

“What would happen if you can’t see your money?”: Visibility and the emergent infrastructures of digital money storage in China

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Abstract: This paper adopts an infrastructural perspective to analyse Chinese migrant factory workers’ conceptions of and approaches toward storing money on digital payment platforms. Scholars studying infrastructural systems have emphasised that such systems generally only become visible upon breakdown. However, this paper finds that during the emergence of new infrastructures for monetary storage, existing infrastructures—along with the money stored within them—also become rendered conspicuous to users. In such moments, migrant factory workers are forced to assess the differences between existing and new infrastructural systems and make careful decisions over how to store their money. We claim it is necessary to acknowledge the shifting visibility of infrastructures during occasions of systemic transformation. Doing so can help to better understand how users navigate such infrastructures in attempts to solve problems of storage, while in the process re-evaluating their relationships with a variety of entities and institutions.

From food stalls to shopping malls, almost every place I stopped by in this corner of Beijing accepted mobile payment. Cash really is becoming a thing of the past.

(Wang, 2017)

The rapid expansion of digital payment platforms across China has captured the world's attention. The combined payments of the two most popular platforms—Alipay and WeChat Pay—have increased 20-fold in four years: from less than 1 trillion RMB (US\$ 11.6 billion) in 2012 to around 8.5 trillion RMB (US\$ 1.2 trillion) in 2016 (Kapron and Meertens, 2017). However, as the above quote from a *Forbes* journalist describing mobile payments in the country's capital suggests, it is the impressive range of goods and services for which digital money can be exchanged, along with the diverse variety of venues willing to receive digital payments, that has occupied media coverage and public discourse. In short, it is the capacity of China's digital money platforms to be used for *payment* that has been regarded as their chief utility, while the comparatively mundane issue of how money is stored on these new infrastructures remains largely neglected.

In this paper, and in line with the theme of this special issue, we draw attention to dilemmas surrounding the storage of money predicated by the growth of China's digital payment platforms. We document how these dilemmas become especially pronounced for China's rural migrant worker population, owing to the precarious financial and social position entailed by their labouring under global monopoly capital (Pun, 2016). We attempt to understand how digital money fits into workers' already expansive social networks, which are often co-ordinated through low-cost ICTs (Qiu, 2009; Wang, 2016; Wallis, 2013; Sun, 2014).

We claim that a careful analysis of migrants' conceptions of, and approaches toward storing money on online payment platforms can contribute to better understandings of the

processes that underlie the growing convergence between infrastructures of media and finance, by challenging the notion that such infrastructures only become visible upon breakdown (Star, 1999). Instead, we argue that during the emergence of new infrastructures, existing ones may also be rendered unusually conspicuous. During such moments, migrant factory workers are forced to assess the differences between existing and new infrastructural systems, making careful choices over where to store their money. For factory workers evaluating whether to store their money online, these decisions often involve assessing the nature of the newly-visible infrastructures and the institutions supporting them, along with how such infrastructures may transform the visibility of the money stored within them.

This paper will first examine key historical developments concerning the storage of money in China, which have resulted in digital payment platforms emerging against an already well-established collection of national banking infrastructures. We then discuss a growing body of studies regarding infrastructures and their assumed invisibility. After briefly outlining the conditions and methodology of fieldwork, we examine three contrasting ethnographic cases from migrant factory workers, where the varying qualities of visibility pertaining to both infrastructures for storing money and of money itself play a key role in affecting workers' storage decisions. We conclude by discussing the broader implications of factory labourers' actions by considering how decisions regarding the storage of money also invoke a re-evaluation of the kinds of relationships workers wish to pursue with banks, employers, the state, and their imagined future selves.

Storing money in a saving society

China is widely regarded as being a “saving society”, with households often retaining significant stores of money for education, property purchases, life-cycle events, safeguarding against income and political uncertainty, unexpected medical costs or other unforeseen

expenses (Cristadoro and Marconi, 2012; Chamon et al., 2013; Aaberge et al., 2017). In 2017, China's gross domestic savings as a share of GDP was 47.4 per cent, ranking it amongst the highest ten countries in the world (The World Bank, 2019). Although use of both formal and informal credit has grown since the start of the reform era, this transformation has not noticeably dented the nation's appetite for saving. Efforts to analyse the emergence of novel infrastructures of digital money storage must therefore be understood against this backdrop of multiple competing popular monetary storage options.

While China arguably possesses some of the earliest financial institutions for which historical records exist (Yang, 1952), much of the country's modern-day banking system was formalised during the early twentieth century. During this period, urban banks attempted to instil a culture of saving amongst the public, successfully disrupting long-standing popular practices of keeping personal savings hidden in homes or buried underground (Cheng, 2003: 142). The effects of this remain felt through to the present day, with most persons preferring to avoid storing large amounts of cash at home.

