulation, relying instead on limited reforms which have left the core of the existing financial system and broader circuits of accumulation intact.

I develop these arguments in three steps. The first section situates the development of these patterns in relation to the political economy of Kenyan settler colonialism. In the second section, I show how these patterns persisted in important respects through the end of colonial rule. In the third and final section, I map the uneven development of digital finance onto these longer trends. In making these arguments, the article contributes to a growing literature showing how present-day global finance reproduces colonial hierarchies and dynamics (see de Goede 2021; Koddenbrock 2020; Tilley 2021). In highlighting the interplay between financial infrastructures and these dynamics, this article also contributes to debates about the relationships between financial systems and the uneven development of "real economies" and state forms in sub-Saharan Africa (e.g. Kvangraven et al. 2021; Newman 2020).

Finance in the Political Economy of Settler Colonialism

The development and reproduction of Kenya's financial geography were strongly conditioned by the racialised property relations inherent in the distinctive form of settler colonialism that existed in the territory. As a number of authors (notably Englert 2020) have argued, studies of settler colonialism have focused heavily on exterminatory processes of displacement visited on indigenous peoples in North America and Australia, sometimes at the expense of considerations of variegated forms of settlement, displacement, and exploitation elsewhere. It is nonetheless useful to think about Kenya as a settler colony. Doing so highlights the importance of interlinked processes of racialisation, enclosure, and territorialisation distinctive to settler colonies—notably the formation and underdevelopment of "reserve" areas, and the explicit racialisation of property rights. It also calls attention to what Englert (2020:1648) labels a process of "internal settler class struggle" unfolding simultaneously "between settler classes and against indigenous peoples". Settler farmers, crucially, were never unambiguously dominant in Kenya. Most remained subordinated to metropolitan finance capital (see Van Zwanenberg 1975). Moreover, while the colonial government often promoted their interests, ultimately Kenya was governed by a small administration delegated from the Colonial Office, which needed both to foster ongoing capital accumulation and to secure some basis for legitimacy from African populations, rather than by settlers themselves (see Capps 2018; Lonsdale and Berman 1979).

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

The early development of the financial sector mapped closely onto the activities of merchant capital. The (British-owned and headquartered) National Bank of India (NBI) opened a branch in Mombasa in 1896.[1] The Foreign Office assumed responsibility for the then-East African Protectorate from the East Africa Company in 1895. Head taxes, intended to compel African commodity production for export, were implemented in the early 1900s. These grew from 4.5% of government revenue in 1901/02 to nearly 29% by 1904/05 (Lonsdale and Berman 1979:497). African exports, mainly of hides and ivory, mediated through Indian merchant capital, thus quickly became critical to the survival of the colonial state prior to WWI (see Capps 2018; Lonsdale and Berman 1979).

However, the completion of the railway from Mombasa to Lake Victoria, though mainly intended to secure control over Uganda, helped facilitate the rise of settler agriculture (cf. Lesutis 2021; Morgan 1963). Colonial administrators saw the highland areas linked to Mombasa by the railway as climatically suited to white settlement (see Morgan 1963). The establishment of Nairobi, roughly midway between Mombasa and Kampala, in 1899 was intimately linked to the construction of the railway, as it was selected as a site for a major depot (Gunston 2004:58; cf. Kimari and Ernstson 2020). The city rapidly developed into a critical trading centre linking the circuits of commercial and financial capital with settler farms in the surrounding highlands. The banking system followed. NBI opened a second branch in Nairobi in 1904, followed by Standard Bank of South Africa in 1910 and the National Bank of South Africa in 1916—the latter became part of Barclays (Dominion, Colonies and Overseas [DCO]) in 1926.

Property titles to agricultural land were a critical financial infrastructure; indeed, transferable property titles which could be repossessed in the event of default were arguably the main mechanism by which banks assessed and managed credit risks. In performing this function, property titles also constituted and entrenched processes of racial and spatial differentiation. As Manji (2020:32) argues, "Kenyan land policy was … racialised at its inception". Titles to land in the White Highlands were reserved for "European" settlers (see Coldham 1979).[2] Figure 1 shows the rough extent of the "White Highlands". Nominally "uninhabited" or "unused" land was claimed by the Crown and subsequently made available for purchase by settlers. Importantly, the question of what constituted "vacant" land was contested—especially because the state treated fallow land and rotating pastures as "vacant" (Morgan 1963:146 – 147). The allocation of land for white settlement disrupted existing forms of agriculture and pastoral livelihoods, and was contested throughout the colonial period, particularly by Kikuyu agriculturalists living near the Highlands (Coray 1978).[3] The associated policy of segregating African populations into restrictive "reserve" areas based on "tribal" groupings also helped to reshape and reproduce ethnic differentiation (Kanyinga 2009:328).

Alongside their role in processes of racialised dispossession, the role of land titles as specifically *financial* infrastructures also strongly shaped their development. Land rights were initially conditional on "productive" use, as the state sought to minimise land speculation. This was quickly overturned as settlers complained that such restrictions inhibited their ability to use purchased land as collateral: "the settlers are naturally anxious that the land on which they spend their

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

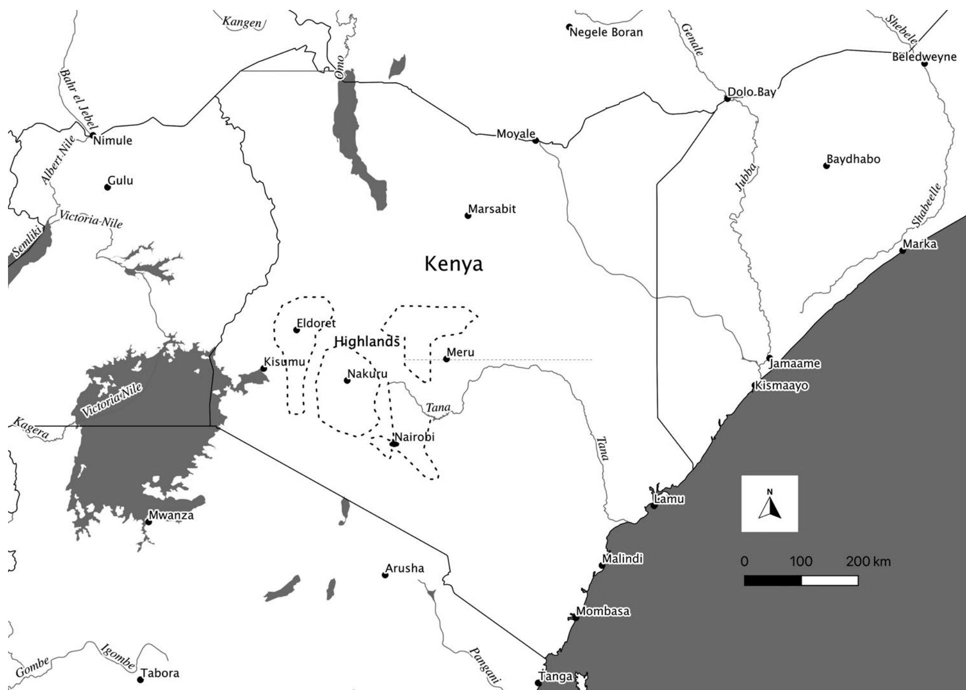

Figure 1: Map of Kenya, showing major cities and approximate extent of "White Highland" areas (source: adapted by the author from Morgan [1963])

labour should be a marketable and mortgageable security" (East Africa Protectorate 1908:30). Officials also began to view speculation as a means of raising the value of farmers' collateral in land, hence enabling wider access to credit (Lonsdale and Berman 1979:499). In short, while racial restrictions remained in place, other restrictions on property titles were quickly removed specifically in order to facilitate their use as means of assessing credit risk.

