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The Digital Revolution in Financial Inclusion: International Development in the Fintech Era[1]

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Abstract

This paper examines the growing importance of digital-based financial inclusion as a form of organising development interventions through networks of state institutions, international development organisations, philanthropic investment and fintech companies. The fintech-philanthropy-development (FPD) complex generates digital ecosystems that map, expand and monetise digital footprints. Its 'know thy (irrational) customer' vision combines behavioural economics with predictive algorithms to accelerate access to, and monitor engagement with, finance. The digital revolution adds new layers to the material cultures of financial(ised) inclusion, offering the state new ways of expanding the inclusion of the 'legible', and global finance new forms of 'profiling' poor households into generators of financial assets.

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Introduction

> 'If we solve these large problems of financial inclusion, it will be with new business models, technologies and innovations. Data allow us to know which innovations work and which don't'. Rodger Voorhies, Bill and Melinda Gates Foundation 2014

Policy initiatives aimed at 'financial inclusion' (FI) have gathered pace since the global financial crisis. The 2008 World Bank Annual Report, entitled *Finance for All*, stressed the importance of FI in the context of the earlier broader paradigm shift in development towards the Post-Washington Consensus' concern with 'inclusive markets' (Mendoza and Thelen 2008). With this, the focus in pro-poor finance moved from micro-credit (as provided by microfinance institutions or MFIs) to FI, a term that encompasses a far broader range of financial products and providers (Soederberg 2013).

Since then, strong political headwinds powered the FI agenda in international development. By 2011, the Alliance for Financial Inclusion (AFI), a network of policy makers and regulators from ninety developing countries, had been created, with funding from the Bill and Melinda Gates Foundation (BMGF) and endorsement from the G20. Half of its members have since signed the Maya Declaration, a shared commitment to 'reach the world's 2.5 billion unbanked' and put in place national FI strategies in partnership with private sector actors (AFI 2014b: 3). At the AFI's 6th Annual Global Policy Forum (GPF) conference in 2014, the World Bank revealed that it was 'realigning resources to support Maya [Declaration] commitments' at country level (AFI 2014a: 27), reflecting the emphasis on a greater role for private finance in the post-2015 era (World Bank Group 2013).

In 2014, AFI announced that 'the Maya Declaration has revolutionized international development cooperation by empowering countries to set their own goals and targets' for FI (AFI 2014b: 3). In parallel, the Better than Cash Alliance was set up in 2012 with one important priority - to digitalize social cash transfers and thus accelerate the inclusion of the 'unbanked' of poor countries. Housed at the UN as implementing partner for the G20 Global Partnership for Financial Inclusion, the Better than Cash Alliance promises that a 'cash lite' Finance for Development agenda would put the UN's Sustainable Development Goals within reach (Goodwin-Groen 2015). Both AFI and the Better than Cash Alliance are funded by the Gates Foundation and by the Omidyar Network, a philanthropic investment organization created by Peter Omidyar, the entrepreneur behind eBay.

What might explain the rapid rise of FI as a model for development cooperation? Two distinct explanations have emerged recently. Soederberg (2013) scrutinizes the G20s' efforts to energize development through FI through the lens of global finance-led capitalism, a capitalism that obscures in the process its exploitative and speculative nature. The 'invitation to live by finance' (Roy 2010 citing Martin 2002:3) and its spread from high-income countries (including segments of the population considered 'subprime') to the core of the international development agenda should be understood in relationship to broader dynamics of financialisation (see Fine this issue, also Finlayson 2009; Montgomerie and Budenbender 2015, Bryan and Rafferty 2014). The transformation of welfare states in OECD countries that led to the emergence of individualised, asset-based welfare (Montgomerie and Budenbender 2015, Finlayson 2009) is one side of the financialisation-financial inclusion nexus. The push for financial

– or financial*ised* – inclusion in the developing world is the other. Poverty is understood as a new frontier for profit-making and accumulation (Elyachar 2012, Roy 2012, Soederberg 2013).

In contrast, some anthropologists of newly emerging forms of money view the convergence between philanthropic development, and regulatory communities with less suspicion (see Maurer 2012). In this account, financial technologies such as 'mobile money' open up novel and exciting possibilities for democratizing monetary and financial inclusion. The poor do not always behave as technologies anticipate, but actively (re)shape monetary spaces through innovations such as informal money transfer mechanisms. Indeed, as the 'financial diaries' literature illustrates, far from being excluded, poor households are often accustomed to managing a multiplicity of formal and informal financial instruments (Collins 2005, 2008; Kamath *et al.* 2010). Since such practices can provide new sources of (legitimate) profits from high volume, low value transactions, industry participants observe closely how the poor innovate (Costa and Ehrbeck 2015). Philanthropists, development agencies and regulators see unprecedented opportunities for effective development interventions with low infrastructural and investment requirements.