The relative accessibility of the contemporary banking system—largely composed of banks, rural credit co-operatives (RCC) and post office savings services—is evident in its expansive coverage from urban metropolises down to small rural townships. This extensive distribution has also contributed to facilitating saving amongst the general population. The low cost of opening and maintaining a basic savings account and the pervasive propagation of China's national identity card system has resulted in a relatively secure and dependable state-backed infrastructure for monetary storage, accessible by most citizens. Data from The World Bank (2015) indicates that 78.9 per cent of adults in China have a bank account and 41.2 per cent have saved money at a financial institution (the averages for the East Asia & Pacific region are 69.0 per cent and 36.5 per cent, respectively). A cross-country comparison of public trust in banks carried out by Fungáčová et al. (2019) using World Values Survey data recorded a

particularly high level of trust in banks amongst Chinese citizens, ranking third out of 52 countries surveyed. Post office savings (officially, the Postal Savings Bank of China) warrants special mention because it predominantly serves low-income rural populations (around 60 per cent of their branches are located at the administrative level of county or below) for whom saving money, rather than accessing credit, remains a key concern (Sina Finance, 2009).

The fact that banks in China are accessible, affordable and generally well-trusted distinguishes the Chinese case from that of several other studies of digital money in a global context, which have tended to emphasise the emancipatory potential of these technologies in countries where large populations remain “unbanked” owing to weak state infrastructures (i.e., poor security, lack of documentation, institutional corruption), or where financial institutions are simply unwilling to serve low-income customers (Mas and Morawczynski, 2009; Baptiste et al., 2010; Taylor et al., 2011).

A number of recent studies on digital money have added nuance to the debate by emphasising the ways emergent monetary technologies often co-exist and interact with traditional banks. Notable amongst these is de Bruijn et al.’s (2017) comparative ethnographic study on attitudes, perceptions and uses of mobile money in Cameroon, Congo DRC, Senegal and Zambia. They found that people’s trust in new digital financial services, such as mobile money, depended heavily on their historic faith (or, more often, lack thereof) in traditional financial institutions.

Taylor and Horst’s (2018a) study of the adoption of mobile money in Haiti adds an extra layer of complexity to understanding the relationship between mobile money, private enterprise and the state. The authors document how public trust in foreign-owned telecommunications companies operating in the region was so high that people “associate them with properties of religious and governance institutions” (2018a: 563). They argue that although mobile network operators were ostensibly responsible for provisioning the “social

good” of mobile money, their rollout in fact involved extensive and ongoing interactions between the state, companies and NGOs. This, they claim, challenges neoliberal accounts that assume the centrality of the market in the provision of such social goods.

The situation is somewhat distinctive in the Chinese case, given that almost all major banks, RCCs and the post office are state owned enterprises (SOEs), while privately-owned Alipay represents a new incumbent in the savings space. This paper suggests that for worker-participants, the move towards storing money on digital payment platforms has been driven not by problems of access to or trust in banks, but rather a growing weariness toward the discomfort involved in interactions (both on- and offline) with state-backed institutions, often permeated by issues of class and social exclusion, which are made tangible through the varying infrastructures through which both are experienced.

The widespread popularity of storing money on digital payment platforms has been especially remarkable considering that they were not originally designed for this purpose. Alipay was initially developed in 2004 to address problems surrounding paying for goods bought online. In 2013, it launched an online savings account named *Yu'e bao* (literally, “leftover treasure”) in response to the fact that Alipay users were storing the leftover funds from their completed transactions in their online wallets (Kapron and Meertens, 2017).

Alipay has sought to distinguish *Yu'e bao* from traditional bank savings accounts in several ways. *Yu'e bao* customers receive a slightly higher rate of interest than that offered by banks. Interest is also calculated and paid on a daily basis, rather than monthly or annually. Unlike bank-based time-deposit account products, funds stored in *Yu'e bao* can be withdrawn at any time without penalty. These features have helped *Yu'e bao* achieve enormous popularity. By mid-2016, Alibaba (the company that owns Alipay) reported having over 152 million customers using *Yu'e bao* and 810 billion RMB (US\$117 billion) of funds under its management (Kapron and Meertens, 2017: 27). Alipay’s chief competitor, WeChat Pay, has

also developed a similar offering, although factory workers generally see Alipay as a safer choice for storing large amounts of money (McDonald, 2019). Both platforms have benefited from inheriting a large user base through their associated online shopping and instant messaging apps, respectively.

