



Think

Think Computer Corporation
1132 Boronda Avenue
Mountain View, CA 94040

telephone +1 415 670 9350
fax +1 415 373 3959
web <http://www.thinkcomputer.com>

February 14, 2014

Ms. Monica Jackson
Office of the Executive Secretary
Bureau of Consumer Financial Protection
1700 G Street NW
Washington, D.C. 20552

RE: Comments on Docket No. CFPB-2014-0003 (RIN 3170-AA25):
Defining Larger Participants of the International Money Transfer Market

Dear Ms. Jackson:

The following are the comments of Think Computer Corporation (“Think”). This letter has three main sections: two providing background, and the last offering recommendations to the Bureau of Consumer Financial Protection (“CFPB” or the “Bureau”) specifically.

Think is a computer software startup located in Mountain View, California. Its FaceCash® mobile payment system was operational until July 1, 2011, when Think was forced to shut it down due to the California Department of Financial Institutions (“DFI,” since merged into the California Department of Business Oversight, or “DBO”’s threats of incarceration due to lack of a license under the California Money Transmission Act (“MTA”). The MTA is one of the forty-seven state money transmission laws (“MTLs”) alluded to in the CFPB’s Request for Comment at 79 FR 5303. Even after protracted attempts—including appeals to DFI’s parent agency, the California Governor, both houses of the California legislature, and Congress—to secure the information necessary to apply for a license, such as the *true* (and also unwritten) capital requirement under the new law, Think was unable to determine the DFI’s demands, and Think eventually filed a federal lawsuit against the Governor and the DFI in November, 2011. The lawsuit is still pending.¹ All of Think’s employees were laid off.

Far from a devious plot to endanger the financial security of Californians, FaceCash is a modern replacement

¹ See <https://www.facecash.com/legal/brown.html> for a record of correspondence regarding Think’s attempts to obtain a money transmission license under the MTA, and <http://www.plainsite.org/dockets/index.html?id=716056> for the latest docket information concerning the civil lawsuit in federal court.

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for plastic payment cards that makes point of sale transactions more secure, more convenient and less expensive than is possible with any other system. In place of the traditional card signature on the back of the card, a digital image of the consumer's face is used to verify identity, and because all accounts are pre-funded, there is no need to use the aging plastic card technology infrastructure, saving on costs. FaceCash also integrates with the ThinkLink financial network, which provides functionality similar to wire transfers at a fraction of the cost, among many other features. Consumers (and government entities) could save many millions of dollars per year on payment processing expenses by using FaceCash and ThinkLink. Paradoxically, without impossible-to-obtain licenses, both products are illegal in the United States.

I. **Problems with State Money Transmission Laws Generally**

A. **Money Transmission Laws Protect Large Financial Companies, While Disproportionately Harming Low-Income Consumers and Small Businesses Through the Imposition of Monopoly Pricing**

Setting out the nominal purpose of the MTA, which is generally no different from that of other states' money transmission statutes, California Financial Code § 2001(d) states:

"To protect the interests of consumers of money transmission businesses in this state, to maintain public confidence in financial institutions doing business in this state, and to preserve the health, safety, and general welfare of the people of this state, it is necessary to regulate money transmission businesses in this state."

This text was drafted by a lobbying group comprised of several multi-billion dollar financial institutions calling itself The Money Services Round Table ("TMSRT")², acting through its chief lobbyist, Ezra Levine (formerly of the defunct Howrey LLP, now with Morrison & Foerster LLP), with the additional frequent help of the DFI. According to TMSRT's August 18, 2006 comment letter to the United States Department of the Treasury Financial Crimes Enforcement Network (FinCEN) and the Federal Reserve System, the members of TMSRT are, "the leading national non-bank funds transmitters in the United States including: Western Union Financial Services, Inc., MoneyGram International, Travelex Currency Services, Inc., Integrated Payment Systems, American Express Travel Related Services, RIA Financial Services, Comdata Network, Inc. and Sigue Corporation."³

For roughly the past decade, Mr. Levine has literally made it his business to pass laws similar to the MTA in states throughout the nation, slightly modifying them in each instance to suit the particular fears of state legislators and bureaucrats—but most of all, to suit the needs of his clients, the member companies of TMSRT. According to Mr. Levine's biography as prepared for the 2006 Global Consumers Money Transfer Conference, "He has had an active role in the enactment of the money transmitter laws in Oregon, Minnesota, Washington, Iowa, West Virginia, Illinois, Wyoming, North Carolina, Florida, Idaho, North Dakota, New Jersey, Tennessee, Maine, Vermont, Arizona, the District of Columbia and Indiana." Since that biography was written, he and his clients have also succeeded in bending the law in Hawaii, and now, California.

² TMSRT, formerly known as the Non-Bank Funds Transmitters Group, was the sole sponsor of the MTA.

³ According to a February 22, 2001 comment letter, members of the Non-Bank Funds Transmitters Group at that time also included Citicorp Services, Inc. and Thomas Cook, Inc.

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As concerned as these multi-national conglomerates may be about consumers—and there is no evidence whatsoever that they actually are concerned—they are also clearly concerned about themselves, which is why they pay Mr. Levine to ensure that no new competitors with more advanced technologies are permitted to enter the payment industry and render their overpriced services obsolete. In other words, the thinly-veiled core purpose of the MTA is economic protectionism, and nothing more.

The effects of money transmission laws are mostly felt by low-income consumers, and especially immigrants, who have almost no choice but to patronize members of TMSRT when they send or receive money from foreign countries. The prices of funds transfers and currency conversion are considerably higher than they would otherwise be due to these laws.⁴

The laws also have a disproportionate effect on small businesses, who lack the bargaining power necessary to force credit and debit card issuers to lower interchange fees. This problem has recently been so pronounced that Congress acted through the Durbin Amendment to the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 to lower debit (but not credit) card interchange fees, perhaps not fully realizing the role of state laws in contributing to the unusual upward trend in interchange pricing. The most promising new payment models that compete with credit and debit cards necessarily involve money transmission.

Of course, when businesses are forced to charge higher prices to cover their payment processing costs, as many often do, average consumers end up hurt as well. In a time of economic instability, this is most unfortunate.

B. Member Companies of The Money Services Round Table, Which Sponsored the Money Transmission Act, Have Repeatedly Engaged in Criminal Activity Involving Money Transmission

On November 9, 2012, the United States Department of Justice (“USDOJ”) filed criminal felony charges against MoneyGram International, Inc. (“MoneyGram”) in Pennsylvania Middle District Court, Case No. 1:12-cr-00291-CCC. (See <http://www.plainsite.org/dockets/index.html?id=2334104> for more information.) MoneyGram is one of approximately six members of TMSRT, the lobbying group that was the sole sponsor of the MTA. The USDOJ accused MoneyGram of perpetrating a nationwide fraud costing the American public approximately \$120 million over a period of almost a decade. Three weeks after the USDOJ filed charges, MoneyGram agreed to settle the allegations for \$100 million. A division of MoneyGram, MoneyGram Payment Services, Inc., is still in possession of California Money Transmission License No. 1910 despite the USDOJ’s serious allegations. It appears the DBO has not revoked MoneyGram’s money transmission license in California, nor did MoneyGram suffer any consequences in any other state.

Similarly, in 2008, Sigue Corporation, another member of TMSRT, entered into a deferred prosecution agreement with the USDOJ and agreed to forfeit \$15 million due to Bank Secrecy Act violations. Despite these serious transgressions, it still possesses California Money Transmission License No. 2062. See http://www.justice.gov/opa/pr/2008/January/08_crm_068.html for more information.

⁴ See “New Rules for Money Transfers, but Few Limits,” Jessica Silver-Greenberg, *The New York Times*, June 1, 2012, <http://www.nytimes.com/2012/06/02/business/new-rules-for-money-transfers-but-few-limits.html>.

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These criminal actions and the resulting federal investigations reinforce three points. First, the DBO has effectively failed to enforce the law it is charged with enforcing. Second, the federal government is in a far better position to investigate and regulate money transmission activity, both because the federal government has more resources, and money transmission by its very nature crosses state lines. Third, in addition to being unconstitutional, state MTLs are ineffective at both preventing fraud and protecting consumers. It serves only the interests of the corporate criminals who wrote it and lobbied for its passage, by preventing competition at taxpayer expense. To some extent, state MTLs force consumers into the arms of licensed criminals.

C. Direct Conflicts with the United States Constitution in the Internet Age

Since the pioneers of traditional money orders began moving funds from place to place in the nineteenth century, the country has changed considerably. Today, the internet permits instant electronic funds transfers that until recently were inconceivable.

Money transmission laws started to come into being on a state-by-state basis in the 1960s in response to localized crises involving fraud. Federal law bolstering those state laws, in the form of 18 U.S.C. § 1960, came into being in 1992 as part of H.R. 5334, the Housing and Community Development Act.⁵ It was not until 1995 that the National Science Foundation allowed the commercialization of the internet, meaning that the majority of today's regulatory regime concerning money transmission is obsolete, failing to account for massive changes in market conditions.

Fundamentally, in an environment where money can and often does change hands electronically in the blink of an eye, whether across a distance measured in feet or thousands of miles from coast to coast, there is no role for state regulation. According to Article I, Section 8, Clause 3 of the United States Constitution (commonly referred to as the Commerce Clause) and court decisions rendered relatively recently such as *American Libraries Assn. v. Pataki*, 969 F. Supp. 160 (S.D.N.Y. 1997), it is within Congress's purview—and only Congress's purview—to regulate internet commerce.⁶ The reason why can be illustrated with a simple analogy.

⁵ Before and after the creation of 18 U.S.C. § 1960, several attempts were made in Congress to pass legislation that would have directed states to standardize money transmission laws, with the Treasury reporting to Congress on their progress. Such language is found in § 10 of H.R. 26, the Money Laundering Enforcement Amendments of 1991 (“Uniform State licensing and regulation of check cashing services.”); § 7 of H.R. 3235, the Money Laundering Suppression Act of 1994 (“Uniform State licensing and regulation of check cashing, currency exchange, and money transmitting businesses.”); and Title IV, § 407 of H.R. 3474, the Community Development Banking Act of 1994 (identical heading). Some of these bills passed in the House or the Senate, but not both simultaneously.

⁶ Although Congress is permitted to delegate its authority to regulate commerce to the states, and Congress may have done so implicitly via 18 U.S.C. § 1960, its delegation power is curtailed by the fact that for purposes of regulation, the internet is a “national preserve.” *American Libraries Assn. v. Pataki*, *supra*. Even if delegation to the states did occur, it took place three years before the existence of the modern internet, which has come to dominate money transmission—especially those “emerging” forms of money transmission the MTA now restricts. (FaceCash, in fact, completely *depends* upon the internet to transfer the image of each consumer’s face to internet-connected cash registers.) Although Congress’s delegation may have been legitimate in 1992 when it was hardly considering mobile payments, the heavy involvement of internet traffic today makes any supposed delegation presently unconstitutional.

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Commercial air traffic is regulated by the Federal Aviation Administration (FAA) because air travel almost by definition requires that aircraft cross state borders, and sometimes, international borders as well. Until the advent of the Global Positioning System, it was not always immediately clear which state a particular aircraft was in at any given time. Had states insisted on regulating the skies, airlines and pilots would have been subject to a system of regulatory chaos, endangering the lives of passengers.

Today, commercial internet traffic involving payments (also known as money transmission) is regulated by precisely such a system of regulatory chaos.⁷ It is frequently unclear where a given sender or recipient of funds is physically located, even with available Internet Protocol (IP) address information; it is furthermore difficult to determine where the funds themselves, which are symbolic representations of value, are physically located. This problem is exacerbated by the steady march of internet-enabled devices in the direction of mobility. Cellular mobile devices rely on networks with pooled IP addresses that do not reveal the location of a user. (Every iPhone and Android device on the Sprint network appears to be in Kansas, for example. BlackBerry traffic worldwide often seems to originate in Canada.) In addition, TCP/IP packets representing transactions cross multiple state lines routinely within milliseconds, millions (if not billions or trillions) of times per day. Accordingly, the burden on emerging money transmitters, who must comply with the arcane and anachronistic regulations of some forty-six states (or by some counts, forty-seven) who are themselves scarcely able to monitor such activity, is immense. The only way to effectively monitor a modern-day money transmitter is in real-time, electronically, which not one government agency actually does.

Therefore, states lack not only the legal jurisdiction and authority to regulate money transmission in the modern world; they also lack the expertise and equipment necessary to track it. That is part of the reason why some states that have money transmission laws admit to prospective applicants that they do not even bother enforcing them unless the applicant has a physical presence in the state.

D. Wasteful Spending

On average, no state has more than one hundred registered money transmitters. (According to the DBO web site, California has only eighty-four, a relatively high number given the number of publicly-traded technology companies in the state. Of those eighty-four, nine are now or at some point have been connected to TMSRT.) Despite the small scale of each state's licensing program, each money transmitter is subject to a complex litany of requirements that the state agency charged with enforcing the law must monitor. Such monitoring, usually conducted quarterly, requires manpower, and that manpower costs money.

Except on extremely rare occasions, state agencies do not take action against unlicensed money transmitters. Notably, California has never published a "final" order disciplining such a company. If they do take action, not all states bother, because doing so would be require duplicative effort, and they instead allow one state agency to take the lead. This model is nonsensical. Even with coordinating groups such as the Money Transmission Regulators Association (MTRA) in place, it means that the same entity is often monitored by

⁷ On June 21, 2012, Mr. Levine and one of his clients, Western Union, each appeared before the United States House Committee on Financial Services at a hearing entitled, "Safe and Fair Supervision of Money Services Businesses." The attorney-client relationship was not explicitly disclosed, nor were any technology companies heard from. At the hearing, both Mr. Levine and his client lamented the absurd complexity of the regulatory system that they built, and unsurprisingly encouraged Congress to do nothing but further entrench the role of the states.