However, we argue in this paper that it is important to examine critically the contours of a fast-evolving fintech-philanthropy-development (FPD) complex. This should be understood against the backdrop of rapid growth of a digital underworld that feeds available data into opaque algorithmic processes that are increasingly used to organize economic life (Pasquale 2015). This reflects a transformation in the field of predictive algorithm design, from anticipating consumer decisions (Agrawal *et al.* 1993) to

producing geographies of suspicion in the securitization of the war on terror (see Amoore 2009); opening up new possibilities to generate a screened economy of (appetite for) risk in low-income countries.

The process of harvesting digital footprints simultaneously involves the poor's use of mobile technologies and the state's increasingly digitalized social transfers, the latter in recognition that the state, through private digital entrepreneurs, can connect (poor) populations to algorithms. The practices of digital-based FI delineate 'at risk' populations into categories of borrowers (Kear 2013, Kamiska 2015), incorporating the poor into global strategies of capital accumulation through digital footprints, a project particularly apt for (chaotically) shaping financial(ized) subjectivities.

The scholarship on material cultures of financialisation and the associated 10Cs (Fine, this issue) provides a useful lens through which to examine this complex network of discourses and practices. In particular, we are interested in how digital technologies-based FI is *Constructed* through material practices, *Collective* in promoting financialisation, *Closed* in confining policy-making to an increasingly powerful digital elite with little *Contestation* from official development actors. We trace a discursive shift that attributes market failures, not to poorly regulated financial markets and institutions, but to *individual* consumers whose behavioural traits can be captured, shaped and 'corrected' through behavioural economics (see World Bank 2014, 2015). This disjuncture is mirrored in development discourses that naturalise 'the market', with a shift in emphasis from correcting market failures ('making markets work for the poor') to creating market *subjects* (Berndt 2015). Cognitively deficient financial subjects must now learn to be 'resilient' to market shocks (Clarke 2015) through financial education (Kear

2013, Marron 2013, Santos this issue) or, failing that, 'nudge' techniques (World Bank 2015; Berndt 2015). This 'consensus', locating the cause and solution of financial crises in consumer fallibility, has thus spurred a phase in development thinking and practice that seeks to further embed 'commodity calculation' (see Introduction, this issue) in everyday household decision making (see World Bank 2015). Meanwhile, the rapid diffusion of mobile technologies in developing countries provides the technological infrastructure through which financial providers, facilitated by these global networks, can 'reach the unbanked' and shape financial subjectivities.

A defining feature of financial(ised) inclusion as enabled by new information technologies, particularly mobile technology, is what we refer to as the 'commodification' of a new class of financial consumer, or more accurately, of her personal data. Central to this vision is the potential of digital technologies to capture the data of the newly 'included' in ways that enable lenders to map, know and govern 'risky' populations'. In other words, rather than seek to reorganise people and things spatially in order to render societies 'legible' (cf. Scott 1998), mobile technologies provide the means to 'administratively re-order' populations in new ways by engaging individual citizens in the process of creating themselves as legible subjects (Ruppert *et al.* 2013). This project of digital legibility is *Closed* in the sense defined by Fine (this issue), as the assumptions underpinning the algorithms of the predictive industry are the proprietary knowledge of an increasingly powerful digital elite, while the development of research methodologies that might render algorithms transparent, for example through institutional practices and effects, are at a nascent stage (Ruppert *et al.* 2013).

The paper is organized as follows. We first outline the historical emergence of a development agenda focused on financial inclusion. We then examine the institutional contours and practices of the FPD complex. We argue that the harvesting and monitoring of digital footprints that feeds into behavioural models of 'know thy (irrational) customer', and the growing importance of 'nudging techniques', points to the emergence of a firmly disciplinary trait in the financialisation project in international development. This, we conclude, opens up important research questions of how households and agents *Construe* the processes described, and their emerging techniques of resistance to, and transformation of, the sophisticated range of digital surveillance techniques.

Financial inclusion: the emergence of an international development agenda

FI was conceived as an analytical lens through which to understand the relationship between finance and the poor (Marron 2013). Early research on financial *exclusion* explored the ways in which financial institutions discriminated against certain socio-economic groups (Dymski and Veitsch 1992; Leyshon and Thrift 1995, 1996). This critical reading explored questions of how the financial sector structurally shapes and sharpens inequality by system(at)ically favouring 'the rich and powerful'. Exclusion was thus the fault and responsibility of financial capital, that conducts 'an insidious and relatively unremarked-upon assault […] upon poorer and disadvantaged groups' (Leyshon and Thrift 1995: 314).