The fact that China's digital payment platforms are primarily operated by private technology firms rather than state-owned banks points to a significant shift in the institutions with whom the public are willing to trust their savings. Users link their bank card to a digital payment platform through a short online registration process, after which money can be transferred from one's bank account to the payment platform free of charge (although withdrawing money from the online wallet into one's bank account sometimes incurs a fee). Once stored in a payment platform, funds can be used to purchase goods in shops (digital payments are accepted in a far wider array of venues than bank cards), for online payments and to initiate free money transfers to other individuals who also hold a digital wallet on the same platform.

Wang (2018) has tried to make sense of these transformations by pointing out how the growth of internet finance products in China—including Yu'e bao—has effectively concentrated financial capital amongst the country's oligopolistic Internet corporations. While this may very well be the case, reviewing the development of infrastructures for, and public interest in, saving money has also demonstrated how the growth of online monetary storage in China is in fact made possible by (and remains intimately connected with) the country's complex and extensive banking system. Adopting an infrastructural perspective to understand transformations in the storage of money is thus particularly appropriate given not only the distinctive connections that link novel and existing modes of storage, but also in light of the increasing platformisation of everyday infrastructures (Plantin et al., 2016).

Emergent infrastructures of storage

Taking an infrastructural approach to mobile media (and the digital money appearing on it) requires not only understanding the affordances of such new technologies and the intentions of the companies behind them, but as Horst (2013) argues, also entails examining how individuals navigate and potentially subvert such systems. However, this is made difficult by the assertion that when operating effectively, infrastructures remain largely invisible to those making use of them.

Star's (1999) ground-breaking essay on the ethnography of infrastructures highlights how new infrastructures are invariably embedded into pre-existing ones through being "sunk into and inside of other structures, social arrangements, and technologies" (1999: 381). This observation certainly rings true in relation to digital payment platforms in China, which have been built on top of expansive mobile communication technologies, social media platforms, and traditional banking systems. Star asserts that this kind of integration makes infrastructures function in a largely transparent way, meaning they "do not have to be reinvented each time or assembled for each task, but invisibly supports those tasks" (1999: 381). Star's description of infrastructures raises an important question: if effectively-operating infrastructures remain unseen, then how are their users able to perceive and navigate between such systems?

Star partially addresses the issue by suggesting that infrastructures do, in fact, become visible during moments when they succumb to breakdown. While this explanation seems compelling, applying it to the question of storing money in China is problematic given that, as previously noted, Chinese citizens tend to regard state-backed banking infrastructures as highly reliable and trustworthy. If existing infrastructures of monetary storage are not plagued by the kinds of catastrophic failures described by Star, what might account for their visibility to factory workers?

As the sub-discipline of infrastructural studies has developed, several scholars have built on Star's foundational work to provide further rationale for the relationship between visibility and moments of breakdown. Edwards et al. (2007) have argued that the emergence of new infrastructural alternatives creates competition with existing infrastructures, which must be resolved through either one system displacing the other, or, more commonly, the creation of "gateways" through which multiple systems can interoperate. In China, the linking of one's bank card to a payment platform arguably constitutes one such gateway.

Also relevant is Pipek and Wulf's (2009) call to acknowledge the constant negotiations occurring between the designers and users of information systems. These are driven by what they term a "point of infrastructure", a moment where *temporary* breakdown makes infrastructures (and the work that surrounds them) visible, spurring both designers and users to participate in spontaneous "design work" directed towards reconfiguring such infrastructures and the behavioural tasks associated with them. Similarly, Vertesi (2014) has highlighted the importance of the "seams" that join together different infrastructures, calling for attention to actors' attempts to "artfully align" such seams, foregrounding the individuals and practices involved in delivering infrastructures.

Although these studies have helped advance our understanding of the visibility of infrastructures in ways that go beyond Star's symptom-of-breakdown concept, the common emphasis remains on *overcoming* moments of malfunction, deficiencies, or irregularities in use. As a result, accounts of infrastructure often remain tinged with a sort of functional reasoning. Users are typically portrayed as being engaged in a drive to ensure the functionality of infrastructures by achieving a state of "invisible seamlessness" (Vertesi, 2014), "seamless operability" (Edwards et al., 2009: 367) or a "normal background state of invisibility" (Edwards et al., 2009: 369).

While acknowledging that ensuring infrastructures operate effectively will always be a key concern for their users, we here argue for a complementary approach by claiming that, at times, the emergence of new infrastructural alternatives may actually precipitate the social conditions for the *perception of new problems or inadequacies* in infrastructures by their users, rather than in response to problems in-and-of-themselves. This is particularly so in relation to the shift from factory workers storing their salary on traditional bank cards to Yu'e bao. This transformation has precipitated moments where for some (but not all) workers, the shortcomings of traditional banks become clearly discernible.

