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Alternative remittances to Venezuela: ad hoc technological diffusion and monetary pluralism

Abstract

Venezuelan migrants have been historically excluded from formal money-transfer channels because of US sanctions and domestic financial dysfunction. As a result, there is a strong culture of using alternative remittances methods amongst the Venezuelan diasporas. Drawing on digital ethnography and semi-structured interviews with remitters, receivers, and industry professionals this article explores how inventive use of financial technology (FinTech) infrastructure has created two novel remittance modalities which serve as the core case studies under analysis. First, are digital in-kind remittances whereby grocery items in a Venezuelan supermarket can be purchased online in e.g. US dollars and delivered inside Venezuela. Second, is use of Zelle (a US payments app which was designed for feeless peer-to-peer transfers between US citizens). The use of Zelle to send remittances to Venezuela has in turn 'sent back' Zelle itself, which became a popular payments platform inside Venezuela. The volume of these remittances is significant, and these new remittance mediums thus have profound and under researched effects on the domestic Venezuelan economy. I use the term 'ad hoc technological diffusion' to show the improvised ways in which how through the practice of remitting money, migrants have also 'sent back' new FinTech assemblages and, likewise, how by using FinTech assemblages, new remittance mediums have been enabled. These two remittance modalities thus capture the complex relationship between novel financial practices and novel forms of remittances. These practices are characterised by a blurring of the physical and the digital and the 'informal' and the 'formal'. The article explores how these emerging economic phenomena are structured by socioeconomic inequalities, erratic Venezuelan government policy and external pressures from the US.

Keywords: dollarisation, monetary pluralism, remittances, migration, FinTech, P2P

Introduction

The Venezuelan economic and financial crisis has led to a series of financial and economic workarounds at both a macro institutional and micro, every day level (Bull et al. 2022; Robins 2024; Rosales & Jiménez 2021). These workarounds are creating an empirical case study of what has been termed 'ad hoc' or 'anarchic' dollarisation (Bull et al. 2022). It also an example of 'monetary pluralism' (Luzzi & Wilkis 2018; Truitt 2023): an economy where payments and transactions are conducted in multiple different currencies and payment objects. Both dollarisation and monetary pluralism are valid lenses through which to view these economic phenomena since while the US dollar remains the most popular alternative to the Venezuelan bolívar, multiple other monetary alternatives are used. The article primarily focuses on one such ad hoc workaround – the extraterritorial use of US banking infrastructure and US currency. This particular workaround has a unique relationship to the fact that over 25% of Venezuelans now live abroad (Amnesty International 2023) Of the approximately 8 million who have emigrated, around 1 million now reside in the US. Thanks to the historical effect of sanctions on Venezuela, 'de-risking' by correspondent banks and inflation of the Bolívar, migrants now employ a bewildering variety of alternative methods to send remittances to family and friends still in Venezuela. This article focuses on how inventive use of financial technology (FinTech) infrastructure¹ has enabled two novel remittance modalities which serve as core case studies.

First, digital in-kind remittances (Betancourt 2024; Sithole et al. 2022) – whereby grocery items in a Venezuelan supermarket can be purchased online abroad in foreign currency and delivered inside Venezuela. Digital in-kind remittances are enabled through either the extraterritorial use of US banking infrastructure, or with stablecoins². Such financial practices have thus enabled this new form of remittance in Venezuela. Second, is use of Zelle (a US payments app which was designed for feeless peer-to-peer transfers between US citizens). The use of Zelle to send remittances to Venezuela has in turn 'sent back' Zelle itself, which has become a popular payments platform inside Venezuela. The volume of these remittances is significant, and these new remittance mediums thus have profound and under researched effects on the domestic Venezuelan economy. The result is a 'bottom-up' and ad hoc series of economic practices. These 'bottom-up' practices are characterised by a blurring of the 'informal' and the 'formal' that is in turn reflected in a similar blurring of physical and digital spaces. The article explores how these emerging

¹ Although US banking infrastructure is most widely used, Colombian and Brazilian banking infrastructure is also employed in the borders of Venezuela. In addition, stablecoins (see below) and the cryptocurrency exchanges they are traded on are also used as a 'parallel' financial infrastructure.

² Cryptocurrencies pegged to the US dollar.

remittances and payments practices are stratified and affected by socioeconomic inequalities, erratic Venezuelan government policy and external pressures from the US. This article is structured as follows. Section two reviews literature on dollarisation and monetary pluralism both in general and in the Venezuelan context. It offers us the conceptual tools to view monetary pluralism as a 'micropolitical' act of 'collective intentionality'. It demonstrates that monetary pluralism in Venezuela is a deeply uneven process. Section three explains the methodology and research context which informs this article. Section four explains the mechanics of the remittance modalities in question: digital in-kind remittances and use of Zelle. This section pays attention to how use of US banking infrastructure and/or use of US currency through either cash or stablecoins, enables these two remittance modalities and in turn how these remittance modalities have affected and are affected by the domestic economy and government policy inside Venezuela.