Early proposals to force banks to include the poor were deemed problematic at both ideological and political levels. Exclusion was thus reframed as a question of individual accessibility rather than structural marginalization, and policies focused on removing obstacles to participation in 'normal' activities (Kempson and Whyley 1999; Johnson and

Arnold 2012). Demand-side explanations of individual accessibility – the 'individual turn' in FI studies – took centre stage (Marron 2013). According to these, low-income households could not meet the price of certain financial products, were not aware of others and, ultimately, were 'psychologically' un(der)prepared to see themselves as financial subjects (Kempson *et al*. 2000). Policy focused on persuading banks, without direct regulation, to expand provision of financial services to the excluded, who would in turn be better educated through financial literacy campaigns. Subsidies, private-public partnerships [1] and market-making regulations would incentivize banks to create new products tailored to the excluded.

By the late 2000s, FI had travelled across borders to anchor a new, finance-based, development paradigm. The World Bank played an important role. Its economists dedicated substantial efforts to demonstrating empirically that financial development leads to (pro-poor) economic growth (see Beck, Levine and Loayza 2000; Beck, Demirguc-Kunt and Levine 2004), thus legitimizing the World Bank's financial liberalization agenda. FI helped re-frame the early emphasis on microfinance as the market-based solution to poverty (Roy 2010; Soederberg 2013). Celebrated in the 1990s as 'the vaccine for the pandemic of poverty', microfinance initiatives such as the Grameen Bank drew attention to the potential of 'peer lending' through which well-organized groups could access credit by replacing economic collateral with the discipline of peer 'solidarity' through group-based lending, to ensure repayment and thus the financial 'sustainability' of microfinance programmes and institutions.

Yet microfinance, as most other market-based development initiatives, failed to achieve 'success' even on its own terms – that is in fostering the poor's entrepreneurship (World

Bank 2008). One oft-cited reason for failure is breach of the principle of financial sustainability expected to govern microfinance institutions (MFIs). This required that loans be used only for productive activities and extended at market interest rates (Cull, Demirgüç-Kunt, and Morduch 2007). Moreover, the attempts to impose market discipline typically meant that microfinance clients had to specialize in activities with high uncertainty, short profit cycles and limited profitability (Shakia and Rankin 2008). Nor did microfinance manage to consistently reach the excluded. Instead, loan officers typically resorted to pressuring existing borrowers to take larger loans on longer terms. By early 2008, concerns with over-indebtedness and scepticism about the development potential of microfinance became pervasive (Duvendak *et al.* 2011).

More fundamentally, the microfinance model did not disproportionately benefit the poor, as was originally claimed. Findings from research in Latin America, Eastern Europe, South and Southeast Asia and South Africa have revealed that a development approach centred on microcredit '*programmatically* disadvantages the poor in the longer run' (Bateman 2014: 100, original emphasis), since it directs resources towards 'very small – often one-person firms of low productivity', that might otherwise have been channelled towards a nascent SME sector as a foundation for economic growth and employment (also Duvendak *et al.* 2011). In this respect, the microfinance model has been described as 'anti-developmental'; instead of delivering sustainable development, generating a succession of 'boom to bust' episodes in countries as diverse as Bolivia, Nicaragua, Morocco, Pakistan and Bosnia (Bateman 2014: 102).

In *Finance for All* (World Bank 2008) the Bank side-stepped such pressing questions about the pitfalls of market-based financial sector development. It re-directed attention

from specialist MFIs to mainstream financial institutions, and to the broadening of the definition of 'pro-poor' financial services to include savings and payments services alongside lending, targeting both households and small businesses. Above all, interventions were to be entirely market-based. The Bank warned governments to avoid repeating earlier 'mistakes' with 'market-substituting' policies (subsidized lending rates or government ownership of financial institutions). Instead, the Bank insisted that governments focus on market-*developing* policies, including macroeconomic stability and financial deepening as supply-side interventions that would create instruments for risk diversification and thus allow banks to engage with higher-risk consumers.

The global financial crisis in the same year brought into sharp focus the fragility underpinning projects to extend financial participation, throwing into doubt the wisdom of a major expansion of market-based FI. Scholars argued that 'the orgy of subprime lending' in the USA was a consequence of market-based forms of FI (French *et al*. 2009). The pre-crisis wisdom that exclusion from financial services imposes costs mutated into an overt anxiety that inclusion may do the same, by encouraging banks to generate and manage risky assets from 'subprime' borrowers. The Bank's response was swift, and sought to re-*Construct* the market-based FI agenda as the only way forward. Indeed, the premise behind World Bank's Global Findex database is that the relationship between households' access to finance and development outcomes can only be properly theorised with empirical evidence from cross-country, time-series data (Demigurc-Kunt and Klapper 2012). In other words, empirical evidence of a particular kind would be necessary to demonstrate that the US subprime moment was anything other than an isolated exception in an otherwise positive account of FI.