The enduring significance of cash also bears mentioning here, especially given that currency itself can be argued to function as an infrastructure on top of which exchange, communication and social interactions occur. Many migrant worker participants reported that bank cards and (especially) digital payment platforms had reduced their need for cash, with a few asserting that they often no longer bothered to carry their wallet with them. However, none of our participants ever spoke of a future cashless society of the kind envisaged by the journalist quoted at the start of this paper. Instead, participants were highly aware of the continued utility of cash, most notably with regard to mediating their relationships with parents or grandparents remaining in their hometowns, who were still very much embedded in rural, cash-based economies. Even the country's monetary regulator, the People's Bank of China, has sought to dismiss the possibility of a cashless future by portraying choice over payment method as a consumer right and asserting that retailers must continue to accept cash payments (Lee, 2018). Although cash as a payment method thus increasingly serves to delineate rural/urban and old/young divides, its use for payment remains somewhat distinctive from its use as a store of value, which was broadly regarded as being unsafe in any significant amount (hence, even rural residents now kept most of their money in banks or post office savings accounts). As such, the key choice for storage was understood to be one between banks, and more recently, Yu'e bao.

By focusing on the case of migrant factory workers in China—for whom the scarcity of money makes its storage a pressing concern—we observe first-hand these critical moments where emergent infrastructures become established and evaluated alongside pre-existing alternatives.

Fieldwork in a migrant neighbourhood

This study draws on data collected as part of a three-and-a-half-year long project examining digital money's impact upon migration in China.¹ Fieldwork for the project started in June 2016 and continued until September 2018. Much of the data presented below was collected in the summer of 2016 in Baoshan², an “urban village” (*chengzhongcun*) in the south-eastern Chinese city of Shenzhen. Baoshan neighbored a large Foxconn factory campus employing thousands of migrant workers producing electronic goods. Because this Foxconn campus predominantly recruited male workers in their twenties or early thirties, the composition of Baoshan residents—and in turn, our research participants—largely reflected this demographic. Foxconn workers were drawn from throughout China, although most came from neighbouring provinces such as Hunan, Guangxi and Yunnan. Both authors visited Baoshan together to collect data. Given our different social positions (McDonald, a male, European university researcher able to converse in Mandarin Chinese; Guo, a female, Mainland Chinese doctoral student), we were able to build rapport with a relatively diverse cross-section of worker participants spanning gender and age ranges.

Although we were unable to gain access to the Foxconn factory campus itself, we could move around Baoshan village unhindered and our interactions with workers also occurred in this space. Because factory labourers' extended working hours meant they had little free-time, fieldwork relied more on formalised methods such as focus groups and interviews (facilitated

¹ <http://sociology.hku.hk/digital-money-china>

² All participant names, along with the name of the field site, have been altered in order to protect anonymity.

by a local migrant workers' association). However, we sought to complement this with more informal modes of engagement, including dining with selected participants in workers' canteens or accompanying them to nearby public parks or shopping malls, where they often spent their leisure time.

In common with the observation that in China “money seems to be a topic which people find utterly engrossing” (Martin, 2014: 15), we found participants to be eager to discuss the relative advantages and disadvantages of new monetary technologies during group interviews. Individual interviews with workers provided moments where anxieties around use of these services and participants' own financial difficulties were more easily expressed. Since the project aimed to ascertain a broad view of participants' attitudes toward and uses of digital money, initial questions chiefly concerned themes relating to payments, transfers, savings, and investment. The significance of saving on Yu'e bao for workers only became apparent when the service was repeatedly mentioned in responses to these questions.

Workers' attitudes toward, and appropriation of, digital platforms for the storage of money were also shaped by the broader communication infrastructures permeating the fieldsite. The backbone of this infrastructure was arguably low-cost, domestically produced smartphones, which had become increasingly central to participants' lives. Mobile data packages were relatively affordable for migrant labourers and many shops in Baoshan offered free Wi-Fi, meaning that accessing the internet was rarely a problem. On top of this, a number of apps had become indispensable daily tools for workers in organising their lives: WeChat for everyday communication, Taobao for online shopping, Alipay (and WeChat Wallet) for online payments, monetary transfers and purchase of a broad array of goods and services. Workers' heavy reliance on these apps meant that conditions were ripe for the emergence of online savings as a viable alternative to bank accounts, with Yu'e bao able to build on top of users'

ingrained practices as well as existing infrastructures, in a way that made using the service an “easy choice” for many workers.

A storage dilemma: “Salary card” or “Yu’e bao”?

The appearance of Yu’e bao on factory workers’ financial landscapes represented a significant alternative possibility for the storage of funds. Most often, participants discussed this development by contrasting Yu’e bao with a “salary card” (*gongzi ka*), a traditional bank deposit account arranged by and linked to one’s employer. When migrant factory workers join Foxconn (or other similar large employers), they are required to open an account at a designated bank into which their salaries will be paid. The bank provides employers with discounted payroll services in exchange for the new customers they deliver through the scheme. Rona-Tas and Guseva (2014) describe how such payroll schemes were instrumental in promoting bank card ownership in China, along with several “post-communist” states. Because our participants were unable to select the bank that they wish to receive their salary into, this new bank account was generally operated in addition to whatever existing bank accounts workers might already have from their hometown or previous employers.

