

The Changing Payments Landscape in a Period of Pandemic Recovery

Digital Money, Decentralized Finance, and the Puzzle of Crypto

Hosted by the Global Interdependence Center

The Conrad Prebys Performing Arts Center

La Jolla, CA

February 10, 2023

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President and Chief Executive Officer
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Hello! It's great to be here in La Jolla. I didn't realize when I received an invitation from GIC that this event would have a connection to the Super Bowl. As we flew over Arizona, I saw that my connection would be ever so slight — and that the closest I'd get to game tickets would be passing over the stadium at 30,000 feet. Go, Eagles!

This really is a terrific program, and we've already had some informative sessions. So, thank you to GIC for having me and to all of you for joining us today.

I would like to talk a bit today about the rapidly evolving payments landscape and, in particular, how the COVID-19 pandemic brought unique challenges to American families and accelerated changes that were already in motion. After I deliver my prepared remarks, we can have an open discussion, which I'm very much looking forward to.

I will be measuring the economic and financial implications of the pandemic the way economists do, with dollars and percentages and trends. But I do not forget that the pandemic has been — first and foremost — a humanitarian tragedy of global scale. More than 6.5 million people perished from the virus, including more than 1 million of our fellow Americans. And those numbers would have been much worse if not for the many public health workers, and others in essential businesses, who stepped up so that others could stay safe.

Consumer finance is an important area of study at the Philadelphia Fed, where our CFI — Consumer Finance Institute — continues to pursue path-breaking research. Simply put, the way Americans spend, save, and invest has profound consequences for the financial industry, the broader economy, and, of course, American families. Understanding consumer finance patterns — how they change and how they will continue to evolve — is vital to the Federal Reserve’s mission of fostering an economy where everyone can prosper.

And speaking of the Federal Reserve, here is where I give you my standard Fed disclaimer: The views I express today are my own and do not necessarily reflect those of anyone else on the Federal Open Market Committee (FOMC) or in the Federal Reserve System.

I think we all know that the COVID-19 pandemic changed a lot about American society. Some changes, such as our inability to convene for events like this one, were thankfully fleeting. But in many areas, the pandemic simply accelerated changes that were already taking place, and it is quite natural to think that those changes are more likely to remain. To disentangle the fleeting from the long lasting, we need to look at how consumer finance was already changing prior to the pandemic and how the American people — and the institutions that serve them — reacted to the unprecedented circumstances of the pandemic.

Today I’ll share some of what we’ve seen in the realms of liquidity, spending, and adoption of new financial tools over the last few years.

Liquidity

I’d like to begin by considering the effect of the pandemic on Americans’ access to liquidity, primarily in the form of cash holdings and checking account balances. A staggering 20 million workers lost their jobs in April 2020, and while many were rapidly rehired, total employment only returned to pre-pandemic levels two years later. Data collected in November 2020 in the [CFI COVID-19 Survey of Consumers](#) indicated that more than half of the respondents had experienced some type of disruption to their employment or income since the beginning of the pandemic. As we know, one of the principal federal responses to the crisis was to provide direct stimulus payments (through the CARES Act) and enhanced unemployment benefits to Americans. How did these relief measures pass through to consumers’ wallets?

The pandemic certainly made life unpredictable; we can all attest to that. [The Diary of Consumer Payment Choice](#) found that consumers continued to demand cash in that uncertain environment. This Federal Reserve survey showed that, on average, consumers held 25 percent more cash in their wallets in 2020 than they did in 2019. This figure dropped in 2021 to be more in line with pre-pandemic levels. Similarly, consumers held more cash at home, in the car, or elsewhere in both 2020 and in 2021 than they did in 2019 by significant amounts.

Turning to checking account balances, the Fed's [Survey of Consumer Finances](#) showed a generally rising trend in checking and similar balances through 2019, but unfortunately, the timing of that triennial survey did not align well with the crisis.

I would instead turn to some of the most timely information available on balances in consumer checking accounts during the pandemic, published by the JPMorgan Chase Institute. The underlying data are based on a representative sample of their checking account customers. Keeping in mind that those customers may not be entirely representative of checking or deposit account holders in general, it still provides some illuminating information.

According to the JPMorgan Chase Institute, the median balance in checking accounts increased significantly from late 2019, spiking at various times matching the largest disbursements of stimulus funds, enhanced unemployment support, and tax refunds. While this phenomenon occurred broadly across their study population, some of the largest increases were seen in the more vulnerable groups.

Despite this seemingly positive news, it's important to keep in mind that many of these changes were the result of temporary relief measures implemented by the government. It is unlikely that permanent change takes hold in the overall liquidity of households, particularly of lower-income households. In June 2022, median checking account balances remained significantly higher than they were in 2019, but they were also significantly lower than their peak values realized in March 2021. And while many low-income consumers had some of the largest increases, a sizable share have average balances lower in mid-2022 than prior to the pandemic. As we move further into the post-pandemic economy, it will be crucial to understand which phenomena are likely to revert to the previous norms and which are sustainable, and for whom.