Settler agriculture was highly stratified. Some large individual and corporate landholders could access relatively cheap credit in London; the bulk of settlers on smaller plots were reliant on the colonial financial system (Van Zwanenberg 1975:278-279). Many of the latter were heavily indebted, particularly because banks loaned against the market value of land rather than farm income (Van Zwanenberg 1975:280). Petty settlers in particular increasingly depended on access to cheap labour, secured mainly through the forcible underdevelopment of reserves and restrictive laws governing the movement of African populations (Berman and Lonsdale 1981:62). While short-term migrant labour remained important, longer-term tenant farmers ("squatters"), governed by increasingly restrictive Resident Native Labour Ordinances (RNLOs) gradually increased as a proportion of the labour force. By 1937 the RNLO in force required squatters to perform 270 days of labour per year for the landowner and restricted tenant plots to two acres (Cowen 1989:264). The intersection of credit infrastructures with racialised structures of property relations in this sense was also crucial. It was not simply ownership over land, but also the control this granted over access to

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

credit—and hence over inputs and machinery—that enabled settler control over migrant and tenant labour. Indeed, the importance of uneven access to formal credit is underlined by the adoption, at the behest of settlers, of increasingly severe restrictions on credit to Africans. An ordinance passed in 1948, for instance, capped the enforceability of debts of Africans to non-Africans at 200 shillings. This was later raised to 2,000, but remained "a sum hardly adequate for … stockpiling even a small shop" (Jørgensen 1975:150).

The emerging financial system was dominated by three banks controlled from London, accounting for roughly 80% of banking assets (Aaronovitch and Aaronovitch 1947:177). Until 1950, bank branches in Kenya were predominantly located in Mombasa and Nairobi (Bostock 1991; Engberg 1965:190; Morris 2016:652; Upadhyaya and Johnson 2015:18 – 20), and virtually all in "White Highland" areas. As Morris (2016:652) notes, "of the 20 areas of Kenya where the three major banks … were represented in 1950, only two (Kisii and Bungoma) were not dominated by European enterprise". In large part because of the presence of settlers holding mortgageable property titles, Kenya had a comparatively deep financial sector in contrast to most other territories in sub-Saharan Africa (see Newlyn and Rowan 1954:76 – 77). This was reinforced by the fact that Mombasa and Nairobi were sub-regional commercial centres linking export agriculture across East Africa to world markets. Advances to merchants trading elsewhere, especially in Uganda, were typically contracted in one of these two cities (Newlyn and Rowan 1954:87).

This situation generated important contradictions. As early as the 1920s, faced with volatile prices for key exports and growing concerns about overindebted settlers, colonial banks started to restrict credit to agriculture and smaller settlers in particular. The administration came under growing pressure to plug the gap, establishing a Land and Agricultural Bank (LAB) in 1931. The LAB was ostensibly meant to provide investment credit, but more than 40% of loans went to bailing out existing mortgages (Aaronivitch and Aaronovitch 1947:178). The LAB also required security in land and did not begin to lend to African farmers even narrowly until 1945 (see Shipton 1992:365). This situation began to change in a number of ways in the 1950s, as the suppression of African agriculture became increasingly untenable.

Decolonisation and Persistent Uneven Development

In this section, I turn to the question of how this colonial financial geography was reproduced through the process of decolonisation. It is worth noting, to begin, that there was a significant expansion of branch networks across British territories in sub-Saharan Africa, in the 1950s. Kenya was a major focus of this expansion (see Engberg and Hance 1969:196). Historians have often attributed this to tentative efforts by banks in Kenya and elsewhere to position themselves to profit from the process of decolonisation (see Bostock 1991; Engberg 1965; Engberg and Hance 1969; Morris 2016; Velasco 2020). While this is broadly true, I'll show in what follows how the materiality of the existing financial system and uneven

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

control over land, finance, and productive assets ultimately led to the reproduction of existing patterns of uneven development.

There were tentative efforts to support African agriculture from the 1930s, particularly in Kikuyu regions adjacent to the White Highlands, with the colonial state seeking both to expand its fiscal base and contain growing political threats (see Anderson and Throup 1985). The colonial government eventually appointed a Committee on Agricultural Credit in 1949 to propose means of widening access to agricultural credit for African borrowers. The committee recommended a pilot scheme of agricultural credit cooperatives (CPK 1950). The proposed cooperatives were explicitly intended as means of channelling credit to Kenyan farmers by providing greater security for lenders through group loans in the absence of land titles.[4] In practice, any efforts to implement these recommendations were interrupted by the intensification of the Mau Mau rebellion—an armed revolt led by the Kenya Land and Freedom Army, concentrated in Kikuyu-dominated regions, which was brutally repressed by the colonial state (see Anderson 2005; Cowen 1989).

Alongside the horrific counterinsurgency, agricultural reforms—implicitly or explicitly targeted to Kikuyu areas—formed a key part of the colonial response to the rebellion. Roger Swynnerton, then-Assistant Director of Agriculture in Kenya, was appointed to propose a strategy for agricultural development in 1953. Swynnerton's report marked a shift towards an explicit policy encouraging the development of African agriculture (Shipton 1992; Thurston 1987), intending to create a politically "stabilised" middle class of property-owning Kikuyu farmers (see Manji 2020; Van Arkadie 2016). In the words of one official, Swynnerton's proposals would "enable the go-ahead farmer to increase the size of his holding. The little, inefficient man may well go to the wall but that is all to the good and he will then become virtually a landless labourer".[5] Land titling, again, was central to these reforms. Swynnerton proposed expanding formal land titling to "African" areas, facilitating the use of such titles as collateral, and as a result expanding the scope of capitalist agriculture while using minimal state resources: "If Africans … achieve titles to their land in economic units, much greater facilities should be made available to them for borrowing against the security of their land" (CPK 1954:54–55). This was, notably, explicitly presented as an alternative to providing direct state support (CPK 1954:54).

