

BY COLTON LAPP

When Will Firms Issue Digital Currencies?

Jonathan Chiu and Tsz-Nga Wong. “Payments on Digital Platforms: Resiliency, Interoperability and Welfare.” *Journal of Economic Dynamics and Control* (forthcoming).

Over the last several years, public awareness of digital currencies has grown rapidly. In the last year, for example, more than 10 percent of Americans have reportedly traded or bought cryptocurrencies, in part fueled by increased institutional adoption and public attention in the media. This increased engagement has captured the attention of both the general public and central bankers alike.

Alongside the increased adoption of decentralized cryptocurrencies, some companies in the United States have also received attention for their own ventures into alternative forms of digital payment systems. Most notably, Facebook made headlines in 2019 when it announced plans to launch its own digital currency — Libra — but ultimately decided to put the project on hold after receiving criticism from both Democratic and Republican senators.

Outside of Facebook, however, the United States has generally seen limited implementation of platform-issued currencies. This stands in stark contrast to other countries, such as China, where some nonbank, platform-centered firms like Alibaba and Tencent have successfully created their own digital currency systems that have been widely adopted by the public. This divergence raises a question: What differences between China and the United States have led to such different outcomes in platform-issued currency adoption among these nonbank companies?

In an article titled “Payments on Digital Platforms: Resiliency, Interoperability and Welfare,” forthcoming in the *Journal of Economic*

Dynamics and Control, researchers Jonathan Chiu of the Bank of Canada and Russell Wong of the Richmond Fed sought to answer this question by modeling a firm’s choice between issuing a digital token system and accepting cash. In their model, implementing a digital token system has both benefits and costs that depend not only on the properties of the firm, but also on the broader economic context of the country in which the firm is operating. Looking at the world through their model, it becomes clear why Alibaba, a large online retailer in China, decided to implement its own digital payment system while Amazon has yet to do the same in the United States.

In the authors’ model, many possible downsides are associated with setting up a digital payment system. Not only is it expensive to develop and maintain the infrastructure of a new currency system, but there are also country-specific regulation constraints that can stymie project implementation. Consumer acceptance of the system may also be low if users do not believe that the company will be able to maintain the value of the currency — whether due to cybersecurity threats or simply poor financial soundness.

If a firm is able to overcome these barriers, however, there are several benefits related to implementing a new digital payment system. The main benefit to the firm is the revenue earned via seignorage — that is, the difference between the face value of the created currency and the cost of maintaining that currency system. Moreover, firms may also benefit by building customer loyalty as well as harvesting transaction data.

Consumers may also prefer to use a digital token system, depending on specific macroeconomic conditions.

For example, if the cost of holding cash is high, which might occur in an economy with high interest rates, then holding wealth in a firm’s digital currency can mitigate the effects of inflation. Furthermore, if a company’s market share is large enough, or if the company provides unique access to certain products, consumers may have little choice but to participate in the digital token system in order to gain access to these goods.

The researchers noted several findings. First, for a token-issuing firm, it is not possible to increase profits by accepting cash alongside the issuance of tokens because doing so would reduce token demand. In addition, from a social welfare perspective, the authors showed that a firm may make a suboptimal decision when deciding whether or not to create a digital token system. This finding results from the fact that as the firm makes its decision, it does not take into account the potential benefits or costs to society of its actions. For example, a firm might not consider the broader implications that digital payment adoption could have on the effectiveness of a central bank’s monetary policy, among other consequences.

Finally, the authors considered the effects of implementing traditional banking-style regulatory measures on the nonbank companies that issue digital currencies, such as reserve requirements or deposit insurance. They found that for these firms, these measures would be ineffective and welfare reducing, as they would dissuade some firms from issuing currencies when it would otherwise be socially beneficial for them to do so. The authors suggested that in the future, their model of digital currency issuance could be extended in a variety of ways depending on the research question of interest. **EF**