Payments

We saw quite profound changes in the way Americans made payments throughout the pandemic. These shifts speak to the adaptability of the American people and the financial system during unprecedented circumstances. However, it is also true that many of these changes were already in motion prior to the pandemic.

Let me now take a moment to describe what we were seeing before the pandemic. Up until the end of 2019, there was a gradual decline in the share of consumer transactions that used cash for payments, and a much more rapid decline in the number and value of paper checks used to make payments. ACH transactions — typically direct deposit and some bill payments — were growing but no longer as quickly as they had over previous decades.

Unmistakable was the rapid growth in the number and value of credit and debit card payments. Among those, consumer purchases online, typically made by credit and debit cards, outpaced card transactions used for in-store purchases. Finally, contactless card payments, digital wallets, and peer-to-peer (P2P) payments facilitated by companies like Zelle and Venmo, while still relatively uncommon, were clearly growing.

Then COVID-19 hit. And like so much else, the way Americans spent changed drastically.

[The Federal Reserve Payments Study](#) did a comprehensive job describing the shifts in noncash payments that occurred in the first year of the pandemic. For one, the number of card payments — credit, debit, and prepaid — declined in 2020. This was unprecedented. The total dollar *value* of card payments grew slightly, but that growth was well below trend. Industry sources confirm that the weakness was primarily in credit cards. In fact, the value of debit transactions increased substantially in 2020, relative to 2019. This shift from credit to debit cards began to reverse in late 2021, with the value of credit transactions growing more rapidly than debit.

Unpacking these top-level shifts, the mix of in-person and remote payments also changed in these early pandemic years: In 2018, the total value of in-person and remote payments were about the same, but in 2020, the value of remote payments exceeded that of in-person card payments by 10 percentage points. This may be a more persistent change because while consumers have resumed going to restaurants and

grocery stores, they appear to be still making relatively fewer in-person payments in those locations, possibly because they can pay remotely and then pick up their goods.

The pandemic also appears to have contributed to significant growth in several recent payment innovations. The growth in the use of contactless cards, for instance, accelerated even while the number of in-person payments declined. Contactless payments now account for 4.6 percent of the number of in-person payments, more than double its share in 2019. There was a similar effect for P2P payments and digital wallets. In the first half of 2020, 18 percent of deposit accounts experienced their first P2P payment, and 11 percent of credit or debit card accounts experienced their first digital wallet payment. I do not expect these changes to reverse.

We talked about cash as a means of storing liquidity, but what about cash as a means of payment? To examine those trends, we look again to the Diary of Consumer Payment Choice. The latest summaries of this survey report that the share of payment transactions made with cash has been falling over time, fell precipitously in 2020, and then actually rose slightly in 2021 as in-person transactions picked up. A bit of a roller coaster, then. But the bottom line is that the cash share of payments remains well below pre-pandemic levels — this being a clear example of the pandemic accelerating change that was already in motion.

Finally, as is often the case, we can learn the most by going directly to the source — in this case, the consumers. Late last year, the Philadelphia Fed’s CFI did just that, asking consumers whether they were using specific forms of payment more or less than they were in 2021. On net, consumers reported using cash and checks less and contactless cards more. They also indicated they were using P2P apps and mobile payment apps more frequently. As is typically the case, younger consumers tend to be the most likely adopters of payment innovations. Roughly speaking, this suggests that indeed the pandemic accelerated the longer-run trends of declining use for paper forms of payment and a more robust adoption of new, electronic ways of making payments.

Cryptocurrency

And now for something that can’t get lost between a seat cushion: the latest newcomers to the landscape, cryptocurrencies. As you surely know, cryptocurrencies are digital or virtual currencies (such as Bitcoin, Ethereum, Litecoin, and many others) in which transactions are verified and records are

maintained by a decentralized, distributed ledger system using cryptography, rather than by a centralized authority.

Since the early 2010s, the rise of so-called cryptocurrencies has received significant attention from financial market participants, policymakers, and academics.

Cryptocurrencies have been marketed in a variety of ways. Early in their existence, they were touted as a more secure and anonymous method of payment, and a means of keeping funds out of the traditional banking system, while recent messaging has shifted to their value as an investment vehicle.

Cryptocurrency markets have gained a reputation for high volatility in recent years, with rapid price increases and decreases over relatively short periods. For a considerable stretch of time, beginning in early 2019, prices trended up significantly, leading to a perception of cryptocurrencies as lucrative investment vehicles. Beginning in early 2022, however, the cryptocurrency market experienced what is described by some as a *crypto winter*, a prolonged bear market that resulted in a nearly \$2 trillion loss in market value, coin and exchange collapses, and damage to a number of financial services firms that are closely aligned to the crypto space.

In January 2022, CFI, in conjunction with economists from the Federal Reserve Board, included questions related to cryptocurrency ownership and opinions in the *CFI COVID-19 Survey of Consumers*. The survey gave us a basic understanding of the adoption of, and attitudes toward, cryptocurrencies among the survey population, with special attention paid to differences across demographic groups. The results of that survey are found in a [CFI Research Brief](#) published in December and available on the Philadelphia Fed's website.

