The failure of the "single source of truth about Kenyans" : the National Digital Registry System, collateral mysteries and the Safaricom monopoly

Keith Breckenridge, 23 August 2017

ACRONYMS

CBA – Commercial Bank of Africa (CBA)
CIS – Credit information sharing (CIS)
CISKenya – Credit Information Sharing Association of Kenya
CRBs – Credit reference bureaus
CORD – Coalition for Reforms and Democracy
EDAPS – Ukrainian security printing and information technology consortium
FSDKenya or FSD – Financial Sector Deepening
HELB – Higher Education Loan Board
IPRS -- Integrated Population Registration System
KNCHR – Kenyan National Commission on Human Rights
KTCIP – Kenya Transparency Communications Infrastructure Project
NRB – National Registration Bureau
NDRS – National Digital Registry System
MIRP – Ministry for Immigration & Registration of Persons
SMEs – Small and medium enterprises

Abstract This paper explores the recent failure of an elaborate biometric registration scheme, the National Digital Registry System, in Kenya. The paper shows that the Kenyan and South African economies are closely linked in their obsessions with biometric identification registration, and financialisation, but it also draws out the particular significance, in the Kenyan case of a conflict over the form and ownership of credit information as collateral.   The failure of the project was the result of fractured financial interests, and specifically of a conflict between the formal banks and Safaricom, the monopoly telecommunications firm that has created the globally distinctive system of mobile money, M-Pesa. At issue between them were two very different models for decision-making, and profit, in the extension of personal credit.

Kenyans walking to work down Nairobi's Haile Selassie Avenue on the 16th of June, 2016, were shocked to find that a pile of well-worn identity cards and driver's licenses had been dumped during the night on the pavement outside the Jesus is Alive Ministries' church. The muddy archive was dominated by the identity cards that Kenyans, mistakenly, call the second and third generation IDs – one, dating from 1995, is laminated, and the other, after 2011, is printed directly onto plastic. Both types of card were produced by Thales, the French parastatal, and they record and present exactly the same elements of biographical information. The two types of cards are, in other words, administratively identical. On the front side they present the key facts of modern citizenship : the card's serial number, the holder's identity number, full names, date of birth, sex, district of birth, place of issue, date of issue, signature, thumb-print; on the reverse the functional categories of colonial indirect rule : district, division, location, sub-location. The cards outside the church bore the signs of long use, and many carried sooty debris from having been stored outside, probably on the street, for a long time. This disorderly pile of identity tokens was quite different from the similarly sized pile of newly minted cards that had been dumped a little further up the street at the Muthurwa market in 2013. That was an unambiguously bureaucratic failure, and the cards had clearly come quite directly from one of the offices of the National Registration Bureau responsible for issuing them.

The ID pile outside the JAM church captured more everyday tensions of registration in contemporary Kenya. The first of these is what can be called an identity mess, a proliferation of documents, numbers and registration processes, which the state and political parties have imposed on ordinary people in repetitive waves over the last twenty years, and which has long been a source of parliamentary and press complaint. The second is a general crisis of personal security on the streets, which makes it difficult for ordinary people to hold on to the contents of their wallets in the face of ubiquitous mugging and pocket-picking. A third, captured by the looming tower of the Central Bank building a few blocks further up Haile Selassie Avenue, reflects the distinctive place of the banks in the recent development of identification systems in Kenya. The last – and most important – is an absence. None of the cards in the pile was the third-generation or digital ID Kenyans have been promised for a decade : the polycarbonate sheet, laser-printed with solid colour images and etched holograms, containing, critically, a machine-readable chip and a full set of digital finger and iris biometrics. In this paper I want to investigate that missing card.[1]

This is the story of the National Digital Registry System (NDRS) -- an ambitious plan for panoptic biometric registration that the Kenyan government announced in 2014, but that did not happen. There is little that is intrinsically noteworthy about unrealised grand schemes of state surveillance; in the international field of biometric identification failure has been as common as success over the last two decades, with elaborate plans falling apart in the United States, the United Kingdom and France, and a long history of failed attempts in South Africa. Institutionally the key question may be whether planners understand Beckett's maxim : *Ever*

1 Kenya National Assembly Official Record (Hansard), 2008; CYRUS OMBATI, "Hundreds of Identity Cards Found Dumped," The Standard, October 1, 2013, https://www.standardmedia.co.ke/article/2000096637/hundreds-of-identity-cards-found-dumped; "IN PICTURES: Hundreds of IDs, Driving Licences Dumped in Nairobi," Citizentv.co.ke, June 17, 2016, https://citizentv.co.ke/news/in-pictures-hundreds-of-ids-driving-licences-dumped-in-nairobi-130627/; "PHOTOS: Hundreds of Stolen Documents Dumped Outside Nairobi Church," Kenyans.co.ke, June 17, 2016, https://www.kenyans.co.ke/news/photos-hundreds-stolen-documents-dumped-outside-nairobi-church; "Police Probing Source of Hundreds of National Ids Found Dumped at Dawn on Nairobi's Haile Selassie Avenue - Scoopnest.Com," Scoopnest, June 17, 2016, https://www.scoopnest.com/user/citizentvkenya/743689190836056064; Alan Gelb, Vasumathi Anandan, and Arleen Cannata Seed, "Kenya - Identification for Development (ID4D) : Identification Systems Analysis" (The World Bank, January 1, 2016), http://documents.worldbank.org/curated/en/575001469771718036/Kenya-Identification-for-Development-ID4D-identification-systems-analysis.

tried. Ever failed. No matter. Try again. Fail again. Fail better.[2] This kind of bloody-minded tenacity (or perhaps it is madness) is usually a product of the convergence of many, political and economic interests around a compelling need for biometric surveillance.

The failure of the new Kenyan digital identification scheme was the result of fractured interests, and specifically of a conflict between the formal banks and Safaricom, the monopoly telecommunications firm that has created the globally distinctive system of mobile money, M-Pesa. It was, also, as I show below a struggle between different types of credit market. On the one hand, the banks and the consultants advising them were looking to build credit reporting systems and new government registration arrangements that would allow individuals and firms to formalize non-fixed assets, like vehicles and livestock. Their goal was that these bureaucratically recognised and registered assets would then act as new forms of collateral for further borrowing. The advocates of these assets registers, and of the banks' universal credit reporting systems, were opposed by Safaricom, in practice more than in public, and eventually by the leaders of the Kenyan state, who championed a simple and effective system for delivering unsecured, high-interest micro-loans that did not require collateral registers.

In part the NDRS story shows the ascendancy of technological simplicity over complexity in the politics of biometric registration, as in most things. But it also demonstrates several other important features of the new biometric registration projects. Like the other papers in this special issue, this paper highlights the close connections between the Kenyan and the South African states, and the firms involved in biometric registration. It also makes some more

2 Samuel Beckett, Nohow on: Three Novels, 1st ed (New York : [Emeryville, CA]: Grove Press ; Distributed by Publishers Group West, 1996), 101; Keith Breckenridge, "The Elusive Panopticon: The HANIS Project and the Politics of Standards in South Africa," in Playing the ID Card: Surveillance, Security and Identity in Global Perspective, ed. Colin Bennett and David Lyon (London: Routledge, 2008), 39–56.

general points about contemporary Kenyan politics. The most obvious is that these identification schemes are sites of opportunity and of conflict. The contracts for state identity registration are lucrative sites for international firms' profits, and also, notoriously, for the extraction of rents by local decision makers. These possibilities for rent-seeking and the anti-corruption reforms and mechanisms that police them make the ground on which state-funded identification projects develop treacherous indeed. And this is especially true, in Kenya and many other African countries, where the prospects of meaningful democracy – and control over the states' revenues – are determined by the integrity of the identity registration processes.

The NDRS story also draws out the special role of credit information sharing between banks in cultivating biometric identification on the African continent. Cooperative information sharing usually assembles a range of powerful interests – politicians, officials, central bankers, banks, telecom firms, donors – but the Kenyan project also shows that there can be strong disagreements about the form of the assets that credit surveillance can produce. The advocates of the Kenyan biometric plan justified it by appealing to the need for certain and secure identification, for stronger national security (and policing) and better tax coverage and recovery, but what distinguished it from the already existing plans for population registration was the effort to build a new kind of asset register, a database describing real, not informational, collateral assets. The NDRS plan proposed a joined-up architecture of state databases that brought the management of private collateral into the core of the state’s business. Aimed at the interests that the established banks had in the development of reliable, accurate and complete credit histories, it was also a radical effort to address the informational void that surrounds property on the African continent, the registration processes that

Hernando de Soto famously described as the problem of the missing second nature of capital – its ability to work as collateral:

> In the West, this formal property system begins to process assets into capital by describing and organizing the most economically and socially useful aspects about assets, preserving this information in a recording system—as insertions in a written ledger or a blip on a computer disk—and then embodying it in a title. A set of detailed and precise legal rules governs this entire process. Formal property records and titles thus represent our shared concept of what is economically meaningful about any asset. They capture and organize all the relevant information required to conceptualize the potential value of an asset and so allow us to control it.[3]

Ironically, given the wide agreement in Washington with de Soto's arguments[4], the NDRS project in Kenya challenged the established (and World Bank – supported) processes of digitisation, which left civil registration and identification in the state's hands and the most powerful instruments of decision-making in the marketing of personal credit, and reputational collateral, in the hands of one firm.