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more than forty separate agencies so that only one may ultimately act, almost at random. State regulators proudly declare this to be evidence of coordination; really, it is evidence of a broken system with gaping holes that allows financial fraud to go undetected. With forty-seven states and FinCEN in the mix, and communication necessary between all of these regulators, there are no fewer than 1,128 ($(48 \times 47) \div 2$) ways for information to get lost.

Furthermore, due to the sweepingly broad scope of money transmission laws and the aforementioned constitutional issues, keeping such laws on the books requires funding for state Attorneys General to defend against lawsuits challenging their validity. As previously mentioned, Think is presently engaged in one such federal lawsuit against the DBO. Even though the MTA was largely written by enormous financial conglomerates, the law is actually defended by the California Attorney General *using taxpayer dollars*, making the extra budgetary strain on the state government particularly egregious. In effect, the large financial institutions (whose own legal budgets are plenty large) have figured out a way not only to protect their own economic interests, but to charge the taxpayer and the state for defending those interests in court as well.

Laws that cost society more than they benefit society fail the test for constitutionality set out by the Supreme Court in *Pike v. Bruce Church, Inc.*, 397 U.S. 137 (1970). Here, the costs of money transmission laws are felt by countless consumers, businesses, and state governments. The benefits accrue to less than ten companies.

For all of these reasons, the Commerce and Consumer Affairs Committee of the State of New Hampshire House of Representatives recently concluded a study of a bill, H.B. 1700 (2012) that would completely repeal that state's own money transmission law, Chapter 399-G. As of October 2, 2012, the bill to repeal the law was recommended for legislation in 2013 by a vote of 8 in favor, 3 against.

Before Mr. Levine and local attorney Marvin S.C. Dang began their extensive lobbying efforts in Hawaii on behalf of TMSRT in 2006, the Auditor of the State of Hawaii issued a report to the Governor and the Legislature of that state entitled, "Sunrise Analysis: Money Transmitters," regarding H.B. No. 2428 of the 2004 Regular Session. The report's conclusion was clear: "Money transmitters pose little risk of harm to consumers and the public. Some protections already exist, and regulation would likely benefit certain money transmitters more than consumers. We conclude that the bill should not be enacted."

Once TMSRT's Act 153 was signed anyway in 2006, the *Honolulu Star Bulletin* wrote about the new law, which was passed without Mr. Dang being able to cite even a single complaint about money transmitters.⁸

Sen. Gordon Trimble (R, Downtown-Waikiki) cast the sole dissenting vote against Hawaii's first regulation of the money transmitters industry because he said he felt it would raise costs for consumers and put some small operations out of business.

"Many people chose to use unregulated money transmitters because they provide better service for a lower price," said Trimble, who first got exposed to the cottage side of the industry while serving as a peace corps volunteer in the Philippines. "This legislation is only going to force people to pay a lot more to send money home."

⁸ See "New law regulates transmitters of money," Allison Schaefers, *Honolulu Star Bulletin*, June 7, 2006, <http://archives.starbulletin.com/2006/06/07/business/story02.html>.

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Bitcoin exchanges especially are more risky than typical money transmitters because the use of bitcoins is presently limited for the most part to extremely high-risk goods and services such as gambling and illegal drugs. By design, bitcoin is also decentralized, which means that like cash stuffed in a mattress or a poorly-protected vault, it can easily disappear. Not a single bitcoin exchange is properly licensed nationwide in each state with MTLs; most exchanges have no state licenses at all. Many are located overseas to avoid MTLs entirely. This does not mean that all money transmitters are inherently high-risk or that Bitcoin's risk profile will never change (it may or may not for a host of reasons). Rather, Bitcoin's high risk profile should be viewed as the symptom of an ailing and outdated regulatory structure unable to adapt to changes in the market. If anything, Bitcoin proves the need for a comprehensive federal money transmission regulatory framework that does not increase the risk to consumers by driving new technologies underground or out of business, and that is capable of keeping up with quickly-changing technological trends, whether they involve bitcoin or something new.

E. Distortions in the Competitive Market for Payments

1. Spotty Enforcement Causes a Tilted Playing Field

It has been well known for years in the payments community that Dwolla, Inc., a company that purports both to be an “agent” of a credit union in Iowa, which it is not,⁹ and a “mobile payments” company, which is true only from a purely technical perspective, mostly facilitated the exchange of bitcoins which were frequently used for illegal activity, such as buying and selling drugs on underground Tor sites such as The Silk Road. Not a single state regulator has ever taken any action against Dwolla, Inc., although the State of New York Department of Financial Services did issue Dwolla, as well as many other Bitcoin-related entities, subpoenas in August, 2013 due to their lack of compliance with MTLs, which caused Dwolla to abandon its involvement with bitcoin as recently as October 28, 2013. Think is actively engaged in an unfair competition lawsuit¹⁰ against Dwolla and many of these entities, which have, with the help of their venture capital and angel investors, knowingly exploited the regulatory chaos to profit from as much illegal activity as possible.

2. Investors Who Cheerlead and Profit From Criminal Activity

Some of these investors have been forthright about their views on financial regulation: they believe that MTLs are simply a game where the potential rewards of “winning” far outweigh the costs. At an invite-only dinner that was videotaped, Marc Andreessen, principal of the leading venture capital firm Andreessen Horowitz that has invested millions upon millions of dollars in illegal money services businesses, gleefully recalled the advice of his lawyer on the topics of Bitcoin and its regulators, “The good news is they’re going over who gets to regulate it. Um, and so your job is to *sneak through the fight*, while they’re battling it out to

⁹ See “Dwolla, Veridian CU Describe and Defend Their Strange Symbiosis,” Bailey Reutzel, *PaymentsSource*, November 6, 2012, <http://www.paymentssource.com/news/dwolla-veridian-cu-describe-and-defend-their-strange-symbiosis-3012326-1.html?zkPrintable=1&nopagination=1>, also available at <http://www.themembersgroup.com/news/tmg-in-the-news/dwolla-veridian-cu-describe-and-defend-their-strange-symbiosis/>.

¹⁰ For docket information see <http://www.plainsite.org/dockets/index.html?id=2434524>, Case No. 5:13-cv-02054-EJD, Northern District of California.

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see who's in charge!" (emphasis added). Laughter ensued.¹¹

Yishan Wong, an early PayPal, Inc. employee well-versed in the complexity of MTLs, Chief Executive Officer of Reddit, and an angel investor in at least one money services business, stated publicly on March 2, 2011, "if you are a startup who feels that the violation of a law (or an excursion into a grey and questionable/undefined area of the law) will allow you to create a business that provides enormous value to people, the tactically wise thing to do is to move forward and try to build the business. Moreover, if your business is not doing something morally egregious (e.g. killing people) but simply violating the law in a somewhat more minor way, the officers of the company bear little more risk than the company being sued out of existence..."¹²

Mr. Andreessen's and Mr. Wong's views are shared by an overwhelming majority of wealthy technology investors who have placed investments in the most popular brands in the payments space. In private conversations, some have confided that although they believe federal regulation of money transmission is the right and only answer to the problem of inconsistent, ineffective and onerous state MTLs, they will not speak up, effectively because the potential profits to be made from simply ignoring the current, broken system are too lucrative to sacrifice. The fact that consumers and their law-abiding competitors are injured by their deliberately unlawful approach does not concern them in the least. The message from these respected investors is clear: success at any cost is fine; laws are for other people.

Only recently has one investor made his views on state MTLs public in written comments to the Federal Reserve System.

3. “Consultants” Who Were “Regulators” The Day Before

At least in California, it is not a mere coincidence that enforcement of MTLs had been so spotty and lackluster while high-profile startups with millions of dollars publicly announce their intent to violate the law practically weekly. Consulting firms such as Promontory Financial Group lead the way in helping their elite clients evade MTLs. The most glaring example of this was visible on October 17, 2013 when the Financial Women of San Francisco held an event called “New Payments Networks and Virtual Currencies: Are They the Future of Payments?” at which virtual currency entrepreneurs from Ripple Labs, Coinbase and Dwolla presented their views on a panel. (Dwolla cancelled at the last minute.) All three companies, none of which have even applied for a license under the MTA in California (making their founders and investors federal felons), share more than just an interest in financial technology—they also have a common investor: Andreessen Horowitz. The panel’s moderator was none other than William Haraf, until recently Commissioner of the California DFI, on whose watch the MTA was implemented. Mr. Haraf is now Managing Director at Promontory Financial Group. It was suggested by a former Promontory Director in attendance at the event that the panelists were also Promontory clients. That individual was a former Director, and not still a Director, because he had been forced to resign from Promontory when he decided to join the team at one of the panelist’s companies, a Promontory client, which focuses on virtual currency.

¹¹ See <http://pandodaily.com/2013/10/03/andreessen-bitcoin-is-like-the-early-internet/>.

¹² See Yishan Wong's answer to "Airbnb: Why has Airbnb not been sued or regulated out of existence?", <https://www.quora.com/Airbnb/Why-has-Airbnb-not-been-sued-or-regulated-out-of-existence>.

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F. Redundancy

The federal prosecutors who most often handle cases involving complex financial crimes already have an arsenal of statutes at their disposal. Money transmission laws are rarely invoked and generally redundant in the context of these other statutes. Covering a roughly twenty-year period, nationwide case data from PlainSite (<http://www.plainsite.org>) show:

- **18 U.S.C. § 1341 (Frauds and swindles):** 3,545 cases
See <http://www.plainsite.org/laws/index.html?id=14176>
- **18 U.S.C. § 1343 (Fraud by wire, radio, or television):** 2,591 cases
See <http://www.plainsite.org/laws/index.html?id=14178>
- **18 U.S.C. § 1956 (Laundering of monetary instruments):** 3,306 cases
See <http://www.plainsite.org/laws/index.html?id=14422>
- **18 U.S.C. § 1957 (Engaging in monetary transactions in property derived from specified unlawful activity):** 756 cases
See <http://www.plainsite.org/laws/index.html?id=14423>
- **18 U.S.C. § 2314 (Transportation of stolen goods, securities, moneys, fraudulent State tax stamps, or articles used in counterfeiting):** 915 cases
See <http://www.plainsite.org/laws/index.html?id=13668>
- **31 U.S.C. § 5324 (Structuring transactions to evade reporting requirement prohibited):** 354 cases
See <http://www.plainsite.org/laws/index.html?id=30138>

Compare these figures to:

- **18 U.S.C. § 1960 (Prohibition of unlicensed money transmitting businesses):** 66 cases
See <http://www.plainsite.org/laws/index.html?id=14426>

Of the few cases invoking 18 U.S.C. § 1960, many also invoke at least one of the other statutes listed above. Clearly, prosecutors can still easily do their jobs when it comes to financial crime without state money transmission laws. After all, stealing money still involves stealing.

G. Surety Bonds are Ineffective, Inefficient and Costly Insurance Mechanisms That Will Become Increasingly Insufficient with the Rise of Mobile Payments

A money transmitter wishing to do business in the United States of America must presently pay for almost fifty surety bonds of varying amounts with a total worth of approximately \$20 million—annually. Even at a premium rate of 5%, this represents a \$1 million annual expenditure. Aside from being impossible to afford for most startups, who might be lucky to raise a fraction of that amount in angel or venture capital financing, the insurance mechanism doesn't even make sense.

The MTA's maximum bond requirement is \$9 million according to Financial Code § 2037(f), which explicitly combines the \$2 million maximum for “stored value” with the \$7 million maximum for “receiving money for transmission.” Aside from the fact that these numbers are totally arbitrary, they are also far too small. A large money transmitter such as PayPal holds far more than \$9 million in consumer funds. If

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PayPal's parent company, eBay, Inc., were to suffer a sudden collapse for whatever reason, the funds held by PayPal's customers would be mostly uninsured. PayPal customers would be lucky to receive pennies on the dollar.

Contrast this to FDIC insurance, which presently covers every bank account in the United States up to \$250,000. All banks pay premiums to the FDIC based on risk, and those pooled premiums serve as insurance. This system works because the risk of one bank failing is spread out across all banks.

For money transmitters, each entity is required to shoulder the full burden of its own potential failure. Even though an insurance provider backing surety bonds can collect premiums from multiple money transmitters, offsetting that provider's *own* risk, this does nothing to offset the risk to *customers* of any one failure, because the bonds only insure one party each.

In short, the surety bond system used in place of FDIC insurance for money transmitters is little more than smoke and mirrors. It offers too little protection for large players, and is prohibitively expensive for small ones.

As mobile payments (and therefore money transmission) become more prevalent, more money will be entrusted with money transmitters, and less with chartered banks. *Under the current model, surety bonds alone, in any amount, will not be able to adequately protect increasing amounts of funds.* Government officials at all levels ignore this inevitable trend at their own peril.

H. Capital Requirements Have Been Repeatedly Proven Ineffective as Regulatory Mechanisms in a Non-Banking Context

Banks (which have the option of obtaining national charters) require minimum levels of capital because they make loans. If too much money has been loaned out at the same time by a bank and there is a spike in demand for deposits on hand at that bank, a run can result, leaving the bank insolvent.

Money transmitters do not make loans. Money transmitters therefore do not suffer from the same problem as banks, and capital requirements must be evaluated in a different light. Every dollar entrusted to a money transmitter is available to its holder at all times. The key regulatory objectives are merely ensuring that customer funds are not co-mingled with the money transmitter's operational funds, and that customers have access to their funds as needed. In essence, maintaining the distinction between consumer accounts and operational accounts is a matter of good record keeping.

Nonetheless, ignoring this logic, many (but not all) money transmission laws regulate commercial activity on the basis of surety bonds (as previously discussed) and capital requirements. The conventional wisdom is that financial institutions with greater levels of capital are more trustworthy. Simply put, this conventional wisdom is wildly wrong.

