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Open Banking and data reassurance: the case of tenant referencing in the UK

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ABSTRACT

The promise of Open Banking (OB), as implemented in the UK, has been that consumers are no longer passive data producers but can also use and derive value from their personal data. OB has been applied predominantly to financial decision-making, payments and borrowing, and most of the existent literature has focused on its adoption in financial services. In this article, we examine its off-label adoption in tenant referencing, a sector rather neglected and that raises specific questions of distribution to essential goods. We draw on qualitative research from a research project examining algorithmic risk profiling in housing, comprising in-depth interviews with landlords, letting agents, tenants, referencing companies and other stakeholders in the private rented sector (PRS). Taking into account simultaneously consumers and professionals' perspectives, we argue that OB adoption in tenant referencing is a calculative practice embraced due to offering a more streamlined application process, having a reassuring interface design and institutional validation. Such technical and social elements overlap on the specific power relations of the rental market that make in some situations OB less as an 'opt-in' option and more like a default setting when tenants feel that they do not have too much control over what data they want to share.

Introduction

Reflecting wider anxieties over so-called 'surveillance capitalism' (Zuboff, 2019), the title of a 2021 *Financial Times* article asked, 'Why should I let my landlord spy on my finances?' (Barrett, 2021). The figure of the landlord as a spy has recently been reinforced by the rise of what has come to be known as *prop-tech* and the rise of platform real estate that digitises the investment, management and maintenance of properties (Shaw, 2020). Conceptualised as 'platform landlordism' (Nethercote, 2023), this includes surveillance

technologies that can track tenants' everyday activities (McElroy & Vergerio, 2022). In this article, we focus on Open Banking (OB), the topic of the press article mentioned, which is a platform through which referencing companies can access bank account transactional data, allowing them to view details such as applicants' income, spending and past rental payments. Analysing its usage in tenant referencing as a calculative practice, we argue that its adoption in the private rental sector can be explained by its capacity to streamline the tenant referencing process and to build trust through reassuring interfaces and institutional validation though in a context in which a sense of obligation is generated by the power structure of the private rental market. Such an approach brings a significant contribution to critical data studies by avoiding either a technological or social determinism through bringing together a discussion of technical affordances and power relations and empirically assessing their intermingling in explaining technology adoption.

If this data practice seems like the perfect illustration of surveillance capitalism and its capacity to generate uneven treatment and outcomes, the rationale behind OB was, initially, at least, the very opposite. OB originates in a larger programme of addressing power imbalances in the banking sector given the asymmetrical relationships between on the one hand traditional financial service providers and consumers, and on the other hand traditional financial services providers and new providers. Traditional financial services providers have had full control of consumers' personal financial data disadvantaging from an economic perspective both consumers and new entrants in the market by hindering switching. This reasoning was at the base of various regulations around data portability, notably EU's General Data Protection Regulation (GDPR) and Payment Services Directive (PSD2) through which consumers gained more control on their data and can allow third-party providers to use them. OB constitutes a practical implementation of these regulations given its deployment through a common technology standard application programming interface (API).

In the UK, the first country to implement it, OB is a part of the regulatory reforms undertaken after the financial crisis to create a 'fairer' financial system based on a solid understanding of consumers' needs and financial position (Littlejohn et al., 2022). Its stated aim was to create 'positive data rights' for consumers, such as the ability to request data transfers (Asrow, 2022), after a long period in which fintechs and banks were arguing about the ownership rights and control of transactional data (Littlejohn et al., 2022). A Barclays's commissioned report on consumers' perspectives notes that OB 'should help us manage our money better, but it could have far wider ramifications if it can also help us regain control over how we share all our data better' (Reynolds, 2021, p. 350). Such a language makes consumer empowerment through the ownership and control of access to their transactional data an important rationale of this platform (FCA, 2021).

Given its aims, OB, as a governmental-led initiative, is a good example of the states' role in data market building. In essence, through its intermixing with PSD2 and GDPR, it is a reflection of what Guay and Birch (2022) identify as specific to the European data governance socio-technical imaginary that favours an ex-ante and state-market model of data focused on data privacy and protection regulation. This should be viewed in contrast with the post hoc market-based regime favouring trade-offs between socio-economic benefits versus data privacy specific to the USA. The GDPR has usually

been seen as an antidote to surveillance capitalism (Aho & Duffield, 2020), given that it recognises the growing importance of behavioural analytics and the monopoly of personal data and attempts to counteract them by enshrining the right not to be subject to fully automated processes when one is significantly affected by them (GDPR, Article 13, 14, 22).