The article ends with a discussion that expounds upon the following argument. First, Venezuelans have creatively 'recombined' FinTech to enable new forms of remittances. Simultaneously, the new forms of remittances that this FinTech has enabled have also resulted in new FinTech practices within Venezuela. The result is that platforms such as Zelle, originally (mis)used for remittances, have then taken on an economic and social life of their own inside the Venezuelan domestic economy. I term this phenomenon 'ad hoc technological diffusion' to exemplify the unplanned, improvised and multidirectional nature of the effects that remittance practices, the FinTech that enables these practices and the way this same FinTech is used inside Venezuela, have on each other. I defend and explain the use of this term in the discussion through reference to Levitt's concept of 'cultural diffusion' (Levitt 1998). Second, these novel uses of FinTech assemblages show how end-user collective intentionality (MacKinnon et al. 2009) can enable 'inventive practices': 'a creative recombining of elements from existing cultural and institutional repertoires' (Rodima-Taylor & Grimes 2019, p.4). The nature of such inventive practices means that, as others have argued (Guyer 2016), separating 'impersonal' FinTech from social ties is not possible. These financial technologies depend upon social ties to function. This blurring of 'formal' FinTech and 'informal' social ties is also reflected in the blurring of the digital and physical space which illustrates the two remittance modalities that are explored. Further, the ad hoc nature of these practices is not anomalous but 'normal' and is reflected right up to the governmental level. The elevated levels of informality that characterise these economic practices means that people's experience is uneven and stratified by socioeconomic inequalities. The unauthorised and anarchic nature of these financial

practices as well as the Venezuelan government's erratic policy stances and the spectre of US corporate imperialism, exposes users to considerable precarity. Although these ad hoc systems show how resilient and creative Venezuelans are in managing economic instability, they also highlight their susceptibility to changes in policy, market fluctuations, and the intrusion of government and corporate entities. Monetary pluralism in this context is thus neither a straightforward narrative of grassroots empowerment nor one of total dependency. Instead, it is a precarious balancing act in which innovation and inequality are inexorably intertwined.

Remittances, dollarisation and monetary pluralism

Regarding social science research into money and payments Nelms et al. observe, 'rarely did the technological and institutional systems facilitating such relations and transactions come into view' (Nelms et al., 2018, p. 17). Maurer makes a similar point when he notes that payments are often 'backgrounded, made invisible... In many accounts, one often has to read twice, or more, to find out exactly how people are transferring value... what technologies they use [and] what the kinematic and social dimensions of that use are' (Maurer 2018, p.305). The same can be said of remittances. Carling notes of qualitative approaches to remittances research that, 'very few articles and books... are based on ethnographic data and explicitly place remittances centre stage in the analysis'. But even in those 'few articles and books', the fact of remittances arriving in the recipient household is normally the starting point of remittance research. Few tackle the question: how do the remittances arrive in the first place? In response, this article follows Rodima-Taylor and Grimes in viewing remittance mediums (and the related domestic payments mediums in Venezuela) not as discrete platforms but rather as a series of 'infrastructural assemblages' (Rodima-Taylor and Grimes, 2019, p.4). These assemblages are often complex chains of different payment rails combined with a *mélange* of local, often informal agents such as small businesses that serve as remittance 'cash out' points. They also draw our attention to how many of these technologies are used in ways that the original creators may not have necessarily foresaw or intended. Rodima-Taylor and Grimes name the recombining of FinTech into remittance rails as 'inventive practices' (ibid.). Such inventive practices 'illuminate... the fact that [financial] infrastructure is neither monolithic nor (at least in whole) intentional in nature' (ibid.). Their existence also reflects the fact that innovative economic activity, far from being directed from above by 'expert' financial and economic institutions, is often 'a ground-up process' (Rodima-Taylor and Grimes, 2019, p. 4). Maurer

similarly reflects on the 'remarkable ingenuity of people navigating multiple systems of value and payment in multiple social, temporal, and geographic contexts' (2018, p.306). The diversity of payments systems and methods that have recently appeared in Venezuela thus present an ideal opportunity to focus on what Nelms et al. (2018) complain is too often ignored. As the introduction explained, Venezuela and its diaspora are now engaging in economic and financial practices that constitute lived examples of monetary pluralism. The everyday financial workarounds that Venezuelans have developed thus speak to Cockayne and Loomis' (2025) work on how FinTech permeates everyday routines. They highlight how mundane payment practices are linked to global financial infrastructures. Such links underscore how FinTech often mediates household-level transactions and social reproduction.

How can we understand monetary pluralism? Let us turn to Brandt's thinking on the semiotics of money (2017). He proposes three interconnected 'loops' which work against universal entropy. The 'organic loop' refers to our biological existence and the natural resources we depend on. The technological loop encompasses the tools and systems humans create to process and utilize these resources. The symbolic loop involves the meanings and values we assign to the interplay between the organic and technological, creating significance beyond physical form. This symbolic loop 'shapes social life by providing overarching authority, mythology, emotional coherence... to the entire complex of practices implied by collective life' (Brandt, 2017, p. 3). 'Symbolic producers' are thus 'chiefs, rulers, politicians, intellectuals, artists, priests, and bankers.' (Brandt, 2017, p. 4). For Brandt, money's meaning and value is thus generated by central banks and governments in their role as 'symbolic producers'. We can thus understand the failure of Venezuelan currency as a failure of the Maduro regime to function as competent symbolic producers of money's meaning. In a fiat system especially, the ability of central banks and governments to perform this role is a fundamental aspect of what gives money value (Carstens, 2024). It is via this failure to convince the population of the worth of their currency that money itself becomes a site of social and economic contestation. As Truitt notes, 'monetary pluralism challenges normative assumptions of the social foundations of money, namely trust and confidence' (2023, p. 1) Bell et al. similarly observe that the 'erosion of trust could shift the economy closer to potential "tipping points" when holders abandon domestic money in favour of alternatives' (2024, p. 4). While Brandt's (2017) framework addresses the symbolic and semiotic dimensions of monetary value (in 'normal' economic circumstances), economic geographers such as Mackinnon et al. (2009) and Hodgson (2006) indicate how we can think

about monetary pluralism. They argue for a 'social and pluralist conception of institutions and agency' (p.130). Social institutions like money are comprised of systems of 'social rules' (Hodgson, 2006, p. 1). These kinds of institutions and economies are always pluralistic and contested to varying degrees. They thus invite us to think of money as a mutable social institution rather than a neutral medium, thus opening space for multiple monies shaped by habit but also collective intentionality. Collective intentionality thus plays a key role in sustaining or undermining monies. In other words, when Brandt's (2007) elite 'producers' of money's symbolic meaning fail, people can reach their own consensus on the meaning and value of money – they can be their own 'symbolic producers' and hence turn to alternative forms of money that they can mutually agree can also have value in specific contexts. North (2007) characterises such practices as 'micropolitical' acts. By determining what constitutes money and which platforms can be used to transact with it, Venezuelans are symbolically rejecting the government's authority over money's definition and worth. North predominantly focuses on the use of 'alternative' currencies – minted and valued from the bottom-up which no government claims authority over. But the use of the US dollar in Venezuela and the legacy that it carries colours this narrative in this context. This speaks to Warnecke-Berger's (2021) contention that remittances both sustain family livelihoods but can also deepen currency hierarchies thereby producing a micro-macro dilemma in which household welfare is improved yet structural dependency on (in the case of Venezuela) the US dollar is reinforced.