In the months since that survey was conducted, the drastic change in prices and associated turmoil — again, the recent period referred to as a crypto winter — likely contributed to a shift in attitudes regarding cryptocurrencies among owners and nonowners alike. Therefore, in October 2022, we again surveyed consumers to see how perceptions of cryptocurrencies had changed. I'd like to share some highlights from our published report and touch on some new, previously unpublished, information based on the new survey.

In the survey fielded last January, we found that almost one-quarter of respondents, or someone in their immediate family, owned cryptocurrency at that time. Most current crypto owners had acquired those assets recently. More than two-thirds of crypto owners last January had acquired their first crypto assets

within the previous 12 months, almost a third in the previous six months. This surge in adoption took place in a media environment that saw massive increases in the marketing of cryptocurrencies during 2021. Unlike many of the other changes discussed, the rise of cryptocurrency does not seem to be directly related to the pandemic, though an environment of low rates, ample liquidity, and, quite frankly, more time at home may have all contributed.

The survey asked owners about why they chose to purchase crypto. Just under 30 percent of crypto owners cited financial reasons, though some viewed their purchases as short-term investments in anticipation of rapid appreciation, while others were looking for long-term investments for stable growth. Almost one-quarter of crypto owners had acquired their assets out of simple curiosity, and just under 20 percent suggested their decision was influenced either by family or social media. A relatively small share of crypto owners — around 15 percent — suggested they had acquired their assets primarily because they expected to use them for transactional purposes.

We also asked about future crypto purchase plans. In January 2022, slightly more than half of the existing crypto owners (55 percent) said they were likely to buy more crypto. Nonowners remained skeptical, with less than 7 percent of them saying they were likely to buy crypto in the future.

Demographic analysis of crypto ownership for the most part conforms with our usual expectations. For example, crypto ownership is relatively more common among younger respondents and respondents reporting higher incomes. This is consistent with research suggesting that these are categories of consumers who are more likely to be early adopters of new financial tools and technologies. Similarly, the likelihood of owning crypto assets was higher among respondents who were also engaged in mobile and P2P payments or mobile banking.

Men were more likely than women to own crypto assets. Black and Hispanic respondents were more likely to own crypto assets than White respondents.

Now let's turn to what we learned when we examined the responses from consumers in the more recent October 2022 survey. Keep in mind that respondents to the January survey had yet to go through the crypto winter, while the October respondents had already lived through most of it. And it shows.

Crypto ownership among respondents decreased significantly, from 25 percent in January 2022 to 19 percent in October. We observed decreases in the rate of ownership across nearly all demographic groups. Nevertheless, the relative concentration of crypto ownership across the population changed

little: Younger, male, more affluent, or non-White consumers remain the most engaged demographic groups with crypto.

Future plans to purchase more crypto assets cooled, with less than 40 percent of October's owners indicating that they will likely buy more in the future. Remember that, in January, more than half of respondents said they had future plans to purchase more crypto.

Despite the crypto winter, short- and long-term investment remain the most commonly chosen reasons for buying crypto. Indeed, these reasons seem to have become more important. In October, 35 percent of crypto owners cited long-term growth as a principal reason for owning; that is an increase from 29 percent of crypto owners last January. Somewhat less surprisingly, crypto owners in October were less likely to cite social reasons for holding these assets than were crypto owners last January.

Interestingly, curiosity remained strong as a purchase reason, increasing from 24 percent of crypto owners in January to nearly 30 percent of crypto owners in October. We see this as an indicator that there is still interest among consumers in cryptocurrencies, with the depressed prices of the crypto winter possibly providing an opportunity to satisfy that interest for some.

What do we take from these data? In many ways, it is what we would expect to see from a market after a downturn: Participation and interest in the market both decreased as groups of consumers shy away from risk. The strength of investment and experimentation as reasons for participation in the market has remained steady and the socioeconomic groups most likely to acquire cryptocurrencies haven't materially changed. These patterns seem to suggest that cryptocurrencies will remain in demand by certain consumers despite the recent crypto winter.

Conclusion

So, I realize I've thrown a lot of data at you. And although we are convening in a college town today, I promise there won't be a quiz. But I am going to assign some homework. Have a look at the Consumer Finance section on the Philadelphia Fed website; you'll find some very interesting work there.

What I do think is that these data offer unique insights about the way American society responded to the COVID-19 pandemic and its unprecedented strain. It allows us to discern which changes are likely to be fleeting and which ones were already in motion prior to the pandemic and are likely to be long lasting.

We saw how pandemic-era policies and lifestyle shifts led to a run-up in household liquidity; however, overall, this run-up is not likely to be sustainable for everyone.

We saw Americans embrace new ways of making payments as they, first, shifted to online shopping, and then made changes to their payment habits that apparently have real staying power.

And we've seen how consumers responded to dramatic changes in the cryptocurrency markets, slowing, but likely not reversing, the growth of that sector in the coming years.

What we have yet to see is how these shifts will play out in the long run — and how they will affect the Federal Reserve's solemn responsibility of fostering an economy where all Americans can thrive.

So, thanks again for having me. Now let's get to the discussion.