The Politics of FinTech: Technology, Regulation and Disruption in UK and German Retail Banking

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Abstract

Recent studies suggest that Uber and other tech start-ups disrupt markets through regulatory entrepreneurship. This practice describes how such companies operate outside of regulation or in legal grey areas before mobilising their customers in support of regulatory change. Financial technology (FinTech) is sometimes called the 'Uber of banking', but banking reveals different political dynamics than the car-for-hire sector. Exploring the rise of online-only banks in the UK and Germany, this article finds that start-ups such as Starling, Monzo and N26 challenged incumbents without breaking or remaking regulation. The regulatory entrepreneurship approach, which sees FinTech as a difficult case, and the state world of regulatory innovation, which views policy-makers as seizing the opportunity created by new technology to reassess their relationship with incumbents, help to explain these findings. Its conclusions have relevance for wider debates about the governance of health care and legal services and the politics of disruption more generally.

Keywords: FinTech; regulatory entrepreneurship; state world of regulatory innovation; financial services

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Introduction

Uber's extraordinary impact on the car-for-hire sector has renewed scholarly interest in the relationship between technology, regulation and disruption. Where Uber has succeeded, recent studies suggest, it has entered markets by operating outside of regulation or in legal grey areas and used its loyal customer base to build pressure for regulatory change (Pollman and Barry 2016, Thelen 2018, Tzur 2019). Culpepper and Thelen (2019, p. 289) find that Airbnb, Amazon, Facebook and Google acted in a similar way, while recognising that few tech companies achieve such an 'outsized role in modern life' and the political influence that this brings. Given differences in the pace and reach of new technologies and the diverse constellations of actors involved in their development and governance, how might the relationship between technology, regulation and disruption play out in other sectors?

This article looks at financial technology (FinTech), a term that encompasses 'the use of technology to deliver financial solutions' (Arner, Buckley and Barberis 2015: 1272). FinTech is not entirely new. The introduction of automated teller machines (ATMs) in Japan in the 1960s and telephone banking in the UK in the 1980s had a significant impact on financial services, even if it was not as transformative as some predicted (see Bátiz-Lazo 2015). But the rapid emergence of new technologies in the 2010s such as cryptocurrencies, block chain, initial coin offerings, peer-to-peer lending, robo advice and open banking created a host of 'new business models, applications, processes, or products' (Financial Stability Board 2017). Because they are unencumbered by established financial institutions' fragmented IT systems, start-ups are well placed to exploit these emerging technologies (Philippon 2016, p. 15).

This article focuses on FinTech banks, also known as digital or challenger banks, which provide current and savings accounts, personal loans, debit and credit cards and other retail banking services to individuals entirely online and without the physical branches associated with traditional banks. It focuses on retail banking not because it captures the full disruptive potential of FinTech; payments and cryptocurrencies, for instance, fall under different areas of regulation and have the potential to disrupt financial services in different ways. Instead, it selects retail banking as a sector characterised by high barriers to entry, a tight relationship between incumbents and regulators and emerging technologies with significant disruptive potential. Traditional banks have embraced online banking since the 1990s (Pyun, Scruggs, Kiseok 2002) but 'leaner businesses, benefiting from state-of-the-art technologies with no rigid legacy systems' offer FinTech Banks a comparative advantage, when it comes to delivering user experience for the 'mobile generation', argues Xavier Vives (2019, pp. 11-14). Whether FinTech might create an 'Uber moment' by disrupting traditional banks is a matter of lively debate (Ghose et al. 2016, p. 12; Van Loo 2020: 44; Langley and Leyshon, 2020).

Europe – although it lags behind North America and Asia in terms of the volume of FinTech investment – is still an important test case.[1] With its different types of financial system (Zysman 1983) and multilevel system of financial governance (James and Quaglia 2020), it provides a useful laboratory for comparative analysis. This article focuses on FinTech in the UK and Germany, two countries that are commonly compared in the banking literature because of their large but structurally different banking sectors (Hoggarth, Milne and Wood 2001). In spite of these differences, both countries are at the forefront of Europe's FinTech scene. Over the last decade, the UK attracted a record $159.8 billion in FinTech investment.[2] With $38 billion in investment, Germany was second.[3] As of June 2020, the UK was home to six of Europe's ten FinTech unicorns, that is companies with a private market valuation of $1 billion or more, while Germany had three.