Still, OB has had initially a limited adoption among consumers who were concerned of risks related to fraud, data protection and cyber-attacks when having to share their data with third party providers (Borgogno & Colangelo, 2020). It is only recently that such a reputation has begun to slowly change due to a proliferation of budgeting and saving apps. But if OB-powered budgeting apps might offer consumers pertinent insights and recommendations, it is unclear what its effects are when used in decision-making processes such as tenant referencing. In this context, consumers have a more passive role as they only must allow data access and are not involved in decisions, nor are they in control of the specific details gathered or shared.

In this article, drawing on qualitative research comprising interviews with tenants, landlords and tenant referencing companies, we examine the adoption of OB in tenant referencing as a calculative practice with a specific ethos of efficiency and strategies of trust building that rest on a specific digital aesthetic. We look at how trust among tenants is built through technological reassurance allied with an obligation to use those interfaces to access housing while professionals seem to adopt it more like a more efficient tool of streamlining the referencing process although not without its faults. We investigate how various actors are incorporated into a calculative practice that creates questions around data ownership and which has generated an ambivalent reception among tenants, letting agents and landlords.

New data calculative practices

Critical data studies have predominantly focused on commercial actors' appetite for greater amounts of data seen as a source of value creation through extractive means that lead to exploitation and inequalities (Beer, 2016; Birch et al., 2020; Fourcade & Healy, 2013; Langley, 2014; Sadowski, 2020). Such literature draws attention to how business and governance have been increasingly data-driven, leading to an appreciation of data as value-creating (Arvidsson, 2016; Pistor, 2020; Srnicek, 2016) or a reproduction of relations of inequity, extraction and exploitation (Fourcade & Healy, 2013; Sadowski, 2020; Zuboff, 2019). These accounts portray data subjects as objects of constant monitoring that they might not be even aware of, transforming them into data points aimed at splitting and sorting people for all sorts of commercial and governmental purposes (Fourcade & Healy, 2013, 2017). In this way, individuals are transformed into 'dividuals' (Brusseau, 2020; Deleuze, 1992) with 'digital dossiers' (Solove, 2004) or 'algorithmic identities' (Cheney-Lippold, 2011). Individuals would seem to have no agency in how their data doubles (Haggerty & Ericson, 2000) or 'data selves' (Lupton, 2019) are shaped. Still, movements such as the 'quantified self' reveal how consumers increasingly embrace data-based monitoring practices in everyday life (Lupton, 2016). This includes actively engaging and monitoring commercially produced data such as credit scores as consumers are encouraged to adopt an optimisation mindset and practices of feedback loops and score-hacking (DuFault & Schouten, 2020; Ziewitz & Singh, 2021). Hence,

rather than looking at such data calculative practices as top-down imposed technologies of governing it is important to understand how their subjects adopt them in their everyday practices.

The few studies of OB adoption have usually followed the Unified Theory of Acceptance and Use of Technology models, Chan et al. (2022), for example, highlighting the role of perceived risk, trust and financial literacy as explanans. Their quantitative study shows how initial trust affects performance expectancy and effort expectancy on consumers' usage intention while at the same time it alleviates the effect of perceived risk. Consumer confidence both in technology and service provider has long been an important factor in explaining innovation adoption in financial services (Dahlberg et al., 2015; Flavián et al., 2006; Malaquias & Hwang, 2016). Assessing OB adoption in 22 European countries, Polasik and Kotkowski (2022) argue that gaining trust and having service providers respect their data were the most important key factors in explaining a successful adoption. Given the complexities around trust in data protection, the authors point out that building trust is a result of the entire open banking ecosystem rather than one isolated service provider. However, given the quantitative models used, trust is rarely operationalised, being unclear what exactly instils trust given that this can be externally built, such as having various institutional validations, or internally built through design affordances and a specific aesthetic. At the same time, technology adoption in such models is usually seen in a dyadic way by putting a focus on the provider–consumer relationship despite the fact that most digital services and products are usually an effect of a broader ecosystem.