The 2014 World Bank's flagship Global Financial Development Report, dedicated to FI, took these scholarly 'cleansing' efforts further. On a macro level, the Report addresses the unavoidable question of the analytical link between FI and financial instability. While recognizing that over-indebtedness can lead to financial instability where financial institutions have perverse incentives to embrace a 'finance for all at all costs' approach, the empirical sections of the Report reject any correlation, let alone causality, between FI and financial stability across a large set of high and low income countries (see Cihak *et al*. 2013). In doing so, the Report dismisses evidence in support of state intervention through subsidies and state-owned banks in developing countries – a 'developmental' approach to finance (see Bateman 2014 for example) – and instead pushes for private sector innovation as the source of new products and services that will 'address market failures, meet consumer needs, and overcome behavioral problems' (World Bank 2014: 3).

In other words, despite the lip-service paid to the systemic implications of over-indebtedness, the pre-crisis enthusiasm for FI as a market-based panacea for inequality and development remained intact. This allows for state intervention as long as it is of the 'right' kind, as explained by the Bank in its discussions of development financing in the post-2015 era (World Bank 2013). For the Bank, aid should be seen as one of a range of institutional and policy levers used to attract and secure *private finance* for development. Indeed, its own International Finance Corporation (IFC) channels funds directly to financial intermediaries in emerging markets as a strategy to foster 'financial deepening and inclusion for private sector-led growth' (World Bank 2013: 32).

In this context, the power of microfinance as a 'mobilising narrative' has played a central – but paradoxical – role in bridging the microfinance and FI eras in international development (Mader 2016; Rankin 2013). While the 'resilience' of the microfinance model stemmed from its *limited* financialisation as a 'closed ecosystem', the model has more recently been recast as a 'safe investment' in a new push to open up microfinance institutions to global investors. Thus the emphasis shifted from the financial sustainability imperative to the *profitability* of microfinance instruments, with often devastating consequences for the poorest borrowers (Aitken 2010; Rankin 2013).

The IFC has been a major driver of what Soederberg (2013) calls the 'slice and dice' development approach that prioritizes securitization of microfinance instruments in developing countries. In this context, the term securitization refers to the conversion and packaging of microloans into liquid securities that can be traded on financial markets, in a similar manner to the asset-based securitization (ABS) that led to the subprime 'moment' and the global financial crisis. Nevertheless, the IFC portrays ABS as a risk-reducing innovation that could help developing countries meet the growing demand for finance generated by successful FI strategies in conditions of capital scarcity. As 'the world's largest supplier of financial services to private sector entities in the global South', the IFC is attracted to securitization because it allows it to 'expand its reach without expanding its [own] risk/gamble' (Soederberg 2013: 602).

Mapping the future? The Alliance for Financial Inclusion

The promotion of FI as a development paradigm is not unique to the World Bank, but rather a symptom of a much larger shift to market-based FI in development cooperation. Since the global financial crisis in 2008, we have witnessed the emergence of networks of

policy makers in emerging/developing countries, international financial organisations, 'philanthropic investment firms' and fintech companies whose interests are closely aligned in promoting FI.

The most visible institutional structure is the Alliance for Financial Inclusion (AFI), which unites more than ninety developing and emerging countries in a commitment to mobilise FI as a 'method to unlock human potential'. Half of participating countries agreed to binding targets through the Maya declaration, targets that are designed and owned by each country, tailored to their conditions. Several participants also envisaged the adoption of national FI strategies that would include specific initiatives to achieve the Maya commitments. The World Bank applauded the impressive coordination effort, energized by the G20, and declared that it would realign resources in its country level missions towards the Maya priorities.

As the AFI (2015, 2014a, 2013) Annual Reports make clear, the top thematic areas of the Maya commitments include financial literacy, digital financial services (electronic payments, mobile financial services, and agent banking), 'proportional' financial sector regulation and FI data. The largest regions with 'unbanked' populations, Sub-Saharan Africa, Asia, Latin America and the Caribbean, emphasise digital financial services as a solution to problems of access for the population in rural areas whose 'digital footprint' through use of mobile phones is significant. According to estimates from the Omidyar Network, by the end of 2015, 1.7 billion of the 2 billion without formal access to finance have a mobile phone (Costa and Ehrbeck 2015).

That AFI would not simply be a new forum for coordinating state institutions in global development initiatives became obvious from its inception. With funding from the Gates

Foundation, AFI is administered by GIZ, the German public benefit enterprise that coordinates official German development cooperation. By 2014, the Omidyar Network would become the second philanthropic investment organization officially partnered with AFI (AFI 2015). Its mission is to combine 'venture capital investments in innovative ideas to advance financial inclusion' with grants that generate 'the knowledge and advocacy necessary for an ecosystem in which these ideas can mature' (Costa and Ehrbeck 2015). The Omidyar Network thus funds and invests in fintech companies that can disrupt high information costs of credit risk assessment for the poor and thus leverage an 'emerging lower-cost' environment through innovative products and services.