[1] According to the CBInsights database, North America accounted for $1,400,667 million in FinTech investment between Q2 2010 and @2020. The corresponding figures for Asia and Europe were $888, 362 and $454,168 million respectively.
[2] Source: CBInsights
[3] Source: CBInsights

This article finds that FinTech disrupted retail banking in the UK and Germany in the 2010s but without operating outside of the law or in legal grey areas or by engaging in pressure group politics to overturn existing regulations. FinTech banks such as Starling, Monzo and N26 disrupted the retail banking sector, it finds, by demonstrating their capacity for compliance to regulators and investors. UK and German policy-makers were broadly supportive of FinTech banks, it finds, reflecting a shift in thinking about retail banking following the global financial crisis and their desire to compete in, what they saw as, a global race for FinTech. These findings partly chime with the regulatory entrepreneurship approach, which recognises FinTech as a difficult case because of the locus and stringency of financial regulation (Pollman and Barry 2016). The muted form of pressure group politics produced by FinTech is more difficult to square with this theoretical approach, as is the support for FinTech shown by British and German regulators. Such support speaks to the state world of regulatory innovation, which sees policy-makers as seizing the opportunities afforded by new technologies to rethink their relationship with industry incumbents (Black 2005a; Thatcher 2005).

The remainder of this article is divided into four sections. The first offers two ways to theorise the politics of Fintech, contrasting the regulatory entrepreneurship approach with the state world of regulatory innovation. The second and third sections explore the rise of FinTech in the UK and Germany respectively. The final section summarises key findings and discusses their wider significance for debates about the regulation of tech companies and the politics of disruption more generally.

Theorising FinTech: Technology, Regulation and Disruption

Disruption, in its broadest sense, occurs when ‘a smaller company with fewer resources is able to successfully challenge established incumbent businesses’ (Christensen, Raynor and McDonald, 2015). Not to be confused with policy entrepreneurship, a theory of how ‘energetic actors' build support for policy change (Mintrom 2019, p. 319), regulatory entrepreneurship describes the tendency of tech disruptors to enter markets in spite of regulatory barriers and in search of regulatory change (Pollman and Barry 2016). Tech companies do not have a monopoly on seeking regulatory change, but they are well placed, Pollman and Barry (2016, p 395) argue, to expose problems in existing regulations and to mobilise their affluent user bases in support of regulatory change. Not all tech companies make successful regulatory entrepreneurs, the authors accept. Those that are profitable or that are likely to be so will find it easier to devote resources to pressure group politics, as will start-ups that benefit from positive public perceptions. Regulatory entrepreneurship also depends, they argue, on how costly it is to breach existing laws or stretch their interpretation and how vulnerable to political pressure regulatory authorities are.

Uber provides a textbook example of how technological disruption and regulatory entrepreneurship go hand in hand. Amit Tzur's (2019) analysis of Uber's disruptive impact on vehicle-for-hire markets in 40 U.S. cities supports the regulatory entrepreneurship thesis. These markets were heavily regulated and characterised by close relationships between taxi firms and regulators that limited market entry to varying degrees. Tzur's findings show that Uber entered such markets without prior legal authorisation in almost all cases and then secured support for regulatory change despite push back from powerful taxi lobbies. Amazon and Airbnb employed similar strategies, using their loyal customer base to present themselves as consumer champions (Culpepper and Thelen 2019).

Some features of FinTech banking lend themselves to regulatory entrepreneurship. Retail banking embodies the idea of a sector in which regulators and incumbents restrict market entry (Stigler 1971, p. 5). Acquiring a bank licence is time consuming and costly. Almandoz (2012: 1384) estimates that it takes $20 million and 19 months on average to open a bank in the United States. But the gains to be had from challenging this relationship provide FinTech banks with a strong incentive to overturn existing regulations. Although the profitability of major banks is a worldwide concern, FinTech banks, with their flexible IT systems and ability to attract top software engineers, are better placed than many incumbents to improve customer experience through new technologies (Bellens and Meekings 2020).

Given differences between the car-for-hire and banking sectors, the regulatory entrepreneurship approach predicts that FinTech banks will be ultimately unlikely to operate outside of regulations or in legal grey areas before seeking new rules. A key reason is that financial services are characterised by stringent national regulation and severe penalties for non-compliance (Pollman and Barry 2016, p. 420). Uber's strategy of asking forgiveness rather than permission resulted in a wave of legal challenges worldwide but these did not, by and large, deter it from operating. In London, for example, Uber continued to operate throughout a three-year legal battle during which it was twice declared not 'fit and proper' by Transport for London (Venkataramakrishnan 2020). Such tactics are generally not available in the tightly regulated world of finance. When the China's Banking and Insurance Regulatory Commission (2020) issued new rules on the supervision of micro-credit companies in September 2020, concerns over compliance led to the abrupt suspension of Ant Group's initial public offering (IPO). That Ant Group was the world's biggest FinTech company and on the verge of what was likely to be the biggest IPO in history made little difference. Lower profile but still significant examples of FinTech banks' limited room for manoeuvre vis-à-vis regulators include Ripple Labs, a cryptocurrency business, which agreed in 2015 to make significant changes to its business practices to meet existing regulations before a criminal investigation by US law enforcement officers was dropped (U.S. Attorney's Office Northern District of California 2015).