This study builds on such insights but departs from them by taking a qualitative approach aiming to unpack the conditions of gaining trust in the broader ecosystem of OB in tenant referencing where not only tenants but also landlords and letting agents are using the technology. For this, we follow Asdal (2011) in examining OB as a relational calculative practice that unfolds in a 'calculative space' through its representational devices and a 'relational space' comprising various actors with shared competencies and interests who struggle for trust, authority, and legitimacy. Consequently, despite the 'objective' authority that numbers, data, or metrics are usually bestowed, they are not enough in granting specific actors authority which is usually an effect of more contingent encounters and confrontations. This distinction is highly relevant for understanding the adoption of new digital technology in the private rental market. It focuses on the material elements of the calculative practices they are included in and the various actors' perspectives. Specifically, in the case of OB adoption, prop/fin-tech start-ups must interest or enrol (Callon, 1984), letting agents and landlords as clients but also tenants as users by convincing them that such a service is a better alternative than traditional tenant referencing. Such a relational space involves strategies of gaining trust and professional boundary work (Star & Griesemer, 1989) that require moving from just assuming that organisations 'follow an institutional *data imperative* to collect as much data as possible' (Fourcade & Healy, 2017, p. 9) to tracing how such collecting might be actually messier and contested in practice.

The distinction between a practice's calculative and relational space is made even more relevant by recent scholarly discussions on the prop-tech sector. As Wainwright (2023) argues, rental proptech can redefine the position of actors in the PRS market by challenging or augmenting high-street letting agents' services. They are becoming 'digital

obligatory passage points', which, through data and algorithms enacted in their platform, can shape access to the market for tenants and landlords alike. At the point of digital listing of properties, a platform's design of inputs and built-in classifications can shape access through 'opportunity denying' discrimination (exclusion through nonresponse) (Hogan & Berry, 2011) or by excluding specific social categories (Meers, 2024). But, there seems to be an uneven adoption given that the role of letting agents as intermediaries is still important and involves continuity with older practices (Dunning et al., 2019). Even in the case of the automated landlord described by Fields (2022), it is recognised that the idiosyncrasies of properties and people make full automation processes hard to reach. This is highly visible when the differences between different types of landlords are considered. In the case of tenant referencing, there seems to be a strong tendency for smaller landlords to prefer more subjective forms of assessment, while corporate ones are more likely to implement more automated processes given issues of scale (Decker, 2021; Reosti, 2020; Rosen et al., 2021). Such differences raise the question of how the relational and calculative space specific to PRS markets are reconfigured through the introduction of new interfaces when algorithmic thinking might actually have a messier adoption in practice. And more importantly, what influences its adoption and acceptance among tenants, landlords and agents?

Open banking in the UK

The UK is commonly presented as a 'pioneer' and 'leader' of OB. OB deployment was preceded by a battle for control of customer data between UK data aggregator fintech companies and banks, the latter introducing various frictions in allowing their customers to share their data with third parties (Littlejohn et al., 2022, pp. 179–181). Littlejohn et al. (2022) argue that these debates had an important impact on authorities and legislators in the UK and the EU to open the question of data ownership, which was only later clarified under GDPR, at least in the sense of specifying that natural persons have control of their personal data.

The latest *Open Banking Impact Report* (OBIE, 2023) notes that among the accredited companies to use OB, the top three services addressed were improved financial decision-making, expanded payment choice and better borrowing. The better borrowing category includes firms that aim to 'innovate' credit scoring and affordability checks as it is believed that with the new data available, they 'can now build a more accurate picture of an individual's current financial standing and potentially widen access to finance' (FCA, 2021, p. 3). During the 2023 OB Summit, an industry event organised by a fintech organisation that was attended by the first named author of this paper, fairness and financial inclusion in lending were the themes that dominated the discussions. OB assessments, it was claimed, measure the 'ability to afford something in the future' and 'include people without credit history' while they take out '[human] bias because they are fully based on data and models'. An OBIE chair and trustee talking about the future of OB defined it as 'smart data for social good' and mentioned 'inclusion', 'trust', 'transparency', and the 'improvement of the economy' as its main drivers (quotes from first author's fieldnotes).