It's against this backdrop that the dramatic expansion of branch banking in the 1950s needs to be read. Banks sought to build physical infrastructures that would enable them to profit from the potential rise of a "middle class" of Kikuyu farmers in proximity to the White Highlands. The London manager of Barclays (DCO) echoed the language of the Swynnerton plan in arguing that—while advances to African borrowers would not likely be profitable in the short term—they were nonetheless "a useful contribution to … developing a Kikuyu farming class" which might be lucrative in the future (quoted in Morris 2016:655). In practice, though, the lending operations of commercial banks were refocused on short-term commercial loans in Nairobi and Mombasa (Hyde 2009:86). While banks built new branches in African-dominated rural areas, these new branches engaged minimally in credit provision. For one major commercial bank, Jørgensen (1975:160)

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

reported in the mid-1970s that the median ratio of advances to deposits in rural branches was 28%, against 58% in urban branches (Jørgensen 1975:160). The result was expanded that branch networks largely channelled rural savings to European- and Indian-owned commercial firms. African borrowers accounted for less than 3% of credit from commercial banks as late as 1967 (Jørgensen 1975:158). The figure remained only 14% in 1973 (Jørgensen 1975:161; cf. World Bank 1975a:274).

In short, faced with the intensifying contradictions of settler agriculture, which posed substantial limits on the profitable deployment of capital, financial capital in Kenya, supported by the colonial state, sought to carve out new spaces of accumulation. This included expanded engagement with Kikuyu farmers near the former White Highlands, but primarily took place through a renewed focus on commercial credit. Critically, this is a pattern of restructuring that reinforced the concentration of financial infrastructures in urban settings over rural ones in general, and in Nairobi and Mombasa in particular.

Antinomies of Political Independence

It remains to be explained how and why formal decolonisation did not dramatically change the spatial configuration of the Kenyan financial system. Part of the answer is that postcolonial elites largely sought to preserve the essential structures of the colonial economy, particularly around land and property relations (see Manji 2020; Van Arkadie 2016), with the effect of reinforcing existing patterns of uneven development in Kenya (Tomlinson 1982). Given the persistence of land titles as a crucial financial infrastructure, the politics of postcolonial land reform played an important role.

The anti-colonial movement was split over whether settler land should be restored to pre-colonial inhabitants or redistributed among existing residents, as well as the nature of land rights that should be implemented (see Kanyinga 2009; Manji 2020; Van Arkadie 2016). The Kenya African National Union (KANU)—dominated by Kikuyu elites—backed the maintenance of property rights where they existed and the redistribution of settler land through purchase, while the Kenya African Democratic Union (KADU) advocated for the restoration of control over land to pre-colonial inhabitants. KADU proposals would have meant the restoration of the White Highlands primarily to collective control by predominantly Kalenjin pastoralist groups who had been displaced by the definition of "uninhabited" land deployed by the colonial state. KANU ultimately won pre-independence elections in 1963, with Jomo Kenyatta as Prime Minister (and subsequently President). KANU absorbed significant elements of KADU by 1964, with former deputy leader Daniel Arap Moi positioned as Deputy President by 1967.

The KANU government under Kenyatta pursued a programme of re-distribution of settler land. From 1962 to 1966, approximately 20% of land held by European settlers was purchased by the state and sold (on credit) to smallholders; by the 1970s half of former settler land had been redistributed (see Boone 2011:79 – 80). This redistribution preserved a stratified system based primarily on private ownership, albeit one in which some African (and particularly

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

Kikuyu) elites were able to accumulate large holdings (see Manji 2020; Van Arkadie 2016). It also established strong state control over the allocation of land for smallholders, many of whom were subject to de-facto tenancy arrangements in which they were unable to hold a formal land title until repaying (often unpayable) debts to the government for the purchase of settler land (see Boone 2011). All of this reinforced the highly ethnicised nature of land conflicts, which arguably intensified after Kenyatta's death and succession by Vice-President Moi in 1978. Under Moi the accelerated redistribution of land in former reserves, and frequent scapegoating of Kikuyu smallholders as sources of land scarcity, were means of developing and mobilising a cohesive Kalenjin political identity and shoring up political support. Large tracts of land were turned over to politically-aligned elites under Moi (see Boone 2011:85 – 86; Klopp 2000).

These changes did have a dramatic effect on the composition of agricultural production. At the end of the colonial period, roughly 80% of agricultural exports came from "large" farms in the White Highlands, and 20% from "small" farms in reserves, by the end of the 1960s the "large" and "small" farm sectors each produced about half (see Njonjo 1981:31). These transformations further cemented the orientation of the major banks towards commercial activity in Nairobi and Mombasa, with agricultural lending restricted to large landholders. The fragmentation of land into smaller plots and the uncertain control of smallholders over land titles meant that the viability of agricultural land as security was greatly diminished (see Shipton 1992). In practice, increasingly "the ability to attract credit from commercial sources has been established to depend not only on the title deed per se, but rather on additional assurance of wage labour, where it is easier to attach salaries for repayment requirements" (Gutto 1981:54). Agricultural borrowing was primarily restricted to the largest farmers (many of whom, as noted above, had close ties to KANU), particularly those who could draw on incomes from formal salaried jobs or commercial property (see Barrows and Roth 1990). Survey research in the 1970s found that, while roughly 10% of smallholders overall had significant sources of off-farm income, 70% of farmers contracting commercial loans did (Collier and Lal 1980).

Alongside land politics, another key part of the explanation for the persistence of colonial financial infrastructures is as a consequence of dramatic capital flight in the final years of colonial rule (see Ogle 2020). Crucially, the flight of settler capital, particularly in the absence of mineral rents, created a growing dependence on attracting foreign investment. Although the KANU government, spurred by former trade unionist and head of the Economic Planning and Development Ministry Tom Mboya (assassinated in 1969), initially outlined a nominally "socialist" approach to development, this "socialist" strategy was quite explicit that a shortage of domestic capital meant that Kenya needed to "stimulate the inflow of private capital from abroad" (e.g. RoK 1965:19). This approach made sense in a structural situation where "Neither the government nor the Kenyan bourgeoisie could afford to … alienat[e] foreign capital" (Currie and Ray 1987:90; cf. Dafe 2020). A key result of this enforced deference to foreign private capital in the early years post-independence, though, was that the financial sector remained dominated by the big British banks, which continued to collectively control more

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

than 80% of financial assets (Hornsby 2012:188; Mullei and Ng'elu 1990). These banks, as noted above, provided little credit for African enterprise in general and for agriculture in particular. The World Bank concluded in 1975 that "it appears that commercial banks direct their funds from rural to urban areas and, above all, to foreign-owned firms in the formal sector" (World Bank 1975a:274).

The KANU government sought to address this problem in two ways. First, the government sought to reform the commercial banks. It took a 60% stake in National & Grindlay's Bank, renamed Kenya Commercial Bank (KCommB) (see Hornsby 2012:242). KCommB was intended to expand lending to African borrowers, especially for agriculture (see David 1981). The share of lending going to agriculture increased from 10% to roughly 15% between 1970 and 1976, much of the increase accounted for by KCommB (David 1981:72). The government also failed in 1972 to force Barclays and Standard Bank to merge and take a similar stake (Hornsby 2012:243). A number of regulations aimed at redirecting credit to an incipient domestic capitalist class—notably by linking permission to repatriate profits with the clearance of overdrafts for foreign firms, and by establishing different borrowing limits for domestic and foreign firms (see Swainson 1977:42). Ultimately, though, the financial sector remained heavily focused on lending to large commercial firms.