One only need recall the events of 2008 to see that capital amounts in absolute terms (as opposed to reserve ratios) only go so far. The creditors of Lehman Brothers, an entity once managing \$600 billion of assets, were hardly protected by the firm's immense reserves of capital when it declared bankruptcy on September 15, 2008. Bear Stearns suffered a similar fate. Bernard Madoff's investment firm had many millions of dollars in

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its accounts before it was discovered to be a Ponzi scheme of unprecedented scale.¹³ Although these entities were not money transmitters and in many cases used leverage to attempt to bolster their returns, extremely large companies such as MF Global (with \$41 billion in total assets and \$39.7 billion of debt according to its bankruptcy filing)¹⁴ and Peregrine Financial Group operated much more like money transmitters (not making loans) and suffered the same fate.¹⁵ Yet financial regulators continue to place trust in capital alone.

At least in the case of MF Global, wire transfers of *hundreds of millions of dollars* were made without any regulators noticing that customer funds and operational funds were being co-mingled.¹⁶ Were MF Global a money transmitter instead of a futures brokerage, under the MTA, it would have had no problem obtaining a money transmission license given the written \$500,000 tangible net worth requirement, or even the unwritten \$1 million-plus tangible net worth requirement. Nonetheless, its management would not have been any more trustworthy.

This all goes to show that there is no relationship between capital and trust. Even if such a relationship did exist, the actions of large banks in the 2008 financial crisis suggests that it would be inverse and certainly not strong enough for policy to be based on its existence. Therefore, basing the licensure process on absolute amounts of capital, as the MTA does, accomplishes nothing except to discriminate against small firms just starting out who inevitably cannot meet the requirements on day one of business.

I. The Domino Effect

Virtually every state money transmission application asks the applicant to present a list of all other states in which licenses have been obtained or applied for. Rejections must also be noted, often in answer to a yes-or-no question asking whether the applicant has ever been rejected for a money transmission application in any other state. If the answer to this question is “yes,” then the chances that the instant application will also be rejected increase dramatically. (This question is often next to other questions concerning whether any of the applicants’ officers have criminal records.)

As a result of the domino effect, applicants cannot risk applying for licenses in states where it seems possible that their application might be rejected for any reason, including insufficient capital. Applying anyway could easily and irreversibly jeopardize that applicant’s chances at doing business nationwide.

J. Chilling Effects on Innovation and Investment

The conventional retort to the argument that capital requirements are too high is that institutional investors,

¹³ Money transmission laws are also flawed in that they rely heavily on third-party audits to assess capital levels, *paid for by the applicant, the same entity being audited*. This perverse incentive structure gives the auditor a strong desire to please its customer, not the government, lest it not get paid. It partially explains how Madoff was able to hide his fraud for so long. It also makes compliance that much more expensive: Think paid \$18,000 for useless MTA audits.

¹⁴ See “MF Global Holdings Amends Agreement to Use JPMorgan Cash,” Tiffany Kary, Bloomberg, <http://www.bloomberg.com/news/2012-09-07/mf-global-holdings-amends-agreement-to-use-jpmorgan-cash.html>.

¹⁵ See “MF Global redux as regulator says PFGBest client funds missing,” Reuters, July 10, 2012, <http://www.reuters.com/article/2012/07/10/us-broker-pfgbest-mfglobal-idUSBRE86905120120710>.

¹⁶ See “Investigators Scrutinize MF Global Wire Transfers,” Azam Ahmed and Ben Protess, *The New York Times*, February 26, 2012, <http://dealbook.nytimes.com/2012/02/26/investigators-scrutinize-mf-global-wire-transfers/>.

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such as venture capitalists, are plentiful (especially in Silicon Valley) and willing to fund important payment innovations. This applies to some investors, such as those mentioned previously, who have no regard for the rule of law.

As for the rest, entrepreneurs wishing to make large, systemic, and important changes to the way payments are made are repeatedly told to “partner” with banks or other existing financial institutions in order to avoid the regulatory nightmare. Banks and other existing financial institutions in turn have their own regulations to worry about. They routinely refuse these partnership offers, which they see as enormous liabilities, often because they also promise to cannibalize banks’ existing revenue streams, namely debit and credit card interchange fees. Those few entrepreneurs who persist are told by investors that they should find something else to do, because the risk to investors is high in more ways than one.

Many Bitcoin exchanges are poorly-run, fly-by-night operations that should not be able to obtain banking services in the United States. Yet many money transmitters having nothing to do with virtual currency are legitimate, and these companies also increasingly have trouble obtaining banking services. Banks are required to comply with the Bank Secrecy Act (BSA), and many fear penalties for associating with the “wrong” money transmitters given the regulatory complexity inherent in the present system.

K. Criminalization of Legitimate Entrepreneurship

Perhaps the most counter-productive aspect of 18 U.S.C. § 1960 is part (a), which reads:

Whoever knowingly conducts, controls, manages, supervises, directs, or owns all or part of an unlicensed money transmitting business, shall be fined in accordance with this title or imprisoned not more than 5 years, or both.

In effect, while the CEOs of failed banks that caused the 2008 financial crisis walk free—not to mention certain banks that have made money laundering and terrorist financing explicit goals—entrepreneurs trying to improve upon the enormous mess they have left behind are told that if they do not comply perfectly with forty-odd incredibly confusing and contradictory state laws, and federal laws, they might well go to jail, along with their investors, directors, and even shareholders. Never has there been such a stark disincentive to enter an industry.

The fact that failing to comply with *any* state law is a federal crime, combined with the naturally interstate nature of money transmission, means that compliance with *all* state laws is required at all times, even if it is not clear which states regulate which aspects of commerce (which it is not, as applicants for licenses are frequently told to write to state agencies for determination letters, which can take months or years). Compliance with even a few state laws can be prohibitively expensive for a new entrant, which typically must hire an army of lawyers to explain forms, compile documentation, assemble notarized affidavits, etc.

In the end, the result is that fewer entrepreneurs have any interest in entering an industry where punishments are plentiful and rewards are hard to come by. Suffice it to say that PayPal (whose headquarters is apparently slated to host the Committee’s hearing) would not have been able to succeed as quickly as it did, if at all, had a law such as the MTA existed in California in 1999.

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Most states are hardly in a position financially to crush non-polluting, efficiency-driving businesses who hire workers and pay taxes. Yet that is exactly what they have done with money transmission laws.

L. Ineffectiveness of State Regulators

The blunt truth is that state regulators of money transmission are a dangerous combination of understaffed, totally incompetent, technologically inept, and blatantly corrupt. Despite millions of dollars in funds earmarked for illegal narcotics on the notorious Silk Road being routed through an unlicensed money transmitter operating through a credit union in Iowa, the Iowa Department of Commerce, Division of Credit Unions, saw nothing wrong, and even *threatened legal action* against Think when Think filed a complaint with the NCUA (a copy of which was forwarded to the Bureau). When the California DBO decided to investigate Bitcoin, its Deputy Commissioner for Money Transmission, Robert Venchiarutti, sent a cease and desist letter to the Bitcoin Foundation, which is clearly not a money transmitter and involves itself only in lobbying and advocacy work. Oregon has a total of one staffperson devoted to oversight of money transmission, and she often has other more pressing tasks to attend to. When she is out sick, Oregon no longer has anyone to oversee its money transmitters statewide. Louisiana requires thumbprints of MSB owners to be submitted on paper (not digitally), but in the past has used the excuse that “information may have been damaged or lost in the LSP system due to power surges caused by lightening [*sic*] that damaged several servers” to explain why it had failed to process at least one application for licensure for a full year.

II. Problems with the California Money Transmission Act of 2010 and the California Department of Financial Institutions’s Enforcement Thereof Specifically

Although state money transmission laws clearly have many problems associated with them, the MTA is particularly flawed, both in its design and in the manner in which it is enforced. This merits discussion because the MTA is similar to many other MTLs, and because of California’s special place in the national startup ecosystem.

A. The Money Services Round Table Sold the Money Transmission Act to the Legislature Under the False Pretense of “Consumer Protection”

That the interests of large financial companies are really the motivating force behind the MTA’s myriad restrictions is self-evident from the bulleted prospectus that Mr. Levine and his colleagues supplied to the DFI in late February, 2010. Under the bold heading of “ADVANTAGES,” this unsigned document on no letterhead states that the new proposed law would reduce administrative burden for DFI and “industry”; would bring California’s financial laws “into the mainstream” (whatever that means); would give DFI more power (to harass the competitors of TMSRT’s members); and apparently reflects “a DFI-Industry consensus.” This last statement is blatantly false unless the capitalized “Industry” is a code word for TMSRT. Consumers are mentioned only in passing as the supposed beneficiaries of additional disclosures required “with regard to emerging electronic technologies”—obstacles clearly targeted at Silicon Valley high technology startups that naturally threaten TMSRT members.

Conspicuously missing from TMSRT’s bulleted list was a mention of any specific event or scientific study that would suggest that a change in the law was necessary in the first place. This is because the MTA represented nothing more than a naked power grab on behalf of both TMSRT and the DFI.

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This is not to say that consumer protection is not a legitimate state interest, for it clearly is. Unfortunately, the MTA lacks any effective means by which consumers would actually be protected, and even if it did contain such effective means, the DFI has shown time and again that it has no intention of actually enforcing the law in a manner that would protect consumers.

B. The Money Transmission Act's Scope is So Broad as to Encompass Virtually All Aspects of Routine Commerce

Under the MTA, every law firm that maintains a trust account or remits funds to government agencies on behalf of clients is a money transmitter. Every payroll company that drafts and holds onto client funds is a money transmitter. Every private university that operates a pre-paid debit system for students, allowing them to purchase goods and services at on-campus third-party merchants, is a money transmitter. Every construction company, real estate agency, escrow service, and political donation aggregator (such as those used by many of the members of the California legislature in yesterday's election) is a money transmitter. The definition of "money transmission" in Financial Code § 2003(o) is so absurdly broad as to encompass much of the daily activity that keeps California's economy running. Of course, a good number of technology startups are also unwittingly money transmitters under this definition, even if their core business has nothing to do with payments.

Almost none of these types of entities listed above have licenses, let alone licenses nationwide; after all, California only has eighty-four licensed companies¹⁷ with the MTA having been in effect for almost two years. Meanwhile, as the MTA claims to regulate everything, the DBO does almost nothing to enforce it, save for threatening prospective applicants seemingly at random, and especially those who dare to ask questions.

California Assembly Bill 786, signed into law in October, 2013, exempted payroll companies from the MTA after Think's objections to many types of companies not facing regulatory scrutiny, as well as heavy lobbying from ADP. Payroll companies handle several kinds of transactions that are still deemed money transmission in other states, to say nothing of lawyers, escrow services, real estate agents, construction companies, private universities, and other businesses that regularly handle client funds.

C. The Money Transmission Act is Inconsistent with the Requirements of Other Similar Laws, Which Are Also Inconsistent with Each Other

Even assuming for the sake of argument that the MTA is a valid law with effective measures to accomplish a reasonable goal—which it is not and does not have—other state money transmission laws have requirements that are considerably different. There does not appear to be any particular logic to the specific figures in the MTA (\$500,000, now reduced to \$250,000 after Assembly Bill 786; \$2 million; \$7 million) except that they are big, round numbers.

In contrast to the MTA's \$250,000 (but really not) minimum tangible net worth requirement and \$750,000 aggregate surety bond requirement, Alabama requires \$5,000 in minimum tangible net worth and a surety

¹⁷ This represents \$420,000 of application fee revenue for the DFI, enough to cover the salary and benefits of roughly four bureaucrats to oversee the program. Yet the sacrificed tax revenues are in the tens of millions.

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bond anywhere from \$10,000 to \$50,000. The MTA’s non-refundable application fee is \$5,000; in Alabama, the total fee is \$500.

Ohio requires a minimum net worth of \$25,000 but a \$300,000 surety bond. Oregon requires \$100,000 in net worth but a \$25,000 minimum surety bond—except that it defines “money transmission” in a way that exempts payment processors such as FaceCash.¹⁸ Maryland’s application fee changes depending upon whether one applies in an even-numbered or odd-numbered year.¹⁹ Clearly it is impossible to find much consistency between the various laws, but even given the variation built into the regulatory regime, the MTA is an order of magnitude more expensive to comply with, and therefore more restrictive.

State laws that are completely inconsistent with one another are often found to be unconstitutional by federal courts as they tend to impede interstate commerce.

D. The Money Transmission Act Has Already Been Rendered Toothless by a Federal Judge

On October 25, 2012, in a decision in an ongoing federal civil lawsuit between a minor and Facebook, Inc. (Northern District of California, Case No. 4:12-cv-01894-CW), District Judge Claudia Wilken established a new definition of “open-loop” pertaining directly to the MTA that has no foundation in the MTA or prior caselaw. According to Judge Wilken, Facebook Credits are not considered money transmission or stored value, and are “closed-loop,” because Facebook users do not make use of their Credits “for goods and services outside the Facebook site.”

The MTA does make an exemption for closed-loop systems (e.g. in-store retail credit) involving “affiliates” of a given entity, but the MTA defines affiliates in Financial Code § 2003(a) as:

“any person controlling, controlled by, or under common control with, that specified person, directly or indirectly through one or more intermediaries. For purposes of subdivisions (q) and (v), a specified person is affiliated with another person if that person controls, is controlled by, or under common control through the ownership directly or indirectly of shares or equity securities possessing more than 50 percent of the voting power of that specified person.”

This does not describe Facebook’s situation. On the Facebook web site, users can purchase Facebook Credits that are redeemable with completely independent corporations, such as Zynga, Inc., among many other game developers who are not affiliates of Facebook, Inc. or Facebook Payments, Inc. under the MTA.

By conflating corporate ownership with technological tricks, Judge Wilken has effectively opened a loophole in the MTA large enough to drive a truck through. According to her definition, FaceCash is closed-loop

¹⁸ According to FinCEN, money transmitters are distinct from payment processors. Even though this distinction is embodied in the Code of Federal Regulations, the DFI and certain other state agencies choose to actively ignore it. See FinCEN Rulings 2003-8; FIN-2008-R005; FIN-2009-R001; and FIN-2009-R004.