Most technology companies using OB usually capitalise on the 'tech for good' rhetoric, and 'financial inclusion' is posited as the main driver for its development, usually in

contrast with traditional credit scoring provided by credit reference agencies. They praise OB as an important and, drawing on wider tech industry discourse, 'disruptive' tool in credit risk analysis allowing for more 'accurate and holistic' assessments of customers' data and enabling automation at scale (Equifax, 2021). All three agencies dominating the UK credit information market are registered as companies certified to provide OB services, and they are usually in partnership with tenant referencing companies. The slogan 'all data is credit data' encapsulates the data imaginary of fintech start-ups, but in practice, some data sources seem to 'stick', others less so. If data sources, such as social media, have been only tentatively embraced by the industry and further abandoned (CDEI, 2020; Ferreri & Sanyal, 2022), transactional data accessed through OB is in the process of stabilising as a technology better suited to assess creditworthiness and affordability.

Despite its differences from traditional credit scores, current discussions on OB nonetheless reiterate some of the themes through which the legitimacy of credit scoring was built. First, credit scoring was seen as a more objective and less discriminatory technique to assess creditworthiness, and the US government advanced its usage through various legislative moves (Kiviat, 2019; Lauer, 2017; Marron, 2009). Similarly, OB-based assessments present themselves as less discriminatory through, for example, the inclusion of 'thin files' – people without a credit history. Second, credit scoring moved the focus from one's standing in society to a new importance attributed to behaviours related to dealing with debt (Kiviat, 2019). 'Behavioural data' has received a new twist with the advance of Big Data and various forms of surveillance embedded in most of the digital services we use. However, with OB, the interest in behaviour expands from debt repayment to an overall concern with how one deals with one's finances. It can include details that reflect character, such as spending on gambling, indexing a moralising view historically dominant in lending (Lauer, 2017) adopted by other industries relying on creditworthiness as a metric to allocate essential resources.

Methods

Data presented here originates from a larger project Code Encounters: Algorithmic Risk Profiling in Housing examining the usage of data and algorithms in shaping access to housing (rented or bought). In this article, we present the findings from interviews with 20 tenants, 8 private landlords, 5 real estate agents, 12 tenant referencing companies and 15 stakeholders (e.g., members of professional associations, representatives of industry forums or other related services such as property listing and tenant deposits). The semi-structured interviews asked participants to walk us through the process of renting a home and covered a variety of themes, e.g., data input, measurement and classification, operation, impact, futures. We recruited participants by advertising research invitations through various channels: social media, one private tenant organisation, landlords and real estate agents' websites and professional forums, a landlord and real estate agents survey. Tenants (9 men and 11 women) have between 23 years old and 72 years old and are spread along most regions in England. Their incomes range between low and medium and they have different forms of employment (permanent, contract). Despite socio-economic differences, they all spoke about a general feeling of competition to enter the rental market, none of them feeling privileged in any way, though letting agents operating on

the high-premium end of the market talked about a more empowered tenant in making choices. The private landlords with the exception of one had usually a small portfolio (less than five properties) and all of them self-managed but used a real estate agent and a referencing company when looking for new tenants. The referencing companies included a diversity of firms in terms of market cover and technologies used. The article also includes an analysis of 15 online product presentations from tenant referencing companies' websites and field notes from the first authors' attendance at an OB event and the experience of going through an OB tenant referencing process.

Interview transcripts have been analysed thematically in Nvivo. Based on a closed reading of transcripts, we developed a descriptive coding frame refined through subsequent axial coding (Strauss, 1987) to better specify the properties, dimensions, conditions, and consequences of each main category – trust building, power relations and obligations, streamlining – and their inter relationships.

The research has been approved by the University of York Ethics Committee and all data has been collected through informed consent and is pseudonymised in this article.

Open Banking in tenant referencing

One participant in the research talked about 'landlord inertia' (Stakeholder 4) regarding technology adoption in the PRS and attributed it to the predominance of older landlords with smaller portfolios. But external circumstances such as the Tenant Fees Act adopted in 2019, which banned charging a tenant for fees that used to cover referencing costs, were frequently mentioned in interviews as pushing towards cutting costs through technology adoption. These are usually more automated solutions, such as only doing a credit check or using OB rather than manually obtaining bank statements, pay slips, and employer and former landlords' references.