Although the regulatory entrepreneurship approach sees limited room for rule-breaking in the field of financial services, it would still predict a combative form of interest group politics between FinTech banks and incumbents. Pollman and Barry see existing financial regulations as costly for FinTech and cite examples of incumbent US banks seeking to 'level the playing field' even further through stricter regulation (Athwal 2015 cited in Pollman and Barry 2016, p. 420n). Regulatory entrepreneurship may not always succeed in changing the law, in other words, but start-ups are 'culturally' inclined to challenge it, just as established companies tend to defend the status quo (Pollman and Barry 2016, p. 420). This view fits with Thelen's (2018), which sees Uber as having struggled in Germany, not for want of trying to overturn regulation, but because it was outmanoeuvred by established interest groups.

The regulatory entrepreneurship approach sees policy-makers as occasionally sympathetic to new technologies but generally lagging behind.[4] The state world of regulatory innovation, in contrast, sees regulators as not only alive to new technologies, but to the opportunities they create to engage in regulatory innovation that goes beyond 'old solutions' to 'old problems' (Black 2005b, p. 4). Whereas the policy entrepreneurship approach takes individual action in pursuit of particular ideas as its point of departure (Mintrom 2019, p. 308), the state world looks to governments and units thereof as regulatory innovators in response to internal and external influences (Black 2005a, pp. 24-7). Internal influences include the capacity of government institutions to seek out and adopt regulatory changes, while external influences see states as driven by competition, emulation and public pressure. Mark Thatcher's study of mobile phone licensing in Europe in the 1990s illustrates well this approach's conception of regulators as techno-opportunists rather than techno-laggards (Thatcher 2005). The third generation of mobile phone technology (3G) allowed regulators to 'break out of inherited relationships' with large telecom providers, he finds, by allocating spectrum licences through auctions rather than beauty contests (Thatcher 2005, p. 112). This occurred in both the

[4] Pollman (2017:19-20) acknowledges efforts by regulators in the United Kingdom, Australia, and Singapore to establish a more collaborative relationship with start-ups, including in FinTech, but she sees such collaboration as consistent with new governance approaches to regulation rather than the regulatory entrepreneurship approach per se.

UK, a liberal market economy, and Germany, a coordinated market economy, reflecting the latter's willingness to emulate 'overseas examples' and to reap the windfall gains from auctions for public finances (Thatcher 2005: 112).

FinTech would appear to be well-suited to the state world of regulatory innovation. Financial policy-makers have the capacity to undertake significant regulatory reforms in spite of the pressures of financial globalisation (Bakir 2009). As Quaglia and Spendzharova (2019: 502) note, financial regulators are motivated not only by the pursuit of financial stability, but also the international competitiveness of the national financial system, even if the second of these goals is 'often implicit'. FinTech brings macro-financial and micro-financial risks, including the possibility that increased competition between start-ups and incumbents could lead to excessive risk taking and cyber-risks (Brummer and Yesha, 2018: 18-19; Financial Stability Board 2019). And yet, the state world would expect policy-makers to temper concerns for financial stability with a desire to compete in the 'Global FinTech Race' for 'funding and talent' (Kuzmanova 2020: 109). In 2008, annual global investment in FinTech was $930 million (Skan, Lumb, Masood and Conway 2014). Within a decade, it had reached $55.3 billion (Accenture 2020).

FinTech Banks in the UK: Challenging the Big Four

The UK led the way in global financial deregulation in the 1980s and 1990s (Zimmerman 2010). This was in keeping with its status as a liberal market economy that was well placed to benefit from open competition on world markets (Hall and Soskice 2001: 59-60). It also reflected a conscious attempt by British policymakers, in keeping with the state world of regulatory innovation, to reinforce the City of London as a global financial centre and, by encouraging cheap credit, to broaden home ownership (Zimmerman 2010, p. 131-5). An influx of foreign banks was one consequence of these policies, as was retail banks' diversification from deposit taking to more profitable financial services (Moschella 2011, p. 86). For all this de-regulation, the Royal Bank of Scotland/NatWest, Barclays, HSBC and Lloyds – the big four – still account for 75 per cent of UK bank accounts.[5] Barclays, the youngest of these banks, was established in 1896.[6] When Metro Bank secured a licence in 2010, it was the first new high street bank in the UK in over a century.

Viewed against this backdrop, British regulators' decision to authorise four new UK FinTech banks – Atom, Monzo, Starling and Tandem – between 2015 and 2017 was no routine sight. Monzo was the most eye-catching of these challengers. Its hot coral-coloured bank card became, in the words of one *Guardian* journalist, 'a must-flash accessory for tech-savvy millennials' (Godwin 2019). Investors were also enthusiastic, at first. In 2016, Monzo raised £1 million in crowdfunding in just 96 seconds, a FinTech record (Crowdcube 2016). Although the bank found it more difficult to raise funds after COVID-19 hit investor confidence, it continued to attract new customers at a rate of 40,000 per week. By March 2020, Monzo had 4 million customers (Smith 2020). This was a long way off Lloyds' 30 million,[7] but it compared favourably with Metro Bank's 2.1 million.[8] Indeed, Metro Bank's struggles to live up to its early promise suggested that the disruptive threat to established banks came not from the high-street but on phone screens. There was a strong demographic dimension to such competition. According to Yougov, Monzo customers are predominantly aged 39 years or under and more likely than the rest of the population to see banks as tricking them out of their money and to view technology as positively life changing (Palframan 2019).