Safaricom – a behemoth in the Kenyan economy – was able to develop simple forms of virtual – reputational – collateral using its own automated assessment systems, and its own identification and authentication processes. The state's existing population register was

3 Hernando De Soto, The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else, 1st ed. (Basic Books, 2000), 44–45.

4 Ananya Roy, Poverty Capital: Microfinance and the Making of Development (Routledge, 2010), chap. 2, http://books.google.co.za/books?hl=en&lr=&id=QEOQAFlVm_sC&oi=fnd&pg=PP1&ots=-Tr03nKOt8&sig=qrOA9lcc4ECb94nR9XZPAGNIHow; A. Gilbert, "On the Mystery of Capital and the Myths of Hernando de Soto: What Difference Does Legal Title Make," International Development Planning Review 24, no. 1 (2002): 9–10.

sufficient to its needs, where the banks' credit information sharing (CIS) processes – with their demanding templates of data and very high errors of identification – faced continuous failures and material resistance. Both identification databases were conceived as public-private-partnerships, with revenues derived from the identification needs of credit providers funding the costs of development, but the competing models of collateral, one physical the other informational, mobilised financial institutions – the large banks and Safaricom – that are increasingly in conflict with each other. Set against the intractable difficulty of mass identity registration in Kenya, which was amplified by a bitter and ongoing controversy around biometric voting, the collapse of the NDRS makes sense. Yet the story of its decline also makes the important point -- otherwise difficult to observe -- that new virtual property forms, data-derived and biometrically authenticated and indexed, are being rapidly fostered on the African continent. And that South African law, expertise, firms and technologies are key drivers of this process.

Kenya shares a common colonial history of fingerprint-based identification with South Africa, with some interesting and important variations. The first critics of the *kipande* system, which dates back to the Native Registration Ordinance of 1915, attributed it straightforwardly to the influence of the settlers attracted to East Africa after the South African War.[5] Like similar passes in South Africa from this period – the *kipande* required a single thumb or finger print. These single prints – which Kenyatta famously described as "the diabolical system of fingerprints" in 1938 – had the effect of attaching documents to the physical body of their bearers, but – notwithstanding the protests of officials like Ross and the historians that have used his account – they could not support the ten-print fingerprint registries designed by

[5] William McGregor Ross, Kenya From Within: A Short Political History (London: Allen & Unwin, 1927), 186.

Edward Henry. Single prints had a different and more compelling virtue, as Henry pointed out: they were cheap to administer. When the registration ordinance was revised in 1949 officials extended the humiliation of compulsory (single) fingerprinting to everyone in the colony – whites and Asians included – but the system could only restrict the name and location of those who chose to comply.

During the Mau Mau emergency the Kenyan fingerprinting system was extended to full-print capture. In 1954 the colonial state imposed an exact copy of the South African *dompas* (then still in its early, and confident, moment) on all adult "members of the Kikuyu and allied tribes." This booklet – the "Kikuyu, Embu & Meru Passbook" – required ten fingerprints and a laboriously maintained fingerprint registry. It also recorded official permissions for movement and settlement. Yet neither the colonial state nor its successor had the resources to sustain ten print registration after the Emergency, and that requirement was not legally specified until the amendment to the registration of persons act in 1979. It was only much more recently, with the shift to the smaller laminated ID card in 1995, that the National Registration Bureau implemented a systematic, and automated, process of full-print registration for identity cards.[6]

From immediately after World War 1 to the Mau Mau emergency, Kenya drew directly upon

6 Ross, chap. 11; Anthony Clayton and Donald Savage, Government and Labour in Kenya, 1895--1963 (London: Frank Cass, 1974), chap. 3; J. Kenyatta, Facing Mount Kenya: The Tribal Life of the Gikuyu (London, Secker and Warburg: London, Secker and Warburg, 1953), 212; B. Berman, Control & Crisis in Colonial Kenya: The Dialectic of Domination (James Currey Publishers, 1990), chap. 5; Bruce Berman and John Lonsdale, Unhappy Valley: Conflict in Kenya and Africa (Book One: State and Class) (London: James Currey, 1992), chap. 5; Gavin Kitching, Class and Economic Change in Kenya: The Making of an African Petite-Bourgeoisie (New Haven: Yale University Press, 1980), chap. 9; "REGISTRATION OF PERSONS," Pub. L. No. CAP 107, Laws of Kenya (1949), http://www.kenyalaw.org/lex/actview.xql?actid=CAP.%20107; "The Native Registration Scheme : Propaganda Lecture and Film Strip" (1947), AG/35/36, Kenya National Archives; "An Identity Crisis? A Study on the Issuance of National Identity Cards in Kenya" (Nairobi: Kenya National Commission on Human Rights, 2007), http://www.knchr.org/Portals/0/EcosocReports/KNCHR%20Final%20IDs%20Report.pdf.

the fingerprint expertise fostered in South Africa. The colony's first fingerprint expert, WWC Burgess, was transferred from the Transvaal and Union bureaucracy, where he had been one of Gandhi's tormentors, in 1919. He went on to become of the officer-in-charge of the Kenya Native Affairs Finger Print Bureau. In 1930 the colony sent one of its police inspectors to Pretoria for a three month course in "classifying and filing fingerprints." And then in 1954, confronted with the sisyphean full-print registration and classification of the people living in the highlands, the colony appealed for the services of four fingerprint readers from the South African police. The commissioner of the SAP was deeply sympathetic and "would very much have liked to assist," but, confronting an "extreme shortage of trained fingerprint experts and other technical experts" as the *bewysburo* absorbed all the available expertise, he could not comply.[7]

More recently the connections between the two countries, especially in the fields of telecommunications and finance, have thickened dramatically. In May 2017, the British telecorp Vodafone swapped its 35% and $2.6 billion share in the ownership of Safaricom with an identical share in its South African subsidiary. The exchange left the South African firm and the Kenyan government with equal shareholdings in the company that dominates the Kenyan economy and defines mobile financial services internationally.[8] Safaricom's links with South Africa run through its founding CEO, Michael Joseph, who managed the transformation from a state-owned cellular service with 20,000 customers, ten masts, one switch and 60

7 British East Africa. Offer of Appointment as Finger Print Expert to Lieutenant Wcc Burgess Transmits Information Regarding Conditions of Service., vol. 774, 13/1958, GG (SAB, 1919); Visit of JD Grant from Kenya Colony for Instruction in Finger Prints at Criminal Record Bureau Pretoria., vol. 1/2/278, PM, 1930; Secondment of Fingerprint Experts to Kenya., vol. 512, SAP, 1954; Govenor of the Colony and Protectorate of Kenya, The Official Gazette of the Colony and Protectorate of Kenya, vol. 32, 30 (Nairobi, 1930); Breckenridge, Biometric State, chap. 5.

8 Emma Park and Kevin P Donovan, "Is Your Mobile Phone Company Seeing like a State?," Africa Is a Country (blog), November 29, 2016, http://africasacountry.com/2016/11/is-your-mobile-phone-company-seeing-like-a-state/.

employees in 2000 to a regional monopoly in 2010 with 15 million customers, 800,000 Kenyan shareholders and annual profits of Ksh 20 billion – including Ksh 7.5 billion derived from M-Pesa, the mobile money platform that was introduced in 2007.[9]

If Safaricom represents a tangible connection between the Kenyan and South African economies, many of the key institutional drivers of financialization are much less visible. Chief amongst them are the legal, administrative and technological arrangements for credit information sharing, which, with encouragement from the World Bank, the UK Department for International Development and more recently the Gates Foundation, have drawn heavily on South Africa's experience and expertise. The credit bureaus, the banks and micro-lenders, and the NGOs that support them are organised by the Credit Information Sharing Association of Kenya (CISKenya), a lobbying group that was founded in 2009. These two institutions – Safaricom and CISKenya – were also hidden protagonists in the struggle over the fate of the NDRS.