At the same time, tenant referencing companies consider tenants as important as rental market professionals in technology adoption, given that they are the end users of their applications and must consent to process their data. Currently, tenants can choose between a 'traditional' referencing process and an OB one but not always a true sense of choice is in place given that on the one hand due to the high competition, some tenants would submit anything, while on the other hand how some applications are designed might easily mislead tenants that there is no choice. A tenant's socio-economic circumstances and data literacy will influence how OB is perceived and how they might react to feeling obliged to share data they are not willing to. In addition, how an OB check is set in practice will influence its adoption given the high concerns around sharing financial data. In the following, we discuss how such trustworthiness is gained in tenant referencing as an interfaced and reassuring data practice. In particular we look at how reassuring data interfaces are accompanied by obligations for data access and pressures to streamline.

Reassuring interfaces and sharing data access

In tenant referencing, consumers need to be persuaded of the benefits of OB, especially given that transactional data are usually seen as highly intimate and personal. Despite the

asymmetrical power relations on the rental market, regulations and a sense a trust still affect the willingness to share specific type of data. OB was done initially through screen scraping, which involved sharing with third parties one's banks credentials, most consumers refusing to do this. It is only when the usage of APIs and mobile banking apps has become more popularised that OB has become more adopted too in tenant referencing. As one agent summarised the removal of blockages they encountered:

> It was held back initially because early on in the journey, tenants literally had to allow the referencing company into their bank account by putting all the passwords in, and that caused a lot of fear whereas now most people have phone identity which looks at your face. So, when the referencing company contacts the tenants, it goes, 'Will you allow us to look at your bank?' and people just look at their phone or put a quick password in, and they're in. (Agent 4)

The chain of commercial actors involved in tenant referencing through OB can extend beyond the tenant referencing company as only Financial Conduct Authority (FCA) authorised entities called Account Information Service Providers are allowed to 'read only' the data from bank accounts. Given that getting FCA approval might be seen as a 'hassle', most companies prefer to partner with existing ones, thus (further) intermediating the process. The representative of a tenant referencing company that frames such a partnership in terms of a more trustworthy arrangement emphasises the official recognition and technological capacities as markers of trust:

> We basically hand off to a third-party provider to gain the consent, and then do the linking up of the bank accounts, because they are the FCA regulated entity in that journey. Also, when we're gaining consent, all of that is done by them because they are absolute experts in that field, and we didn't want to become liable for all of that. It's a trusted name, we're passing them off to Equifax, which are one of the three credit bureaus in the UK. So, we had more confidence in making sure that the tenant felt supported when they were going through that, and then it was signposted as a trusted entity to do that process with. (Tenant Referencing Company 8)

The role of third-party providers specialised in technology was usually seen as an important element of trust building for many tenants, including official validation and a perception of a reassuring interface. Some of our participants regarded as more trustworthy the fact that a third party does the checks rather than a letting agent or landlord, perceiving such tech companies as more competent in safely processing and analysing their data due to the medium used (usually a portal) and the technological profile of the company:

> I liked that it was done via a third party, via [referencing company]. It felt a bit more legitimate and, I suppose, proper because we knew that we could – it looked like a trusted source, so I liked that, rather than having to fill out a form and send it to a letting agent, who maybe were deciding it themselves, who perhaps didn't have the experience to do that. (Tenant 1, 24 years old, North-West)

But even if FCA approval and the more technological specialisation of such firms might add an extra layer of consumer trust, not all tenant referencing companies are fully transparent on their websites about who they are collaborating with for OB or announcing it in a clear way during the application. Among tenants, there was barely a recollection of such an extra third party.