¹⁹ See “Held Hostage: How the Banking Sector Has Distorted Financial Regulation and Destroyed Technological Progress,” Aaron Greenspan, Think Computer Corporation, August 15, 2011, <http://www.thinkcomputer.com/corporate/whitepapers/heldhostage.pdf>.

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because everything works through a single web site; PayPal, the classic example of a money transmitter, is as well. By this new definition, there is no reason for the MTA or any money transmission law to exist at all, so long as one can afford to purchase a domain name.

It is possible that this ruling will eventually be overturned, but in the meantime, it amply demonstrates that the MTA is so confusing and ill-conceived in the context of internet commerce, even federal judges have a difficult time figuring it out.

E. The Money Transmission Act Encourages Abuse of Discretion by the DBO

The MTA gives the DBO *carte blanche* to do whatever it wants with respect to money transmission licensure. The issuance of licenses can be put on hold for up to a year, giving an applicant's competition more than enough time to gain traction illegally. Or, as happened to Think, applicants can be told that they will simply never be granted a license, no matter what—but that they should try applying anyway, so long as they remember that the application fee is non-refundable.

1. The DBO Invented Its Own Set of Unwritten, “Underground Regulations” Not Subject to a Notice and Comment Period In Violation of California Government Code § 11346.8(c) and 1 C.C.R. § 44

Relying on what he called his “personal experience,” a DBO Deputy Commissioner explained at Think’s mandatory pre-application interview (held at the DFI’s office in San Francisco on June 14, 2011) that the MTA gave him unbridled discretion to set the tangible net worth requirement as high as he desired so long as it exceeded the \$500,000 statutory figure. During the meeting, he cited minimum net worth figures of \$1 million, \$2 million, \$20 million, and as high as *\$80 million* as potentially necessary to obtain a license. When Ms. Eileen Newhall, Staff Director of the California Senate Banking, Finance & Insurance Committee inquired again on behalf of Think after the meeting, the Deputy Commissioner told her that the number was \$1.5 million, but did not put this statement in writing. Without clarity as to the *actual* threshold used to evaluate applications, Think was unable to apply for a license without running a significant risk of rejection that would ultimately trigger irreversible nationwide ramifications, due to the aforementioned “domino effect.”

Although the Commissioner (or practically speaking, the Deputy Commissioner) can increase the tangible net worth requirements on any given licensee pursuant to Financial Code § 2081(b), there is no direct oversight mechanism that would prevent a DBO Commissioner or subordinates from picking “favorites” and selectively raising the capital requirements of particular companies for little to no reason at all, as the DFI appears to already be doing.

Courts tend to look rather unfavorably on statutes that grant unfettered discretion to bureaucrats, or even elected officials. “We hold those portions of the Lakewood ordinance giving the mayor unfettered discretion to deny a permit application and unbounded authority to condition the permit on any additional terms he deems ‘necessary and reasonable,’ to be unconstitutional.” *City of Lakewood v. Plain Dealer Publishing Co.*, 486 U.S. 750 (1988).

After Think filed suit against the DFI, an undated “Money Transmitters FAQ” page spontaneously appeared

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on the DFI web site at http://www.dfi.ca.gov/resources/faqs/faqs_tms.asp, to supposedly clarify the following (emphasis added):

“**Q.** What is the capital requirement?

A. The capital requirement *varies based on the licensee’s plan of operation and risk profile*. The amount of tangible net worth stated in the Financial Code, \$500,000, is *not* the amount required for licensing, but rather the *minimum* allowed for existing licensees. A new licensee would typically be required to have more tangible net worth, *at least* \$1 million, to offset the *expected losses* of a new transmitter and support its operational needs at all times.”

The DBO therefore pre-supposes that all applicants will immediately lose more than \$1 million. This is simply not so.

When questioned by Magistrate Judge Howard Lloyd about the ever-changing requirements for licensure during oral argument on April 17, 2012, according to the official transcript Deputy Attorney General Ryan Marcroft, representing the DFI, stated, “As far as that issue goes, it’s kind of a confusing issue, it was to me at least.” At a March, 2013 oversight hearing, the DFI’s then-Commissioner, Teveia Barnes, stated, “we don’t treat every applicant—it’s really an art form in the sense that we don’t treat every applicant exactly the same.”²⁰

In essence, the DBO’s interpretation of the MTA requires that applicants pay a non-refundable fee of \$5,000 and risk nationwide rejection *before* learning what the requirements even are to apply for a money transmission license in California. This is a gross perversion of due process, rendering the MTA unconstitutional for yet another reason.

2. The DBO Has Threatened to Bankrupt Applicants via the Audit Power Granted by the Money Transmission Act

In the past, the DFI has specifically threatened that it can abuse its audit power pursuant to Financial Code § 2120 to drive an applicant into bankruptcy if that applicant attempted to apply for a license and managed to somehow be successful in obtaining one. Undoubtedly, the DFI was referring to the fact that licensees are required to pay for the “reasonable costs” of audits. (Of course, no cost is really reasonable because such audits could be conducted for the most part electronically if the DFI were properly equipped to regulate money transmission.)

3. The DBO Bases Its Policy on a Magic Number with No Foundation

As the basis for many assertions and rationales, DBO personnel stated that as a rule it took three years for money transmitters to become profitable. These staff members offered no justification for this arbitrary figure other than his own personal experience. The three-year rule was repeated in discussions between Think and DBO Senior Counsel Tony Lehtonen. No authoritative source for the rule was ever provided.

²⁰ See <http://www.plainsite.org/flashlight/download.html?id=31313747&z=395adb4e>, Case No. 5:11-cv-05496-HRL, Docket No. 47, Page 46.

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F. The MTA's Geographic Scope is Unconstitutional On Its Face and As Applied

On October 13, 2011, in response to Think's repeated inquiries about the actual tangible net worth requirement and the potential liability that Think would assume as a California company conducting *licensed* money transmission activity outside of California (in Alabama and Idaho specifically), the DFI issued an Order exempting Think from the MTA so long as it effectively promised not to do business as a money transmitter in California. This necessarily implies that the MTA polices the entire United States of America outside of California, which is not possible or permissible given that the MTA is a state, and not federal, law.

To the extent that the MTA does police money transmission activity anywhere outside of California, the MTA is again unconstitutional.

G. The DBO Has Enforced the Money Transmission Act in an Arbitrary and Capricious Manner

Adding insult to injury, the DFI seems indifferent toward the countless companies violating the MTA on a daily basis.

1. The DBO Has Failed to Respond to Formal Complaints Concerning the Money Transmission Act

Think filed no less than thirty-four (34) different formal complaints with the DFI in November, 2011, referenced in the lawsuit. No action that has been made public has resulted from their investigation. Namely, many of the startup companies conducting money transmission in California in violation of the MTA are still conducting money transmission in California in violation of the MTA. Meanwhile, Think's inability to operate FaceCash means that its competitors have an unfair advantage in the marketplace.

The DFI has now had over two years to act since the complaints were filed in or before November, 2011.

2. The DBO Has Made False Statements to the Press Concerning the Existence of the Complaints

In a July 11, 2012 article by Owen Thomas on the *Business Insider* web site entitled, "This Innovation-Killing California Law Could Get A Host Of Startups In Money Trouble" (<http://www.businessinsider.com/california-money-transmitter-act-startups-2012-7>), DFI spokesperson Alana Golden was quoted as saying, "Thankfully, none," in response to the reporter's question about how many formal complaints the DFI had received about unlicensed money transmitters. Ms. Golden's statement is demonstrably false.

Approximately two months prior, on April 17, 2012 at oral argument, Deputy Attorney General Marcroft stated, "Well, to answer Your Honor's question, my client mentioned this morning they are looking into those complaints," in response to the Judge Lloyd's question as to what had happened to Think's thirty-four formal complaints.

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3. The DBO Granted License Applications in Record Time to Entities in Active Violation of the Money Transmission Act

Facebook Payments, Inc., a wholly-owned subsidiary of Facebook, Inc. began conducting money transmission through its Facebook Credits program sometime in early 2011, but did not apply for a money transmission license until after Think filed a formal complaint about its activity in November, 2011. This is significant insofar as Facebook missed the application cutoff date of July 1, 2011 prescribed by Financial Code § 2172(a)²¹ that would have allowed it to continue operating legally as a money transmitter. In other words, it broke the law, fully aware of its existence.

Nonetheless, the DFI looked the other way, ignoring Facebook's illegal activity, and approved its application for a license in just three months, leaving plenty of time before the company's initial public offering in May, 2012 when it would undergo extreme scrutiny by the United States Securities and Exchange Commission. A cursory review of public records concerning license applications reveals that most are not approved within less than six months, while many take a full year to review. Since there are no published standards outlining the DFI's application review process, it is not clear why such discrepancies exist.

Already no stranger to lawsuits, which apparently did not factor into the DFI's decision making process, since receiving its license, Facebook has faced a flurry of new class-action lawsuits, including the aforementioned pending federal suit concerning its Facebook Credits program, which among other problems, does not comply with any of the ill-conceived receipt requirements of the MTA.

H. The DBO's Own Lawyers Are "Appalled At" the Money Transmission Act

In speaking with Think, DFI Senior Counsel Tony Lehtonen remarked that he was surprised by the reasonableness of Think's requests. On September 13, 2011, he admitted that his own personal view, shared by other DFI legal staff, was that, "We have been appalled at the new law. Even though some of us may have been complicit in it, the view from Legal is: what are we doing here?"

On October 17, 2011, Mr. Lehtonen refused to communicate with Think any further, despite his earlier promise that he would be glad to talk any time. Given the DFI's open hostility, this left Think with no channels of communication to the DFI.

I. The MTA and DBO Have Engendered a Culture of Fear, Making Money Transmission More Dangerous

Institutional investors are not the only ones who have taken note of the DBO's arbitrary and capricious actions with respect to the MTA, not to mention the Byzantine and draconian nature of the MTA itself. Entrepreneurs are very much aware of the DBO's antipathy towards their work on improving payments. Consequently, those entrepreneurs most affected by the MTA are afraid to come forward, for those who identify themselves are most likely to be targets of reprisals (as Think has been).

Further aware of the DBO's lackluster record in enforcing the MTA, many entrepreneurs also correctly

²¹ According to the official text provided by the State, Financial Code § 2172 was not properly re-numbered, and still references pre-2012 section numbers in the text of the statute itself.

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calculate their risk of being prosecuted for running an unlicensed money transmission business as being low if they simply stay quiet, and proceed with money transmission activities regardless. This has the ironic effect of endangering consumers, who may be able to turn to the DFI for help with a handful of giant, licensed conglomerates, but not for help with most other smaller businesses of which the DFI is unaware. For example, in the past few months alone, several unlicensed Bitcoin startups have cost consumers hundreds of thousands, if not millions, of dollars. Were there reasonable federal money transmission regulations in effect, these consumers might have some recourse, but alas, they do not.

Ironically, the 2006 version of Mr. Levine would agree here. As he wrote in that same comment to FinCEN and the Federal Reserve in which he disclosed TMSRT's members, "The bottom line is that from the standpoint of law enforcement and for national security, it is far better for all financial transactions to be conducted through legitimate financial institutions rather than illicit operators who maintain no transaction records accessible to law enforcement, file no reports and have no BSA compliance costs. Therefore, neither law enforcement nor the overall security of the United States is served by promulgating regulatory requirements which have the effect, at least insofar as MSB customers are concerned, of driving funds underground by providing an unintentional incentive for customers to use these illicit channels."

This is exactly what Mr. Levine's own laws, including the MTA, do. They raise prices on the services provided by "legitimate financial institutions" and render all other channels "illicit."

III. CFPB's Role as a Regulator of Money Transmission

The myriad problems described in these comments are surprisingly simple to fix. The CFPB should use its rulemaking authority under the Dodd-Frank Act to either explicitly or implicitly pre-empt the ineffective and chaotic policies of state money transmission statutes and regulators.

A. To Reduce Regulatory Complexity, CFPB Should Regulate All MSBs, Not Only "Large" MSBs Engaged in an Arbitrary Number of International Transactions

As the previous sections of this letter indicate, the fundamental problem with the present regulatory regime governing money transmitters in the United States is that it is insanely fragmented and complex. The aspect of the CFPB's proposal regarding the use of an arbitrary number of international transactions to trigger its regulatory authority, which would only apply to *some* money transmitters, only adds to that complexity.

Money transmitters, and especially startup companies, are already suffering greatly under the present regime. While some small money transmitters (and many large ones) have sought to abuse the system, some completely well-intentioned entrepreneurs have also been sent to prison, despite the assurances of their lawyers that they were complying with appropriate state and federal laws. While the CFPB's primary objective should be to protect consumers, that aim can be achieved only if the current patchwork of laws is smoothed over such that fewer transactions (and startup companies) fall through the cracks.

1. Our Increasingly Global World Makes It More Difficult for MSBs to Avoid International Operational Scope

Think's FaceCash product started out the way most financial startup products do: with a domestic scope.

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Nonetheless, Think planned (and continues to plan) to add international functionality in the future. Doing so would be easier to implement, and undoubtedly safer for consumers, with a single set of regulators already familiar with the product from its inception.

Larger corporations looking into providing money transmission services that may already interact with international customers on a daily basis in non-money transmission markets would also be caught in a definitional gray area were the CFPB to regulate “international” money transmitters.

2. Virtual Currencies Know No Geographic Boundaries

Many companies are interested in the burgeoning field of virtual currencies, including but not limited to Bitcoin. Since these currencies generally are not backed by any government regime, they generally have the advantage of working in the same manner anywhere in the world. Essentially, any Bitcoin transaction could potentially be an international transaction (as could any World of Warcraft transaction), and we already know that Bitcoin is frequently used in an international context. Should the CFPB be interested in regulating international money transfers, it will need to have examiners and analysts who are familiar with the many nuances of virtual currencies. Most financial regulators today have no technical background, which makes them essentially unable to do their jobs.