For the first few years of its existence, AFI remained a forum accessible exclusively to policy makers. That changed with the launch of the Public Private Dialogue Platform (PPD) in 2014. The PPD promises policy makers 'private sector insights' for developing new policies, and the private sector 'an unprecedented opportunity' to connect to policy makers who are regulating new and high growth markets and, furthermore, a 'highly visible exhibition space in AFI Market Place' (AFI 2015: 1). By June 2015, Mastercard, Visa and BBVA (a global bank headquartered in Spain) had become AFI members, with more partnerships to be formalized in the future. Meanwhile, the AFI acts an umbrella and incubator for a growing number of global and regional FI programmes such as the UNDP-Funded 'Mobile Money for the Poor' (MM4P) and 'Shaping Inclusive Finance Transformations' (SHIFT), among others.

The FPD complex thus sees the growing influence of a digital elite in development interventions with apparently little scope for contestation. Indeed, one key priority for the PPD platform is a dialogue on innovative products, business models and approaches,

predicated on the idea that technology and big data can play a critical role in enabling public-private partnerships for FI. Its strategic priorities evoke closely the digital ecosystem envisaged by the Omidyar Network, where innovative ideas can be developed and put into practice with support from 'progressive' regulators (Costa and Ehrbeck 2015) and an emerging scholarship on 'proportionate regulation' (for example, see Tait and Banda 2016). It is here that the politics of FI – or financial*ised* inclusion – anchored in the digital revolution starts to become apparent.

First, as Kaminska (2015) argues, behind such promises lies a threat of 'financial intrusion' and an explicit strategy to generate revenue streams from monetizing financial data. As such, the extent of genuine consumer 'choice' is constrained by an underlying requirement that all services *Conform* to the logic of a system of provision designed to generate such income streams. Here the group discipline associated with Grameen-type revolving microcredit loan is superseded by new forms of individual self-governance, facilitated by 'disruptive' digital technologies developed with support from philanthropic organisations such as the Omidyar network. For example, Cignify Inc., a US-based fintech company receives funding to further its strategic goal of disrupting traditional credit risk assessment. Headed by a former IFC director, Cignify first partnered with OI Telecom in Brazil in 2010 and then with Telefonica, a telecom operator with presence across Latin American countries, to test its credit-scoring platform (Cignifi 2014).

Cignifi's business model involves creating credit scores for mobile phone users without a credit history, by predicting behavior from the patterns of calls and text messages. Credit scores extracted from a behavioral track record can help measure the appetite for financial products among 'emerging customers', as well as default risk (Cignifi 2014).

Another Omidyar investment, Revolution Credit, exemplifies how the FPD complex not only tracks, but also creates digital footprints. Potential, 'thin file' borrowers are invited to participate in online games and quizzes that generate behavioral data, in turn fed in predictive algorithms (Costa and Ehrbeck 2015). Put differently, data and algorithms become critical to pushing the risk frontier in low-income countries, as fintech companies create, collect and commodify behavioral data, within an 'ecosystem' fostered by networks of philanthropic investors, development finance institutions and donors and policy makers in participating countries.

Furthermore, the state also plays an important role in the commercial processes of harvesting and commodification of digital footprints. Thus, a spinoff from the AFI, the Better than Cash Alliance, takes the project of (re)-constructing digital footprints even further by accelerating the transition from cash to digital payments globally. Set up in 2012, the Alliance ostensibly promotes a partnership between governments, private sector and international organizations involved in development (the United Nations Development Programme (UNDP) alongside the International Fund for Agricultural Development (IFAD) and global NGOs such as CARE, Concern Worldwide), funded the BMGF and Omidyar Network (with USAID, Mastercard, Citi Foundation and Visa). Its first case study, written by the Bankable Frontier Associates with advice from the World Bank Payment group, explores Mexico's decision to shift from cash to digital payments for government-to-person payments (salaries, pensions and cash transfers). The greatest promise for FI, it stresses, is to digitalize social transfers, thus reaching the 'unbankable' at a stroke through the long arm of the state. The slow progress in digitalizing social cash

transfers, it argues, stems from a lack of incentives for governments that can be addressed through the Maya Commitments to FI (Babatz 2013).

In its report commissioned by the Better than Cash Alliance, the aptly named Bankable Frontier Associates (2014) made clear what is at stake in the 'journey towards cash lite'. For financial service providers, the opportunities for FI via digital payments do not arise from increasing use of bank deposits by the previously unbanked, since bank accounts are not 'daily relevant'. Rather, opportunities 'come from financial service providers using the digital information generated by e-payments and receipts to form a profile for each individual customer. This digital profiling then enables providers to offer more appropriate and relevant products. Even beyond the use of e-payment records, businesses are starting to use other 'digital footprints', such as mobile phone calling records and social network traffic, to offer credit to the excluded groups' (Bankable Frontier Associates 2014: 8). Thus alongside or in cooperation with private digital entrepreneurs, the state can accelerate global finance's access to the poor's digital footprints, while at the same time rendering off-grid populations 'legible' (Scott 1998), and thus governable, in new ways (cf. Ruppert 2012).