Still, according to professionals interviewed, when some of their applicants raised concerns about how their data is collected through OB, the FCA approval played the most important part in establishing trust:

> We had complaints from people who work in finance, from people who understood the data and what data privacy meant, they had questions, obviously. We were always transparent, like, 'We're working with this company. They're FCA regulated. Check them out. If you're not comfortable, come to us. We'll find an alternative way for you,' etc., etc. Some people did find it intrusive. (Tenant Referencing Company 2)

Beyond the credentials of who does the checks, their enactment in interfaces is also important for trust building in sharing access. The credentials are important along with a perception that what is being asked for is reasonable for the purpose of the transaction and is only used for this. OB checks often generated a sense of unease among the tenants we interviewed as they feared that accounts could be scrutinised for all sorts of information not necessarily reasonable to ask for the purposes of tenant referencing. They agreed that checking incomes and previous rental information is appropriate in this context, but payslips and landlords' references could also be used. Opinions were rather mixed around which medium consumers were more willing to share. Some were comfortable with allowing OB access, seeing it as more secure and efficient. In contrast, given other options, others felt it was rather intrusive and unnecessary.

In some cases, this unease was fed by applicants feeling unsure who has access to such data and how it is being used despite regulations based on the 'specification of purpose principle' and 'limitation of use principle' that govern OB. In some cases, mortgage applicants, interviewed as part of the wider cross-tenure study, declared they felt happier going through an OB application rather than having their bank statements scrutinised by mortgage brokers who would make all sorts of moral judgements. Similarly, in the case of tenant referencing, one applicant felt more comfortable if the entire process was technology led with no human intervention when it comes to accessing one's transactional data. But he, nonetheless, felt that going through the process offered no assurance that someone (a human being) might not access his data and use it for other purposes than those agreed to:

> It didn't really give any information as to what it was looking for. My assumption is that it's to prove that you receive the right amount of income, but it really didn't clarify that. The other thing is it didn't really sufficiently give you any guarantee that that was all that could be seen, and it would have been in fact impossible that that would be all that could be seen. It didn't really clarify that there's no human kind of intervention at any point, because in a sense it would be a little less unsettling if you knew that this was entirely – you have no guarantee basically what's about to happen to all of your financial data of all varieties. (Tenant 13, 23 years old, London)

From such accounts, gaining tenants' trust rests on technological mirage enacted through a reassuring interface or assurance of automation without human interference, a perceived more secure medium of data collection and official validation. However, given how access to the private rental market is currently shaped, applicants do not always feel they are able to make a choice, as discussed in the following.

An obligation to data share

To convince an applicant to go through an OB process instead of a more traditional refer-encing, most companies present it as a preferable solution, usually by promoting it as a much faster and safer option. The referencing process of a leading company introduces OB as a process through which the referencing team will have access to 'transactions that are relevant in helping us to complete your application, such as your salary and rental payments'. Then it continues by listing some of the benefits of OP:

> Why should I use Open Banking for my application?
> • The quickest way to complete your reference
> • A secure and accurate way to prove your income and rental payments
> • No relying on your referees to provide us with written references. (First named author's notes from going through an Open Banking tenant referencing, July 2022)

The rhetoric of consumer empowerment at the base of OB implies that there is an element of choice in deciding if they want to share their parties with third-party providers. More-over, this should be based on some form of informed consent regarding how one's data will be used. However, when applied to tenant referencing, OB sometimes seems to be imposed, making consumers feel more powerless than empowered. Some research participants declared that they did not think they had the option to opt-out due to how the interface was designed or because they felt pressured to opt for the fastest option of referencing. Asked in the interview if 'OB was an option, or was it something that was compulsory, they said that you don't have any other alternative?', one Tenant responded:

> It said you could do it via doing PDFs I think of your bank statements yourself, but if you did that it would delay the process. Because of various delays in the referencing process, it was already towards the end of their deadline, so it wasn't going to work, basically. Which is like another stealth kind of push, in the sense that the timelines are artificially quite short, even though the tenancy is going to begin in two months. (Tenant 13, 23 years old, London)

Moreover, although laws such as GDPR make prior consent an important step for har-vesting data, in practice, consent means most often clicking on an agree button (Pistor, 2020). This poses questions about power within data agreements and access. Market research on OB talks about the ease of adoption once there is a 'clear customer benefit […] identified within a use case', a quite significant number of consumers agreeing to share their transactional data in exchange for personal financial management services (Reynolds, 2021, p. 6).