The Kenyan state also essentially constructed a parallel agricultural finance sector. The Agricultural Finance Corporation (AFC) was established in 1963, supported by USAID and the World Bank (see Hornsby 2012:131). The Kenyan government also established an extensive system of cooperatives. These played a prominent role in agricultural lending. The Kenyan government established a Cooperative Bank of Kenya (CoopBK), which was meant to handle loans for agricultural production, with oversight by the government, in 1966. The CoopBK grew from 16 staffers in 1973 to over 200 by 1983 (Gyllstrøm 1991:92). The government also introduced a Cooperative Production Credit Scheme, linking loan allowances for individual cooperative societies to the delivery of produce. This was followed by the introduction of a linked savings scheme, where farmers' crop deliveries would be credited to savings accounts operated by the cooperatives. Between 1972 and 1982, loans from cooperative societies grew from KSh 10m to 940m (Gyllstrøm 1991:92). The cooperative system tied farmers into a coordinated system of monopsony buyers (primarily marketing boards and selected agro-processors), with close supervision of what crops were planted and what inputs were used (Gyllstrøm 1991; Mann and Iazzolino 2021). Lending from both the AFC and the cooperatives scheme was often strongly shaped by the political imperatives of the Kenyatta and Moi governments, with notable impacts on repayment levels. Between 1967 and 1970, roughly 75% of outstanding AFC loans had been collected, falling to 69% in 1971 and 1972, and 43% in 1973 (World Bank 1975b:26). CoopBK data suggested that cooperative societies recorded repayment rates of between 10% and 40% on production credit (Gyllstrøm 1991:237 – 239).

Reforms of the postcolonial land and financial systems thus reinforced the concentration of the commercial financial sector in Nairobi and Mombasa. Land reforms preserved the private, capitalist nature of large landholdings, while

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

transforming a substantial proportion of formerly settler-held land titles into a form that was unsuitable as collateral. The commercial banks, as a result, retained their colonial-era focus on trade finance and lending to large commercial concerns. The Kenyan state sought to alleviate these constraints by developing parallel state-backed agricultural credit systems, which were also frequently used to reward and discipline political followers.

Fintech and the Political Economy of Finance Post-Structural Adjustment

Several external and internal factors led to the collapse of this system by the 1980s. The global spike in oil prices after 1973 exacerbated balance of payments problems. These were offset by a minor boom in coffee prices, until the latter collapsed in the late 1970s (see Mosley 1986). Agricultural production was disrupted by a series of major droughts starting in 1974/75, culminating in a particularly severe and protracted agricultural crisis in 1983/84 (Shisanya 1990). The Kenyan government was forced to take out several structural adjustment loans starting in 1980. Structural adjustment in Kenya was haltingly implemented, especially with respect to agriculture—the Kenyan government notably resisting the privatisation and marketisation of key export commodities (see Gibbon 1992; Mosley 1986).

The financial sector was, however, substantially restructured (see Mkandawire 1999). Neoliberal reforms eroded the state-backed sections of the Kenyan financial system. The World Bank withdrew its support for the AFC in the early 1990s, despite noting the "indifference of the commercial banks to replacing AFC" (World Bank 1991:25). State resistance to the reform of cooperatives was more pronounced, particularly as they had become important vehicles for accumulation for some elites with close links to the Moi regime (see Gibbon 1992:87 – 88; Gyllstrøm 1991). However, in 1997 the central government withdrew state support for cooperatives, articulating a liberalised strategy aiming for the development of "autonomous, self-sustaining, and commercially viable" cooperatives (RoK 1997:2). A notable element of this policy was the commercialisation of the CoopBK (RoK 1997:29 – 30), and its eventual privatisation in 2008 (Wanyama 2009:12). In short, the state-backed system for agricultural credit was a major casualty of structural adjustment. The commercial financial sector retained its predominant focus on lending to commercial enterprises despite reforms. Restrictions on interest rates were removed in 1991, leading to increasingly volatile borrower rates, accompanied by growing concerns about bad debts at major banks, and increasing restrictions on credit (Johnson 2004:254), reflecting a common pattern across sub-Saharan Africa in the 1980s and 1990s (see Mkandawire 1999).

These changes exacerbated the stratification of land and agricultural production. Currency devaluation and the marketisation of inputs led to spikes in prices for seed and fertiliser, and the restructured financial system restricted available sources of credit for smallholders. The result, as one observer noted in the mid-1990s, was that "For the smallholder, financial constraints are worsening as prices of inputs, household expenses and the cost of public services continue to

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

escalate" (Richardson 1996:91). These conditions were exacerbated by the progressive closure of land frontiers and the intensification of conflict over agricultural land (see Boone 2011). Observers point to parallel processes of land consolidation and fragmentation. Hakizimana et al. (2017:564) show in a detailed analysis in Meru county that, while households with access to off-farm income have generally been able to expand landholdings, these represent a minority of rural households. The vast majority of others have only been able to acquire land through inheritance, leading to increasing fragmentation and pressure on land. Fibaek (2021) shows similar patterns nationally—with increasing rural stratification alongside falling farming incomes and productivity across strata, with the wealthiest households increasingly pursuing re-investment in off-farm income. From the 1990s, there was also a dramatic expansion of new crops, notably horticultural exports including cut flowers and fresh vegetables for European markets. This has been reliant on the growth of a landless or semi-landless population engaged in wage labour, often on a casualised basis, and the incorporation of smallholders into precarious outgrower schemes (Dolan 2004; Hakizimana et al. 2017).

All of this has happened as urban incomes have also become more stratified and precarious for many. Urban working classes were deeply affected by structural adjustment, particularly by the retrenchment of public sector employment and the devaluation of the Kenyan shilling. Between 2001 and 2011, for instance, one study reports that the incidence of casual work nearly doubled to more than 30% of employment, while regular wage work declined from 21% to 13% of overall employment (ILO 2016:71). Consistently about three-quarters of salaried workers were paid less than KSh 50,000 (roughly US$450) per month over most of the last decade (KNBS 2020:44).

Access to credit and the proliferation of indebtedness, in this context, have (re) emerged as critical policy concerns from the early 2000s (see Dafe 2020; Johnson 2016). Former KANU finance minister (turned opposition politician) Mwai Kibaki was elected president in 2002, on a platform promising major economic reforms, including the extensive privatisation of agriculture, and broadening of credit provision. There had been previous interventions in the latter area, notably the formation of Equity Bank in the mid-1980s. As Johnson (2004:96) notes, Equity Bank "must be seen in the context of its origins in Central Kenya under Kikuyu ownership during the period of the Moi government when resources flowing to this area were reduced, in particular from government-owned banks", and its identification with Kikuyu elites was amplified under Kibaki. The development of mobile and digital financial systems ultimately proved to be a crucial area of intervention (see Dafe 2020). This was in no small part, as Tyce (2020) argues, because Safaricom, which launched M-Pesa, was afforded a degree of insulation from political interference by virtue of a piecemeal privatisation process which meant that the company's board and shareholders (alongside Vodafone and the Kenyan government) cut across competing political factions. It was also heavily backed by external donors, notably the UK's Department for International Development. By 2020, the Central Bank of Kenya (CBK) counted just under 60 million mobile money user accounts (more than one per person). In December 2019, there were nearly 55 million mobile transactions, with a total value of KSh 382

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

billion (about US$3.6 billion) (Figure 2). As noted above, the rapid expansion of mobile payments has been accompanied by grandiose claims about their impacts on poverty reduction and economic development.