Egg, Cahoot, Intelligent Finance and Smile pioneered online-only banking in the UK in the late 1990s and early 2000s, but they failed to deliver on their promise. A key difference

[5] Source: https://www.mordorintelligence.com/industry-reports/uk-retail-banking-market
[6] The banking sector was dominated by the big five until the merger of Westminster Bank and the National Provincial Bank in 1970.
[7] Source: https://www.lloydsbankinggroup.com/who-we-are/our-brands.html Accessed 15 December 2020.
[8] Source: https://www.metrobankonline.co.uk/about-us/2020-summary/

between this first generation of FinTechs and those that emerged in the 2010s is that the former were subsidiaries of existing financial institutions, while the latter were start-ups. This is one reason, perhaps, why this first generation delivered online financial services that traditional banks had few problems matching. Egg was the stand-out performer, having gained two million customers in its early months, but it failed to recover from an ill-timed initial public offering after the dot.com bubble burst and an ill-judged venture into the French retail banking sector. Sold to Citigroup in 2007, it was sold on within four years.

Traditional banks' attempts to go digital in the 2010s indicated their concern about the disruptive threat from the new generation of FinTech challengers. Royal Bank of Scotland reportedly made an informal approach to Monzo but, put off by the price, launched its own mobile banking app, Bó. Having taken eighteen months to develop, Bó attracted only 11,000 customers and was wound down after just six months. This costly failure underlined the difficulties that established banks had in innovating. While Bó matched FinTech banks' offer of free cash withdrawals abroad, they were unable to replicate advanced features such as fingerprint logins (Daniel 2020). Incumbent banks even struggled to match basic features like allowing customers to search their full transactions history because, unlike FinTechs, they routinely delete such information after three months and store it in hard-to-search PDF renderings (Vans-Colina 2016).

Even the UK's 'original challenger bank', First Direct, worried about the new generation of FinTechs (Finextra 2019). Launched in 1989 by Midland Bank, First Direct succeeded where earlier attempts at telephone banking had failed, gaining 400,000 customers in its first four years. Although it had a significant impact on the sector, not least by encouraging incumbents to close more and more physical branches, First Direct let banks such as Egg lead the way before offering online banking. Similarly, First Direct's Go App offered an improvement on high-street banks' early efforts at mobile banking, but nothing like the range of services that new FinTech banks came to market with in the 2010s. In 2019, First Direct announced that it was working with Bud, a FinTech start-up, and promised new services and features to make its app 'more accessible', but this remained a work in progress two years later (Megaw 2019).

As predicted by the regulatory entrepreneurship approach, there were few opportunities for FinTech banks in the UK to operate outside existing regulation or in legal grey zones. When Lanistar launched an advertising campaign for its 'polymorphic' debit card in November 2020, it rapidly received a consumer warning from the Financial Conduct Authority (FCA) for offering financial services without authorisation. Lanistar quickly relented, reassuring the FCA that 'legal and regulatory compliance are central to the company's business model' (Woodford 2020). To do otherwise could have led to fines or even criminal prosecution and it would have brought an abrupt end to a marketing campaign that made much of its ambition to become a unicorn. Most first generation UK FinTech banks focused their energies on satisfying regulators and, by implication, reassuring would-be investors. Anne Boden, CEO of Starling, describes the process of applying to the Prudential Regulation Authority for a licence as 'all consuming' (Boden 2020).

Revolut pursued a different strategy from Monzo, Atom, Starling and Tandem by not seeking a banking licence from the outset. And yet, this can hardly be seen as an instance of operating outside the law or in legal grey areas. Instead, Revolut was regulated by the FCA as an authorised e-money institution. This status brought a less intrusive form of oversight than would have been the case with a banking licence, which may have conferred competitive advantages on Revolut over other FinTech banks and, indeed, established banks. But this was not central to Revolut's business model, as can be seen from its decision to secure a licence from the Bank of Lithuania in 2018 and its application for a UK banking licence in January 2021.