Clean, complete, correct

The plan to register the entire Kenyan population "afresh" was first made public at the ConnectedKenya conference in Mombasa in April 2014. It was presented by Mwende Gatabaki, a former executive of the African Development Bank who had been seconded to the office of the president, Uhuru Kenyatta, to assemble a new government agency that would unify the different functions of birth and death registration, the registration of aliens and refugees, and the issuing of identity cards, which were all spread across the detached Departments of Civil Registration, Immigration, Refugee Affairs and the National Registration

9 Joseph is one of the small group of brash South African engineers and accountants – others include Koos Bekker (Naspers), Serge Belamant (Net1), Laurie Dippenaar (FirstRand), Adrian Gore (Discovery), Allan Gray, and Douw Steyn (BGL)– who built very large firms by riding the wave of networked financialization in the 1990s.

Bureau.[10] The act establishing the new service had been passed in 2011 and it called for a new co-ordinating agency that would develop a unique identifier for every person, manage all issues relating to citizenship and immigration, and maintain a comprehensive and accurate national population register. Gatabaki's plan drew on the heightened public concern around national security in the wake of the September 2013 attacks on the Westgate shopping mall to lay out a potentially revolutionary reorganisation of the entire Kenyan state around a "single source of truth." The new database would link together existing and new registries of population, land holdings, companies and moveable assets.

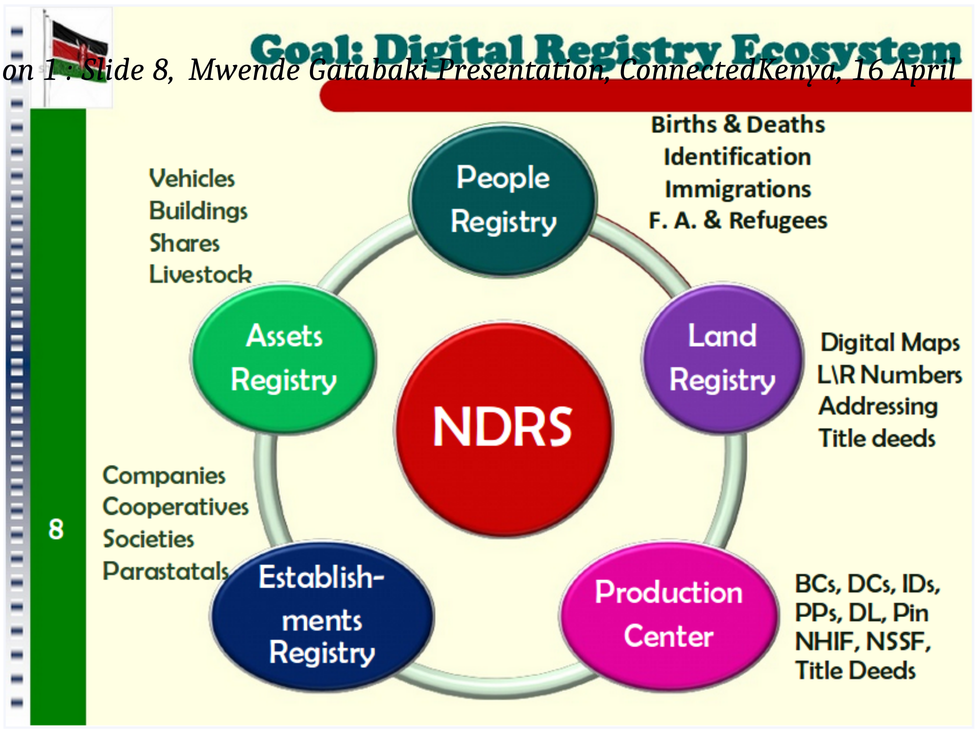

Illustration 1 : Slide 8, Mwende Gatabaki Presentation, ConnectedKenya, 16 April 2014

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10 Laws of Kenya, "Kenya Citizens and Foreign Nationals Management Service Act," 31 § (2011), http://law.co.ke/kl/fileadmin/pdfdownloads/Acts/KenyaCitizensandForeignNationalsManagementServiceAct__No31of2011.pdf.

In her presentation Gatabaki stressed that the project was based in the presidency, that it would revitalise the Kenyan bureaucracy, provide citizens with meaningful security, and allow those with moveable assets, like cattle, to leverage them financially by making them available as fungible collateral. She argued that the new database and registrations would be significantly cheaper than the cost of upgrading existing but separate projects of registration and identification underway in the separate departments. To do all of this required a break with the existing forms of paper registration and a new set of purely digital biometrics from every person in the country. "Some time in June we'll actually do a digital registration, or a digital drive," she explained:

> "where we will ask everybody to actually come along and bring their documents, their IDs, their birth certificates. We'll do biometrics, we'll do the eye scans, we'll do the fingerprinting. We'll scan your documents and we'll create a digital record for every Kenyan. Then we are going to use the existing data to just verify that what we are capturing is indeed what is already in the system. Where we have issues we will verify and validate, and we establish a clean database. So the timeframe for that is six months, up to August, because we started doing this in March." [11]

This initial presentation made no mention of a new digital ID card, but the following day the CEO of the state ICT Authority explained that the government was preparing to spend nearly $100 million on the new database and that the new "ID cards will have a chip or magnetic strip, which will allow police officers on patrol to confirm authenticity..."[12]

11 ConnectedKenya, Strategic National Projects: Socio-Economic Impact - Monday, 15 April 2014, 2014, https://www.youtube.com/watch?v=_6vebMvFvZo; The scheme was announced in general terms by the Deputy President, see "Government to Register All Kenyans Afresh," Daily Nation, April 14, 2014, http://www.nation.co.ke/news/Digital-database-for-all-kenyans/-/1056/2279712/-/14geqx1/-/index.html.

12 Rebecca Wanjiku, "Kenya to Spend $93 Million on Citizen Database - CIO East Africa," April

Gatabaki's emphasis on a compulsory national round of digital registrations was controversial, to put it mildly, because many Kenyans – especially those supporting the CORD coalition that was kept from power – were still furious about the biometric debacle staged during the previous year's national elections. In a case study of the "techno-election" gone hay-wire, the biometric voter identification kits supplied by the South African firm, Face Technologies, ran out of power, the cellular network required to submit returns failed, and the disk-partition on the single server compiling them was allocated insufficient disk space.[13] The official enquiry into this debacle, accusations of corruption and other ongoing controversies over the enormous cost and licensing of the biometric kit – including Safran Morpho's levying a license fee on all future uses of the equipment purchased in 2013 – dominated public debate until the end of 2015.[14] In Kenya biometric registration is the main arena of a bitter struggle over state power, and it was hardly suprising that the opposition leaders immediately responded to "the move to register all afresh" by "claiming that it was a scheme to rig the next elections."[15] And

17, 2014, http://cio.co.ke/news/main-stories/kenya-to-spend-$93-million-on-citizen-database.

13 Michela Wrong, "School Socket Syndrome," Latitude, March 7, 2013, http://latitude.blogs.nytimes.com/2013/03/07/in-kenyas-high-tech-election-almost-everything-that-could-have-gone-wrong-did/; Gregory Warner, "How Kenya's High-Tech Voting Nearly Lost The Election : All Tech Considered : NPR," March 9, 2013, http://www.npr.org/blogs/alltechconsidered/2013/03/09/173905754/how-kenyas-high-tech-voting-nearly-lost-the-election.

14 Nic Cheeseman, Gabrielle Lynch, and Justin Willis, "Digital Dilemmas: The Unintended Consequences of Election Technology," Democratization 0, no. 0 (June 8, 2018): 8, https://doi.org/10.1080/13510347.2018.1470165; Eric Owino, "I Warned My Officers, Says IEBC Boss," The Star, Kenya, March 1, 2014, http://www.the-star.co.ke/news/2014/03/01/i-warned-my-officers-says-iebc-boss_c903533; "Special Audit on Procurement of Electronic Voting Devices for the 2013 General Election by the Independent Electoral and Boundaries Commission" (Office of the Auditor General, Kenya, June 6, 2014); Nzau Musau, "Why IEBC Boss Is Jittery On Auditor BVR Report," The Star, Kenya, July 5, 2014, http://www.the-star.co.ke/news/2014/07/05/why-iebc-boss-is-jittery-on-auditor-bvr-report_c965597; Felix Olick, "Kenyans to Pay Millions for Bvr Kits," The Star, Kenya, September 27, 2014, http://www.the-star.co.ke/news/2014/09/27/kenyans-to-pay-millions-for-bvr-kits_c1010359; JOHN NJAGI, "I Did Not Sanction Sh250m Payment: Auditor-General," October 11, 2015; Tonny Ndungu, "Panic as IEBC Officials Linked to Graft Consider Quitting, Write to Uhuru Kenyatta," Tuko.co.ke - Kenya news., June 29, 2016, https://www.tuko.co.ke/146923-panic-as-iebc-officials-linked-to-graft-consider-quitting-before-probe.html; "Auditor Ouko Clears Chiloba in Sh259m Pay for Voter Kits," The Star, Kenya, August 1, 2016, http://www.the-star.co.ke/news/2016/08/01/auditor-ouko-clears-chiloba-in-sh259m-pay-for-voter-kits_c1395643.