Yet, mobile and digital finance in Kenya have mapped closely onto existing financial infrastructures, and have arguably "succeeded" in large part because of those close links. There was some early resistance from commercial banks to the development of M-Pesa, but this was largely allayed in the early 2010s as banks were encouraged by the CBK in particular to adopt mobile money systems (see Dafe 2020:516). The CBK, critically, required each "digital shilling" to be matched by an equivalent shilling in a commercial bank account owned by Safaricom, effectively tethering the M-Pesa system to the existing commercial bank system. The expansion of savings and credit linked to the M-Pesa system started with the launch of M-Shwari, a partnership between Safaricom and Commercial Bank of Africa, 2012. There have been other digital finance platforms launched, but these are primarily app-based, and hence only available to smartphone users. M-Shwari benefitted from contractual provisions preventing competing credit services on M-Pesa until 2015. After 2015, KCommB launched an equivalent service. Indeed, a key difference between Kenya and other countries in this respect was that the vast majority of digital lenders in Kenya are established banks. In neighbouring Tanzania, for instance, the bulk of digital lending operators are smaller non-bank fintechs unable to operate on the same scale (Kaffenberger et al. 2018:4).

This has meant that mobile money and digital credit have had to "wrestle with the installed base" (per Star 1999) of existing financial infrastructures, and in important respects they mirror the geography of colonial financial systems outlined above. This has been amplified by the persistence of urban-rural income differences, and deepening patterns of economic stratification. The most recent national "FinAccess" survey found rates of access to formal financial services, including mobile money—that ranged from 96% and 94% in Nairobi and

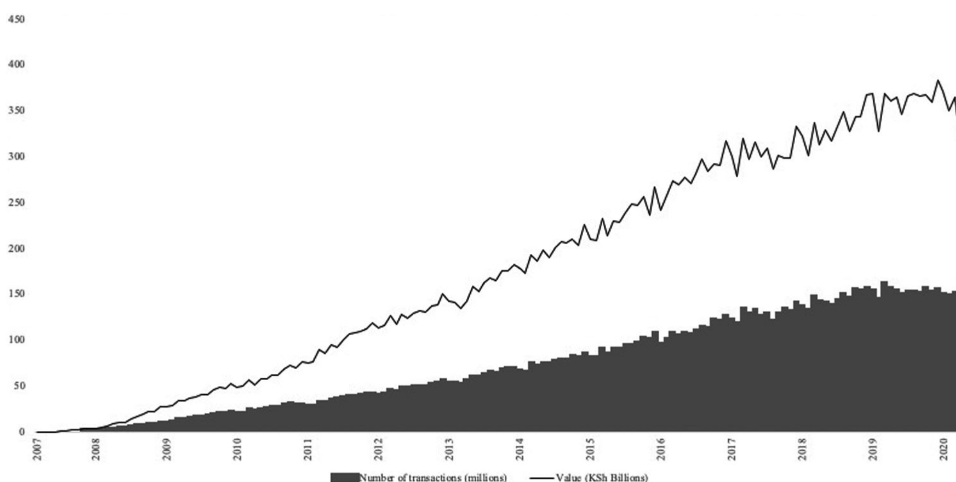

Figure 2: Number and value of monthly mobile money transactions in Kenya, 2007 – 20 (source: data from Kenya Central Bank)

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

Mombasa, respectively, to 57% in the Northern Rift Valley (FinAccess 2019:11), and a persistent gap between rural and urban residents, with 91.2% of urban residents and 77.3% of rural residents accessing formal financial services. Previous research has also found much heavier concentrations of mobile money agents in Nairobi and the surrounding metropolitan area relative to the rest of the country (Barboni 2015:70, 77).

These differences are especially pronounced when looking at credit. Digital and mobile credit have proven more controversial than payments, with concerns about growing over-indebtedness facilitated by digital credit apps (see Donovan and Park 2019; Singh 2018), even from erstwhile fintech promoters (e.g. Izaguirre et al. 2018). The potential role of mobile money in laying the groundwork for expanded credit nonetheless remains a key claim about the long-run benefits of mobile money (see Kaffenberger et al. 2018; McKinsey Global Institute 2016). So patterns of credit access are particularly telling. And, critically, the rollout of mobile and digital credit closely mirrors the colonial financial geographies highlighted above. Table 1 shows usage rates of mobile lending services and digital lending apps for rural and urban populations in the country as a whole. In general, among rural residents, 6.6% of respondents currently or had previously used mobile lending services, and 6.4% reported the same of digital lending apps. The corresponding figures among urban residents were 17.2% and 11.4%. These estimates need to be taken with caution, not least because any rigid binary between "urban" and "rural" is liable to obscure as much as it reveals in a context marked by longstanding and widespread patterns of rural-urban and translocal mobility.[6] But, this does mirror a long-run pattern of significant limits on private credit for agriculture. While there have been initiatives aimed at extending digital finance and other applications into agricultural settings, in Kenya and elsewhere (Brooks 2021), these have thus far had limited practical impacts and have tended to be used predominantly by more affluent farmers and by brokers and traders (see Mann and Iazzolino 2021; Ouma and Mann 2021).

Moreover, as shown in Table 2, the proportion of residents in Nairobi Metropolitan Area and Mombasa reporting past or present borrowing using both mobile money services (25%) and digital lending apps (18.2%) is more than double the respective use rates of mobile (12.3%) and digital borrowing (7.1%) elsewhere. Kenya's fintech boom, in short, is predominantly an urban phenomenon,

Table 1: Mobile and digital borrowing, urban and rural residents, Kenya (source: author calculations based on 2019 Kenya FinAccess Survey)

Residency	Total respondents	Number accessing mobile credit (past or present)	Percentage of urban/rural residents accessing mobile credit	Number accessing credit through digital apps (past or present)	Percentage of urban/rural residents accessing credit through digital apps
Urban	3611	621	17.2	411	11.4
Rural	5058	336	6.6	326	6.4
Total	8669	957	11.0	737	8.5

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

Table 2: Mobile and digital borrowing, urban residents by county (source: author calculations based on 2019 Kenya FinAccess Survey)

County	Total respondents w/ urban residence	Number accessing credit through mobile money (past or present)	Percentage accessing credit through mobile money	Number accessing credit through digital apps (past or present)	Percentage accessing credit through digital apps
Nairobi	703	191	27.2	63	9.0
Mombasa	231	42	18.2	62	26.8
Kiambu	156	72	46.2	68	43.6
Nairobi Metro/ Mombasa total*	**1395**	**349**	**25.0**	**254**	**18.2**
Kisumu	98	15	15.3	1	1.0
Nakuru	98	10	10.2	7	7.1
Uasin Gishu	64	11	17.2	3	4.7
Meru	70	11	15.7	3	4.2
All other urban total**	**2216**	**272**	**12.3**	**157**	**7.1**

*Includes all counties in Nairobi Metropolitan Area (Nairobi, Kiambu, Murang'a, Kajiado, Machakos) and Mombasa.
**Urban residents from all counties except Mombasa and Nairobi Metro. Sample sizes for specific smaller urban centres in the FinAccess survey are relatively small, so estimates of mobile and digital credit use in specific cities apart from Nairobi and Mombasa are probably not precise measures. The likely explanation for the much lower reported usage of digital credit in Kisumu compared with Nakuru, for instance, is random error.

and especially concentrated in Mombasa and in and around Nairobi. While consumer lending, as opposed to commercial lending, has grown dramatically with the advent of the new apps, particularly in the context of widespread precarity in cities, the extension of credit has taken place much more rapidly in proximity to existing financial infrastructures.