Monetary pluralism and dollarisation in Venezuela

Having laid out the broader theoretical context, we now examine how these dynamics play out in Venezuela's economy. Although there are diverse forms of money in use³ in Venezuela, the US dollar is unsurprisingly the most popular alternative. This has led some to view Venezuela's economy through the lens of dollarisation. However, unlike cases of de facto dollarisation such as Cambodia (Ueda & Hay 2024) or de jure dollarisation such as Ecuador (Özyurt & Cueva 2020), Venezuelan dollarisation has been characterised as an uneven, ad hoc and even 'anarchic' process (Rosales and Jiménez, 2021; Bull et al. 2022). Bull et al. record ad hoc processes at both an institutional and 'everyday' level. At an institutional level they cite the unpredictable and disorganised nature of many of the actions implemented by the Maduro government in reaction to US sanctions and broader economic instability. They use the example of the establishment of national 'special economic zones' (ZEEs): designated areas where the state offers certain regulatory and tax incentives to

³ Such alternatives include cryptocurrencies, precious metals and even food items used in barter (Bull et al. 2022).

attract investment. This solution began as an ad hoc workaround in 2020. They are now a de facto system on paper, but their implementation remains discretionary and politically driven. Such implementation is thus uneven, rather than forming a coherent national strategy. On a smaller scale, they investigate the recent expansion of bodegón stores in Venezuela. These are businesses that sell imported products. They call this trend *capitalismo bodegonero* [bodegonero capitalism] and suggest that bodegóns are micro examples of special economic zones (since they frequently receive benefits such as tariff exemptions). Although these stores are ostensibly priced in dollars, commerce is conducted using a variety of international and domestic currencies, as well as payment platforms like Zelle that are used ad hoc and even barter systems. These assemblages thus represent what the authors refer to as *dolarización anarquizada* [anarchic dollarisation] (Bull et al. 2022, p. 17) but in other similar contexts scholars have termed monetary pluralism (Luzzi & Wilkis 2018). Rosales and Jiménez highlight how '[t]his form of disorderly dollarisation also contributes to opacity, as the dollar-denominated economy is barely measured'. (Rosales & Jiménez 2021, p.435).

These tendencies are also replicated at the national level, as the 'national government has welcomed informal dollarisation as an escape valve, without regulating it in a consistent and transparent manner [translation mine]' (Bull et al. 2022, p.15). They thus place both ZEEs and bodegón establishments in the context of a monetary and economic landscape that lacks 'top down' systematic strategic oversight and planning. Indeed, the Maduro regime's attitude to the dollar has been erratic. Before 2018, use of the dollar was illegal. Maduro then changed tack in declaring dollarisation as a tool to fight the economic instability he blamed on US interference. As Heredia notes 'government spokespersons reject any formal dollarisation and depending on the government's ability to control the parallel exchange rate, they make speeches that defend or question the use of the dollar [translation mine]' (Heredia 2024, p.96). Dollarisation is to this day a contested and uneven phenomenon. In 2021 it was estimated that around 61% of retail transaction were conducted in dollars and 25% of transactions were conducted through US digital payments platforms such as Zelle (Rosales & Jiménez 2021). At this time Venezuela was actually declared a regional leader for digital payments as a direct result of the economic crisis (Schwartz 2021). However, more recently, analysts have found a reduction in use of the dollar for day-to-day retail payments even while the economy remains 'structurally dollarised' (Oliveiros 2025). The reasons for this reduction in dollar denominated payments are explored in the empirical section. As the government's grasp on the parallel exchange

rate has begun to slip again those businesses who have aided the spread of the dollar have again begun to be (re)branded as subversive influences.

Dollarisation in Venezuela is thus neither an official turn to the dollar nor a market-driven equilibrium. Instead, it is an improvised strategy that is at times permitted and other times persecuted all the while remaining disorganised and inextricably linked to the Maduro regime's opaque and sometimes illegal liberalisation efforts. It is perhaps because of the anarchic, inconsistent, and precarious ways that Venezuela has been dollarised that has created room for other alternative monies and payment objects beyond the bolívar and the US dollar. Others, although acknowledging that Venezuelan dollarisation is frequently chaotic and inconsistent, highlight how these ad hoc systems perform remarkably well given the circumstances (Balza Guanipa 2021). According to Balza Guanipa, the problem is not necessarily monetary pluralism itself, but rather the failure of Venezuelan financial and government institutions to properly acknowledge and legislate for such a system, even despite improvements achieved in this regard (Salmerón 2020).