15 Abdimalik Hajir, "Lawmakers Clash over Kenya Digital ID Plan," Africa Review, April 21, 2014,

political mistrust was not the only serious problem, as the Consumer Federation observed : over the previous decade the procurement processes for the long-promised identity card had repeatedly collapsed into a mess of conflicting corruption allegations.

The third generation card was first announced publicly in 2007 in the wake of an investigation by the Kenyan National Commission on Human Rights (KNCHR) into accusations of widespread corruption and discrimination in the issung of IDs. The commission's concerns were split evenly between the general complaint about the cash bribes officials required to perform basic administrative services and the more specific accusation that Somali-Kenyans were being systematically denied identity cards and their basic rights as citizens. Behind both worries lurked fears about the fragility of the laminated card, and is susceptibility to forgery. The notorious weakness of the cards had much to do with the seven digit identity number that – like the national ID number of Franco's Spain – began symbolically with President Moi as 0000001 and his deputy Mwai Kibaki as 0000002 and the vulnerability of the registry that was being used to authenticate claims for citizenship.[16] In 2007 the main archives of the National Registration Bureau (issuer of the ID cards) contained the scanned records of the inked fingerprints of 14 million Kenyans. In an attempt to bolster the identity card system, and the integrity of the register that authenticated applications for cards, the KNCHR called for the fast-tracking of a biometric database – the Integrated Population Registration System (IPRS). In 2009 the development of that system was awarded, apparently without controversy, to a consortium from the Ukraine called EDAPS.[17]

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http://www.africareview.com/news/Lawmakers-clash-over-Kenya-digital-ID-plan/979180-2287690-v8qbxkz/index.html.

16 Gemma Galdon Clavell and Pablo Ouziel, "Spain's Documento Nacional de Identidad : An e-ID for the Twenty-First Century with a Controversial Past," in Histories of State Surveillance in Europe and Beyond, ed. Kees Boersma et al. (Routledge, 2014), 139.

17 "An Identity Crisis?"; "EDAPS Presentation," (10 2012); EDAPS, "Integrated Population Register : A Key Pillar in a Holistic Approach to Citizen Identification" (2014).

The appointment of a contractor for the production of the third generation cards was not so simple. The 2005 Anglo Leasing scandal – where the Kibaki government was notoriously implicated in the payment of a massively inflated tender to a British shell company for the printing of passports[18] – loomed in the background of the tenders for the identity cards. The processes were fraught and contested, especially as losing bidders could bring show-stopping appeals to the new established Public Procurement Oversight Authority after 2007. The call for tenders for the new cards was issued in May 2009, specifying a "Third Generation ID Card" with the establishment of an "elaborate infrastructure supported by appropriate software modules, including installation of live data capture equipment both at the headquarters and in the field offices, personalization centre and a centralized database production facility, complete with the necessary biometric and facial recognition features." The government allocated US$10 million to the project, and the international biometrics giants all submitted proposals. In September that same year the whole process came to a sudden halt when NADRA, the Pakistan identification agency (who were making Kenyan passports!) raised a successful protest about the decision making of the tender board.

Thales continued sporadically printing the laminated cards after the tender collapsed but in July 2011 the cabinet refused to endorse their ongoing production, and the issuing of the indispensable IDs stopped completely – prompting something like a national emergency. The Ministry of Immigration and Registration of Persons issued a second tender in 2011 but that succumbed in the same way when the French ID contractor Imprimerie Nationale protested its exclusion on the basis of the tender board's sloppy paperwork. With the 2013 election looming, the ministry had little choice but to restore Thales' contract to print the backlog of 2

[18] Wrong, It's Our Turn to Eat.

million – rising quickly to 4 million – of the new plastic (not laminated but also not third generation) cards. In the 2013 national budget the money that had been sitting unspent in the Ministry was sucked back into the general fiscus.[19] That was the situation, as least as far as the ID cards were concerned, when Mwende Gatabaki arrived in the office of the Kenyan president in February 2014.

Meanwhile the Ukrainain developers working for the EDAPS consortium – by this time (its home market obliterated by civil war and the Russian invasion) a company that existed only to service the Kenyan government – was busily working to build the IPRS, linking together the main repositories of identification and citizenship status. Using Microsoft's ubiquitous (and cheap) Visual Studio tools and ASP.NET developer and database platforms, EDAPS first built the IPRS connections between the National Registration Bureau's ID card database and the Ministry for Immigration & Registration of Persons (MIRP) passport and Aliens registries. In 2010 they began to incorporate new data from the birth and death registries managed by the Department of Civil Registration. The following year, 2011, they built automated two-way links between the IPRS and the databases maintained by the two (newly established) credit reference bureaus (CRBs).

[19] Ministry of Immigration and Registration of Persons, "EOI for the Design, Supply, Installation and Commissioning of the Third Generation National Identity Card System Based on Smart Card Technology," May 27, 2009, http://www.securitydocumentworld.com/creo_files/upload/client_files/kenya_id_card.pdf; "REVIEW NO. 35/2009," Pub. L. No. 35 / 2009, § Public Procurement Administrative Review Board, 20 (2009), http://ppoa.go.ke/images/downloads/arb-decisions/2009-decisions/decision_no._24_of_2009_3.pdf; "Youths Seeking IDs Now to Wait Longer," Daily Nation, October 15, 2009, http://www.nation.co.ke/news/1056-672910-jkq9qpz/index.html; "Kibaki Lifts Ban on Old ID Cards," The Nation, April 21, 2010; Renson Mnyamwezi, "Government Will Issue IDs Ahead of Polls, Says PS," The Standard, September 2, 2011, https://www.standardmedia.co.ke/article/2000042006/government-will-issue-ids-ahead-of-polls-says-ps; Justus Ochieng, "Four Million People Require National IDs," Nairobi Star, November 15, 2011; Public Procurement Administrative Review Board, "REVIEW NO. 25/2012," May 25, 2012, http://ppoa.go.ke/images/downloads/arb-decisions/2012-decisions/Decision%2025-2012.pdf; Benson Wambugu, July 5, and 2012 21:34, "Kenya Nullifies ID Cards Tender," Business Daily, July 5, 2012, http://www.businessdailyafrica.com/news/Kenya-nullifies-ID-cards-tender--/539546-1445952-12g04xvz/index.html; George Ngigi, January 6, and 2013 17:22, "Sh1.5bn Set aside for ID Kits Withdrawn," Business Daily, January 6, 2013, http://www.businessdailyafrica.com/news/money-set-aside-for-ID-kits-withdrawn/539546-1658878-format-xhtml-px8li9/index.html.

This relationship allowed the CRBs to do real time confirmation of the identity of the new applicants for credit (by doing automated queries against the linked civil registration and ID card records). Much more importantly for the broader political-economy in Kenya, and the fate of the NDRS, it also pushed blacklisting data – including the unique identifiers from borrowers' SIM cards – into the IPRS itself. In 2013 EDAPS then developed a live-capture biometrics platform, and a custom workstation, to speed up the issueing of ID cards and bolster the integrity of the entire identification chain. Critically, the listing inside the state's IPRS of defaults – what CISKenya would describe as negative information – provided a simple, effective and realtime sorting and coercive tool for the new mobile credit providers, especially Safaricom's rapidly growing M-Shwari product, looking for instant decision-making systems.[20] This simple link had the effect of separating Safaricom, with its troves of data on millions of users' spending behaviour, from the broader alliance of formal lenders who were looking to build database profiles that would differentiate customers based on sharing positive (payments) and negative (defaults) information.

Illustration 1: Gelb, Alan, Vasumathi Anandan, and Arleen Cannata Seed. "Kenya - Identification for Development (ID4D) : Identification Systems Analysis." The World Bank, January 1, 2016.