The regulatory entrepreneurship approach is less adept at explaining the muted form of pressure group politics associated with this sector. First generation FinTech banks showed a striking lack of interest in the interface between politics and banking. Although these start-ups achieved a high degree of brand loyalty (Kiplagat 2020), they made little attempt to convert such loyalty into political pressure. The Monzo Community Forum, for instance, allowed customers to share thoughts on new products and any number of other issues but, aside from occasional references to Brexit, it rarely generated debate on political issues. FinTech banks were no more engaged in traditional forms of pressure group politics. When a funder suggested to Anne Boden that she meet one of David Cameron's tech advisors to discuss plans for Starling, the CEO declined because it 'didn't seem right' (Boden 2020). Innovate Finance, a trade association seeking to represent UK FinTech interests was created in 2014, but its origins lay less in challenger banks' attempt to disrupt existing regulatory relationships than the British Government's desire to engage with and promote this industry. Downing Street advisors argued for the creation of an industry group, invited FinTech representatives to discuss its development and were influential in securing £1 million in funding for Innovate Finance from the Corporation of London as well as subsidized office space for it in Canary Wharf (Davis 2014). Within six years Innovate Finance was a member of the UK government's Business Action Council alongside peak interest groups such as the Confederation of British Industry and the Institute of Directors. Although it has readymade access to politicians, Innovate Finance has not been an especially disruptive voice on FinTech banking. Indeed, it counts Barclays, Lloyds Banking Group and Royal Bank of Scotland among its members. FinTech hubs such as Level 39 have been publicly vocal about the industry's policy needs, as in its Chief Executive Eric van der Kleij's call in September 2014 for tax relief for corporate venture capital (Ahmed 2014). But there was little attempt by either Level 39 or Innovate Finance to seek regulations or supervisory practices that were more conducive to FinTech banks.

This muted style of pressure group politics is also reflected in the British Bankers' Association's response to FinTech. As the traditional voice of industry incumbents, this association might have been expected to push back against Innovate Finance or FinTech more generally, just as the Licensed Taxi Drivers' Association challenged Uber. Contrary to the regulatory entrepreneurship approach, the British Bankers' Association spoke up in favour of FinTech and established a team to promote 'the challenger bank sector as a credible alternative to the status quo, and argued for improved access to capital and more proportionate capital weightings for these institutions' (British Bankers Association 2015). In 2016, Just Loans Group became the first FinTech start-up to join the association. Keen to encourage new members from this sector – and perhaps to avoid being marginalised by Innovate Finance – it changed its name to Finance UK in 2017 and promoted itself as the new voice of the British banking and finance industry.

FinTech banking cannot be understood as a simple case of insurgent interests disrupting entrenched regulatory relationships. For one thing, established banks, though they expressed concern over the rise of challengers, did not necessarily seek to stymie them. Hornuf et al. (2020) find evidence of widespread cooperation between banks and FinTech companies in the UK. HM Treasury's FinTech Sector Strategy also championed cooperation between incumbents and start-ups, arguing that the former's 'longer established customer relationships, larger scale, more funding, and developed regulatory and legal knowledge' and the latter's 'more innovative ideas, more specialised technological expertise, and agility' would be mutually beneficial (HM Treasury 2018; 13).

When it came to FinTech, British politicians and regulators were not the laggards that might be expected from the regulatory entrepreneurship approach. While their enthusiasm and prescience should not be exaggerated, they showed an openness to new technology that fits with the state world of regulatory innovation. Internal drivers of innovation were partly at play.

In 2013, the Financial Services Authority and the Bank of England published a review of requirements for firms entering the banking sector. This review reduced capital requirements at authorisation for new banks and introduced a new option of ‘authorisation, but with a restriction’ to allow new entrants to raise capital and put other requirements in place. The second of these changes served as a powerful inducement for FinTech banks to enter the retail banking market even if it was not explicitly designed with this aim in mind.[9] It stemmed rather from a more general process of policy learning about the need for greater competition in retail banking in view of the global financial crisis.

As Shadow Chancellor, George Osborne responded to a government backed takeover of HBOS by Lloyds TSB by warning of the dangers of creating ‘super-banks’ for competition in the banking sector. As Chancellor, one of his first acts was to establish a review led by Sir John Vickers to look at the structure of UK banking, including the question of whether the ‘banking industry [had] become too concentrated and uncompetitive’ (Osborne 2010). Vickers, a former Chief Economist at the Bank of England, had the hallmarks of a policy entrepreneur, but the reforms he set in motion were not intended to support FinTech banks. Rather, the Vickers Report called for ‘the creation of a strong and effective new challenger by way of the Lloyds divestiture’ rather than a wave of new entrants (Independent Commission on Banking 2011, p. 16).

The UK government’s support for FinTech was also driven by external influences, as the state world of regulatory innovation predicts. Far from lagging behind technology, Prime Minister David Cameron sought to champion the UK as a global tech hub. Daniel Korski and Rohan Silva, another Downing Street advisor, were quick to pick up on the rapid growth of tech start-ups in London following the global financial crisis and to build a government strategy around it. Cameron’s speech at the Truman Brewery in October 2010 was a decisive moment

[9] See: https://stripe.com/en-gb/atlas/guides/ama-tom-blomfield

in this regard, arguing as he did for the creation of a ‘tech city…from Shoreditch and Old Street to the Olympic Park’ (Cameron 2010). A concern that the UK might lose out to other global tech hubs was central to the Prime Minister’s pitch: ‘where will [Silicon Valley’s] challengers be?’, he asked his audience, ‘Bangalore? Hefei? Moscow?... London could be one of them’ (Cameron 2010). The following year, the British government created the Tech City Investment Organisation, a subsidiary of UK Trade and Investment. Although this new body championed tech start-ups in general rather than FinTech in particular, its push for tax breaks for angel investors benefitted FinTech banks.