FinTech, Social ties, dollarisation and inequalities

Scholars have often focused on the ways that FinTech is relationally contingent since its usage is always embedded within existing social ties. Kusimba et al. (2016) focus on use of M-Pesa, a Kenyan mobile money platform. They found that M-Pesa (a mobile money platform) transfers were rooted in dense, social ties centred around mothers, highlighting how mobile money operates through existing social and cultural networks of support in an African rural context. Mukong and Nanziri (2021) explore mobile money in Uganda to show that adoption is strongly influenced by social ties. Senyo et al. (2022) similarly emphasise the role of social ties in building FinTech adoption in Ghana. FinTech is not only embedded in social ties and networks but also vice versa. Guyer (2016) thus treats FinTech platforms as social objects embedded in social expectations and power relations, not neutral tools. These platforms do not operate in isolation; they are shaped by and reproduce existing social ties. But in such cases, FinTech like M-Pesa or even the form of money transacting on M-Pesa (Kenyan shillings) are themselves institutionally backed even if the context of their functioning is embedded within social ties. Meanwhile, cases of monetary pluralism put into stark focus the 'relationally contingent' nature of money itself and the importance of collective intentionality in deciding its value (Luzzi & Wilkis 2018). Luzzi and Wilkis demonstrate this through the examples of soybeans and bricks being used as money amongst farmers and builders respectively during Argentina's inflation crisis. Here the ability

for these commodities to function as money at all is itself dependent on social ties and the collective intentionality of the market participants without any kind of institutional support. Such ad hoc cases thus demonstrate a level of dependence on social ties that use of 'formal' (i.e. institutionally approved) platforms like M-Pesa lacks. As we shall see in the empirical section, what distinguished the examples from Venezuela is that much of the use of US banking FinTech is completely dependent on informal social ties and could not function otherwise.

High dependence on social ties can also mean that FinTech mirrors and reinforces existing social inequalities across Global South contexts. Frimpong Boamah et al. (2021) argue that FinTech's benefits are not evenly distributed: regions and groups with better infrastructure, education, and/ or social capital benefit, whereas marginalised communities often face new barriers. For example, lack of connectivity and digital skills can exclude rural or low-income populations, leading to what the authors term 'FinTech incapacities'. Regarding the FinTech that enables dollarisation in Venezuela, there is a strong relationship with existing socioeconomic inequalities. While dollarisation may help alleviate shortages and moderate hyperinflation, others argue it works to entrench inequality as well as erode fiscal capacity (Bull et al.2022, Rosales & Jimenez 2021). Still, others have explored how the dollar has been adopted amongst Venezuela's working class too with 'the goal of overcoming the stereotype that disconnects the dollar from the working-class world [translation mine]' (Heredia 2024, p.70). Heredia points to how 'popular familiarity with the US currency through family remittances has been very important in the generalization, expansion, and intensification of the dollar's dissemination during Maduro's administration [translation mine]' (p.94), leading to many parts of Venezuelan society becoming accustomed to thinking in dollars even if they do not habitually transact with them. With these conceptual foundations in place, the next step is to see how they inform our empirical approach.

Research context and methodology

This article was borne out of a research project that explores alternative remittances mediums in the context of the mass Venezuelan emigration. For various historical reasons⁴ many Venezuelan migrants have a strong culture of using alternative methods to send remittances beyond use of 'formal' money transfer operators (MTOs) Despite withdrawing from Venezuela around 5 years ago, MTOs such as MoneyGram and Western Union have recently started operating again in Venezuela. However, there is a certain inertia favouring

⁴ See Robins 2024 for a fuller account of these reasons.

the alternative methods that many migrants turned to in the years when formal MTOs were unavailable - not to mention that alternative methods are often cheaper. My research also uncovered the issue that many migrants have been out of the country for so long that they are not necessarily aware that formal MTOs are once again an option. Many of these alternative methods involve use of the US dollar even in remittance pathways which do not originate from the US. Research into these mediums led to an exploration of how these same mediums are used within Venezuela's domestic economy. Semi-structured interviews (both online and in-person) with Venezuelan migrants from Brazil, Argentina, Trinidad and Tobago, Madeira, and the US were used as the primary data collection strategy. In addition, interviews were collected with 'stayers' (remittance recipients in Venezuela) as well as various industry experts and other stakeholders such as founders of remittance companies and blockchain experts. A total of sixty-two interviews have been conducted thus far. Interviews have been conducted variously in Spanish, Portuguese and English depending on the level of proficiency of the interviewee and/ or the geographical context in which they are situated. Fieldwork is still ongoing.

Ages have ranged from 18 to 55. Most migrants interviewed had some type of tertiary education, which is consistent with quantitative data obtained on Venezuelan migration (Chaves-González et al. 2021; Chaves-González & Escheverria-Estrada 2020). Interviews were transcribed and coded using NVivo, using a grounded theory method to find themes which are then incorporated into future interviews and explored further. Interviewees are pseudonymous. Digital ethnography was also employed as a method for this article. In this case, the author would 'hang out' (Woodward 2008) in various Spanish language social media platforms and forums where Venezuelans congregate online to discuss their country's affairs and observe participants' discourse. Anonymised quotes relevant to the themes uncovered through the grounded theory approach that guided the interviews would be collected and then coded in NVivo. All fieldwork has received ethical approval from the host institution. English translations of the interviewee quotes used in this article are the author's own. Having established the research context and methods, we can now turn to the empirical findings – detailing the two remittance modalities observed.

Monetary pluralism, dollarisation and inventive practices

This section explains the mechanics of the remittance modalities that rely on extraterritorial use of US banking infrastructure or the use of stablecoins denominated in US dollars. It

shows how FinTech infrastructural assemblages are enabling not only new forms of remittances, but business to business (B2B) transactions and domestic retail transactions. Digital in-kind remittances. As Betancourt observes, 'e-commerce platforms constitute a new way of sending remittances in kind' (Betancourt, 2024, p. 115). Similar services exist beyond Venezuela such as in Zimbabwe to South Africa (Sithole, Tevera and Dinbabo, 2022) and from the US to Cuba (Betancourt 2024). A host of items are available for purchase by international migrants online which can then be delivered to their relatives domestically – hence, my use of the term 'digital in-kind remittances'. Digital in-kind remittances in the context of Venezuela are important because they provide an empirical example of the new kinds of international commercial activity that novel financial practices are currently enabling. To illustrate how digital in-kind remittances work in practice, consider the experience of Marcia, a Venezuelan migrant. Marcia, 45, now lives in Madeira, Portugal. She uses a digital in-kind remittances app. This app, registered and incorporated in the US, allows customers to make online purchases of groceries and other goods in a selection of Venezuelan supermarkets. The customers pay for these groceries in the currencies of the countries they reside in (euros in this case). These purchase orders are then sent to local Venezuelan supermarkets that work in partnership with the app. The supermarket creates the order and then delivers the groceries and other items to Marcia's family. But how does the company behind this service settle these online transactions with the Venezuelan supermarket? Alfredo, the founder of the app explained the process:

As you know, [in Venezuela] we've been dealing with inflation for a long time, a lot of people, especially business owners and people that are perhaps middle class and higher middle class that have been able to travel to the US and open bank accounts in the US so for us in [redacted] we get all the funds from the purchases to our [foreign] bank accounts in dollars. And from there we just send ACH [automated clearinghouse] transfers to the bank accounts in the US of the merchants [supermarket owners] that we work with (Interview in English, 10/03/2024).

Marcia's grocery order is a microcosm of a wider economic phenomenon in which Venezuelan migrants, US registered companies, US clearing-house rails and local Venezuelan supermarkets form a single payments circuit dominated by the US dollar. It shows how monetary pluralism (euros at point-of-sale and dollars in settlement) is woven together by digital platforms and diaspora networks. It is important to underline that it is not just foreign currencies that are being used, but an entire FinTech assemblage that is extraterritorial to

Venezuela. This is one of the features that makes Venezuelan dollarisation unique. Not only the currency but the financial infrastructure itself has been appropriated from the US for use 'within' Venezuela. It is from this perspective that we can understand Rosales and Jiménez 's observation that so much of the commercial transactions conducted in dollars within Venezuela 'never really touch the Venezuelan economy' (Rosales & Jiménez 2021, p.436). This transnational appropriation of US financial infrastructure is often also dependent upon' social ties to function. Alfredo explained:

If they [the supermarket owners] don't [have a US bank account] they'll use the bank account of someone they know or like a friend or a relative to be able to get the US dollars there and then eventually they just find a way to, you know, convert that to bolívares if they need to.

We can see from this quote that even in the realm of B2B payments, social ties and networks are essential. Smaller businesses employ a similar albeit more informal method to enable the sending of digital in-kind remittances to their families. Jason, 26, who lived in Yaracuy, Venezuela explained how migrants with a cryptocurrency exchange account can send stablecoins directly to the cryptocurrency exchange account of a local store⁵. The remitter's family can then purchase items from this store, the value of which is deducted against the amount that was sent by the remitter to the store. In this case the relationship between the remitter and the grocery store is direct and dependent upon trust between the store, remitter, and the family. Jason explained that it was generally 'small businesses' that used this method since the barrier to entry to open a cryptocurrency account is much lower than to open a US bank business account. Stablecoins thus offer businesses of lower socioeconomic status a way to offer digitally dollarised goods to their customers. Where the bodegóns described by Bull et al. (2022) are examples of 'the formation of new commercial elites and the growing empowerment of importing and extractive economic classes in alliance with state power' (p.16). Businesses that cannot take advantage of these dollarised opportunities must search for less formal proxies to achieve similar ends – in this case through stablecoins. Such examples show that financial technologies are not 'impersonal' in these contexts but instead are deeply reliant on social ties. Indeed, the blurring of the use of 'formal' FinTech and 'informal' social relations shows that demarcating the formal and the informal, especially in remittance contexts, is fraught with difficulties. In fact, some scholars have argued that 'informal' and 'formal' is often not a particularly helpful means of categorising remittance methods (Pieke et al. 2007).

⁵ Binance is by far the most popular cryptocurrency exchange for this purpose.

Beyond the social and technological aspects discussed, it is also important to consider the broader economic implications of digital in-kind remittances on local markets. This new form of in-kind remittance has a complex relationship with the net amount of food or other fungible in-kind items that are imported into a country. Unlike traditional 'in-kind' remittances where goods are physically shipped by migrants from their migration destinations, digital in-kind goods are already in the home country. In the short term then, existing imported goods are simply re-distributed rather than directly imported. However, these new digital in-kind services surely do influence demand for not only future imports but also for domestic production of food for example. This form of remittances could in theory increase prices since the migrants are able to pay higher prices more easily than locals thus increasing demand for food and other domestic goods at these prices without increasing the supply short term. This is especially possible given the evidence that remittances in general can cause 'inflation in inelastic supply markets' (Bracking & Sachikonye 2010, p.214). However, longer term, there may be positive effects since over longer time frames food production is elastic in response to increased price and/or demand (Impullitti et al. 2020; Thompson et al. 2019).

A common development studies criticism is that sending physical items often has unintended negative consequences for domestic economies. The mass importation of items such as mosquito nets (Chuma et al. 2010) and second hand clothing (Frazer 2008) from the Global North to Africa has been criticised for decimating local production since local producers cannot compete with what is imported and distributed for free as 'aid'. But in the case of digital in-kind remittances, such practices have potential to strengthen local economies in the long term by generating demand for domestic products since remitters are only buying what is already locally available on behalf of their relatives. Indeed, Betancourt argues just this claiming that Cuban digital in-kind remittances apps 'are increasing consumption... and stimulating national production. To continue facilitating them contributes to the supply of consumer goods and to the domestic economy'. (Betancourt, 2024, p. 119). The effect that such new remittances technologies have on domestic production of food (and other goods) as well as on importation of these same goods thus needs to be investigated more closely. Having explored an in-kind remittance method, we now turn to the second remittance modality centred on repurposing a U.S. payment app within Venezuela.