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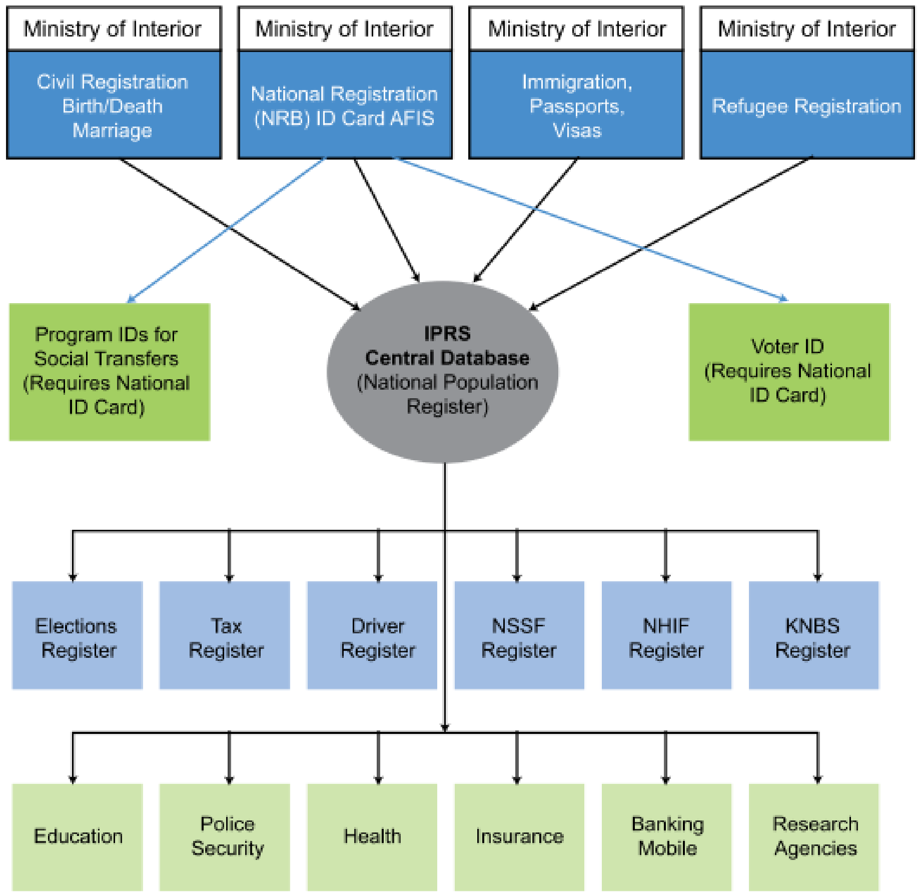
20 "EDAPS Presentation"; UBO/Ukrainian News, "EDAPS Consortium Ends Operations Claiming Government Corruption - Bus./Industry - News - Ukraine Business Online," January 6, 2010, http://www.ukrainebusiness.com.ua/news/690.html; "About Dissolving of EDAPS Consortium," December 21, 2016, http://news.liga.net/pr/economics/14269043-o_likvidatsii_konsortsiuma_edaps.htm; 3Shape A/S, KP VTI / EDAPS Consortium, and Kiev Polytechnic Institute, "Dmitrij Dimov | LinkedIn," 2017, https://ua.linkedin.com/in/dmitrij-dimov-0716b759?trk=public_profile_card_url; EDAPS, "Integrated Population Register : A Key Pillar in a Holistic Approach to Citizen Identification."

FIGURE 1 Kenya's System for Registration and Identification



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Mwende Gatabaki was chosen as the architect of the new plan for identification and information sharing precisely because she was not involved in any of these conflicts or controversies. She was invited to join the office of the president from her job at the African Development Bank in Tunis after the publicity generated by an award for ICT Woman of the Year in December 2013. She was an outsider, not associated with the bureaucracy, with Safaricom or the Kenyan banks, or with the credit information sharing effort. But she had extensive experience working on the networking requirements of the cumbersome Kenyan parastatals and the large donor organisations in East Africa. "The decision to get an expert from outside the public service to lead the process," as the *Sunday Nation* explained in June

2014, was “informed by the failure of past attempts mainly due to corrupt political and business interests.”[21]

Indigenising Capital

None of this background – the difficult history of ID tenders, the comparative success of the IPRS, or her reputation as a successful manager – answers the important question of why the NDRS was being proposed at all. Here the answer, as ever, lies in a matrix of imperatives, some more genuinely felt than others. The national security pressure in Kenya in early 2014 was certainly intense, and perhaps the most compelling general reason for a turn to universal biometric identity registration. But the Kenyan military, the police, and even their US national security allies, could not provide the $100 million that the biometric registration exercise would require. Similarly, few deny the fiscal burden and gross inefficiency of the Kenyan bureaucracy or the likelihood that more capacious networked communications and database-integration would significantly improve the lot of ordinary Kenyans looking to secure basic documentation, education or health-care (not to speak of reliable public internet access). All of these were important justifications for the scheme, but the real motivation lay with the informational requirements of the banks, and in exchange the banks were expected to pay for it. The state could afford to put just $10 million into the entire project. The rest – as Gatabaki and others repeatedly explained – was “to be recovered through data vending to key institutions, especially those in financial services.” [22] Here the idea was to draw on the resources of the “Association of Kenya Credit Providers who will be anchor clients” of the biometric identification database and the new asset registry. “I am sure,” Gatabaki said in

21 Joan Barsulai, “In ICT, She’s Miss Fix-It,” The Standard, April 23, 2011, https://www.standardmedia.co.ke/article/2000033774/in-ict-she-s-miss-fix-it; Kingwa Kamencu, “The Techie with an Eye and Touch of an Artist,” Daily Nation, January 18, 2014; Sunday Nation team, “State Starts Process to Issue Kenyans with ‘Super’ ID,” The Nation, June 7, 2014, http://www.nation.co.ke/news/State-starts-process-to-issue-Kenyans-with-super-ID/1056-2340886-roykwrz/index.html.

22 Joshua Masinde, “New IDs to Expose Tax Evaders,” Daily Nation, October 23, 2014.

October 2014, “we will raise at least Sh25 billion [$250 million] from this service in addition to the other benefits it comes with.”[23]

The idea that the banks would fund the development of the NDRS was a logical extension of the already existing relationship between credit providers – especially Safaricom and the banks – and the IPRS. By 2016 the identity database was fielding 1.5 million authentication requests per day – almost all of them from the banks and the telecoms – and the prospect of charging a small fee for the service offered a sustainable source of funding into the future.[24] The banks also had a compelling interest in addressing the inadequacies of the IPRS because the existing weaknesses – basic errors, frequent duplication and limited coverage – wrecked their credit information sharing. And, finally, it was the banks, and especially the formal credit providers, who had the strongest interest in the NDRS’s register of private and company collateral assets. It was not obvious, initially, that Safaricom (and its partner banks) did not share these interests.

Gatabaki’s project was aimed, chiefly, at replacing the unreliable and limited paper-based population register with a born-digital biometric database and unique identity number for life (here the influence of India’s Aadhaar project, which successfully registered 1,2 billion people biometrically between 2009 and 2015, was obvious). The new, born digital, biometric system would have established a single official identity for all adults in Kenya for the first time and it would have allowed real-time, remote biometric authentication (which is not possible on the

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23 CHARLES WOKABI, “State to Partner with Israeli Firm to Create Online Database Of,” Daily Nation, August 16, 2014, http://www.nation.co.ke/business/Online-Database-Technology-Public-Servants-Profile/996-2421390-gathb7z/index.html.