Downing Street provided mood music for tech-start-ups but it was the FCA that emerged as its most vocal champion. In line with the Vickers Report, the FCA was given a mandate to promote ‘healthy competition between financial services providers’.[10] The impact of this mandate on the UK’s capacity for financial innovation, as the state world of regulation would put it, can be seen in the FCA’s regulatory sandbox, a scheme launched in 2016 to allow FinTech firms to test products, services, business models and delivery mechanisms using a tailored system of authorisation. By 2019, more than 700 firms had participated. Their speed to market compared to the FCA’s usual authorisation process increased by an estimated 40 per cent as a result (Perry 2019). Incumbent banks proved more eager to join the scheme than FinTech banks; Lloyds and Barclays both participated, as did Bó. But the sandbox supported a number of FinTech developing services for the banking sector and helped to signal UK regulators’ openness to this sector. Not to be outdone, the Bank of England launched a FinTech Accelerator in 2016 through which it worked with FinTech firms on proofs of concept. Reflecting on the results from this accelerator two years later, Sir Dave Ramsden, Deputy Governor for Markets and Banking at the Bank of England, declared the Bank ‘open to FinTech’ (Ramsden 2018).

[10] Section 1(b), Part 2, Financial Services Act (2012).

As anticipated by the financial regulation literature, UK policy-makers balanced support for FinTech with concerns over financial stability. While the Prudential Regulation Authority showed a willingness to authorise FinTech Banks, it was not slow to express concerns over their conduct. In March 2017, Tandem was forced to give up its bank licence after £29 million in funding from the House of Fraser Group fell through. Tandem regained its licence four months later by buying Harrods Bank, a 124 year-old institution about as far removed from FinTech's disruptive vision as it was possible to be.

Other regulation introduced after the global financial crisis made it difficult for FinTech banks. A case in point is the Bank of England's approach to Minimum Requirement for own funds and Eligible Liabilities (MREL). The Bank's decision to set actual and indicative minimum requirements not just for globally systemically important banks but other banks and building societies was damaging to UK FinTech banks.[11] In December 2020, the Bank acknowledged that the burden from these rules was 'proportionately greater for newer, smaller and mid-tier banks, paving the way for possible regulatory changes (Bank of England 2020: 9). When Tom Blomfield stepped down as Monzo's CEO in August 2020, he cited the regulatory burden of running a FinTech bank as a 'buzz kill' (Dunkley 2020). And yet, it seems unlikely that Monzo and other first generation UK FinTech banks could have penetrated the highly concentrated world of UK retail banking without the state world of regulatory innovation. The UK government's greater openness to banking competition following the global financial crisis, its support for tech industries, the streamlined authorisation process for obtaining a bank licence and the pro-FinTech approaches of the FCA and Bank of England produced disruption on a scale that was significant by the standards of British retail banking.

[11] See: https://www.bankofengland.co.uk/-/media/boe/files/financial-stability/resolution/actual-and-indicative-mrel-2019.pdf?la=en&hash=33FE2A96F02FE4943AD96671401AA329E49C94DC

German FinTech: 'We Will Win Them for Berlin'

Germany's reluctant and partial embrace of financial deregulation in the 1990s and 2000s was in keeping with its status as a coordinated market economy in which long-term relationships between firms and banks drive corporate financing (Hall and Soskice 2001, p. 59-60). And yet, the country's retail banking sector is characterised by a low degree of market concentration. As of 2018, Germany had more than 1,500 banks (Barons 2019). Private commercial banks such as Commerzbank, Deutsche Bank and HypoVereinsbank (HVB) account for 40 per cent of total domestic banking assets, while publicly-owned savings banks and cooperative banks account for 30 per cent and 15 per cent respectively (Koch, Flötotto, Weigl and Schröck 2016, p. 11). This fragmentation suggests that Germany was well placed for FinTechs to challenge incumbents. But the fact that savings banks do not have a pure profit motive and benefit from bespoke supervisory, state-aid and accounting frameworks and regionally segmented markets (Mertens 2017: 17; Veron 2020) makes it a difficult market for challenger banks to gain a profitable foothold in.