(Mis)use of Zelle

The second remittance modality relies on 'misusing' various FinTech payments apps - the most popular of which is Zelle. Zelle is an app that is intended for domestic payments within the US. Any other usage contravenes Zelle's terms and conditions. Zelle is (mis)used to not only send remittances from the US to Venezuela but also to enable domestic payments within Venezuela. Zelle was never intended to be used to enable cross border payments. Here this remittances method works by sending money between two (US based) Zelle accounts with one of the accounts being accessed by a person living in Venezuela. The sender must be a migrant living in the US. There are multiple ways that a Venezuelan can directly access a US Zelle account. The first method involves opening an account remotely from Venezuela. This is possible by opening a US business remotely from Venezuela and using that business to access a US bank account which will offer the Zelle payments app. The second method involves travelling to the US to open an account for the purpose of taking the account back to Venezuela for use there. The third method relies on a friend or relative living in the US who has a Zelle account. This account is then 'lent' to the person living in Venezuela. All these practices are of course contrary to Zelle's stated terms of use. When approached for an interview Zelle stated: 'Zelle is only available for participating US bank accounts. Sending money internationally is not currently available in the platform, so we will decline an interview at this time.'

Of course, most Venezuelans do not have the means to open their own Zelle accounts or the social connections to directly use an account owned by a US based relative. Instead, most Venezuelans who use Zelle to receive remittances must rely on 'Zelle houses' – public stores that have a Zelle account. The remitters in the US will send money to this Zelle account. The recipient will then go to the 'Zelle house' and collect physical US dollars minus a commission charged by the store. Karla, 20, explained her experience receiving remittances from friends and family via Zelle.

Karla: it's not something you can do legally. Some stores do it and charge a percentage. I've done it and they charged me 2% of what I was withdrawing.

Interviewer: Was it with Zelle?

Karla: Yes, it was with Zelle. Usually, people abroad pay the store directly and you just have to go pick up [the cash] (Interview in Spanish, 9/02/2024)

The fascinating aspect of this phenomenon is how digital, and cash remittances have become blurred. The risks of sending physical cash have been displaced into the digital but the ability to receive physical cash at the 'last mile' of the remittance chain persists. But this reliance on 'public' Zelle accounts also has drawbacks beyond the fees which the 'Zelle

houses' charge. Belinda, 48 from Valencia, Venezuela, explained that many times, the remittances sent by her family were delayed:

Interviewer: So sometimes you wait a few hours? Or days?

Belinda: Yes, sometimes more than 24 hours

Interviewer: Is the cash [you receive] bolívares or American dollars?

Belinda: American dollars

Interviewer: So sometimes there is a shortage of dollars?

Belinda: Yes

(Interview in Spanish, 02/05/2024)

Zelle is also used not only to send remittances to Venezuela, but it is also used to enable domestic payments and other transactions within the Venezuelan economy. Zelle has a distinct advantage for merchants unlike more formal options. Because it is peer-to-peer, merchants can use it to accept payments without incurring fees (unlike payments made via debit cards for example). But of course, this method is only available to those who can afford it. This illustrates how people's experiences of the same FinTech are often stratified by socioeconomic status. Because of the capital (both social and financial) needed to open one's own Zelle account, possession of a Zelle account has come to signify social status. Venezuelan rap lyrics boast about receiving payments through Zelle (Price 2025). Saying you 'have Zelle' subtly flags one's connection to the US financial grid and, by extension, a higher socioeconomic tier. A meme has even emerged on Venezuelan social media that translates as 'My Whatsapp isn't working, hit me up on Zelle' which while nominally offered as a joke, filming or photographing oneself making this joke also demonstrates the social media users' ability to receive payments via Zelle. Zelle is thus imagined as both ubiquitous but simultaneously exclusive. Its popularity in Venezuela once led Bloomberg to declare Venezuela as a 'cashless test lab' (Andrew et al. 2020) - the world's first large-scale experiment in digital dollarisation. Venezuela had become a place where a US peer-to-peer app never designed for such economic crises had become a mainstream means of payment.

But on closer inspection the 'digital dollarisation' that Zelle came to represent and the physical cash it supposedly was replacing have a complicated relationship. A recent report has noted a sharp decline in the use of Zelle for domestic retail transactions. Previously it was estimated that around 28% of transactions were made using platforms like Zelle. This has now fallen to just 9% (although this varies by region). This is a result of a combination of measures and events. First, new taxes levied on dollar transactions in

Venezuela has reduced the dollar's popularity in general. Second, a new domestic QR code-based payments system was launched. Third, US banks began to close Zelle accounts suspected of unauthorised use spreading distrust amongst users. But most interestingly, the reduction in Zelle usage is tied to the fact that physical US dollars have been leaving circulation (Oliveiros 2025). One interviewee (age and location withheld) explained how recent government policy had affected dollarisation in Venezuela:

The government forced businesses to charge at its "official" rate, which today is 133 bs to \$1 USD, while the parallel rate is between 180-190 bs to \$1. There's a gap there... Businesses don't want to be sanctioned or forced to close. What did they do? They raised prices by that same 30%, charged the "official" rate so their stores wouldn't close, and that's it. That doesn't mean businesses are no longer accepting cash in dollars; they still do, but they accept it at the official rate of 133 bs, so you lose out. Because that same \$100 bill you might have, for example, you sell to your friends, neighbours, or acquaintances for 170-180-190bs, and you sell it in seconds, because there are no dollars. The official mechanism for acquiring dollars is very cumbersome and inefficient... People started paying in bolívares because they saved money due to the difference. A vicious cycle has emerged: businesses are now receiving less cash in dollars, so they can't pay their employees in cash, which translates into a loss for most people (Interview in Spanish 13/08/25).