24 Gelb, Anandan, and Seed, “Kenya - Identification for Development (ID4D),” 22; Alexander M. Chege, “Implementation of the National Population Registry System in Kenya” (Master in Business Administration, University of Nairobi, 2015), 43, http://erepository.uonbi.ac.ke:8080/xmlui/handle/11295/94843.

old IPRS).[25] In this the NDRS was similar to dozens of identity projects being pursued on the African continent. But it was also motivated and resourced by an effort to create a new kind of property by registering collateral in moveable assets like vehicles, farm animals and companies. In doing this the project promised an escape from the brutal ethnic conflicts and arcane bureaucracy that have been associated in Kenya with private land purchases – and land as collateral – since the early 1990s.[26] An important corollary goal was to find a more reliably fungible system of collateral than the property in the existing land register because, as Mitugu observed, "most lenders are cautious to accept immovable property as security since the sanctity of title to it is not guaranteed."[27]

This idea – that land was a fickle and dangerous basis for loan collateral – was important from the very beginning of credit information sharing in Kenya. When the Governor of the Central Bank, Njuguna Ndung'u, opened the first credit reference bureau in March 2010 he stressed that the banks' sharing data on borrowers would move the "technologies of collateral" away from the register of land and buildings – with their heavy evaluation costs in the context of "inappropriate property rights" – to a new system of reputational collateral. After thanking the institutions responsible for driving these developments – the World Bank and FSDKenya – he explained how the new agencies would work. "Credit information sharing will … enable

25 Gelb, Anandan, and Seed, "Kenya - Identification for Development (ID4D)," 27–28.

26 Parker MacDonald Shipton, Mortgaging the Ancestors: Ideologies of Attachment in Africa (Yale University Press, 2009), chaps. 6–9; Jose Mantilla, Peter M Mwangi, and Jennifer W Kibaara, "Costs of Collateral : Opportunities for Reform," Growthfin (Nairobi: Financial Sector Deepening, September 2009); National Law Centre for Inter-American Free Trade, "Securing Credit for Growth: The Case for a New Asset Register in Kenya" (FSD Kenya, March 2014), http://fsdkenya.org/publication/securing-credit-for-growth-the-case-for-a-new-asset-register-in-kenya/; Branch, Kenya, chap. 6 and 7; Jared Omari Mituga, "Credit Reputation as Collateral: A Case for Improvement of the Legal Regime on Credit Referencing in Kenya" (LLM, University of Nairobi, 2012), 49–71, http://erepository.uonbi.ac.ke/bitstream/handle/11295/9390/Mituga_Credit%20Reputation%20As%20Collateral%20A%20Case%20For%20Improvement%20Of%20The%20Legal%20Regime%20On%20Credit%20Referencing%20In%20Kenya.pdf?sequence=1.

27 Mituga, "Credit Reputation as Collateral," 63.

borrowers to build a track record," he announced, "that they can use to access credit." [28] Yet the laws that applied to credit reporting between 2010 and 2014 worked to prevent the development of the kind of reputational collateral that Ndung'u was after. In this period only banks were required to share information about their borrowers, and they were required to report only negative information – defaults, or what the banks called "non-performing loans".

Very quickly the press began to describe the CRB's database as a blacklist.[29] In 2012 microfinance institutions joined the 43 banks in reporting negative information. This kind of reporting did nothing to foster "reputational collateral" – as many people observed. "The information and reports will also not be suitable to serve as collateral for purposes of broadening access to credit," Mitugu wrote in that year, "particularly to small and medium income earners and SMEs."[30] By the end of 2012 the bureaus had built up, with considerable difficulty, a database of 200,000 defaulting borrowers out of the 5 million customers who had formal bank accounts and the 16 million who were using M-Pesa. FSD commissioned a report co-written by Gabriel Davel, the former South African National Credit Regulator, that painted a grim picture of the progress in credit information sharing. The reporting templates that the bureaus required the banks to use were difficult to complete, prone to error and to rejection. A single bank – Equity – was responsible for more than half of the reporting, and the preoccupation with negative information undermined the claim that shared reporting would extend access and reward the diligent with virtual collateral. It also meant that the bureaus

28 Njuguna Ndung'u, "Increasing Access to Credit," (March 4, 2010), http://www.bis.org/review/r100311c.pdf.

29 Gabriel Davel, Tshangwane Serakwane, and Mark Kimondo, "Kenya Credit Information Sharing Initiative: A Progress Report 2008-2011, Challenges and Opportunities" (Financial Sector Deepening, 2012); Martin Slough and Sukhwinder Arora, "Credit Reference Project Phase II Mid-Term Review" (Financial Sector Deepening, November 2013), 9, http://fsdkenya.org/publication/credit-reference-project-phase-ii-mid-term-review/; Victoria Rubadiri, "Githae Wants Changes to Credit Data Sharing," Capital Business, August 8, 2012, http://www.capitalfm.co.ke/business/2012/08/githae-wants-changes-to-credit-data-sharing/.

30 Mituga, "Credit Reputation as Collateral," 13.

did nothing to help the banks identify risks before they were realised.[31] The following year the Bankers' Association drafted a new law, based on the Davel recommendations, which required full-file (positive and negative) information sharing from the banks and brought many of the other non-bank lenders inside the informational tent provided by the CRBs.[32] But the obsession with coercion – and debt recovery – remained. When the Higher Education Loan Board (HELB) joined the CIS group in July 2013, it immediately announced that it had "forwarded the file of defaulters to the Credit Reference Bureau" under a headline trumpeting "68,000 graduates blacklisted as HELB cracks whip on defaulters." [33]

Full file sharing – reporting all transactions on an existing credit account, and not simply the final default – also generated a host of new technical difficulties for the banks. When the new reporting agreements were introduced in April 2013 many of them discovered that their existing core software systems were not up to the task. Several of them scrambled to implement expensive modular platforms from the two global systems providers – Temenos and Infosys – designed to work with the standardised credit reporting databases developed by TransUnion and CreditInfo. But even after the "herculean efforts" required to bring their data processing in to line with the credit bureaus, the banks found that they faced rejection rates of between a third and a half of the reports submitted. The problems arose mainly from a mismatch between the data possessed by the banks and the information required by the bureaus, and reliable identification was at their centre. "A common problem, especially among the banks with large branch networks," the consultants from FSD reported, "was that vital identification data was missing from the files of many customers (e.g. national ID number,

31 Davel, Serakwane, and Kimondo, "Kenya Credit Information Sharing Initiative."

32 Slough and Arora, "Credit Reference Project Phase II Mid-Term Review," 11.

33 JAMES ANYANZWA, "68,000 Graduates Blacklisted as Helb Cracks Whip on Defaulters," The Standard, July 19, 2013, https://www.standardmedia.co.ke/article/2000088757/68-000-graduates-blacklisted-as-helb-cracks-whip-on-defaulters.

passport number, alien registration or service ID)."[34] To these existing integration problems the bureaus had also to look forward to including transaction data from the millions of micro-loans that the Commercial Bank of Africa (CBA) began issuing using Safaricom's M-Pesa from the end of 2012.[35]

The turn to a new centralised assets register was also an attempt to repair and simplify the dishevelled and disorganised instruments of property registration in general and of land registration in particular. Some of the insecurity around landed collateral was a result of the long established forms of administrative authoritarianism and rent-seeking in the countryside that Cohen and Odhiambo have described as *serikali:* "the avatar of state power, authority, legitimacy, patronage, and presidential fiat all rolled into one with one chieftain, the president, at the top."[36] Political tensions around private land acquisitions in Kenya have long been matched by an arcane set of administrative processes, which subject all transactions to approvals from Land Control Boards in each of the districts. An even more serious set of problems arose from the paperwork in the land registry itself. "The integrity of the registries is further compromised by missing records and files, tattered documents, incomplete or incorrect information, incidents of fraud and document tampering, and weak monitoring of compliance rules."[37] Disorder in the archive, as much as conflict in the real world, helps to explain the banks' reluctance to offer secured credit. A similar set of registration constraints applied to the other important repositories of moveable assets. Here the problem was not the absence of registration, but a baroque proliferation: "There are a multiplicity of registries, including: the Companies Registry, the Land Registry, the Ship Registry, the Aviation Registry,

[34] Slough and Arora, "Credit Reference Project Phase II Mid-Term Review," 15–16.
[35] Slough and Arora, 16.
[36] Cohen and Odhiambo, The Risks of Knowledge, 141.
[37] Jose Mantilla, Peter M Mwangi, and Jennifer W Kibaara, "Costs of Collateral : Opportunities for Reform," 24–25.

the Co-operative Societies Registry, the Registry of Societies, the Chattels Registry, the Registry of Business Names, the Motor Vehicle Registry, the Trade Marks Registry, and the Registry of Shares."[38] Again these collections faced the same risks of defenceless paper files and logbooks, absent oversight and a complete absence of integration and cross-referencing. The disparate registries only supported queries against the identity of the owner, making it impossible to lookup the ownership status of any specific asset, including land and or other transaction agreements.[39]

As Safaricom's monopoly status became painfully obvious after 2010, the banks' advocates increasingly argued – and with good reason – that the most serious weakness in the Kenyan economy lay in the difficulties that small businesses faced in securing credit. [40] "Small and medium enterprises (SMEs) are the key to unlocking Kenya's economic growth," the FSD explained, "but without finance, they're languishing."[41] Like the earlier arguments in favour of individual credit reporting, policy makers argued that thousands of these small firms possessed moveable assets – buildings, vehicles, equipment, products, animals – that would provide secure collateral for formal credit given the right administrative and information processing tools. This was the idea behind the NDRS – that a centralised data exchange that would make information from the discrete registries – for example, of companies and vehicles – available to lenders. At the same time this kind of centralise data hub would offer non-bank

38 Jose Mantilla, Peter M Mwangi, and Jennifer W Kibaara, 24.

39 National Law Centre for Inter-American Free Trade, "Securing Credit for Growth: The Case for a New Asset Register in Kenya," 12.