It is no coincidence that, along with its FI portfolio, Omidyar is developing drone technology to confirm and protect property rights in low-income countries. Its deep involvement in AFI and the Better than Cash Alliance will allow it to put such 'transformative technologies' at the centre of initiatives to energize FI, involving a constant monitoring of the assets of borrowers and potentially their movements.[2] Omidyar Network is investing in a broad range of fintech start-ups governed by a 'know thy (irrational) customer' philosophy of harnessing the digital revolution to the aims of

FI. For example, Zoona in South Africa stresses that the 'unbankable' consumer exists in a very different world, her financial decisions shaped by considerations other than those at play in the offices of fintech companies. Using behavioral economics to map and understand those decisions would thus render a continent with a 'high demographic dividend' and high poverty more attractive to foreign capital.

Indeed, one of the promises that Cignifi makes is to continuously track changes in customer performance as mobile phone data are refreshed. A mobile phone, whose use can feed data capturing the 'move from one behavioral state to another' (Cignifi 2014: 7), would become a new Panopticon for self-regulating financial behavior in ways that preserve mobile-data based credit scores. Thus, the 'digital revolution' now increasingly underpinning FI adds new layers to the construction of financial governmentality.

In sum, the fintech vision of financial inclusion – know thy (irrational) customer – is a market-led process that harnesses the power of technology, the better understanding of human behavior and broad political support. It is a vision that celebrates the possibilities for simultaneously achieving positive returns, philanthropy and human development.

Know thy (irrational) customer: digital technologies and financial (self) government

FI is therefore a process not only of bringing the 'unbankable' into the market, and making governable subjects more legible to the state, but also one of deploying the assets they generate for broader strategies of capital accumulation that are far from transparent (Roy 2012; Soederberg 2013). Governing the conduct of 'risky populations' involves finding new ways to securitize income streams from the hitherto excluded through the creation and trading of new types of asset, combined with innovative approaches to 'de-risking people who would otherwise be too risky to lend to' (Kaminska 2015: 1).

Paradoxically, just as new technologies and products appear to shorten the distance between global banks and households (Finlayson 2009; Soederberg 2014), new processes of 'distancing' are underway. These obscure the role of the newly included in a system whose inner workings are increasingly complex and opaque (Clapp 2014).

Central to this vision is the potential of digital technologies to capture the data of the newly 'included' in ways that enable lenders to map, know and govern 'risky' populations. In other words, rather than seeking to reorganise people and things spatially in order to render societies 'legible' (cf. Scott 1998), data generated via mobile technologies provide the means to 'administratively re-order' populations in new ways, based on the 'moving target' of behavioural data as opposed to more stable 'background' characteristics. Through processes that are far from transparent, therefore, previously out of reach citizens participate 'inter-passively' in becoming legible subjects (Ruppert 2011; Ruppert *et al.* 2013). Omidyar Network's strategy of establishing a presence (eventually dominant) in the different nodes of the digital ecosystem underpinning FI, in close partnership with state institutions, offers a powerful example of the common project of digital legibility.

This generates data that can be used in two ways: to inform behaviour change strategies used by lenders to 'nudge' individual behaviour in desired directions; and to inform risk management strategies that diffuse risk among various others in an increasingly complex chain of actors (Kaminska 2015). In either case, to be 'included' is to be *excluded* from knowledge of the workings of a *Closed* system into which poor consumers are incorporated as a class of borrowers whose rights to privacy are suspended until such time as full (financial) citizenship is 'earned'.[3]

Meanwhile, a growing body of literature, drawing on tenets of behavioural economics, is at hand to provide further legitimation of this framing of the poor consumer as 'risky subject', not least from the self-named 'knowledge bank' itself. Just as early accounts portrayed the prototypical subprime borrower as the 'single African American woman', distinctly ill-suited to participate in financial markets (Squires 2011), the FI development narrative links financial instability to consumers' 'behavioral problems' (World Bank 2014). Financial education has therefore assumed a new importance in the international development field; as Grameen-style group-based discipline and 'solidarity' give way to individualised financial government.

Such interventions are understood in terms of an increasingly pervasive 'resilience doctrine' which views market crises as 'natural' phenomena against which individual citizens and households must become resilient. In this context, then, financial education is a 'training in resilience', or ability to withstand market shocks (Clarke 2015). On the other hand, it is acknowledged that financial literacy alone may be insufficient for the poor to be able to access and benefit from financial services, since 'individuals can have financial knowledge but still make irrational financial decisions' (World Bank 2014: 23). Instead, adequate participation in financial markets necessitates a range of 'psychological traits and motivations associated with financial capability', including self-control. Poor consumers are *Constructed* as more likely to make mistakes, either because they are irrational or because they suffer from cognitive limitations (Van Order, Firestone and Zorn 2007).