There are numerous accounts in Venezuelan social media from those who receive their salaries via Zelle, but this is increasingly seen as a hurdle to accessing 'real money'. This user's complaint summarises the effects of these recent events:

At my job they pay me via Zelle. Before I used to look for people to give me the cash, and I would send them the Zelle. But as the entire economic dynamics of the country changed, people are no longer giving up cash so easily, businesses stopped receiving cash.

Many need to convert Zelle's digital dollars into cash because they are using borrowed accounts (for example, from relatives in the US). Even many small businesses who accept Zelle for payments do not own their own Zelle accounts and instead must 'rent' one from another person or business as one user noted:

Not everyone in Venezuela who uses Zelle is an account holder. Many times, the account belongs to a third party.

In response to a query about why some merchants imposed minimum transaction amounts via Zelle (despite Zelle being feeless) another user explained:

that Zelle's account is likely not the business owner's and they will be charged a commission to convert that money to cash.

Like the situation Karla described earlier, these smaller merchants must rely on others' accounts and thus pay a commission to 'cash out' their earnings into physical dollars. Therefore, while Zelle is accepted to transact the dollar, there are risks to using it for long-term storage since it is being used in breach of the terms of service. This was an issue even before the recent US crackdown. As one online user complained:

Not many have a gringo [Zelle] account and every week they close/block someone's new account and lose all their money, because of course I imagine those banks detect that they use it daily here [in Venezuela] and that it basically became the preferred payment method

The following discussion about the advantages of two different remittance options is illuminating in this regard:

User 1: [I cash out] by Moneygram directly to my wife's account ... and I only pay a \$1.99 fee... and in 2 hours the money is there.

User 2: Well in that case Zelle is cheaper. It's free.

User 1: Yes, of course, but one always must look for someone to change it [back into physical dollars] ... it's better to receive the money directly [to your own bank account].

The need to 'cash out' into the physical is thus an important part of Zelle's functioning even for those fortunate enough to be able to access their own or family members' Zelle accounts. These excerpts demonstrate that contrary to imaginaries around the digital superseding the physical, the reduction in availability of physical dollars in Venezuela has ironically contributed to a reduction in the use of digital dollars via Zelle.

Discussion

What unites the two remittance modalities described in this article? This section explores three themes. The first is the concept of 'ad hoc technological diffusion'. This term is used to explore the improvised but multidirectional ways in which FinTech, remittances and domestic payments have affected each other in the context of Venezuela. The second theme is the blurring of digital, physical, formal, and informal spaces and practices. The third theme explores the limits of framing monetary pluralism in Venezuela as a 'micropolitical' (North 2007) act by drawing attention to the ways such acts are structured by socioeconomic status, US imperialism and Venezuelan government interference.

Ad hoc technological diffusion, (in)formality and the blurring of digital and physical space

This article has shown how remittance practices affect the diffusion of FinTech and how the diffusion of FinTech creates new remittance practices. This demonstrates that migrant remittances send 'more than money' (Isaakyan & Triandafyllidou 2017). The use of Zelle in Venezuela is thus a technological example of the kind of 'cultural diffusion' that Levitt (1998) first recorded. Levitt's seminal article is most famous for coining the term 'social remittances' but in this article, I have chosen to confine the word 'remittances' to its Oxford English Dictionary dictionary definition: a sum of money or... a quantity of an item transferred from one place or person to another' (OED, n. remit. 2). This is primarily because using the term 'technological remittances' instead of 'technological diffusion' is potentially confusing in the context of an exploration of how technology is used to send remittances. Second, the way that FinTech and remittances have impacted each other is not unidirectional. Using the American banking system for business transactions has enabled new remittance forms to take root in Venezuela such as digital in-kind remittances. But also, through the act of sending back money via Zelle, migrants also sent back Zelle itself which has enabled new domestic payments practices taking root. For these reasons, I argue that Levitt's use of 'diffusion' over 'remittances' is more appropriate.

We saw that the ad hoc nature of dollarisation in Venezuela was also reflected in the intimate way in which FinTech and social ties often rely on each other to function in these contexts. Many scholars have recorded the 'intertwining of social ties and financial technologies' that 'runs against the grain of assumptions prevalent among development and industry practitioners about the impersonal and individualistic nature of technology' (Musaraj & Small 2018, p.6). But in the cases described in this article, the way that FinTech is used suggests that social ties are integral for these platforms and assemblages to function at all. From the everyday practices of Venezuelans to the government's own uneven and erratic

discourse and policies towards monetary pluralism, so-called 'informality' is a deeply embedded component that runs concurrent with the entire systems functioning. There is an interdependent relationship with technology and social ties. This blurring of informal social ties and formal technology is also paralleled in the ways that digital and physical spaces become interlinked. We saw that the digital dollar enabled by Zelle was only popular so long as it could easily be converted into physical dollars. Similarly, FinTech has allowed for what would traditionally be sent physically (in-kind remittances), to be sent digitally thus blurring the distinction between the two. We saw that this could have novel and under researched effects on the Venezuelan economy in distinction to the economic effects of traditional in-kind remittances.

Further, the social ties that enable these workarounds to function are themselves stratified by socioeconomic inequality. People's experience of them is variegated. We saw how the ways in which businesses' experiences digital in-kind remittances are stratified by socioeconomic status. For those supermarkets with the means and connections, purpose-built apps were available (even if at the back-end transactions were often settled less formally). For those businesses without the ability to offer this level of digital in-kind remittances, stablecoins, serving as a proxy for the US dollar, allowed smaller more 'informal' businesses to offer similar services to that offered by supermarkets. The imaginaries around Zelle also reflects the uneven ways in which FinTech is experienced by different socioeconomic demographics. For those individuals and businesses unable to directly use Zelle, they must rely on 'public' or communal Zelle accounts which allowed them to participate in its network but at a higher cost to those fortunate enough to be able to access it directly. However, these grassroots innovations do not exist in a vacuum. As the next section explores, they are shaped and constrained by larger structural forces.