The bank issues workers with a debit card (*chuxu ka*), which allows for ATM withdrawals or use with special card payment processing machines found in large shops or supermarkets. Although this card (and the bank account it is linked to) is, to all intents and purposes, identical to that issued to regular customers, factory workers often refer to it as a salary card to reflect their sentiment that its chief purpose is for the receipt of wage payments.

While James (2015) notes that the introduction of direct salary payments in South Africa served to undermine individuals’ attempts to use banking as a method of keeping income streams separate and thereby increase control over their money, in our own study factory workers instead felt that their wages were “stuck” on an unwanted salary card. Transferring

money from the card to other banks or different cities in China typically incurs bank charges. Withdrawing cash from an ATM and paying it into another bank over-the-counter or via ATM deposit machines provides a way to circumvent such fees, however this is often impractical for factory labourers, whose long working hours make it difficult to visit the bank in person. Furthermore, migrants' face-to-face encounters with urban bank staff are often permeated with an acute sense of being judged. As one female factory worker from the broader study explained:

Banks treat VIPs and us differently, VIPs have gold cards, diamond cards.

When they go to use bank cashiers, the people meet each other, then there will be a separation between rich and poor, high and low status. But when you use Alipay, it's all operated on your phone, so it's not the same.

Although conducting transactions online offers the potential to escape this "urban gaze", participants bemoan that they find the online banking services offered by banks to be "difficult to use" (*buhao yong*) in comparison to digital payment platforms like Alipay and WeChat Wallet.

Against this backdrop, many of our participants described how Yu'e bao has usurped the salary card to become their preferred venue for storing wages. For example, one factory worker commented that the "bank card is [only] for receiving salary". One of his colleagues described how he would rather "put my salary card money directly into Yu'e bao, I don't want the bank card". While there was a general trend toward the use of Yu'e bao by factory workers, this was by no means universal. Some workers displayed markedly different opinions on the benefits of Yu'e bao vis-à-vis banks. The three divergent accounts from workers presented below suggest the emergence of Yu'e bao bought with its new awareness of these competing infrastructures of storage.

Li: Saving for a home on Yu'e bao

Li is a male migrant worker from the countryside in the Hunan province. He is 34 years of age and is married with a daughter. Although Li has already been working in Foxconn in Shenzhen for nine years, both his wife and child still live in their home village some several hundred kilometres away. Li rents a small room in Baoshan village, although his many years working on the production line have allowed him to save enough money to build a villa-style house back in his home village, of which he is justifiably proud.

Over the years, Li's saving methods have undergone considerable change. Li described how in 2000, when he first left his hometown to find work, he stored his money in a postal savings account: "[back] then, there was only the post office, and what's more, everyone believed in the post office". On taking up work at Foxconn, Li had to open a bank account in order to receive his salary. During the years immediately prior to his house purchase, Yu'e bao became increasingly central to his saving efforts. Li proudly recalled how he had saved much of the several hundred thousand RMB needed to purchase materials and labour to construct his house in his Yu'e bao account. The build had all but cleared out his account, with him resignedly explaining that "right now I don't have a lot of money".

Li enthused over Yu'e bao's daily payment of interest on account deposits, eagerly opening his phone to show us a series of ascending bar charts meant to demonstrate the increasing pay-outs received. "It's recorded every day," he exclaimed, "every day, [interest] arrives in the account, just like that". For Li, these payments were a clear example of the superior visibility of money on Yu'e bao in comparison to traditional banks, which only paid interest annually and required visits to branches (or use of online banking) to obtain a statement.

The improved visibility Alipay and Yu'e bao afforded Li's money also parlayed into a sense of ease around managing transactions, with him mentioning that "When the family needs

it [money], I'll just send it". This contrasts with Li's remittance sending practices prior to using Alipay, which involved sending larger amounts (between 1,000 and 3,000 RMB) at lengthier intervals (every three to five months). Li explained that "there's no transaction charge for account transfers on Alipay... however much money is needed, I'll transfer that much... transfers are [now] very frequent." Parallels seem to exist here with the case of M-Pesa in Kenya, where Morawczynski (2009) noted how the introduction of digital money transfers increased the frequency of remittances from urban residents to their rural relatives, while also decreasing the value of such transfers.