As in the UK – and as anticipated by the regulatory entrepreneurship approach – German FinTech banks have not sought to operate outside of existing regulation or in legal grey areas. Number 26, later renamed N26, launched in 2013 without a bank licence, its customer accounts being held instead by Wirecard Bank, a FinTech payments company with a bank licence. Like Atom, Starling, Tandem and Monzo, N26's business model was built around regulatory compliance rather than regulatory entrepreneurship. In 2016, N26 acquired a licence of its own from the Federal Financial Supervisory Authority (BaFin) and the European Central Bank. Wirecard turned out to be a more problematic case but not because it was unregulated. Arguably, its overregulation as a licensed issuer of credit cards, an e-money institution and a bank led to a diffusion of responsibility among German regulators. When the *Financial Times* raised serious concerns in 2015 over Wirecard's business practices, including its support for failing enterprises in Asia (McCrum 2015), a BaFin spokesperson insisted that it was ‘not the competent authority to investigate the allegations’ (Fairless, Kowsmann and Davies 2020). Four years later, Wirecard reported that €2 billion in cash was either missing or non-existent before collapsing into insolvency.

The Wirecard scandal continues to reverberate, but it should not detract from the success of Germany’s FinTech banks. By 2020, N26 had reached 5 million customers worldwide in spite of its decision to close operations in the UK as a result of Brexit. This fell short of Commerzbank, which had 17.5 million customers worldwide but it was likely bigger than large public savings banks such as Hamburger Sparkasse.[12] Attempts by incumbent banks to keep pace with FinTech innovation encountered mix results. Deutsche Bank’s decision to create its own start up, Breaking Wave, reflected its difficulties as a legacy bank in attracting top software engineers (Ennis 2019). Breaking Wave yielded few visible results and faced major challenges in overhauling legacy technology (Reuters Staff 2019). The Yomo app, jointly developed by the Sparkassen, suffered from a similar fate to Bó and ceased taking new customers in 2020.[13]

The regulatory entrepreneurship approach expects a combative form of pressure group politics between new and incumbent banks. FinTech bank customers were no more politically engaged in Germany than they were in the UK, but trade associations did mobilise more quickly in the former than the latter. A case in point is Bitkom, a digital economy association founded in 1999 during the dot-com bubble, which folded FinTech into its lobbying efforts. The German Startup Association, established in 2012, added its voice to these efforts, albeit without representing FinTech banks directly. At the EU level, the European Fintech Association coordinated with these groups and others. Visible though these bodies were, they neither sought

[12] N26 does not publish its number of customers.
[13] Spanish bank BBVA tried an alternative approach by investing in N26.

nor secured major regulatory wins aimed specifically at FinTech banking. Fintech companies also joined the Association of German Banks. The German government did not create any pressure groups, but it established the FinTech Council in 2017 to bring together key voices from the FinTech sector, including SolarisBank, FinLeap and N26 to advise the government on issues such as 'artificial intelligence, cloud computing, blockchain and data protection' (Federal Ministry of Finance 2019).

Germany's court system provided an opportunity for incumbent banks to push back against FinTech, which the Association of German Banks, the National Association of German Cooperative Banks and German Savings Position did in 2016 when they unsuccessfully appealed a decision by the German Federal Cartel Office that the German Banking Industry's rules on PIN and TAN usage discriminated against non-bank financial services (Atkins 2019). By and large, however, incumbents were publicly supportive of FinTech. The Savings Bank Finance Group sought a partnership with FinTech companies, even sponsoring the German Startup Association (Schmalzl and Weigand 2019), and large private banks were more encouraging still. Deutsche Bank, for instance, joined forces with Silicon Valley's Plug and Play and Frankfurt's Tech Quarter to sponsor the Fintech Europe hub in Frankfurt.[14] That Deutsche Bank also joined Bitkom mirrors Innovate Finance's inclusion of incumbent interests and was, once again, at odds with the regulatory entrepreneurship approach.

German policy-makers were no laggards when it came to FinTech. In keeping with the state world of regulatory innovation, internal influences drove authorities to address deficiencies in the retail banking system following the global financial crisis. Where UK policy-makers diagnosed a lack of competition, German policy-makers saw a surfeit. The Bundesbank's Financial Stability Reviews around the time of the crisis reflect a concern that

[14] See: https://www.db.com/company/en/fintech-europe.htm

intense competition between banks was putting strain on banks' profitability (Bundesbank 2010, p. 84). Low interest rates added to such concerns, as well as being a sore point with German savers. In 2016, Andreas Dombret, a member of the Bundesbank's Executive Board, openly asked: 'Are there too many banks?' (Dombret 2016). It was in this context that German policy-makers turned to FinTech as a force that might encourage legacy banks to downsize. The 'dinosaurs are being pushed aside by smaller and more agile mammals', suggested Dombret (2016).

State capacity for regulatory innovation was lower in Germany than it was in the UK. Lacking the FCA's pro-competition mandate, BaFin insisted that it would not 'promote innovation or investment' or 'conduct industrial policy' in relation to FinTech (Leonhardt 2019). BaFin was nonetheless supportive of FinTech banks, most noticeably through its decision in 2014 to allow video identification procedures for customers opening a bank account (BaFin 2017). This move was a boost for FinTech pioneers, even if stricter procedures followed two years later because of concerns over money laundering. At this time, BaFin (2016) launched an internal project group on FinTech to observe developments in this sector and review its own processes 'in view of new developments in the area of digitalisation'. The group sought knowledge-exchange between supervisors and start-ups and recognised the need to avoid regulation that might 'stifle innovation' but without 'voiding supervisory principles' (BaFin 2016). BaFin's internal project group coincided with its decision to grant full bank licences to N26 and Solarisbank. Although the regulator subsequently issued an order to N26 to take action to remove backlogs in flagged transactions (Planet Compliance 2019), this rebuke did not signal a change of heart from the regulator about the FinTech sector.