Micropolitics and macro issues

We have seen how the remittance mediums explored in this chapter are examples of inventive practices (Rodima-Taylor & Grimes 2019). They also exemplify what Cockayne and Loomis (2025) identify as the embedding of FinTech in everyday life. And despite the issues that scholars have flagged, as Balza Guanipa (2021) notes, these practices work surprisingly well both as remittance rails and as domestic payments infrastructure especially given their unstructured and bottom-up implementation and usage. This draws attention to the importance of viewing the end users of financial technologies (as well as other consumer focused products) as agents in the making a re-making of these technologies. North (2007)

argues that such incidences are ‘micropolitical’ acts, showing how collective intentionality rather than government diktat, can determine what money is and how it is transacted. This merging of formal, informal (social ties) could be read as a political act: an example of collective inventive practice in the face of government failure. These inventive practices should not be read as anomaly but as the patchwork of practices that inevitably emerges when confidence in the state weakens (North 2007). For this reason, Maurer has warned ‘financial inclusion’ initiatives will fail unless they acknowledge the ‘hurly-burly of practice, both semiotic and material’ (Maurer 2018). As the Swedish central bank put it rather candidly, ‘money is what the citizens in society agree it should be’ (Sveriges Riksbank 2023). Luzzi and Wilkis argue that ‘the implementation of accounts and payments in different currencies isn’t necessarily problematic’ (2018, p.255). Dodd (2014) in his exploration of the social meaning of money, goes further by advocating for the political possibilities of monetary pluralism even outside of economic crises. He argues that monetary pluralism provides the means for ‘people... to choose goals for themselves’. Money is a ‘means [to enable] a greater range of options... for organising production, exchange, credit, and debt’ (p.387). Dodd writes:

To support a narrow view of the monetary system as a creature of the state whose operation must be administered by large, profiteering private banks is to deny these options... To support a more open, multifarious, and flexible monetary system – a society of monies not money – is hardly unrealistic. Rather, it describes the state of the monetary landscape in which we are increasingly finding ourselves, where alternatives to the dominant state fiat money system are proliferating. Whether any specific type or a combination of these alternatives genuinely constitutes a threat to that dominant system is open to question and... beside the point (2014, p.387).

But monetary pluralism in Venezuela is far from a utopian ideal, even if within the pluralistic monetary practices that are occurring there one can glimpse the echoes of the kind of systems Dodd is advocating for. Access to alternative forms of money in Venezuela (Bull et al. 2022a) and amongst its diaspora (Robins, 2024) is unevenly variegated by socioeconomic status. Indeed, Mackinnon et al. (2009) argue for the need to embed monetary research within a broader institutional political economy perspective that pays attention to issues of uneven development and power-relations. In the Venezuelan context this problem is even more palpable.

Some may be tempted to view these innovative financial workarounds through a kind of libertarian techno-deterministic narrative. But some interviewees regarded the turn to the dollar as an obligation: imposed by circumstance rather than an example of collective will even if they concurred in their rejection of government authority. One interviewee, Marco, 54 from Ciudad Bolívar was now living in Brazil. He described his life in Venezuela and his reliance on the remittances sent by his daughters who had already emigrated:

[In Venezuela] *I earned around \$400-\$500 monthly and it was still tight. I had housing costs, car expenses, and sometimes we'd call our daughters [in Brazil]: 'Daughter, I have a problem with the car, the part is too expensive!'. \$150 for a part. Because we're Venezuelan, but everything's priced in dollars. So even though we have a national currency, we're still forced to operate in foreign currency* (Interview in Spanish, 04/09/2024).

Such an embrace of the US dollar cannot be separated from decades of economic, cultural, and military imperialism by the US in Latin America. As Warnecke-Berger notes, 'currency hierarchies are reflections of broader global asymmetries' (2021, p.1). The remittance modalities described in this article thus echo Warnecke-Berger's (2021) observation that remittance practices alleviate household shortages while simultaneously entrenching dependence on the US dollar, illustrating the micro-macro dilemma of 'bottom-up practices' improving family welfare at the cost of deepening global currency hierarchies. It is in this context that we can understand Marco's use of the word 'forced'. There is also the problem of encroachment of private enterprise spurred by the rejection of the state. 'Bottom-up' workarounds may be political acts, but the spectre of private and foreign domination looms. With the weakening of the state's grip on money there is often a corresponding rise in the power of private corporations. Dodd likens it to public highways slowly being taken over by private road companies (2014, p.379). As Dodd remarks, 'with money, every imaginable utopia appears to imply a corresponding dystopia' (2014, p.383). Such workarounds are also still beholden to policy decisions from both US banking and the Venezuelan government. These financial practices exist in a state of precarity and while their success may often result from regulatory vacuums, these vacuums can easily be 'filled' by reactionary policies. The unauthorised embrace of Zelle leaves those who use it at the mercy of US banks who are increasingly penalising Venezuelan users. The result is a monetary pluralism that is often characterised by deep socioeconomic inequality, volatility, and insecurity.

Conclusion

This article has explored how the ad hoc appropriation of FinTech, and domestic payment practices are mutually constitutive, producing a form of what I termed 'ad hoc technological diffusion' that both shapes and is shaped by the need for migrants to remit to their families. The two remittance modalities examined, digital in-kind remittances and the (mis)use of Zelle, revealed a dynamic interplay between formal infrastructures and informal social networks. This blurring of the formal and informal was also reflected in the ways that the digital and the physical were interlinked in multiple ways. These inventive practices embody bottom-up responses to state and market failures yet remain variegated by socio-economic inequality and constrained by erratic Venezuelan government policy and dependence upon US financial institutions who were unwilling market participants in this context. Therefore, while the ad hoc systems explored in this paper demonstrate the agency and ingenuity of Venezuelans in navigating economic crisis, they also expose vulnerabilities to internal and external policy shifts.

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