3. “Mobile” Payments Necessarily Imply Consumers That Move Frequently

Even payments that do not involve virtual currency may involve consumers in foreign countries without the knowledge or intent of the money transmitter. A mobile payment sent from an Android device in Ohio to a Texas voter on vacation in France using her iPhone in roaming mode may or may not appear to the money transmitter as being received out of the country. DNS hostnames and IP address assignments are determined by the Internet Service Provider, and not the payment system provider. Even if a transfer did appear to be international, it might not necessarily be clear to the money transmitter which country the payment was received in; the European Union has recently introduced EU-wide domain names. Therefore, even money transmitters intending to do business only in the United States may end up inadvertently facilitating international transfers of money over which they have little control. The CFPB should therefore make its regulatory domain clear by simply regulating all money transmitters, and prioritizing enforcement on those money transmitters who pose the highest risk to consumers (e.g. those making use of virtual currencies).

4. Arbitrary Thresholds With No Rational Basis Serve No Legitimate Policy Purpose

With certain exceptions, the use of arbitrary thresholds in statutes and/or regulations should be avoided. Although one million is a nice round number, there exists no substantial basis in fact for the choice of that particular number to categorize a given enterprise as a “large player.” Money transmitters who serve customers that need to make frequent, small transfers of funds would be more likely to be regulated under such a system than those encouraging massive transfers of funds. Such thresholds often have the unintended consequence of modifying the behavior of market players in ways that encourage consumers to unknowingly structure transactions to allow the payment system provider to avoid regulatory scrutiny. (For example, it would not be surprising to see some money transmitters offer discounts to consumers who send fewer transfers so that they could stay below the hypothetical one million transfer threshold.)

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Just as the IRS collects taxes from all U.S. taxpayers, if the CFPB believes that money transmission affects all consumers of financial services, then the CFPB should regulate all money transmitters. To the extent that existing Congressional authority does not permit this, the Bureau should request that Congress amend the Dodd-Frank Act and/or related statutes.

If the CFPB considers some threshold to be absolutely necessary, then the threshold should based upon dollar volume *or* number of transactions, whichever is reached first. Think strongly opposes such arbitrary distinctions, however, and does not believe they serve the public interest in any way.

B. Federal Regulation Must Pre-Empt State MTLs

1. Explicit Pre-Emption

12 U.S.C. § 5514(a)(1)(B) states that the Bureau has statutory authority to regulate any covered person who “is a larger participant of a market for other consumer financial products or services, as defined by rule in accordance with paragraph (2).” The market(s) for alternative payments that do not make use of existing credit and/or debit card rails are still extremely nascent and therefore tiny; any player in any one of these markets, whether related to point of sale payments (e.g. FaceCash) or virtual currency transactions (e.g. Bitcoin) could already be considered a “larger participant” in that narrow market, and should therefore be subject to the Bureau’s regulatory authority. (For example, U.S.-Mexico money transfers could be considered its own market, as could New York restaurant mobile payments.) The Bureau should keep in mind that if it is successful as a regulator, new markets will open up that may not have existed previously, such as micropayments for on-line goods and services.

12 U.S.C. § 5514(b)(3) requires the Bureau to minimize regulatory burden on covered persons (in this case, money transmitters) by avoiding overlap with various state authorities and other “prudential regulators.” The best way to do this is to simply divest the state authorities of any and all regulatory responsibilities, and centralize them at the federal level.

The Bureau should further interpret 12 U.S.C. § 5514 as pre-empting 18 U.S.C. § 1960(b)(1)(A), which was written long prior to the Dodd-Frank Act, and in fact, prior to the existence of the commercial internet, upon which virtually all modern money transmission now depends. Instead of requiring licensure with the various states, money transmitters should be required to abide by the Bank Secrecy Act (part of which involves registration with FinCEN), and to obtain a no-application-fee federal license from the Bureau. There should be no application fee for this license because the Bureau’s goal should be to actively encourage compliance every way possible.

State MTLs generally provide two types of consumer protection mechanisms (which are actually most likely to protect large enterprises in the space): tangible net worth requirements and surety bonds. No formal studies have concluded that either of these mechanisms are actually effective or efficient; anecdotal evidence clearly suggests that they are incredibly harmful to consumers. To pre-empt these portions of state laws, the CFPB should immediately implement a FDIC-style insurance pool program that requires any FinCEN-registered money transmitter to contribute to the pool based on clear, published risk factors. For example, any money transmitter handling anonymous or pseudonymous virtual currency should be charged a high risk premium. Given that most individuals do not store large balances with money transmitters, a \$1,000.00

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insurance guarantee should be sufficient for money transmission accounts, and would be far more effective than any current state MTL's surety bond program. To the extent that such a system would pre-empt the states and actually provide a mechanism to protect consumers, this policy alone would be incredibly beneficial for the money transmission industry, and might also have a place in the commodities markets as well to avoid catastrophes such as those associated with MF Global and Peregrine Financial Group.

The Bureau may also want to take measures that would pre-empt obsolete state MTL requirements for paper receipts and regulation of MSB "agents." Modern mobile payment systems classified as money transmitters might be considered under state MTLs to have an "agent" in any merchant with a smartphone or tablet, which is absurd. To the extent that agency relationships are not already well-defined, the Bureau should offer a definition that takes modern methods of money transmission into account.

2. Implicit Pre-Emption

To the extent that explicit pre-emption is not possible without further Congressional action, the Bureau should encourage the various state regulators to voluntarily focus their regulatory efforts on fields other than money transmission, such as state-chartered banks, and allow the Bureau to exercise authority in this domain instead. States could and should be encouraged to issue regulations under their laws stipulating that compliance with the federal Bureau's requirements automatically satisfies all requirements of each State's MTL. Though they will often deny it, many state authorities are cash-strapped and ill-equipped to carry out their duties as is. The transfer of authority to the federal level would not actually represent much of a change; the vast majority of arrests concerning money transmission issues have been carried out by federal authorities and prosecuted in federal courts.

Should Congress fail to act, the Bureau may also want to consider suing the states for declaratory judgments regarding the extent of its authority relative to state regulators if and when necessary.

3. The Canadian Model

Canada's FINTRAC provides a useful example of an effective regulatory system. Canadian money transmitters are required to register with FINTRAC, which costs nothing. After registration, MSBs are expected to maintain AML and KYC programs, and reports are submitted to FINTRAC. There are no state or regional requirements, and notably, no tangible net worth requirements or surety bonds necessary to operate. See <http://www.fintrac-canafe.gc.ca/intro-eng.asp> for more information.

4. Consequences of Failure to Harmonize State MTLs

The consequences of the failure to harmonize state MTLs are growing increasingly dire by the day. Already, as described in previous sections of these comments, state MTLs have driven most small money transmitters underground since the costs of compliance, in terms of time and capital, are unconscionable. Consumers are therefore left with no protection whatsoever. As the internet enables ever more sophisticated and varied technologies, the number of money transmitters hoping to enter the alternative payments market will increase, and this problem will grow especially acute.

Additional fallout from the failure to harmonize state MTLs has recently made headlines in the form of the

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Target payment card breach, which affected over 70 million consumers. Were it not effectively illegal to improve upon our current payments infrastructure due to state MTLs, Target might have had a more secure alternative to turn to years ago. Instead, it is just starting to think about implementing the Chip-and-PIN scheme popular in Europe, which is already obsolete.

Lastly, if the United States continues with its present boneheaded and counter-productive approach to regulating payments technology, entrepreneurs, and not just those associated with controversial virtual currencies, will be driven elsewhere. There is widespread agreement that the state-based regulatory regime is beyond stupid. See attached comments to the Federal Reserve System.

C. Additional Public Input Is Necessary Beyond This Notice and Comment Period

Many of the hearings about money transmission, on both the federal and state levels, have been dominated by one group: TMSRT. Some hearings have been held on short notice and with little or no publicity. Many groups are affected by MTLs, from immigrant communities to small retailers to technology startups, and their input should be actively solicited. The Bureau and Congress would benefit from holding a (free) conference where representatives from these groups could come and speak freely, without fear of repercussions from law enforcement, since many companies (not Think) have been knowingly operating in violation of many laws.

IV. Conclusion

State MTLs have made the United States one of the worst developed countries in the world for payments-related entrepreneurship. The Bureau has an important role to play in improving the state of affairs, but effective action will require the Bureau to revise its plan to regulate only “international” money transmitters. Think hopes that the Bureau will take the same kind of progressive but comprehensive approach to protecting consumers of MSBs as it has with regard to protecting consumers of other traditional financial services.

Sincerely,



Aaron Greenspan
President & CEO
Think Computer Corporation

CC: United States Senator Charles E. Schumer
United States Senator Thomas R. Carper
United States Senator Jeff Merkley
United States Senator Elizabeth Warren

EXHIBIT A

Various Comments to the Federal Reserve System
Regarding State Money Transmission Laws

Name: Barry Landry
Organization: C&A Associates, Inc.
Industry Segment: Technology Solution Provider/Processor

General

1. Are you in general agreement with the payment system gaps and opportunities identified in the "Payment System Improvement Public Consultation Paper"? Please explain, if desired.

Yes. Technology used and expected by consumers has far exceeded the lingering batch updating technology currently in use in the financial services industry.

1i. What other gaps or opportunities not mentioned in the paper could be addressed to make improvements to the U.S. payment system?

2. Are you in general agreement with the desired outcomes for payment system improvements over the next 10 years? Please explain, if desired.

Yes. Payments have expanded beyond the capabilities of the existing checks/ACH systems. The limitations exist not only for consumers, but also for settlement between financial institutions.

2i. What other outcomes should be pursued?

3. In what ways should the Federal Reserve Banks help improve the payment system as an operator, leader, and/or catalyst?

Some standard must be established to avoid multiple exchanges using different standards and technologies which require compliance and more development for new market entrants. Even Check21 presented challenges because of different interpretations. The ACH environment, while more mature, provides more consistency but lacks the "real time" posting environment.

Ubiquitous near-real-time payments

4. In discussions with industry participants, some have stated that implementing a system for near-real-time payments with the features described in the second desired outcome (ubiquitous participation; sender doesn't need to know the bank account number of the recipient; confirmation of good funds is made at the initiation of the payment; sender and receiver receive timely notification that the payment has been made; funds debited from the payer and made available in near real time to the payee) will require coordinated action by a public authority or industry group. Others have stated that current payment services are evolving toward this outcome and no special action by a public authority or industry group is required.

4i. Which of these perspectives is more accurate, and why?

Coordinated action will be required because some overriding rules and regulations will be required to prevent having individual state laws rule some aspects of the payments process.

4ii. What other perspective(s) should be considered?

5. The second desired outcome articulates features that are desirable for a near-real time payments system. They include:

- a. Ubiquitous participation
- b. Sender doesn't need to know the bank account number of the recipient
- c. Confirmation of good funds is made at the initiation of the payment
- d. Sender and receiver receive timely notification that the payment has been made
- e. Funds debited from the payer and made available in near real time to the payee

5i. Do you agree that these are important features of a U.S. near real-time system? Please explain, if desired.

Yes.

5ii. What other characteristics or features are important for a U.S. near real-time system?

6. Near-real-time payments with the features described in the second desired outcome could be provided several different ways, including but not limited to:
- a. Creating a separate wire transfer-like system for near-real-time payments that leverages the relevant processes, features, and infrastructure already established for existing wire transfer systems. This option may require a new front-end mechanism or new rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions.
 - b. Linking together existing limited-participation networks so that a sender in one network could make a payment to a receiver in another network seamlessly. This option may require common standards and rules and a centralized directory for routing payments across networks.
 - c. Modifying the ACH to speed up settlement. This option may require a new front-end mechanism or new network rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions. Payments would be settled periodically during the day.
 - d. Enhancing the debit card networks to enable ubiquitous near-real-time payments.
 - e. Implementing an entirely new payment system with the features described in the second desired outcome above.

6i. What would be the most effective way for the U.S. payment system to deliver ubiquitous near-real-time payments, including options that are not listed above?

6ii. What are the likely pros and cons or costs and benefits of each option? What rule or regulation changes are needed to implement faster payments within existing payment processing channels?

6iii. Is it sufficient for a solution to be limited to near-real-time authorization and confirmation that good funds are on their way, or must end user funds availability and/or interbank settlement take place in near-real time as well?

6iv. Which payment scenarios are most and least suitable for near real-time payments? (B2B, P2P, P2B, POS, etc.)

7. Some industry participants have said that efforts to make check payments easier to use, such as by enabling fully electronic payment orders and/or by speeding up electronic check return information, will incrementally benefit the payment system. Others argue the resources needed to implement these efforts will delay a shift to near-real-time payments, which will ultimately be more beneficial to the payment system. Which of these perspectives do you agree with, and why?

Both need to be done because the entire payments system needs further improvements.

8. How will near-real-time payments affect fraud issues that exist with today's payment systems, if at all?

8i. Will near-real-time payments create new fraud risks? If yes, please elaborate on those risks.

No

9. To what extent would a ubiquitous near-real-time system bring about pivotal change to mobile payments?

The best substitute for currency. Consumers would no longer be required to carry currency, reducing the risk of theft.

10. What would be the implication if the industry and/or the Federal Reserve Banks do not take any action to implement faster payments?

Delayed availability of credit funds to the payee and increased fraud.

10i. What is the cost, including the opportunity cost, of not implementing faster payments in the United States?

11. To what extent will the industry need to modernize core processing and other backend systems to support near-real-time payments?

[Complete re-engineering to eliminate the "memo post" and "batch processing" environment.](#)

11i. What is the likely timeframe for any such modernization?

12. Some industry participants suggest that a new, centralized directory containing account numbers and routing information for businesses and/or consumers, to which every bank and other service providers are linked, will enable more electronic payments. A sender using this directory would not need to know the account or routing information of the receiver.

12i. What are the merits and drawbacks of this suggestion?

12ii. What is the feasibility of this suggestion?

[This seems to present a security risk.](#)

Electronification

13. Some industry participants say that check use is an enduring part of the U.S. payment system and that moving away from checks more aggressively would be too disruptive for certain end users.