The overarching point here is that the fintech boom reflects patterns visible across successive episodes of financial restructuring in Kenya. We can understand this as being the result, at least in part, of a tendency for restructured financial operations to rely on and work through existing infrastructures. The rise of digital finance is not a mechanistic replication of colonial patterns. However, longer-run patterns of uneven development constitute important enabling conditions for the development and diffusion of fintech in Kenya.

Conclusion

I've shown how the rollout of mobile and digital credit has echoed the geography of colonial financial systems, locating the origins of these patterns in the political economy of settler colonialism, and explaining their persistence through the interplay between existing financial infrastructures, land, labour and property relations,

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

and political imperatives. In practical terms, these durable patterns of uneven development call into question the claim that fintech might enable developmental "leapfrogging". Mobile and digital money have worked through existing patterns of uneven development. In short, even if (for the sake of argument) we accept the claim that M-Pesa has moved many Kenyans out of poverty, those gains are likely to remain unevenly distributed in ways that map systemically onto longer histories. Kenya's fintech boom has "inherited the limitations" of the "installed base" of existing financial infrastructures, in Star's (1999) terms.

This also matters in more theoretical terms for how we understand colonial durabilities and contemporary development. This case suggests a need to think further about the mechanisms by which colonial dynamics are replicated. It highlights the dynamics of political control and accumulation which have persistently inhibited wider-ranging efforts at reforming colonial financial infrastructures. Indeed, the uneven development of fintech, and the longer history traced here suggests that financial development in itself is likely to reinforce existing patterns of uneven development (cf. Kvangraven et al. 2021; Newman 2020). The forms of social and spatial unevenness baked into the "imperial remains" (per Kimari and Ernstson 2020) of Kenya's financial infrastructures are unlikely to change without a more radical restructuring of existing systems of property relations and exploitation and the state forms through which they are sustained.

Acknowledgements

An earlier version of this paper was presented at CITO, University College Dublin. Thanks are due to participants in that event, as well as to Malcolm Cambell-Verduyn, Florence Dafe, and Ingrid Kvangraven for comments on earlier drafts, all of which have greatly improved the article. All remaining errors are, of course, mine.

Funding: British International Studies Association, grant no. BISA 2019-008.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Endnotes

[1] Later renamed "National & Grindlays" after a merger.

[2] This racial restriction on agricultural property was retained despite the protests of Indian merchants, backed by the Government of India (Government of India 1920).

[3] The "Kikuyu" ethnic group is the largest ethno-linguistic group in Kenya, consistently representing roughly 15 – 20% of the total population, primarily concentrated in the Highlands and Rift Valley. Pre-colonial Kikuyu society is generally seen as having been relatively decentralised (see Muriuki 1974; Tignor 1976), and arguably the production of a coherent, politically mobilised Kikuyu identity is linked to the patterns of settler colonial territorialisation described here. Given the proximity of Kikuyu reserves to the White Highlands, the prevalence of Kikuyu labour in settler farming, and the prominence of Kikuyu groups in anti-colonial resistance, Kikuyu elites have also played a disproportionate role in postcolonial politics.

[4] Minute, Burridge to Newsom, 25 February 1951, in British National Archives (BNA) CO 533/561/10.

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

[5] Minute, Troup, 8 February 1954, in BNA CO 822/964.
[6] Lai and Samers (2020:12 – 13) make a similar point about fintech more generally. On remittances and financial practices bridging rural-urban binaries in Kenya, see Johnson (2016).

References

Aalders J T (2021) Building on the ruins of empire: The Uganda Railway and the LAPSSET corridor in Kenya. *Third World Quarterly* 42(5):996–1013

Aaronovitch S and Aaronovitch K (1947) *Crisis in Kenya*. London: Camelot

Aitken R (2017) All data is credit data: Constituting the unbanked. *Competition and Change* 21(4):274–300

Anderson D (2005) *Histories of the Hanged: Britain's Dirty War in Kenya and the End of Empire*. London: Weidenfeld and Nicholson

Anderson D and Throup D (1985) Africans and agricultural production in colonial Kenya: The myth of the war as a watershed. *Journal of African History* 26(4):327–345

Aron J (2017) "'Leapfrogging': A Survey of the Nature and Economic Implications of Mobile Money." INET Oxford Working Paper No. 2017-02, Institute for New Economic Thinking, University of Oxford

Barboni G (2015) The geography of financial services providers in Kenya. In A Heyer and M King (eds) *Kenya's Financial Transformation in the 21st Century* (pp. 63–106). Nairobi: FSD Kenya

Barrows R and Roth M (1990) Land tenure and investment in African agriculture: Theory and evidence. *Journal of Modern African Studies* 28(2):265–297

Bateman M, Duvendack M and Loubere N (2019) Is fin-tech the new panacea for poverty alleviation and local development? Contesting Suri and Jack's M-Pesa findings published in *Science*. *Review of African Political Economy* 46(161):480–495

Berman B J and Lonsdale J M (1981) Crises of accumulation, coercion, and the colonial state: The development of the labour control system in Kenya, 1919–1929. *Canadian Journal of African Studies* 14(1):55–81

Bernards N (2019) The poverty of fintech? Psychometrics, credit infrastructures, and the limits of financialisation. *Review of International Political Economy* 26(5):815–838

Bernards N and Campbell-Verduyn M (2019) Understanding technological change in global finance through infrastructures. *Review of International Political Economy* 26 (5):773–789

Bhagat A and Roderick L (2020) Banking on refugees: Racialised expropriation in the fintech era. *Environment and Planning A* 52(8):1498–1515

Boone C (2011) Land conflict and distributive politics in Kenya. *African Studies Review* 55 (1):75–103

Bostock F (1991) The British overseas banks and development finance in Africa after 1945. *Business History* 33(3):157–176

Brooks S (2021) Configuring the digital farmer: A nudge world in the making? *Economy and Society* 50(3):374–396

Capps G (2018) Custom and exploitation: Rethinking the origins of the modern African chieftancy in the political economy of colonialism. *Journal of Peasant Studies* 45(5/6):969–993

Clarke C (2019) Platform lending and the politics of financial infrastructures. *Review of International Political Economy* 26(5):863–885

Coldham S (1979) Colonial policy and the highlands of Kenya, 1934–1944. *Journal of African Law* 23(1):65–83

Collier P and Lal D (1980) "Poverty and Growth in Kenya." World Bank Staff Working Paper No. 389, The World Bank

Colony and Protectorate of Kenya (CPK) (1950) "Report of the Committee on Agricultural Credit for Africans."