In keeping with the state world of regulation, German policy-makers were driven by a desire to project their national financial system as a favourable one for FinTech investment. In 2018, the Federal Ministry for Economic Affairs and Energy designated FinLeap as one of twelve digital hubs, a designation that brought publicity, networking opportunities and some funding. As of 2020, FinLeap had established 17 FinTech ventures, cementing its reputation as Europe's largest FinTech company. That German politicians saw themselves as competing against London was no secret, especially after the UK's referendum vote to leave the EU. 'We will win them for Berlin' promised Senator for Economics, Technology and Research, Cornelia Yzer, on a visit to the UK in July 2016 to encourage FinTech companies to re-locate to the German capital. (Chazan 2016).

Conclusion

Tech companies have the capacity to disrupt markets, but such disruption does not necessarily come at the expense of regulation. This article has shown that FinTech banks in the UK and Germany disrupted retail banking but without following the 'ask forgiveness rather than permission' strategy favoured by tech start-ups such as Uber. As the regulatory entrepreneurship approach predicts, operating outside of existing regulation or in legal grey areas was difficult to achieve given the stringency of national financial regulations. Instead, banks such as Monzo, Starling and N26 focused on securing bank licences to demonstrate their trustworthiness to both regulators and investors. The regulatory entrepreneurship approach fares less well at explaining the muted form of pressure group politics produced by FinTech in both countries and the broadly supportive role shown by British and German regulators towards new financial technology. While interest groups rapidly emerged to speak for FinTech, they sought limited regulatory change and absorbed incumbent interests rather than continuously competing with them.

The openness to new technology demonstrated by the British and German government towards FinTech is closer to the state world of regulatory innovation. In spite of the structural differences between the UK and German banking systems and differences in the capacity of the FCA and BaFin for regulatory innovation, policy-makers in both countries arrived at a supportive view of FinTech banking for internal and external reasons. The former centred on lessons drawn in both countries from the global financial crisis about the need to open up the retail banking sector. External influences balanced the need to protect financial stability with the desire for national financial systems to compete in the 'global race' for FinTech.

These findings are subject to two caveats. First, Fintech's disruptive potential is not limited to Fintech banks. Open banking, although in its early stages, provides an example of how FinTech can disrupt incumbents by providing specific financial services rather than established banks. The EU's revised Payment Services Directive (PSD2), encourages all banks to open up their Application Programming Interfaces (APIs) to third-parties, creating new opportunities for FinTech start-ups to provide services such as small loans, paying rent or finding the best deals on savings accounts. Even if these start-ups remain regulated as e-money institutions, they have the potential to siphon off considerable business from traditional banks while allowing these banks to retain their customers. Second, the FinTech banks explored in this article are all relatively small start-ups. Big tech companies such as Google and Apple are already engaged in financial services and they could eventually emerge as FinTech banks with considerably more political clout than the likes of Monzo and N26. The Uber of banks could even be Uber, which launched a new financial services division in late 2019 to develop ideas for consumer bank accounts (Rapier 2019).

These caveats notwithstanding, this article's findings are relevant for wider debates about technology, regulation and disruption. Health care and legal services are examples of other sectors in which tech companies have worked with rather than around regulators to provide innovative products. In the United States, the use of video conferencing technology to deliver clinical health care was already increasing before COVID-19 without significant 'regulatory disruption' (Andriola 2019, p. 3). In the UK, the Department of Justice launched a

LawTech Sandbox in 2020. Modelled on the FCA's regulatory sandbox, this initiative fosters collaboration between regulators and tech companies pioneering the use of artificial intelligence, machine learning and other innovations in legal services (Tech Nation 2020).

In his seminal work on the politics of regulation, James Q. Wilson (1980, p. 387) warned that 'generalization about how government works is vulnerable to the behavior of persons who have learned that generalization and wish to repeal it'. He had in mind Ronald Reagan's promise to 'cut away the thicket of irrational and senseless regulations' (Reagan 1981), but Wilson's warning outlived the new right. Generalisations about technology, regulation and disruption leave an imprint on debates about whether and how to hold big tech to account. They also drive wider currents in contemporary politics. In the UK, for example, efforts to integrate data scientists and software developers into Downing Street decision-making (Cummings 2020) and the government's disruptive approach to parliament, the judiciary and international law have been influenced, in part, by simplified understandings of how tech companies operate and thrive (Volpicelli 2019).

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