13i. Is accelerated migration from checks to electronic payment methods a high-priority desired outcome for the U.S. payment system? (Accelerated means faster than the current trend of gradual migration.) Please explain, if desired.

Yes. The acceleration is "market driven." Regardless of opinion, the market is driving this trend, even if it is disruptive.

13ii. Should the Federal Reserve Banks establish a target for the percent of noncash payments to be initiated via electronic means, by a specific date? For example: "By the year 2018, 95% of all noncash payments will be made via electronic means." If Yes, what is the appropriate target lever and date?

No

14. Business-to-business payments have remained largely paper-based due to difficulties with handling remittance information. Consumer bill payments also are heavily paper-based due to the lack of comfort some consumers have with electronic alternatives. In addition, many small businesses have not adopted ACH for recurring payments due to technical challenges and/or cost constraints. The payment industry has multiple efforts underway to address these issues.

14i. To what extent are these efforts resulting in migration from checks to other payment types?

14ii. What other barriers need to be addressed to accelerate migration of these payments?

14iii. What other tactics, including incentives, will effectively persuade businesses and consumers to migrate to electronic payments?

14iv. Which industry bodies should be responsible for developing and/or implementing these tactics?

Cross-border Payments

15. To what extent would the broader adoption of the XML-based ISO 20022 payment message standards in the United States facilitate electronification of business payments and/or cross-border payments?

16. What strategies and tactics do you think will help move the industry toward desired outcome four - consumers and businesses have greater choice in making convenient, cost-effective, and timely cross-border payments?

Safety

17. Payment security encompasses a broad range of issues including authentication of the parties involved in the transaction, the security of payment databases, the security of software and devices used by end users to access payment systems, and security of the infrastructure carrying payment messages.

17i. Among the issues listed above, or others, what are the key threats to payment system security today and in the future?

Diverse databases with personal information. Compared with the security related to wire transfers (although large dollar amounts) a single database with individual companies subject to being hacked certainly presents a security risk.

17ii. Which of these threats are not adequately being addressed?

17iii. What operational or technology changes could be implemented to further mitigate cyber threats?

18. What type of information on threat awareness and incident response activities would be useful for the industry?

18i. How should this information be made available?

19. What future payment standards would materially improve payment security?

19i. What are the obstacles to the adoption of security-related payment standards?

Core vendor (banks particularly) implementation of posting real-time transactions, both credits and debits.

20. What collaborative actions should the Federal Reserve Banks take with the industry to promote the security of the payment system from end to end?

21. Please share any additional perspectives on U.S. payment system improvements.

December 13, 2013

RE: Payment System Improvement – Public Consultation Paper

Dear Federal Reserve Banks,

Thank you for the opportunity to comment on your plans to improve the US Payment System, which is in great need of modernization. The opinions below are my own thoughts as of December 2013 and should not be attributed to any organization that I have been involved with or may be in in the future.

Key messages:

1. The Fed should focus its efforts on core payments systems vs. details of the end user experience. The creativity of the private sector is well suited to creating end user interfaces on top of payments infrastructure. Most high profile payments innovators (PayPal, Square, etc.) are some form of wrapper around ACH or card networks.
2. Significant improvement likely requires use of the regulatory powers of the Fed in order to achieve real change in core payments and universal coverage for any new solution.
3. The availability of a near real-time credit transfer payment system with good funds transactions, timely notification of completion, and universal coverage of US accounts will lead to a significant amount of private sector innovation. The constraints of the existing ACH system are a huge barrier to innovation by startup companies and other disruptors trying to build new consumer payment experiences on top of existing infrastructure.
4. The 10 year timeline proposed in this paper is far too long. There are a variety of private sector efforts to modernize core payments in the US from banks, networks, payment processors, startups and the developer community (e.g., cryptographic currencies) that are moving on a much faster timeline. The Fed risks being left behind in this process and/or failing to induce action if it focuses on such a long time horizon.

My responses to your specific questions are below. I would be happy to discuss my thoughts with you in further detail in the future if desired.

Regards,
Gus Fuldner
San Francisco, CA

Questions from the Fed:

General

Q1. Are you in general agreement with the payment system gaps and opportunities identified above?

Yes!!!

i. What other gaps or opportunities not mentioned in the paper could be addressed to make improvements to the U.S. payment system?

The paper seems to focus on improving credit transfers (payor initiated payments). There are similarly large structural challenges with debit transfers (recipient initiated payments). The ACH system is used heavily for debit transactions despite the fact that there is no authorization protocol within the ACH system. In the current system, it is not possible to directly verify that an account holder has provided authorization to debit an account such as a digital signature or authorization token. Instead we rely on indirect tools such as the reversal rights in the NACHA rules and Regulation E, indirect tests of account control such as trial deposits to manage fraud. A system of affirmatively (and verifiably) authorizing a third party to debit a bank account would also be very useful. NACHA's Secure Vault Payments system is an attempt at such a system but suffers from very limited coverage among both banks and merchants and weak economic incentives for participation. Hong Kong's PPS is another analogue with much broader adoption in its home market.

Q2. Are you in general agreement with the desired outcomes for payment system improvements over the next 10 years? Please explain, if desired.

Yes, however the timeline is far too long.

Q3. In what ways should the Federal Reserve Banks help improve the payment system as an operator, leader, and/or catalyst?

The Federal Reserve System needs to take a very proactive role in directing improvement of the core payments infrastructure of the US (principally ACH and Wire). This means active engagement from the regulatory and supervisory portions of the Federal Reserve and use of their powers. Federal Reserve Financial Services plays an important role in the US payment system but the regulatory and supervisory tools of the Fed to mandate and/or strongly encourage change will be critical to achieving real change, especially if ubiquity is an important outcome.

If the Federal Reserve System proactively addresses the challenges with the core payments infrastructure, I expect that the private sector would be able to address some of the stated goals / opportunities that relate to the end-user experience of payments such as making payments with mobile devices.

Ubiquitous near-real-time payments

Q4. *In discussions with industry participants, some have stated that implementing a system for near real-time payments with the features described in the second desired outcome (ubiquitous participation; sender doesn't need to know the bank account number of the recipient; confirmation of good funds is made at the initiation of the payment; sender and receiver receive timely notification that the payment has been made; funds debited from the payer and made available in near real time to the payee) will require coordinated action by a public authority or industry group. Others have stated that current payment services are evolving toward this outcome and no special action by a public authority or industry group is required.*

- i. *Which of these perspectives is more accurate, and why?*

I strongly believe that coordinated action by a regulatory authority (not merely an industry group) is essential for the implementation of a system for near real-time payments with the features described in the second desired outcome. Repeated failures of industry groups or the private sector to take action evidence the need for such coordination.

The August 2012 NACHA decision not to go forward with Same Day ACH is a very clear example of a failure of industry to act without regulatory intervention. There is generally too much inertia for industry groups to act without strong external forces.

Furthermore, there are complex incentives that result from the interaction between an improved credit transfer system and other payment related revenues that banks earn today. A real-time good funds credit transfer system threatens existing high-margin payment revenue streams (principally wire transfer fee and credit / debit card interchange) for banks and existing fee revenue for other industry participants like card networks or clearinghouses.

Potential disruptors have much better incentives but payment systems heavy reliance on network effects limits the ability of unilateral action by new entrants. PayPal is unambiguously the most successful private effort to improve domestic payments infrastructure in the past 15 years but it relied heavily on the ACH system to achieve ubiquity by essentially providing a “back door” to the US banking system.

Purely private efforts also often struggle from a conflict between a) the owner/creator(s) of a scheme's interest in developing something that benefits them and generates return on their investment and b) other participant's interest in using

a payment utility on a level footing. (examples in core payments include clearXchange, PopMoney, FIS Paynet).

In contrast to efforts for private action to improve core payments, the real successes in other countries such as SEPA (EU), TARGET 2(EU), BACS/Faster Payments (UK) have each been driven by regulatory pressure or mandate. I believe the Fed's own same-day ACH services has struggled in no small part because participation was optional rather than mandatory among financial institutions.

ii. What other perspective(s) should be considered?

I expect that many comments from industry will focus on the cost of implementation. However attention should also be paid to the deadweight economic losses created by inefficiency of the current system. These are real costs for consumers and businesses that use the payment system every day. In addition to these structural inefficiencies, the absence of real time information and lack of payment certainty also create large barriers to innovation in end-user payment experiences.

Q5. The second desired outcome articulates features that are desirable for a near-real-time payments system. They include:

- a. Ubiquitous participation*
- b. Sender doesn't need to know the bank account number of the recipient*
- c. Confirmation of good funds is made at the initiation of the payment*
- d. Sender and receiver receive timely notification that the payment has been made*
- e. Funds debited from the payer and made available in near-real time to the payee*

i. Do you agree that these are important features of a U.S. near-real-time system? Please explain, if desired.

I agree with outcomes a, c, d, and e.

I challenge outcome b: the assertion that the sender not needing to know the bank account number of the recipient is an important goal of core payments infrastructure.

I can see two potential reasons for this being contemplated as a desirable outcome:

- A. A desire to make it not necessary to share bank account numbers in order to make a payment
- B. A desire to make it not necessary to determine a bank account number in order to make a payment

Reason A is an almost uniquely American issue for bank account numbers.

When I lived in Hong Kong for example it was very common for businesses to put their bank account data on every invoice and for consumers to freely share their account numbers for P2P transfer use cases. Germany has similar customs. In the US, sharing bank account numbers presents some fraud risk because the ACH and check clearing systems allow for debiting any account without knowing any other information. There is no native authorization scheme as described above in Q1.i. If a modernized debit transfer system had a verifiable authorization, there would be no need to hide bank account numbers as bad actors couldn't do anything with that information.

Reason B is likely readily addressable by the private sector. If a ubiquitous system of transferring money to an account using an account number (or an account number plus additional identifiers like the ABA routing number) exists it is relatively easy for private sector entities to create services that associate bank account numbers with other identifiers such as an e-mail, phone number or business name. As long as payments are ubiquitously routable by a unique identifier, the consent or cooperation of the receiving bank isn't required to create such a system, which removes the most important network-effect barriers that plague most payments innovation. Systems like PayPal, Square Cash, Google Wallet Card, are examples of consumer services that create abstractions of bank accounts or card numbers that rely on the ubiquity of the underlying payment identifiers to create a consumer experience that does not require remembering account numbers. They can create these services because the system for routing a transaction to the underlying account number is ubiquitous and accessible.

ii. What other characteristics or features are important for a U.S. near-real-time system?

- A. Some degree of backward compatibility. For example if a credit transfer in a new real-time system can fail-over to a traditional, slower ACH payment, if the receiving institution does not support real-time payments during a transition period, that is likely to ease transition to a new system. The IRD (Image Replacement Document) was an example of making Check 21 images backward compatible with traditional check clearing.
- B. Modernization of message formats and metadata. ACH, cards network and wire transfer standards are based on 1970/80's file formats. They have very limited space for information about a payment. For example a card transaction allows for only a 22 character description which results in loss of

lots of information about a payment when it crosses the payment system. A system should support several kilobytes of Unicode text.

Q6. *Near-real-time payments with the features described in the second desired outcome could be provided several different ways, including but not limited to:*

- a. Creating a separate wire transfer-like system for near-real-time payments that leverages the relevant processes, features, and infrastructure already established for existing wire transfer systems. This option may require a new front-end mechanism or new rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions.*
- b. Linking together existing limited-participation networks so that a sender in one network could make a payment to a receiver in another network seamlessly. This option may require common standards and rules and a centralized directory for routing payments across networks.*
- c. Modifying the ACH to speed up settlement. This option may require a new front-end mechanism or new network rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions. Payments would be settled periodically during the day.*
- d. Enhancing the debit card networks to enable ubiquitous near-real-time payments.*
- e. Implementing an entirely new payment system with the features described in the second desired outcome above.*
- i. What would be the most effective way for the U.S. payment system to deliver ubiquitous near real-time payments, including options that are not listed above?*

I believe that Option E, implementing a largely/entirely new system is the best solution if the regulatory authority of the Federal Reserve is available to induce change. Otherwise Option D is the most likely private sector solution.

ii. What are the likely pros and cons or costs and benefits of each option? What rule or regulation changes are needed to implement faster payments within existing payment processing channels?

Option A is desirable because it draws upon existing systems. However, there would be some tradeoffs (often called “technical debt” in software development communities) from starting from an existing, outdated system. If any existing Federal Reserve system were to be used as starting point FedWire is the most relevant / useful starting point, but the marginal cost of transactions would need to fall by ~100x which may be more achievable with a new system.

Option B sounds infeasible because it requires too much coordination between the existing limited access systems which have rules and standards that are likely to be incompatible.

Option C seems challenging because the core messaging infrastructure of ACH is so basic (no concept of authorization, limited scope for messages, batch based structure)

Option D has some potential and some networks have tried to implement credit transfer functionality but is limited by inconsistent bank participation and issues with sharing card numbers because of their potential fraudulent use. It may also be preferable to have a system run by an industry utility instead of privately owned card networks.

iii. Is it sufficient for a solution to be limited to near-real-time authorization and confirmation that good funds are on their way, or must end-user funds availability and/or interbank settlement take place in near-realtime as well?

Near real-time authorization and confirmation are far more important than real time settlement.

iv. Which payment scenarios are most and least suitable for near real-time payments? (B2B, P2P, P2B, POS, etc.)

Most commercial, P2P, and bill payment scenarios are suitable for near real-time credit (payor initiated) payments. Retail POS and automated recurring payments are a better fit for debit (payee initiated) payments.

Q7. Some industry participants have said that efforts to make check payments easier to use, such as by enabling fully electronic payment orders and/or by speeding up electronic check return information, will incrementally benefit the payment system. Others argue the resources needed to implement these efforts will delay a shift to near-real-time payments, which will ultimately be more beneficial to the payment system. Which of these perspectives do you agree with, and why?

I believe the focus should be on electronic payment systems not improving checks beyond Check 21.

Q8. How will near-real-time payments affect fraud issues that exist with today's payment systems, if at all?

i. Will near-real-time payments create new fraud risks? If yes, please elaborate on those risks.