Colony and Protectorate of Kenya (CPK) (1954) "A Plan to Intensify the Development of African Agriculture in Kenya."

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

Cooper F (2005) *Colonialism in Question: Theory, Knowledge, History*. Berkeley: University of California Press
Coray M C (1978) The Kenya Land Commission and the Kikuyu of Kiambu. *Agricultural History* 52(1):178–193
Cowen M (1989) Before and after Mau Mau in Kenya. *Journal of Peasant Studies* 16 (2):260–275
Currie K and Ray L (1987) The Kenyan state, agribusiness, and the peasantry. *Review of African Political Economy* 14(38):89–96
Dafe F (2020) Ambiguity in international finance and the spread of financial norms: The localisation of financial inclusion in Kenya and Nigeria. *Review of International Political Economy* 27(3):500–524
David M (1981) The transition in smallholder banking in Kenya: Evidence from rural branch bank loans. *Journal of Developing Areas* 16(1):71–86
De Goede M (2021) Finance/security infrastructures. *Review of International Political Economy* 28(2):351–368
Dolan C (2004) On farm and packhouse: Employment at the bottom of a global value chain. *Rural Sociology* 69(1):99–126
Donovan K P and Park E (2019) Perpetual debt in the Silicon Savannah. *Boston Review* 14 August https://bostonreview.net/articles/kevin-p-donovan-emma-park-tk/ (last accessed 10 January 2022)
East African Protectorate (1908) "Correspondence related to the Tenure of Land in the East African Protectorate."
Engberg H L (1965) Commercial banking in East Africa, 1950–63. *Journal of Modern African Studies* 3(2):175–200
Engberg H L and Hance W A (1969) Growth and dispersion of branch banking in Tropical Africa, 1950–1964. *Economic Geography* 45(3):195–208
Englert S (2020) Settlers, workers, and the logic of accumulation by dispossession. *Antipode* 52(6):1641–1666
Enns C and Bersaglio B (2020) On the coloniality of "new" mega-infrastructure projects in East Africa. *Antipode* 52(1):101–123
Fibaek M M (2021) Rural differentiation and rural change: Microlevel evidence from Kenya. *Journal of Agrarian Change* 21(4):747–775
FinAccess (2019) "2019 FinAccess Household Survey." Central Bank of Kenya, Kenya National Bureau of Statistics, and FSD Kenya https://www.centralbank.go.ke/uploads/financial_inclusion/1035460079_2019%20FinAcces%20Report%20(web).pdf (last accessed 10 January 2022)
Gabor D and Brooks S (2017) The digital revolution in financial inclusion: International development in the fintech era. *New Political Economy* 22(4):423–436
Gibbon P (1992) A failed agenda? African agriculture under structural adjustment with special reference to Kenya and Ghana. *Journal of Peasant Studies* 20(1):50–96
Government of India (1920) "Correspondence regarding the Position of Indians in East Africa (Kenya and Uganda)."
Gunston H (2004) The planning and construction of the Uganda Railway. *Transactions of the Newcomen Society* 74(1):45–71
Gutto S B O (1981) Law, rangelands, the peasantry, and social classes in Kenya. *Review of African Political Economy* 8(20):41–56
Gyllstrøm B (1991) *State Directed Rural Change: Agricultural Cooperatives in Kenya*. London: Routledge
Hakizimana C, Goldsmith P, Nunow A A, Roba A W and Biashara J K (2017) Land and agricultural commercialisation in Meru County, Kenya: Evidence from three models. *Journal of Peasant Studies* 44(3):555–573
Hornsby C (2012) *Kenya: A History Since Independence*. London: I.B. Tauris
Hyde D (2009) "Paying for the emergency by displacing the settlers": Global coffee and rural restructuring in late colonial Kenya. *Journal of Global History* 4(1):81–103
International Labour Organization (ILO) (2016) "Non-Standard Employment Around the World: Understanding Challenges, Shaping Prospects." https://www.ilo.org/wcmsp5/

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_534326.pdf (last accessed 10 January 2022)
Izaguirre J C, Kaffenberger M and Mazer R (2018) It's time to slow digital credit's growth in Kenya. *CGAP (Consultative Group to Assist the Poor) Blog* 25 September https://www.cgap.org/blog/its-time-slow-digital-credits-growth-east-africa (last accessed 10 January 2022)
Johnson S (2004) "Milking the elephant": Financial markets as real markets in Kenya. *Development and Change* 35(2):247–274
Johnson S (2016) Competing visions of financial inclusion in Kenya: The rift revealed by mobile money transfer. *Canadian Journal of Development Studies* 37(1):83–100
Jørgensen J J (1975) Multinational corporations and the indigenisation of the Kenyan economy. In C Widsrand (ed) *Multinational Firms in Africa* (pp. 143–177). Uppsala: Scandinavian Institute for African Studies
Kaffenberger M, Totolo E and Soursourian M (2018) "A Digital Credit Revolution: Insights from Borrowers in Kenya and Tanzania." CGAP Working Paper, Consultative Group to Assist the Poor https://www.cgap.org/research/publication/digital-credit-revolution-insights-borrowers-kenya-and-tanzania (last accessed 10 January 2022)
Kanyinga K (2009) The legacy of the White Highlands: Land rights, ethnicity, and the post-2007 election violence in Kenya. *Journal of Contemporary African Studies* 27(3):325–344
Karasti H, Millerand F, Hine C M and Bowker G C (2016) Knowledge infrastructures, Part I. *Science and Technology Studies* 29(1):2–12
Kenya National Bureau of Statistics (KNBS) (2020) "Statistical Abstract 2020."
Kimari W and Ernstson H (2020) Imperial remains and imperial invitations: Centring race within contemporary large-scale infrastructures of East Africa. *Antipode* 52(3):825–846
Klopp J (2000) Pilfering the public: The problem of land grabbing in contemporary Kenya. *Africa Today* 47(1):7–26
Koddenbrock K (2020) Hierarchical multiplicity in the international monetary system: From the slave trade to the CFA Franc in West Africa. *Globalizations* 17(3):516–531
Kvangraven I H, Koddenbrock K and Sylla N S (2021) Financial subordination and uneven financialisation in 21st century Africa. *Community Development Journal* 56(1):119–140
Lai K P Y and Samers M (2021) Towards an economic geography of fintech. *Progress in Human Geography* 45(4):720–739
Langevin M (2019) Big data for (not so) small loans: Technological infrastructures and the massification of fringe finance. *Review of International Political Economy* 26(5):790–814
Langley P and Leyshon A (2020) The platform political economy of fintech: Reintermediation, consolidation, and capitalisation. *New Political Economy* 6(3):376–388
Lesutis G (2021) Infrastructural territorialisations: Mega-infrastructures and the (re)making of Kenya. *Political Geography* 90 doi:https://doi.org/10.1016/j.polgeo.2021.102459
Lonsdale J and Berman B (1979) Coping with the contradictions: The development of the colonial state in Kenya, 1895-1914. *Journal of African History* 20(4):487–505
Manji A (2020) *The Struggle for Land and Justice in Kenya*. London: James Currey
Mann L and Iazzolino G (2021) From development state to corporate leviathan: Historicising the infrastructural performativity of digital platforms within Kenyan agriculture. *Development and Change* 52(4):829–854
McKinsey Global Institute (2016) "Digital Finance for All: Powering Inclusive Growth in Emerging Economies." McKinsey & Company. https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Employment%20and%20Growth/How%20digital%20finance%20could%20boost%20growth%20in%20emerging%20economies/MG-Digital-Finance-For-All-Full-report-September-2016.pdf (last accessed 2 February 2022)
Mkandawire T (1999) The political economy of financial reform in Africa. *Journal of International Development* 11(2):321–342
Morgan W T W (1963) The "White Highlands" of Kenya. *The Geographical Journal* 129 (2):140–155
Morris J (2016) "Cultivating the African": Barclays DCO and the decolonisation of business strategy in Kenya, 1950–1978. *Journal of Imperial and Commonwealth History* 44(4):649–671
Mosley P (1986) The politics of economic liberalisation: The World Bank and USAID in Kenya, 1980–84. *African Affairs* 85(338):107–119