From the point of view of some tenants going through tenant referencing the percep-tion of a customer benefit is rather small, the feeling of 'intrusion', 'invasion of privacy', or an undefined 'too much', being more prevalent:

> I didn't want to tick [the OB option] because I just thought [they] can see my wage slips, you can see my employment details, […] a bank statement for proof of address. I just felt grant-ing access to a third company accessing my bank too much.
>
> *What were you concerned that it might happen wrong?*
>
> I don't know, I just felt really uncomfortable with doing that, and I thought, well, I've never had problems in the past with renting, without giving that information, so I ticked no. (Tenant 12, 37 years old, Southeast)

The concern here is with the notional third-party gaining access to the personal banking information that caused the refusal of access. The third-party imagined here became a site of unease as too much information could be shared while what was considered as reasonable data to share could be provided through other means. This tenant had a choice as she could thick a no in the application. In our research, we did not meet any tenant who refused to submit to OB and had an application rejected based only on this but as we have discussed in this section the feeling of choice is rather reduced among tenants who rushed to submit an application might be less inclined to prioritise debating on data safety concerns.

Streamlining tenant referencing

The descriptions more commonly associated with OB referencing on providers' websites are usually 'faster' and more 'secure' than the traditional referencing, although some might capitalise on 'accuracy'. In the language of one company, OB 'streamline [referencing companies'] manual processes without increasing processes and systems'. Its data categorisation algorithms are also presented as an 'accurate' picture of the tenant, but this is usually along the same lines used in traditional referencing, i.e., income and previous rental payments. OB is then normalised as an extension of existing processes. A common way to speak about it among agents and landlords was as a 'tool' among others:

> So we wouldn't just say, yes, open banking is the key to the recipe, that's all we need, scrap everything else. We'd say open banking is one part of it, along with all the other details, and checks, and questions that are asked. Yes, it's one tool in a toolbox, but it definitely helps. (Agent 2)

In practice, tenant selection is a much more extended and qualitative process than its formalisation in tenant referencing, and the checks provided through OB can be even less reassuring than traditional tenant referencing. Despite opening access to abundant transactional data, OB has reduced its ability to assess employment status and previous rental behaviour.

If it can properly identify amounts of money that it categorises as income, such data does not offer any information on the type of income stream and its duration, still making employer's references relevant for some letting agents or landlords. Similarly, if it can theoretically identify if previous rent payments were made in time, it is muted regarding tenancy breaches such as damage or anti-social behaviour, still retaining some usage for landlords' references. As one landlord explained:

> Open Banking only gives you a financial view, it doesn't give you a view whether they're a good tenant or not. So, again, that's where the, do you ask the inferred questions, or do you use the open banking as part of a referencing process where you're asking other questions? Actually, if you're doing that, you're probably no further forward, because it's the manual bits that take the time to confirm the reference. (Landlord 6)

The power of, so-called, BigTech and its massive accumulation of data is usually associated with the capacity to predict behaviour. However, in our research, landlords and letting agents were not so much seduced by the idea that more (past related) data will make them better able to predict a tenant's future behaviour. External events such as being made redundant and unable to pay rent or divergent views and behaviours related to what it means to take care of property were some of the most common changes from the moment of referencing that referencing is usually unable to anticipate. This is

why the process was seen mostly as a snapshot in time, much better able to represent the past:

> I guess the other thing to note is referencing is a snapshot of that person at that point in time. Things can change. We might do a reference and they've been at that company for ten years, and actually next week they're made redundant. Customers know that, tenants know, I'm trying to put myself forward in the best light, but we know things happen. (Tenant Referencing Company 8)

But despite such limits of what can be called algorithmic thinking in tenant referencing, OB nonetheless is a technology increasingly adopted in the industry.