Near-real-time payments increases the value of stolen account credentials because an attacker can easily and quickly send money to themselves. Other countries that have real-time credit transfer systems often require much stronger multifactor authentication such as SMS or hard token authentication than is common in the US today.

Q9. To what extent would a ubiquitous near-real-time system bring about pivotal change to mobile payments?

Virtually all mobile payment schemes in the US are some sort of wrapper around either A) ACH or B) credit / debit cards. Fraud and other frictions created by legacy payment methods are among the top issues I hear from startups that pitch me on investing in new mobile payments concepts as a venture capitalist. A new, modern payment system creates lots of opportunity for new innovation.

Q10. What would be the implication if the industry and/or the Federal Reserve Banks do not take any action to implement faster payments?

i. What is the cost, including the opportunity cost, of not implementing faster payments in the United States?

The costs to US consumers and businesses are significant. US consumers and businesses spend much more on payments than other developed countries. The clearest contrast is with Europe after the implementation of SEPA where complex cross border payments are very cheap.

Q11. To what extent will the industry need to modernize core processing and other backend systems to support near-real-time payments?

The industry will need to do some modernization. However wire transfers and debit cards are examples of near real-time systems that already work with existing core processing systems. The substantial majority of financial institutions in the US (especially small and mid-size institutions) rely on third party vendors (e.g., Fiserv, FIS) for their core systems. Structuring a new system as a mandate will drive those vendors to prioritize development of modifications needed for a new near-real-time payments scheme and sharing those costs across all clients. Making adoption optional may harm adoption by banks by placing much of the transition costs on early adopter institutions making the choice to be an early adopter more difficult.

Q12. Some industry participants suggest that a new, centralized directory containing account numbers and routing information for businesses and/or consumers, to which every bank and other service providers are linked, will enable more electronic payments. A sender using this directory would not need to know the account or routing information of the receiver.

i. What are the merits and drawbacks of this suggestion?

I view this as a user interface issue rather than an issue of core payments infrastructure.

ii. What is the feasibility of this suggestion?

This can be implemented privately. It does not require regulatory coordination. If a ubiquitous system of transferring money to an account using an account number (or an account number plus additional identifiers like the ABA routing number) exists it relatively is easy for private sector entities to create services that associate bank account numbers with other identifiers such as an e-mail, phone number or business name. As long as payments are ubiquitously routable by a unique identifier, the consent or cooperation of the receiving bank isn't required to create such a system.

Systems like PayPal, Square Cash, Google Wallet Card, are examples of consumer services that create abstractions of bank accounts or card numbers that rely on the ubiquity of the underlying payment identifiers to create a consumer experience that does not require remembering account numbers. They can create these services because the system for routing a transaction to the underlying account number is ubiquitous and accessible.

Electronification

Q13. Some industry participants say that check use is an enduring part of the U.S. payment system and that moving away from checks more aggressively would be too disruptive for certain end users.

i. Is accelerated migration from checks to electronic payment methods a high-priority desired outcome for the U.S. payment system? (Accelerated means faster than the current trend of gradual migration.)

No.

ii. Please explain, if desired

Creating more functional alternatives will lead to lower check volumes. Reducing lower check volumes should not be a focus on its own.

iii. If yes, should the Federal Reserve Banks establish a target for the percent of noncash payments to be initiated via electronic means, by a specific date? For example: "By the year 2018, 95% of all noncash payments will be made via electronic means."

iv. What is the appropriate target level and date?

Q14. *Business-to-business payments have remained largely paper-based due to difficulties with handling remittance information. Consumer bill payments also are heavily paper-based due to the lack of comfort some consumers have with electronic alternatives. In addition, many small businesses have not adopted ACH for recurring payments due to technical challenges and/or cost constraints. The payment industry has multiple efforts underway to address these issues.*

i. To what extent are these efforts resulting in migration from checks to other payment types?

ii. What other barriers need to be addressed to accelerate migration of these payments?

iii. What other tactics, including incentives, will effectively persuade businesses and consumers to migrate to electronic payments?

iv. Which industry bodies should be responsible for developing and/or implementing these tactics?

Cross-border payments

Q15. *To what extent would the broader adoption of the XML-based ISO 20022 payment message Standards in the United States facilitate electronification of business payments and/or cross-border payments?*

It would be helpful.

Q16. *What strategies and tactics do you think will help move the industry toward desired outcome for consumers and businesses have greater choice in making convenient, cost-effective, and timely crossborder payments?*

Consumer payments innovation in cross-border payments is hamstrung by the complex and heavily overlapping regulatory regime for money transmission in the United States. A complex patchwork of 48 different regulatory bodies with differing rules and procedures adds major costs to this industry. A federal charter or other means of multi-state authority for money transmission would be very helpful to pro-consumer innovation in cross-border payments. The concept of a passportable “Payments Institution” under the Payment Systems Directive in Europe is a great blueprint for what is needed in the US.

Safety

Q17. *Payment security encompasses a broad range of issues including authentication of the parties involved in the transaction, the security of payment databases, the*

security of software and devices used by end users to access payment systems, and security of the infrastructure carrying payment messages.

i. Among the issues listed above, or others, what are the key threats to payment system security today and in the future?

Weak means of end user authentication (reliance on PANs, credit card AVS, trial deposits, weak passwords) are the biggest threat to payments security.

ii. Which of these threats are not adequately being addressed?

Many banks implement consumer multi-factor authentication for end user access through device fingerprinting and secret questions. These are not strong enough for a fraud environment where an attacker that takes over account login credentials can send money to an arbitrary account. Other countries that have real-time credit transfer systems often require much stronger multifactor authentication such as SMS or hard token authentication.

iii. What operational or technology changes could be implemented to further mitigate cyber threats?

- A. Stronger Two Factor Authentication (e.g., SMS verification, OATH tokens, Push-based mobile authentication such as Duo Push or Entersekt, Yubikeys / FIDO Alliance) for both account login and transaction authorization.
Solutions that use push notifications to smart phones seem like the most promising way to achieve the dual goals of security and usability.
- B. Tokenization to reduce reliance on PANs or bank account numbers as secrets for debit transaction authorization and reduce risk of storage of payment credentials by third parties.
- C. EMV reduces reliance on PANs for card present retail transactions.

Q18. *What type of information on threat awareness and incident response activities would be useful for the industry?*

No comments

Q19. *What future payment standards would materially improve payment security?*

No comments

Q20. *What collaborative actions should the Federal Reserve Banks take with the industry to promote the security of the payment system from end to end?*

No comments

Other

Q21. Please share any additional perspectives on U.S. payment system improvements

I interact extensively with high growth technology companies in Silicon Valley. Software developers that are new to the payments system are constantly shocked to learn how basic and outdated the software protocols are that run such important and high value parts of the economy. The technology community has invested in creating alternative payments infrastructure including distributed ledger systems such as Bitcoin and Ripple largely out of deep frustration with the status quo. While the media has recently focused on the price volatility and AML issues around Bitcoin, there are fundamental payment technologies in Bitcoin's distributed ledger. Ripple in particular is an extremely advanced payment system that is worth further study by the Fed.

Name: Neal Gafter
Organization: Cryptofrog LLC
Industry Segment: Emerging Payments Provider

General

1. Are you in general agreement with the payment system gaps and opportunities identified in the "Payment System Improvement Public Consultation Paper"? Please explain, if desired.

No. It is not clear that more (rather than less) involvement of the Federal Reserve in the payments space is beneficial. Much of what holds back advances in payment technology is overregulation, including a patchwork of laws regarding money transmission. The best solution to this overregulation would be a single set of Federal laws that preempts state law.

1i. What other gaps or opportunities not mentioned in the paper could be addressed to make improvements to the U.S. payment system?

2. Are you in general agreement with the desired outcomes for payment system improvements over the next 10 years? Please explain, if desired.

No. Regarding outcome 5, it is not clear to me that the Federal Reserve should play a significant role in addressing the other goals.

2i. What other outcomes should be pursued?

Simplification of the regulatory landscape for money service businesses and money transmission in a way that would enable small innovative businesses to compete on a level playing field with large established businesses (e.g. banks and the Federal Reserve itself).

3. In what ways should the Federal Reserve Banks help improve the payment system as an operator, leader, and/or catalyst?

See 1i.

Ubiquitous near-real-time payments

4. In discussions with industry participants, some have stated that implementing a system for near-real-time payments with the features described in the second desired outcome (ubiquitous participation; sender doesn't need to know the bank account number of the recipient; confirmation of good funds is made at the initiation of the payment; sender and receiver receive timely notification that the payment has been made; funds debited from the payer and made available in near real time to the payee) will require coordinated action by a public authority or industry group. Others have stated that current payment services are evolving toward this outcome and no special action by a public authority or industry group is required.

4i. Which of these perspectives is more accurate, and why?

Neither. I believe the best approach is to simplify the regulatory landscape to that innovative payment systems can emerge as an alternative to existing authorities, industry groups, and payment services.

4ii. What other perspective(s) should be considered?

Cryptocurrencies such as Bitcoin appear to be a promising approach undermined by existing authorities, industry groups, stakeholders, and a complex patchwork of inconsistent and inconsistently applied legislation. The legal and legislative landscape should be modified to encourage rather than interfere with the development of this industry.

5. The second desired outcome articulates features that are desirable for a near-real time payments system. They include:

- a. Ubiquitous participation
- b. Sender doesn't need to know the bank account number of the recipient
- c. Confirmation of good funds is made at the initiation of the payment
- d. Sender and receiver receive timely notification that the payment has been made
- e. Funds debited from the payer and made available in near real time to the payee

5i. Do you agree that these are important features of a U.S. near real-time system? Please explain, if desired.

Yes.

5ii. What other characteristics or features are important for a U.S. near real-time system?

The transaction costs should be set by the market rather than imposed on participants by any central authority. Payment between sender and recipient should not require interaction with a central authority (decentralized). Payment should be capable of being sent in an irreversible way to reduce the cost of payment fraud. The use of an electronic payment system should not expose any more financial information to third parties than the participants elect to expose.

6. Near-real-time payments with the features described in the second desired outcome could be provided several different ways, including but not limited to:
- a. Creating a separate wire transfer-like system for near-real-time payments that leverages the relevant processes, features, and infrastructure already established for existing wire transfer systems. This option may require a new front-end mechanism or new rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions.
 - b. Linking together existing limited-participation networks so that a sender in one network could make a payment to a receiver in another network seamlessly. This option may require common standards and rules and a centralized directory for routing payments across networks.
 - c. Modifying the ACH to speed up settlement. This option may require a new front-end mechanism or new network rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions. Payments would be settled periodically during the day.
 - d. Enhancing the debit card networks to enable ubiquitous near-real-time payments.
 - e. Implementing an entirely new payment system with the features described in the second desired outcome above.

6i. What would be the most effective way for the U.S. payment system to deliver ubiquitous near-real-time payments, including options that are not listed above?

e

6ii. What are the likely pros and cons or costs and benefits of each option? What rule or regulation changes are needed to implement faster payments within existing payment processing channels?

It isn't clear to me that building on existing payment processing channels is the most effective way to accomplish the goals. The only benefit that they offer is their already wide reach. But there are other things with a similarly wide reach such as the internet. That is why I recommend developing - or allowing to develop - alternatives such as cryptocurrencies.

6iii. Is it sufficient for a solution to be limited to near-real-time authorization and confirmation that good funds are on their way, or must end user funds availability and/or interbank settlement take place in near-real time as well?

The whole process should be near-real-time.

6iv. Which payment scenarios are most and least suitable for near real-time payments? (B2B, P2P, P2B, POS, etc.)

Scenarios in which goods are ordered on one day but received by the purchaser at some time later. Such scenarios should be capable of being handled using near-real-time mechanisms or, if participants elect so, through an escrow agent agreed upon by the parties, where funds are released when delivery is complete.

7. Some industry participants have said that efforts to make check payments easier to use, such as by enabling fully electronic payment orders and/or by speeding up electronic check return information, will incrementally benefit the payment system. Others argue the resources needed to implement these efforts will delay a shift to near-real-time payments, which will ultimately be more beneficial to the payment system. Which of these perspectives do you agree with, and why?

[no comment](#)

8. How will near-real-time payments affect fraud issues that exist with today's payment systems, if at all?

If near-real-time payments are irreversible (which they should be), then the possibility of payment fraud is reduced but the possibility of fraud from vendors (e.g. not shipping a product) is increased. The latter is easier to police and correct, so the overall cost to the economy is lower. Moreover, the payment system should allow for a participant-selected escrow agent who is capable of controlling when the funds become available. That will enable the development of a market for trusted escrow agents that compete to lower the cost of their service, enabling participants to decide how much of their transaction costs they are willing to pay to protect against fraud.

8i. Will near-real-time payments create new fraud risks? If yes, please elaborate on those risks.

Yes. See answer to 8, above.

9. To what extent would a ubiquitous near-real-time system bring about pivotal change to mobile payments?

To a great extent.

10. What would be the implication if the industry and/or the Federal Reserve Banks do not take any action to implement faster payments?

It depends on whether the government authorities continue to interfere with the development of alternatives. If they get out of the way I believe we will see a very valuable new industry emerge. If they continue to interfere we will likely see a very valuable new industry emerge only outside the USA.

10i. What is the cost, including the opportunity cost, of not implementing faster payments in the United States?

If the regulatory landscape permits it, they will be implemented outside the Fed.

11. To what extent will the industry need to modernize core processing and other backend systems to support near-real-time payments?

It isn't clear to me that a solution to the problems posed is best solved by the existing industry.

11i. What is the likely timeframe for any such modernization?

See 11.

12. Some industry participants suggest that a new, centralized directory containing account numbers and routing information for businesses and/or consumers, to which every bank and other service providers are linked, will enable more electronic payments. A sender using this directory would not need to know the account or routing information of the receiver.

12i. What are the merits and drawbacks of this suggestion?