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

Mullei A K and Ng'elu J (1990) Evolution, structure, and performance of Kenya's financial system. *Savings and Development* 14(3):265–284

Muriuki G (1974) *A History of the Kikuyu, 1500–1900*. Nairobi: Oxford University Press

Natile S (2020) *The Exclusionary Politics of Digital Financial Inclusion: Mobile Money, Gendered Walls*. London: Routledge

Newman S (2020) Finance and development in sub-Saharan Africa. In J Knox-Hayes and D Wójcik (eds) *The Routledge Handbook of Financial Geography* (pp. 587–619). London: Routledge

Newlyn W T and Rowan D C (1954) *Money and Banking in Colonial Africa: A Study of Monetary and Banking Systems of Eight British African Territories*. Oxford: Clarendon.

Njonjo A (1981) The Kenya peasantry: A re-assessment. *Review of African Political Economy* 8 (20):27–40

Ogle V (2020) "Funk money": The end of empires, the expansion of tax havens, and decolonization as an economic and financial event. *Past and Present* 249(1):213–249

Ouma M and Mann L (2021) On the ground the reality is different: Policymakers in Kenyan agriculture should beware the limits of platform knowledge. *Africa at LSE Blog* 15 April https://blogs.lse.ac.uk/africaatlse/2021/04/15/policymakers-kenya-agriculture-beware-limits-platform-tech-knowledge-colonisation/ (last accessed 10 January 2022)

Republic of Kenya (RoK) (1965) "African Socialism and Its Application to Planning in Kenya."

RoK (1997) "Cooperatives in a Liberalised Economic Environment: Sessional Paper Number 6 of 1997."

Richardson J A (1996) *Structural Adjustment and Environmental Linkages: A Case Study of Kenya*. London: Overseas Development Institute

Sherman Z (2021) Infrastructures and the ontological question of race. *E-Flux* https://www.e-flux.com/architecture/coloniality-infrastructure/411239/infrastructures-and-the-ontological-question-of-race/ (last accessed 10 January 2022)

Shipton P (1992) Debts and trespasses: Land, mortgages, and the ancestors in Western Kenya. *Africa* 62(3):357–388

Shisanya C A (1990) The 1983–84 drought in Kenya. *Journal of Eastern African Research and Development* 20:127–148

Singh A (2018) Regulate digital loans sector to reduce borrowers' risks. *Daily Nation* 5 July https://www.nation.co.ke/kenya/blogs-opinion/opinion/regulate-digital-loans-sector-to-reduce-borrowers-risks-63214 (last accessed 10 January 2022)

Star S L (1999) The ethnography of infrastructure. *American Behavioural Scientist* 43 (3):377–391

Suri T and Jack W (2016) The long-run poverty and gender impacts of mobile money. *Science* 354(6317):1288–1292

Swainson N (1977) The rise of a national bourgeoisie in Kenya. *Review of African Political Economy* 4(8):39–55

Tignor R L (1976) *The Colonial Transformation of Kenya: The Kamba, Kikuyu, and Maasai from 1900–1939*. Princeton: Princeton University Press

Tomlinson R (1982) The political economy of regional inequality in post-independence Kenya. *South African Geographical Journal* 64(1):21–40

Thurston A (1987) *Smallholder Agriculture in Colonial Kenya: The Official Mind and the Swynnerton Plan*. Cambridge: African Studies Centre

Tilley L (2021) Extractive investibility in historical colonial perspective: The emerging market and its antecedents in Indonesia. *Review of International Political Economy* 28 (5):1099–1118

Tyce M (2020) Beyond the neoliberal-statist divide on the drivers of innovation: A political settlements reading of Kenya's M-Pesa success story. *World Development* 125 doi:https://doi.org/10.1016/j.worlddev.2019.104621

United Nations (UN) (2018) "Financing for Development: Progress and Prospects 2018." https://www.un.org/development/desa/publications/financing-for-development-progress-and-prospects-2018.html

Upadhyaya R and Johnson S (2015) Transformation in Kenya's banking sector, 2000-2012. In A Heyer and M King (eds) *Kenya's Financial Transformation in the 21st Century* (pp. 15–62). Nairobi: FSD Kenya

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.

Van Arkadie B (2016) Reflections on land policy and the independence settlement in Kenya. *Review of African Political Economy* 43(s1):60–68
Van Veelen B, Rella L, Aiken G T, Judson E, Gambino E, Jenss A, Parashar A and Pinker A (2021) Interventions on democratising infrastructure. *Political Geography* 87 doi:https://doi.org/10.1016/j.polgeo.2021.102378
Van Zwanenberg P (1975) Kenya's primitive colonial capitalism: The economic weakness of Kenya's settlers up to 1940. *Canadian Journal of African Studies* 9(2):277–292
Velasco C (2020) Monopoly and competition: Kenyan banks at the end of the colonial period (1954–63). *Business History* doi:https://doi.org/10.1080/00076791.2020.1744569
Wanyama F O (2009) "Surviving Liberalisation: The Cooperative Movement in Kenya." CoopAfrica Working Paper No. 10, International Labour Organization
World Bank (1975a) "Kenya—Into the Second Decade."
World Bank (1975b) "Project Performance Audit Report: Kenya First Smallholder Agricultural Credit Project."
World Bank (1991) "Project Performance Audit Report: Kenya—Fourth Agricultural Credit Project."

© 2022 The Authors. Antipode published by John Wiley & Sons Ltd on behalf of Antipode Foundation Ltd.