If landlords with smaller portfolios might feel less of a need to change their current practices, nonetheless, among letting agents, there was an openness towards 'streamlining' their processes, preferring solutions that bring time efficiencies, reduced costs, and integration among various software or of the various phases of a tenant's onboarding and tenancy management. OB, with all its limits, offers a 'good enough' solution with increased time and cost efficiencies, making it, in some cases, the default option:

> The open banking checks are super quick. [...] Go back three or four years, [referencing companies] gave the tenant a choice, or us the choice: Do you want open banking, or do you want traditional? Whereas now they're layering the journey so that you have to go through open banking to then get to the traditional. If they can get an open banking response really quickly, then we can get a response really quickly but also that the amount of effort the referencing agencies have to put in is dramatically different. An open banking check is human-free, but a traditional reference is someone sitting at a desk making calls, and it is a lot of friction there. (Agent 4)

If tenants mentioned previously were seeing the human-free process as possibly more secure and less judgemental, for professionals, what matters the most is the reduction of labour cost and processing time. These important aspects contribute to OB's adoption, even if its effectiveness is limited.

Conclusion

The calculative space of OB, as applied to tenant referencing, comprises transactional data points that are understood to reflect an applicant's suitability. It is built on categorisation algorithms through which data points are sorted and APIs that allow access in a secure, read-only way. What is then needed is a form of data reassurance designed to build trust and ensure sign-up. In this paper, we have discussed how such elements might act as trust-generating devices through forms of interfaces that inspire security and by unfolding as a 'human-free' process that, in the case of consumers, is perceived as less prone to moralistic judgement. While for professionals, it works in a more streamlined and cheaper way and is therefore seen to enhance efficiency and speed of decision-making.

Discussing ratings and rankings generated by algorithmic tools of classification Accominotti (2021) argues that they should be treated as aesthetic objects and not only as devices for moral classification based on an evaluation of individual choices exposed by various digital traces as in Fourcade and Healy (2013, p. 2017). The wealth of behavioural data made available by the digitalisation of contemporary lives produces scores and ratings that 'have a sharpness, a crispness, or a clean-cutness to them', which is attractive for consumers and

professionals alike by concealing 'the messiness, ambiguity, and multidimensionality of the evidence behind the constructs they claim to measure' (Accominotti, 2021, p. 199). Drawing on our material, we argue that the practical usage of algorithms does not necessarily entail the concealment of such messiness, ambiguity, and multidimensionality. As discussed in our previous section, among letting agents and landlords, there was a strong agreement that such tools can only partially portray an individual, even to assess if they will be a good tenant, and they do not erase the uncertainty of the future. Nonetheless, it still seems to make a lot of sense to approach them as aesthetic objects by looking at the digital work implied. For consumers, the composition of the interface and the elements comprising the flow of their application are important devices to trust going through such a process and sharing access to what is considered highly intimate data. For professionals, it is not necessarily the aesthetic of an orderly classification that is appealing, but rather as the common term used in the industry – 'streamlining' – suggests, is the simplicity of composing a workflow that is more time and cost-effective than a more 'manual' one.

As providers have to persuade various users and clients about the benefits of their service, persuasion rests not only on a data interface's attributes but also its broad relational space. Firstly, OB interface adoption cannot be divorced from its broader institutional context. In the case of OB, although the fact that it is a governmental mandated initiative might be less known among the general public, official validation matters, as in the case of FCA approval of OB providers discussed in this paper. At the same time, the 2019 Tenant Fees Act is broadly recognised as playing an important part in making an otherwise conservative industry move towards more digitalisation and automation. This reflects the important role played by governments not only as regulators but also as active makers of digital economies, which through various types of credentials and legal forms, create what are seen to be more trustworthy relationships between market participants.

Second, it is important to consider how power relationships work in calculative practices that are intensely data-driven and algorithm based. Similarly, with the *Financial Times* article mentioned at the beginning of this article, most of the applicants in our research did not feel that they have much power and agency when applying for a tenancy in the private rental market, given a high sense of 'competition' to apply for a limited stock. This is despite the fact that opting out is seen by the public as one of the three most important practices of data management (Hartman et al., 2020). Consequently, a sense of 'empowerment' or 'ownership' regarding their data was lacking, while how it circulates and is stored was less a preoccupation for most of them when the priority was to get a tenancy. Hence, advancing OB as the default option in tenant referencing, given its benefits for professionals, might actually, in practice, take from tenants the only element of choice that they currently have, i.e., the format of the information they are being asked to provide. We have shown here how, alongside a sense of obligation, a type of data reassurance is taking on a central role in increasing a sense of trust and facilitating the expansion of OB and the interfaces through which it is facilitated.

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