This way of envisaging the decision-making processes of the poor finds its clearest expression in the 2015 World Development Report (World Bank 2015, see Fine *et al.*

2016 for a critique). In this Report, poverty 'is not only a deficit in material resources but also a context in which decisions are made. It can impose a cognitive burden on individuals that makes it especially difficult for them to think deliberatively' (World Bank 2015: 13). Instead, poor people are said to rely on 'automatic' decision-making. Financial distress, the Report argues, affects thinking capacity and even IQ. Put another way, poverty imposes a 'cognitive tax'. Solutions are put forward, drawn from 'nudge' theory, involving the use of 'choice architecture' to nudge consumers (or potential consumers) in the direction of 'better' choices (cf. Thaler and Sunstein 2008).

High consumer debt is thus conceptualised as the result of poor consumers thinking 'automatically' rather than deliberatively, justifying a narrow understanding of 'financial education' as channelling behaviour in particular directions without revealing the logic of the system within which such behaviours are deemed necessary. However, this construction of the irrational, financially illiterate and 'excluded' consumer is at odds with the more sophisticated individual that emerges from research that draws on poor people's 'financial diaries', charting instances of actual (rather than imagined) financial behaviour (Collins 2005, 2008; Kamath *et al.* 2010). Such accounts, in which consumers of a range of formal and informal financial services engage in complex financial strategies combining acts of borrowing, saving *and* lending, are notable by their absence in the design of programmes for financial education in a development context.

Needless to say, while behaviourism provides the conceptual framework for understanding the borrower, this is not so for the lender (World Bank 2015: 14). The Global Financial Development Report (World Bank 2014) specifically downplays the role of financial actors in creating systemic instability, suggesting that financial

institutions can only exploit consumers lacking financial capability. Ultimately, over-indebtedness is a mark of individual behavioural shortcomings rather than structural dynamics in the financial sector. In this context, the decision by the World Bank (2015) to elaborate on insights from the discipline of behavioural economics makes sense as a means to accommodate this *Contradictory* position and 'explain' irrational consumer behaviour without displacing neoclassical economics as the hegemonic discipline, and 'the individual' as the unit of analysis, thus steering the debate well clear of structural explanations of the financial crisis (Fine *et al.* 2016).

From a Foucauldian governmentality perspective that eschews the inclusion/exclusion binary, these developments can be read as a problem of financial *government* which is progressing along with, and through, the production of new subjectivities that are 'eminently governable by financial means' (Kear 2013: 1). This line of enquiry moves the analytical lens onto the (discursive) production of financial subjectivities and the exercise of political power through calculative rationalities (Lemke, 2000, see also Fine, this issue). While neoliberalism involves attempts to universalize the 'homo economicus', since the 'self-regulating capacities of subjects (…) have become key resources' (Miller and Rose 2008: 26); financialization transforms 'everyday life', creating new financial identities that *Conform* to the requirements of expanding financial markets (Langley, 2008; 2010). FI is thus conceived as a new form of governmentality, rolling out tiered forms of private financial 'government' that produces and relates the financial self(ves) to power (Kear 2013).

Thus FI discourses mark a broader shift to fostering the individual's ability to deal with contingencies and uncertainties that welfare states had addressed in the past through

collective pooling of risk in public pensions, health, housing, education and labour market protection (Kear 2013). From this asset-based welfare perspective (Finlayson 2009), and with the emphasis now firmly on the individual consumer, risk is no longer solely a threat, but can become an opportunity for profit for 'resilient' consumers in possession of the right calculative practices and attitudes to risk (Marron 2013; Bryan and Rafferty 2014; Clarke 2015). FI as a development paradigm, therefore, envisages no material change in the (changing) structures that generate marginality, but rather seeks to channel individual behaviour, through digital surveillance and education, to engage and identify with these structures.

Upgrading the financial subject, Marron (2013: 11) argues, is not solely a question of equipping individuals with the right risk management frameworks. Financial subjects are also expected to 'find meaning, value and self-expression' through their participation in financial activities; if they cannot, they are *Construed* as suffering from 'behavioural problems', issues of 'self-control' and shortages of 'cognitive resources' (World Bank 2015). Here we find the familiar contradictions 'in the assembly of the financial subject' (Langley 2007: 85) that Fine (this issue) attributes to the *Chaotic* nature of the material culture of financialisation.