Another point of similarity between the Chinese and Kenyan cases was that the ease with which money could be sent via online payment platforms sometimes created new tensions by opening individuals up to increased demands for money from friends and family. In China, this in turn potentially disrupted workers' own savings efforts. Li remarked that the emotional intensity of remittances also seemed to have lessened due to the increased ease of initiating transfers:

Over a decade ago, when I'd just left my hometown to work outside, I remember sending a little money home for my parents. They were overjoyed to receive the money; they couldn't bear to spend it! They would store it for you. But now, with these kinds of digital payments, perhaps that feeling of being blessed isn't the same as before.

Although the significance attached to transfers appears to be waning as a result of their increased frequency, this cannot be wholly attributed to their digitisation. Indeed, the improved living standards and greater prosperity of many rural areas mean that remittances provide less of a vital lifeline than may have previously been the case, instead giving way to more flexible

remitting practices directed towards helping “rural relatives to organise the finances of the house” (Morawczynski, 2009: 514).

While Li appreciated the newly-found visibility of his money when stored on Yu’e bao, he had also learnt to tactfully navigate the infrastructures that the platform provided in order to mitigate perceived risks inherent in such “networked” forms of money. Li ingeniously subverted Alipay’s intended mode of use by linking and de-linking bank cards from his account prior to and after transactions respectively. This undermined the design of the platform which encourages users to leave their bank card permanently connected so as to enable the convenient movement of funds and settling of payments. Li felt that de-linking his cards offered additional security because if somebody nefariously seized control of his Alipay account, they would be unable to move additional funds from his bank account to Yu’e bao, or vice versa. Li thus happily took advantage of the added visibility afforded to money held on Yu’e bao and the convenience of being able to move money out of his salary card, while also retaining the ability to isolate his bank account—the source of his salary—from the connectivity provided by Alipay.

In short, for Li the arrival of Yu’e bao precipitated a re-evaluation of the traditional infrastructures of storage offered by his salary card. Because Li felt himself able to skilfully navigate the infrastructures of these payment platforms—including by subverting them to increase the perceived safety of his money—Alipay soon established itself as central to his monetary storage strategies.

Wang: “What would happen if you can’t see your money?”

Wang was an unmarried female migrant worker in her early thirties, from the countryside of the Shanxi province in China’s interior. Wang had been working in Foxconn for over five

years. Despite ruing that the best years of her life had been lost toiling on the production line, Wang nevertheless appreciated the relative stability of factory work and the regular income it delivered. Her frugal lifestyle also reflected this aversion to risk. Wang took on overtime work whenever it was available and avoided unnecessary expenses by choosing to live in Foxconn's factory dormitories, rather than renting pricier private accommodation in Baoshan. Her only considerable outgoing was regular remittances sent to her parents in rural Shanxi via bank transfer.

Unlike Li, Wang did not plan to make large property purchases, instead focusing on saving to look after herself in the future. Wang intended to continue working at Foxconn until she had amassed a full record of social security contributions, in the hope she could move back to Shanxi when she reached retirement age, while still being able to enjoy the comparatively generous levels of social welfare offered by the Shenzhen government.

Although Wang used WeChat extensively for communicating with friends and family, she had not activated its WeChat Wallet service. Nor did she use Alipay (or, by extension, Yu'e bao). Wang claimed she "didn't understand" (*budong*) these digital payment platforms and feared that storing money on them might result in her savings suddenly disappearing.

I would like to use [Yu'e bao], but I don't know how to use it. ... I also think about the security issue. ... After all, it hasn't got any of those safeguards [offered by banks]. ... What would happen if, when the moment comes, you can't see your money in Yu'e bao? ... So, for me, I want to ... but, yes, I don't understand, and then I'm worried about security.

Wang's anxieties around security were partly informed by other distressing experiences she had endured when combining communication technologies and monetary storage. She recalled how some years prior, money had disappeared from her bank account. Rather than censuring

her bank, Wang instead laid blame on the poor security of her mobile phone SIM card, which was linked to her telephone banking service. She believed the fraudster had registered her SIM card as stolen and requested a replacement SIM, subsequently using this to gain access to her bank account and withdraw money. In this instance, it appeared as though telephone banking had the potential to function as an important intermediary technology, paving the way for later use of digital platforms and online banking. However, the off-putting experience Wang encountered the use of such technologies, compounded by the way they rendered money invisible, engendered a sense of distrust that she applied to other emerging digitally-mediated interactions with financial institutions that also possessed similar qualities of invisibility.

While it may be tempting to attribute Wang's aversion to storing money on digital payment platforms to her self-claimed poor understanding of these technologies, unduly focussing on limited "digital literacy" ignores Wang's extensive and skilful use of her smartphone and social media for organising her life and maintaining her extended social network. In fact, Wang displayed great aptitude in comparing the different qualities of visibility inherent in different monetary storage infrastructures, albeit following a different set of criteria to those employed by Li. As mentioned above, one of Wang's key concerns was the possibility of logging onto Yu'e bao one day and being unable to see her money. She instead felt far more comfortable storing her wages in the traditional bank account offered by her salary card, despite this meaning that "seeing" her money entailed visiting the bank to perform a balance enquiry in person or via ATM. Arguably, money stored in Wang's bank was thus even *less* visible than may have been the case had it been stored on online using either Alipay or Yu'e bao.