40 National Law Centre for Inter-American Free Trade, "Securing Credit for Growth: The Case for a New Asset Register in Kenya"; Financial Services Deepening (Kenya), "Annual Report" (FSD Kenya, 2014); Financial Services Deepening (Kenya), "Annual Report" (FSD Kenya, 2015); Financial Services Deepening (Kenya), "Annual Report" (Nairobi: FSD Kenya, July 2017).

41 Financial Services Deepening (Kenya), "Annual Report," July 2017, 16.

lenders a quid-pro-quo for sharing information about their customers' servicing of existing loans. This idea – that the NDRS would, finally, "make it easy for financial institutions to appraise borrowers" – was the heart of the Gatabaki proposal. "A central repository of personal and corporate information will facilitate banks in their credit appraisal," as the Central Bank governor explained in endorsing the project in October 2014, "This should not only ease access to credit but also reduce costs of credit, given the lower search costs."[42]

In fact, of course, that integration never happened. Instead the CBA, in alliance with Safaricom, developed its own separate scoring mechanism – ironically with financial and technical support from the FSD whose core project is fostering universal credit sharing – that drew on data from Safaricom's transaction database specifically to identify borrowers who did not meet the initial basic criteria that were derived from Safaricom airtime purchases. This experiment included the testing of text messages encouraging customers to take up the loans.[43] The resulting scorecard worked only too well – and combined with the basic identification and simple black-listing supported by the IPRS – it meant that CBA and Safaricom could issue the M-Shwari loans without any need to look up or report data to the credit bureaus. That kind of integration – even in areas with high-speed wireless networks – would have ruined the rapid decision-making that is one of the attractions of Safaricom's mobile lending. The credit information templates of credit sharing, in other words, were too cumbersome and too slow for the stripped-down text and options of Safaricom's SIM menu.

And then there was the awkward question of the fees levied on the queries against the CRB

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42 Masinde, "New IDs to Expose Tax Evaders."

43 FSDKenya, "The Growth of M-Shwari in Kenya – A Market Development Story" (Financial Sector Deepening, November 2016), 7–8, http://fsdkenya.org/publication/the-growth-of-m-shwari-in-kenya-a-market-development-story/.

databases. After a decade of protesting that M-Pesa was a financial product with the same fiduciary precautions, Safaricom now began to argue that it was not a bank, and not subject to the regulation of the Central Bank of Kenya.[44] From the outset the CBA – like many of the other non-bank credit providers in Kenya – used credit information sharing only as a last resort in the effort to recover outstanding loans. After 120 days of non-payment, the bank reported delinquent M-Shwari debtors to the credit bureaus. These records, almost all of them negative reports, rapidly inflated the population covered by the CRBs from 1 million people in 2014 to 4 million the following year.[45] This expansion was the exact opposite of the reputational collateral that the bankers had long used to justify credit sharing – it measured, instead, the dramatically augmented pool of those denied formal credit at any cost.

By the time that Gatabaki announced the NDRS project, in April 2014, the effort to create a technological platform to foster reputational collateral for ordinary Kenyans had transparently failed. Over the following year the balance of informational power shifted decisively towards Safaricom and CBA – few people made the argument publicly, but the telecom firm had clearly come to exercise monopoly control over the heights of the Kenyan economy.[46] Their interest in

44 George Ngigi, February 6, and 2014 18:11, "M-Shwari Deposits Hit Sh24bn in One Year," Business Daily, February 6, 2014, http://www.businessdailyafrica.com/markets/M-Shwari-deposits-hit-Sh24bn-in-one-year/539552-2195602-lr144mz/index.html.

45 Muhammed Hajat et al., "Towards Positive Selection in the Kenyan Credit Market" (Financial Sector Deepening, October 30, 2016), 15, http://fsdkenya.org/publication/towards-positive-selection-in-the-kenyan-credit-market/; Zeituna Mustafa et al., "Where Credit Is Due - Customer Experience of Digital Credit In Kenya" (Microsave, March 2017), http://www.microsave.net/resource/where_credit_is_due_customer_experience_of_digital_credit_in_kenya; Graham Wright, "Are We Really Financially Excluding 2.7 Million With Digital Credit in Kenya?," LinkedIn Pulse, January 17, 2017, https://www.linkedin.com/pulse/we-really-financially-excluding-27-million-digital-credit-wright.

46 Manson, Katrina, "Safaricom Profits Soar despite Kenya Price War," Financial Times, May 13, 2014, sec. MOBILE & TELECOMS, https://0-search.proquest.com.innopac.wits.ac.za/docview/1535134724/515CFE05B0243B0PQ/13?accountid=15083; Omar Mohammed and Omar Mohammed, "Kenya's Safaricom Might Have to Spin off M-Pesa, the World's Largest Mobile Money Business," Quartz (blog), July 6, 2015,

micro-loans – while profitable and useful to borrowers– did little to make formal credit available to individuals or companies. The banks had established full-file sharing, but it did not include the 7 million M-Shwari accounts, and the remaining non-bank credit providers were also only required by law to report on defaults. The CIS system was working only as a blacklist, available to Safaricom on the IPRS platform and, far from working as a solution to the problem of asymmetrical information for other lenders, it simply encouraged the local banks to deny ordinary Kenyans credit, much as they have done since the early 20th century.[47]

Over the previous decade M-Pesa – as a money transfer tool – had extended financial services out to three-quarters of adult Kenyans but the proportion of the population with access to formal credit (provided by the banks or the co-operatives) had actually fallen.[48] Kenyan banks continued to impose very high interest rates (of 15 to 25% per annum) while the rates of default were actually increasing. All of these problems – credit rationing, starkly limited coverage, high interest rates, and defaults – followed from the fragmented and incomplete information that was available to the banks from the credit information system. The remedy initially proposed by the FSD for the ongoing failure of the technologies of reputational collateral was to follow the example of the South African National Credit Act, which introduced an industry regulator, fierce conditions of consent and liability and – most importantly – compelled all lenders (bank and non-bank) to share information on payments and loans with the credit bureaus.[49] This suggestion gained no traction because Safaricom, and their friends

https://qz.com/445114/dominating-mobile-money-could-lead-to-the-break-up-of-kenyas-biggest-mobile-network/; Genna Robb and Thando Vilakazi, "Mobile Payments Markets in Kenya, Tanzania and Zimbabwe: A Comparative Study of Competitive Dynamics and Outcomes.," December 15, 2016, https://doi.org/10.23962/10539/21630.

47 Anne King and R. M. A. Van Zwanenberg, An Economic History of Kenya and Uganda, 1800-1970 (Springer, 1975), chap. 14.

48 Excluding short-term, mobile micro-loans. See Hajat et al., "Towards Positive Selection in the Kenyan Credit Market," 11–12, 24.

49 Davel, Serakwane, and Kimondo, "Kenya Credit Information Sharing Initiative," 24; Hajat et

in the government, had much to lose and little to gain from it, and perhaps because the South African example of pervasive indebtedness is not obviously appealing.[50] Instead, the presidency turned to Gatabaki's idea that a registry of real collateral and a clean slate of biometric civil registrations could address the combined weaknesses of the banks informational collateral systems and the IPRS.

The Safaricom monopoly

Gatabaki's scheme faced resistance from within the state, not least because the World Bank's Kenya Transparency Communications Infrastructure Project (KTCIP) had been pouring money into the renewal of the old IPRS . As the NDRS was being debated the Bank was busy upgrading the IPRS, supporting digitisation of the existing land and company registries, strengthening the administration of the fifty newly devolved county centres of government, and connecting all of the divisions of the state to an accounting database based on Oracle's Business Suite.[51] The KTCIP overhaul reduced some of the pressure for repair of the existing state information systems, but it does not account for the collapse of Gatabaki's scheme, which would in fact have been bolstered by the same processes. The real reason lay in the

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al., "Towards Positive Selection in the Kenyan Credit Market," 22.

50 See especially Deborah James, Money from Nothing: Indebtedness and Aspiration in South Africa (Stanford, California: Stanford University Press, 2015), chap. 2.