Before the global financial crisis, FI discourses – promoted by international development agencies – celebrated households' role as risk absorbers of last resort (Bryan and Rafferty 2014: 408). Similarly, global finance saw the poor as being a 'crisis-resilient asset class' with a 'low threshold for risk' (Soederberg 2013: 606, see also Clarke 2015) that held great promise for securitisation. The global financial crisis threw into question this optimism when it revealed that the combination of high unemployment and high food

prices left the poor unwilling to prioritise loan repayments over daily subsistence, suggesting that financialisation and its effects may not have gone completely un-*Contested*, see Santos (this issue). The daily monitoring of digital footprints that feeds into behavioural models of 'know thy (irrational) customer' and the growing importance of 'nudging techniques' points to the revival of a more disciplinary trait of the financialisation project in international development, with an increasingly sophisticated range of digital surveillance techniques.

However, it would be a mistake to treat these reconfigurations as evidence of the un*Contestable* nature of financialisation (see Fine this issue). Indeed, a material culture of financialisation approach raises two questions which merit further investigation. First, it is important to reflect on the practices of resistance that are possible in this new world of rapidly expanding digital technologies. How will we resist dystopian futures of self-governance and discipline where a smartphone or a smartwatch would allow global finance to constantly monitor our everyday lives for signs of irrationality that can threaten the valuation of liquid assets generated through digital footprints? Second, the discourses of the FPD complex give the impression of more control, more reach than occurs in reality. As Maurer (2012) points out, attempts by the financial industry to 'format' the poor into customers have been subverted and transformed precisely because the poor innovate, appropriating technologies in ways that cannot be predicted by algorithms or their creators. Or can they? At present, research methodologies for investigating patterns and processes of digital subjectification, and the potential for innovation and resistance, are at an early stage (Ruppert *et al.* 2013). Nevertheless, just as in the subprime crisis when consumers resisted pressures to prioritise loan repayment,

further research is needed to identify and understand evolving practices of adoption, adaptation and resistance at the frontiers of financialisation in developing countries.

Conclusion

The global spread of individualised asset-based welfare (see Robertson in this issue in context of housing), FI and the power of global finance, uninterrupted by the financial crisis of 2008 (although not necessarily uniform in its implementation, see Prabhakar 2013), should be understood as connected in tandem with one another. To address their mutual dynamics, therefore, it is important to understand how the subprime 'moment', now perversely being recast as development policy, is being extended to new markets in the South under a 'development' banner. The key words are access via digital footprints – not only the ability of the 'unbanked' to access financial services, but for financial capital to access new 'risk frontiers', within an institutional and policy framework that enables financial actors to 'de-risk' individual consumers through constant monitoring.

Since the crisis, there has been a convergence of policy and knowledge co-production, and in particular the employment of behaviouralism as justification and guide to future development practice (World Bank 2015). However, these discourses of inclusion (and 'access') obscure the desire and momentum of financial capital to access high risk/high return markets (Kaminska 2015). In this case, the role of the state is recast to provide 'an enabling environment' for financial capital to flow freely, while allowing the consequences of systemic risks to be transferred to consumers precariously positioned at the 'bankable frontier'; while their 'digital footprints' are captured and quantified as evidence of potential income streams against which securitised loans can be made that form the basis for tomorrow's financial 'innovations'.

This analysis of financial(ised) inclusion as a multi-tiered process of financial subject formation (Kear 2012) provides a useful lens for understanding why there should be 'an absence of genuine *Contestation*' (Santos, this issue, p???) in response to the identification of borrowers in need of education – not lenders in need of regulatory reform – as the primary source of risk to the financial system. This article has highlighted how the normalisation of the subprime 'moment' as 'business as usual' worldwide is being facilitated via an ambitious global programme of market-based financial development that has the support of major donors and multilateral development banks.

As an evolving international institutional infrastructure for FI, the FPD complex is extending reach and impact at a rapid pace and, in the process, generating a plethora of finance-based identities and possibilities that are hard to resist. One could conclude that, as predicted by other contributions to this volume, *Contestation* to such a well-resourced programme of incorporation would be limited. However, we would argue that further empirical research is needed to explore in more depth the processes of financial (self) governance and the (im)possibility of emergent forms of resistance to efforts to induce new populations to *Conform* to the 'ethos of commodity calculation' (Bayliss *et al.* this issue), before drawing conclusions about the ways in which the material cultures of financialisation are *Construed* by diverse actors in FI networks at different sites.

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Notes

[1] Through initiatives such as (tax-free) Individual Savings Account, stakeholder pensions, insure with rent schemes, and the promotion of credit unions.

[2] Peru's superintendent of banks and pension funds suggested an even more dystopian disciplining technique for the 'unbanked'. The FI revolution, he argued, would solve employment problems in poor countries when accompanied by psychometric testing for those without formal education. Combined with the World Bank's pathology of the excluded, these would serve to confirm the 'scarcity' of cognitive resources in the poor, and to design behavioral-based approaches for discipline (AFI 2014a).

[3] Roy (2013) for example describes the post-crisis efforts of the Moody's Research Lab, a "research incubator" recently established within Moody's Corporation and providing credit ratings for debt instruments and securities. The task of the lab is to map the risk frontiers associated with hitherto unbanked markets."