Wang's distinctive reckoning of the visibility of money was experienced not through figures displayed on a smartphone, but instead materialised and "made safe" through concrete infrastructures of traditional banks and other state-owned organs. Everywhere Wang went, she carried with her a thick fold-open wallet, packed with a range of different credit-sized cards

issued by a plethora of institutions. These included her identity card, several bank debit cards (including her salary card that she received Foxconn wages on), membership and discount cards for various stores, and her social security card. These suggest that far from lacking money management skills, Wang was in fact highly aware of and adept at navigating the multiple institutions required to organise and safeguard her life as a migrant factory worker.

Perhaps the most revealing aspect of our interactions with Wang was how she felt her social security card functioned as yet another form of stored money, owing to its material similarity with familiar infrastructures of banking. The special Foxconn-issued microchipped card appeared almost identical to the salary cards issued by banks. On the reverse, it even carried the UnionPay logo (China's state-backed payment processing network, equivalent to Visa or MasterCard). For all intents and purposes, Wang's social security account bore such a material likeness to her salary card that she afforded it the same level of trust. Although social security contributions were automatically deducted from her salary, she had never actually checked whether they had been paid into her social security account.

For social security, if we want to check it, we must go to the Social Security Bureau. ... But if you look at me, I've been [working in Shenzhen] for so long, I've never actually checked my [contributions]. But they will have it, they have an account number, and they will have a social security card.

Wang's trust of her salary and social security cards as stores of money over Yu'e bao bears testimony to the outcomes of her own comparison of the highly visible, state-backed infrastructures of saving offered through banks (and materialized through cards carried in one's wallet, along with physical branches and offices) against what appears to be the altogether less tangible infrastructures of Yu'e bao. Her aptitude in navigating the former, to the point where the "invisibility" of her money when stored within them was unproblematic, became a decisive

factor in her choice to privilege these traditional banking institutions and infrastructures over Yu'e bao.

Yang: Pursuing the feeling of spending money

Yang was a 25-year-old unmarried male, hailing from the neighbouring province of Guizhou, who had recently returned to Baoshan from another city to resume his former job at Foxconn. Yang was typical of many “second generation migrant workers” in China, being less loyal to their employer and less willing to endure poor working conditions than had been the case for labourers born prior to the reform and opening-up period (Pun, 2016: 66). Yang claimed factory work was merely a means for him to save enough money to be able to temporarily quit his production-line job and visit other cities in China to “have fun”, espousing the principle that “money that is earned [through labour] definitely should be used for spending”. When Yang had depleted all his financial reserves (usually after a month or two) he would return to Shenzhen to take on more factory work. Yang’s lifestyle meant he had scant interest in long-term savings, with wages generated from his engagement in strenuous factory labour simply being temporarily stored for his next round of travel and spending.

While Yang made extensive use of social media platforms like WeChat and QQ to keep in touch with friends and family, he expressed disinterest in Yu'e bao and other forms of accessing and managing his money online. He proclaimed that “I’ve never previously used online banking, or this kind of thing, because I don’t shop online. Alipay is of no use to me.” Yang’s antipathy toward online shopping arguably stemmed from the pleasure he associated with consumptive practice derived from his extended stays away from Shenzhen. He argued that Alipay lacked “that feeling of shopping, that feeling of spending” which could instead be obtained from making purchases in physical stores.

In common with Wang, Yang favoured the infrastructures of money made visible and materialized through traditional banks, however his emotional attachment to these institutions was primarily shaped by how his use of such infrastructures actually flavoured his experience of spending, rather than saving. Although he shunned online payments, he nonetheless acknowledged the convenience of paying by electronic means, commenting that when buying expensive items such as clothes, “normally I definitely won’t have enough cash [with me], basically I’ll always swipe a card.” For Yang, paying with a bank card managed to deliver the kind of pleasure he felt could still only be obtained from physical acts of spending.

Yang’s testimony reminds us of the dyadic nature of spending and saving, with the two practices often representing opposite sides of the same coin. Yang’s experiences of using infrastructures were not solely driven by a desire to achieve the most efficient or cost-effective mode of payment. Instead, his concern was that their use should also deliver enjoyment, too. Such was the importance Yang placed upon deriving pleasure from the act of spending that he was unconcerned by the transaction fees charged by his bank when withdrawing funds or making purchases with his salary card during his frequent travels, remarking that “I don’t think it’s a lot. I’m used to it.” Yang’s indifference towards the bank charges emerging from his spending—despite the fact they further hastened the depletion of his savings and were rendered largely invisible by the infrastructures of storage and payment provided by banks—reveal how the familiarity of such infrastructures and the physicality of their use may, for some individuals, constitute the very basis of their appeal.