51 ICT Sector Unit, Africa Region, "PROJECT PAPER ON A PROPOSED ADDITIONAL CREDIT IN THE AMOUNT OF SDR 35.6 MILLION (US$55.1 MILLION EQUIVALENT)" (The World Bank, March 1, 2012), http://documents.worldbank.org/curated/en/156941468192858121/pdf/670650PJPR0P120Official0Use0Only090.pdf; "Kenya - Transparency and Communications Infrastructure Project (KTCIP) : Implementation Support Mission - September 22 to October 10, 2014 (English)," Aide Memoire (Washington DC: The World Bank, October 10, 2014), http://documents.worldbank.org/curated/en/723771472039769017/pdf/107944-AM-P094103-PUBLIC-KENYA-Mission-sept-oct-14-final.pdf; The World Bank, "Kenya - Devolution Support Program-for-Results Project" (The World Bank, February 18, 2016), http://documents.worldbank.org/curated/en/160511468197069376/Kenya-Devolution-Support-Program-for-Results-Project.

ascendancy of the highly simplified information systems controlled by Safaricom, the explosive growth of M-Shwari mobile loans offered by the CBA and the decline of the political influence of the other established banks.

Two financial relationships were key to this influence. The first was the joint ownership of Safaricom between Vodafone and the Kenyan state, which gave the state a double-dipping interest in the company's enormous profits: first as shareholder and second as tax collector. By 2017 Safaricom was earning 60 billion Kshs in tax and license fees, and an additional 12 billion Kshs in dividends – a total that meant 1/10 of the revenues raised by the state came from a single firm.[52] This partnership, in isolation, presents a radical solution to the problem that post-colonial states have confronted in "channelling of the resources generated by inequality into productive investment."[53] A second, more opaque, partnership suggests something like the opposite of the socialisation of aggregate surplus value. The intimate partnership that Safaricom and the Commercial Bank of Africa – substantially owned by the Kenyatta family – have fashioned together in the development of the M-Shwari mobile loans amounts to the extraction of surplus on a national scale for the substantial benefit of one politically connected family. It is this double-layered political alliance that lies behind the ascendancy of the simplified informational arrangements supported by mobile banking in Kenya. During 2016, 35 million Kenyans used mobile banking to conduct 1.5 billion transactions for a combined value of 3.5 trillion Kshs. The number of wretchedly but newly employed field agents servicing this finance industry rose by 10% to 165,000 individuals in

52 Safaricom, "Annual Report" (Nairobi: Safaricom, 2016), https://www.safaricom.co.ke/images/Downloads/Resources_Downloads/Safaricom_Limited_2016_Annual_Report.pdf; Geoffrey Irungu, October 26, and 2015 20:08, "Rotich Banks on Tax Reforms to Collect Additional Sh60bn," Business Daily, October 26, 2015, http://www.businessdailyafrica.com/markets/Rotich-banks-on-tax-reforms-to-collect-additional-Sh60bn/539552-2931074-3dpud6z/index.html.

53 Patrick Chabal and Jean-Pascal Daloz, Africa Works: Disorder as Political Instrument (Oxford: James Currey, 1999), 159.

the same year. And Safaricom exercises a textbook monopoly over the field, controlling 65% of the SIM card subscriptions and 84% of the mobile banking transactions.[54]

During the year that the NDRS was being debated Safaricom converted its M-Pesa monopoly over pre-paid customers and financial transactions into the wildly successful M-Shwari microcredit product. In the process it transformed the Kenyatta's CBA from a bespoke bank providing services to the elite to one of the most profitable banks in the world, offering credit and banking facilities to the majority of adult Kenyans – most of whom were very poor.[55] By the end of 2016 M-Shwari was an even purer monopoly of the mobile credit market than its M-Pesa parent. It was being used by 16 million customers to take out 64 million small loans with a total value of $1.4 billion, and its closest competitor was another Safaricom product, which issued 4 million loans. One in five Kenyans were borrowing from M-Swari in a normal month.[56]

A highly simplified, stripped-down informational architecture, which exploited the very limited capabilities of the Simcard Toolkit and the IPRS – the opposite of the integrated, interoperable and real-time biometric system proposed for the the NDRS – was key to the explosive success of the Safaricom-CBA product. Safaricom added a "Loans and Savings" entry to the M-Pesa menu and a two-step application processes that was automatically decided using the scoring algorithm that CBA and FSD had assembled from airtime purchasing data. The 2017 Microsave report contrasts this slick simplicity with the clumsy and tedious pages of

54 Financial Services Deepening (Kenya), "Annual Report," July 2017.

55 Mutsa Chironga et al., "African Retail Banking's next Growth Frontier" (Johannesburg: McKinsey & Company, February 2018), https://www.mckinsey.com/industries/financial-services/our-insights/african-retail-bankings-next-growth-frontier.

56 Mustafa et al., "Where Credit Is Due."

data-gathering from the other, smart-phone app-based, mobile credit providers.[57] Safaricom sends SMSs to its entire customer base – effectively the reaching the Kenyan adult population – inviting them to apply for credit with two clicks on a cheap mobile phone. The legal conditions and the overall costs of these loans, including fees and the consequences of defaulting on payments, were published on the Internet where most borrowers were happy to leave them unmolested.

In contrast with the NDRS (and with the other biometric authentication platforms like Aadhaar or Net1), the M-Shwari loans imposed no new identification process on borrowers. For loans of less than $2500 (a fortune in Kenya), M-Shwari relied only on the original M-Pesa paperwork – sight of the national ID and a completed application form – that each customer is supposed to have submitted to load the M-Pesa menu, and pinging the IPRS blacklist. This frictionless simplicity – turning ignorance and convenience into effective instruments of profit – is now internationally called the "tier-based Know-Your-Customer" procedure. It is intrinsically the opposite of the "clean, complete, correct and secure" registration process that Gatabaki envisaged for the NDRS.[58] It is important to notice that it is an instrument of monopoly power because Safaricom can control its risk exposure by relying on the data it owns about users' purchases of airtime and their relationships with other users. That information – and possible histories of impersonation and PIN-swopping – is not available to the firms' competitors. It is only in the final decision of blacklisting borrowers that Safaricom reports unpaid M-Shwari debts to the bureaus maintaining the credit information system, effectively blocking those borrowers from future credit and their competitors' access to future

57 Mustafa et al., "Where Credit Is Due - Customer Experience of Digital Credit In Kenya."

58 "Why NDRS for Kenya? | C4DLab," August 14, 2014, http://www.c4dlab.ac.ke/2014/10/why-ndrs-for-kenya/.

customers. In the short, three year life of M-Shwari the number of Kenyans, most of them without any prior connection with the formal banking system, added to the blacklist shared between the CIS and the IPRS has reached three million people (1/10 of the adult population). And, as the newspapers and researchers complain, nearly 400,000 of those blacklisted have been denied access to future credit for failing to settle debts of less than $2.[59]

Conclusion

In the years since the demise of the NDRS, Safaricom's relationship with the Kenyan state has only grown more intimate. The company was an immediate beneficiary of the 4% cap on interest which the Kenyan Central Bank imposed on formal lenders in September 2016 – not least because CBA successfully defended the argument that the 7.5% monthly fee on M-Shwari was an administrative charge and not interest. (The effective interest rate offered on M-Shwari loans approaches 140% over a year of borrowing, but this rate – ten times the legal limit imposed on the formal banks – was still much lower than the returns demanded by informal money lenders.[60]) Safaricom has taken on many of the trophy projects pursued by the Kenyan state since: these included a national CCTV surveillance network in 2016, a government treasury bond issued to M-Pesa account holders in 2017, and an Ecitizenship project that takes up many of the goals of on-line convenience that motivated the NDRS.

That the Kenyan state has been strengthened by the rise of Safaricom is probably most evident in the doubling of the population of formal tax payers in this same period. Yet, it is also clear that this relationship has defeated the NDRS's goals for addressing the colonially-derived

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59 George Ngigi, "Pain of Kenyans Blacklisted for Amounts as Small as Sh100," *Business Daily*, September 9, 2016, http://www.businessdailyafrica.com/markets/Pain-of-Kenyans-blacklisted-for-amounts-as-small-as-Sh100/539552-3374802-10hqsr1z/index.html.

60 Mustafa et al., "Where Credit Is Due."

weaknesses of formal credit provision for ordinary Kenyans, especially for firms and for individuals looking to invest relatively large amounts in productive investments like equipment, vehicles or stock. In place of the revolutionary, panoptic over-reach of Gatabaki's National Digital Registry System, Kenyans have the simplicity and efficiency of M-Shwari. In comparison with the goals of full credit reporting and asset registries this looks very much like the old pattern of skeletal registration and brutal administration that Africans have long had to endure.

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