Conclusion: Infrastructures made visible

In their examination of the effects of the introduction of new formal financial services on low-income individuals whose lives straddle the Haiti–Dominican Republic border, Taylor and Horst (2018b) point out the problems inherent in assuming financial inclusion is merely about

providing choice, instead showing how power relations are often contingent while also embedded in social and economic relations. This can be observed in Li, Wang and Yang's encounters with and attitudes towards storing money on digital payment platforms, which reveal how the visibility of infrastructures is experienced by those who use them within the context of their social lives, shaping such moments of choice and the power relations that underlie them.

Despite the divergent opinions and practices of these three individuals, none of them regarded the existing infrastructures provided by traditional banks to be either untrustworthy or unserviceable. Nor did they seek to explain the emergence of new infrastructural alternatives as being a result of such shortcomings. Aside from confirming the limitations of various approaches that assume the visibility of infrastructures to be resultant from their breakdown or dysfunction, the variance of participants' accounts suggests that infrastructural visibility represents much more than simply an indicator of failure therein. We argue that visibility should also be understood as a quality of the specific experiences that are generated when different individuals—complete with their own personal subjectivities—engage with infrastructures.

This is perhaps best encapsulated by Li's enthusiasm for Yu'e bao—which echoed that of the majority of Foxconn factory workers who participated in this study—seeing it as a viable alternative to the salary card as a place to store his money. For Li, the emergence of this novel infrastructural alternative carried a new opportunity to choose between very different savings institutions: private technology firm Alibaba versus traditional state-owned banks. Yu'e bao's daily interest payments, the improved visibility it afforded money and the increased flexibility it gave to conducting transfers made perceptible several shortcomings of the traditional banking system, which in comparison was seen as rigid, outmoded and (perhaps most significantly) aloof towards the needs of working-class individuals. While these inadequacies never

constituted an unsurmountable barrier to financial access, the emergence of Yu'e bao nonetheless made such shortcomings more clearly felt and out-of-step with Li's own aspirations for a more modern, forward-looking future.

Balancing Li's enthusiasm for Yu'e bao against the reluctance that both female worker Wang and male worker Yang felt toward storing their money online reminds us that the uptake of new infrastructures is not solely determined by expediencies of cost, time or effort. It also makes evident the problems of attributing particular attitudes toward infrastructures solely to variables such as gender, age or marital status. Our findings demonstrate the importance of considering how these factors may interact with each other, or with other aspects of the broader social context that an individual inhabits.

For instance, the importance Li afforded to saving for house construction may well have been informed by traditional cultural expectations that patrilineal families ought to provide homes for newly-established married couples, which in turn made identifying the highest interest-bearing safe savings mechanism a priority. Conversely, Wang's positionality as an unmarried female in her thirties—already verging on “leftover woman” status by prevailing Chinese standards (Hong Fincher, 2014)—likely meant that saving for a future in which she may have to provide for herself into old age was becoming an increasingly pressing concern, which in turn amplified her caution towards what she viewed as potentially risky online savings platforms. In Yang's case, his bachelor status and relative youth appeared to foster his carefree attitude towards saving. Thus, while particular attitudes to storing money online cannot be directly attributed to age, gender or marital status, these factors should be seen as contributing to the broader social contexts that shape users' experiences of infrastructures in varied ways.

Indeed, these instances demonstrate how users' comprehension of various infrastructures are constituted through a combination of complex social elements which include (but are not limited to) meeting the needs of one's family or friends, one's experiences of past

infrastructure use, experiences emerging from using infrastructures in the present, along with notions surrounding how certain infrastructures may contribute to fulfilling one's own future aspirations. The considerable precarity faced by many Chinese migrant labourers, along with the diverse priorities and ambitions they hold, all help to explain why traditional banks remain seen as a reliable savings choice for some individuals.

The interconnectedness between the infrastructures of the traditional banking system and digital payment platforms in China mean that, for the time being at least, the former is unlikely to be replaced by the latter. However, the increased visibility that the emergence of Yu'e bao has granted to both new and existing infrastructures of monetary storage has already raised important questions amongst factory workers about which kinds of institutions they wish to entrust their money, within the context of a rapidly transforming society. For scholars wishing to make sense of the increasing convergence between infrastructures of media and money, this also serves as a valuable reminder of the need for sensitivity toward how moments in which infrastructures become either seen or unseen may be both indicative and generative of broad and wide-reaching social changes.

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