A centralized solution is a huge drawback, as it raises issues of trust, privacy, and a central point of failure. Recent experience with cryptocurrencies have demonstrated that low-cost solutions exist without the centralized component.

12ii. What is the feasibility of this suggestion?

See 12i.

Electronification

13. Some industry participants say that check use is an enduring part of the U.S. payment system and that moving away from checks more aggressively would be too disruptive for certain end users.

13i. Is accelerated migration from checks to electronic payment methods a high-priority desired outcome for the U.S. payment system? (Accelerated means faster than the current trend of gradual migration.) Please explain, if desired.

No.

13ii. Should the Federal Reserve Banks establish a target for the percent of noncash payments to be initiated via electronic means, by a specific date? For example: "By the year 2018, 95% of all noncash payments will be made via electronic means." If Yes, what is the appropriate target lever and date?

No

14. Business-to-business payments have remained largely paper-based due to difficulties with handling remittance information. Consumer bill payments also are heavily paper-based due to the lack of comfort some consumers have with electronic alternatives. In addition, many small businesses have not adopted ACH for recurring payments due to technical challenges and/or cost constraints. The payment industry has multiple efforts underway to address these issues.

14i. To what extent are these efforts resulting in migration from checks to other payment types?

I don't have the statistics at hand.

14ii. What other barriers need to be addressed to accelerate migration of these payments?

14iii. What other tactics, including incentives, will effectively persuade businesses and consumers to migrate to electronic payments?

Lower costs and all of the advantages discussed earlier. Those who are happy using existing techniques such as paper checks should be able to continue doing so.

14iv. Which industry bodies should be responsible for developing and/or implementing these tactics?

All industry bodies should aim to lower their costs.

Cross-border Payments

15. To what extent would the broader adoption of the XML-based ISO 20022 payment message standards in the United States facilitate electronification of business payments and/or cross-border payments?

16. What strategies and tactics do you think will help move the industry toward desired outcome four - consumers and businesses have greater choice in making convenient, cost-effective, and timely cross-border payments?

Simplify the regulatory landscape for the development of alternative payment systems.

Safety

17. Payment security encompasses a broad range of issues including authentication of the parties involved in the transaction, the security of payment databases, the security of software and devices used by end users to access payment systems, and security of the infrastructure carrying payment messages.

17i. Among the issues listed above, or others, what are the key threats to payment system security today and in the future?

I am most concerned about "the security of software and devices used by end users to access payment systems", as there are fair solutions to most of the other problems. Secure, dedicated devices to aid in the use of cryptocurrencies, such as <http://www.bitcointrezor.com/> (ideally in a credit-card form factor) would help with this issue.

17ii. Which of these threats are not adequately being addressed?

See 17i

17iii. What operational or technology changes could be implemented to further mitigate cyber threats?

[See 17i](#)

18. What type of information on threat awareness and incident response activities would be useful for the industry?

18i. How should this information be made available?

19. What future payment standards would materially improve payment security?

[Bitcoin or other distributed cryptocurrency](#)

19i. What are the obstacles to the adoption of security-related payment standards?

[A complex regulatory landscape including separate AML and money transmission laws in different states.](#)

20. What collaborative actions should the Federal Reserve Banks take with the industry to promote the security of the payment system from end to end?

21. Please share any additional perspectives on U.S. payment system improvements.

US Federal Reserve Payment Improvements – Web Payments Response

Name: Manu Sporny (Chairman), Joseph Potvin (Member) Organization: Web Payments Community Group at World Wide Web Consortium
Industry Segment: Global Standards

Executive Summary

The World Wide Web Consortium ([W3C](#)) is the organization that manages the architecture for the Web. 2.4 billion people around the world depend on the technology co-authored by many contributors under the auspices of the W3C. The consortium consists of organizations like Google, Bloomberg, Apple, PayPal, Mozilla, Facebook, Baidu, Yandex, Microsoft, and 392 other technology companies that are united in perpetually improving the Web.

The Payment System Improvement Public Consultation Paper is of particular interest to the [Web Payments community group](#) at the W3C because we have been building a universal payment standard into the core architecture of the Web for over 3 years. Many of the problems identified in the Payment System Improvement paper are the same as those that were identified within our 118-member community group when we started the work. This open, patent and royalty-free payment standard would address many of the shortcomings outlined in the Payment System Improvement paper.

The Web Payments group has taken a layered approach to addressing the payments problem. We are conscious of the risks associated with disrupting live systems. We are also concerned with indirectly destabilizing the overall payment landscape through implied competition with long-running, legacy systems. Our strategy is to enable an elegant payments layer on the Web in cooperation with incumbent financial systems authorities. This technology can be deployed ubiquitously and non-disruptively, given that there is no prior standard for payments on the Web, and thus no legacy to replace. This layer would improve the experience of sending and receiving money while simultaneously creating a bridge between the fast-moving Web technology field and the deliberately slow-moving core financial systems field. With this collaborative and integrating approach in mind, our submission outlines a number of technologies applicable to Payment System Improvement that are in various stages of development, implementation, and deployment in the Web Payments group at the W3C.

When the Web Payments technology is finalized, billions of people will have access to it as a core part of the Web via desktop computers, tablets, smartphones, and other Web-capable devices. They will have the power to undertake transactions with one another over the Internet far more efficiently than they do today. This has large implications for banks, financial institutions, governments, telecom operators, payment solution providers, technology companies, and organizations addressing many socioeconomic issues such as poverty and access to banking services.

The W3C is holding a [Web Payments Workshop](#) on March 24th and 25th 2014 in Paris, France to discuss the future path of this work. Through this paper, the Web Payments community group is

extending an invitation to the US Federal Reserve and any US government-related organization that would like to participate. Ideally, the US Federal Reserve would be on the program committee for this workshop; to join, please send a statement of interest to the Web Payments Workshop Program Committee <team-payment-workshop-pc@w3.org>.

An Introduction to Web Payments

The Web has fundamentally transformed the way the world's people and organizations publish and interact with information. However, the transmission of monetary value has not yet changed. The Web's foundation offers unrealized potential to transmit and receive funds with the same ease and rigor as sending and receiving email.

Making payments on the Web simpler and more accessible has more than superficial advantages. By distributing to everyone the payment methods that have been traditionally only available to banks and large corporations, the world's economies can benefit from financial system changes that both reduce transaction costs and create new kinds of innovative e-commerce applications. The goal is not to just enable simpler payments, but also to spur innovation in capital formation that helps entrepreneurs of any size, in any location, earn a legitimate living. One prominent global trend that could greatly benefit is crowd-funding, which is currently constrained by less than elegant and cost-inefficient payments methods. In general, the Web has already boosted funding opportunities for startups, eased tax collection, and increased payment security; and there is room for more improvement. The World Bank reports that 2.5 billion people around the world don't have bank accounts and have no ability to save money due to lack of banking services and/or high fees, which inhibits their ability to make a living. Online payments development enabled by telecom providers in some parts of Africa has served as a remarkable proof-of-concept, though it is restricted by limited competition.

It is evident that whilst bringing new or powerful tools to the general public will foster competition and innovation, open Web payments can also bring about more basic societal change. The promise of Web payments is about more than just an exciting future, it is about one that is at the same time far more egalitarian, and far more efficient for U.S. business.

Improving the Automated Clearing House (ACH) Network

Improving the speed of the ACH network in the United States is possible, but it's questionable whether the future of the US financial system should be constrained by incremental improvements to a system that was designed and implemented decades ago. Current-generation financial networks provide fundamentally better technological solutions to ACH. The gap is simply too wide for the incumbent system to incrementally catch up with the past 10 years of evolution in financial systems technology. For example, while the Bitcoin network lacks a number of characteristics required in a global payments system, such as anti-money laundering protections and native support for the know-your-customer principle, it does provide a proof-of-concept of an ACH-like system that is both architecturally and technologically better

than the one the US financial system relies upon today.

Organizations like Ripple Labs have greatly improved on technologies pioneered by Bitcoin and have launched technology that could effectively replace the national ACH system. We recommend that Federal Reserve embrace current-generation technologies like [Ripple](#) and [Web Payments](#) that offer major tangible improvements to the United States' core financial system. Doing so will also help overcome current disincentives to improving the rate at which financial transactions occur, such as the ability for entrenched financial organizations to make money on the float. Even in Europe, the move to faster payments did not happen until the European Union effectively mandated a migration to the Single Euro Payments Area (SEPA).

The Web Payments group at the W3C offers to engage the US Federal Reserve in assessing the potential of these Internet-based payment technologies to improve the ACH network in the United States. These technologies can be put to use along side existing legacy technology stacks in order to provide a smooth transition.

Simplifying the Governmental Regulatory Environment

The adoption of the technologies being created by the Web Payments group could ease the regulatory burden placed on both the regulated and the regulators. All W3C technology is available on an open, patent and royalty-free basis. With open interoperability as a key concern when designing these technologies, more transparent and auditable systems may be created. Adoption of the Web Payments technologies will make it easier to dovetail with world wide legislation on financial policies regarding transparency and accountability both in government and at regulated organizations. It will also improve alignment with international guidelines and standards (as defined in WTO-TBT Annex 3) such as:

- The International Monetary Fund's Code of Good Practices on Transparency in Monetary and Financial Policies;
- ISO/IEC 11179:2003 standard for definitions, descriptions, business rules and metadata;
- ISO/IEC 19501:2005 standard on modeling language in the field of software engineering;
- ISO/IEC JTC 1/SC 27 set of standards on IT Security techniques.

There are also some more specific U.S. regulations that we can advise on, such as the current per-state regulatory framework for Money Transmitter Licensing. This framework is particularly obstructive to small companies attempting to innovate in this space. Most startups are faced with hiring a legal team for multiple years and buying tens of millions of dollars of surety bonds just to launch a simple U.S.-based payments service. Often, small technology organizations that create compelling financial systems are driven to try to partner with larger financial institutions because the financial burden of complying with money transmitter regulation in the United States is cost prohibitive. Since there is no strong economic incentive for a large financial institution to reduce the revenue that they make on the float, or to shift to faster payments solutions, many highly innovative small-payments startups languish searching for a financial partner with whom to launch their service.

One Federal Reserve driven initiative that could change this dynamic would be the implementation of a federal law that unifies the 48 sets of different money transmitter laws in the United States into a single federal set of money transmission laws. The law should provide an entry ramp for payment startups that does not require steep investment in licensing fees to merely launch a service whilst still protecting consumers.

The Web Payments group at the W3C is interested in engaging the US Federal Reserve to advise the organization about changes to the regulatory environment at the Federal level that would result in greater payments technology standardization, competition, and transparency.

Web Payment Requirements

Decentralization is one of the primary drivers of innovation on the Web. You don't have to ask permission to publish your creation on the Web. Open Web standards such as HTTP and HTML ensure interoperability between applications. Thus, a solution for payments on the Web must have at least the following traits:

- It must be decentralized.
- It must be an open, patent and royalty-free standard.
- It must be designed to work with Web architecture like links, HTTP, and other Web standards.
- It must allow anyone to implement the standard and interoperate with others that implement the standard.
- It must be backed by methods and processes for assurance, integrity, privacy, confidentiality, auditability, and reliability.

In addition to these basic characteristics of a successful Web technology, a successful Web Payments technology must also do the following:

- It must enable choice among customers, vendors, and payment processors, in order to drive healthy market competition.
- It must be extensible in a decentralized way, allowing application-specific extensions to the core protocol without coordination.
- It must be flexible enough to perform payments as well as support higher order economic behaviors like crowdfunding and executing legal contracts.
- It must be secure, using the latest security best practices to protect the entire system from attack.
- It must be compatible with government concerns such as fair tax collection, a reporting infrastructure for central monetary authorities, money-laundering prevention, and anti-terrorism initiatives.
- It must be currency agnostic with regard to central bank currencies (US Dollar, the Euro, and the Japanese Yen) and virtual currencies (e.g. Bitcoin and Ripple).
- It must enable choice of vehicle currency and algorithmic pricing to support seamless commerce and stability in global markets.

- It must be easy to develop for and integrate into the Web.

The [Web Payments group](#) at the W3C has created a set of specifications that address all of the requirements listed above. The group is currently in contact with organizations like Google, SWIFT, Mozilla, Ripple Labs, Bloomberg, and many other industry leaders to create solutions to address many of the shortcomings outlined in the Payment System Improvement paper. The rest of this paper will outline which components of online transactions are being standardized for the Web.

Flexible Identity

A [decentralized](#) payment system for the Web means that the identity mechanism should be decentralized as well. There are a number of identity solutions today that are decentralized. OpenID, WebID, Web Keys, and BrowserID/Persona are among some of the more well-known, decentralized identity mechanisms that are designed for the Web. Identity for Web Payments brings in an additional set of requirements on top of the normal set of requirements for a Web identity solution. The following is a brief list of these requirements:

- It must be decentralized.
- It must support discoverability by using a resolvable address, like a Web link or email address.
- It must support the attachment of verifiable machine-readable information to the identity by 3rd parties, such as a government-issued electronic passport.
- It must be able to provide both public and private data to external sites, based on who is accessing the resource.
- It must provide a secure digital signature and encryption mechanism.

To address these requirements, the Web Payments group is currently exploring a solution called [Secure Messaging](#). It enables secure, decentralized, discoverable, controlled access to arbitrary machine-readable information associated with an identity. This identity mechanism and the functionality it enables are at the heart of the Web Payments work.

This open technology being created by the Web Payments group is of particular interest to the US Federal reserve because it enables Know Your Customer data to be associated with an identity. Information such as digitally signed, verifiable citizenship claims can be stored with these identities. This feature enables a secure electronic-passport mechanism for the Web. Using this information, financial organizations can quickly and more easily identify their customers, thus reducing fraud, money laundering, and other illegal activities while also passing on the transaction savings to their customers in the form of reduced transaction fees.

Decentralized Products and Services

The data markup mechanism for a Web-based payments system must be capable of expressing decentralized resources like people, places, events, goods/services, and a variety of other data

that will likely exist in the transaction chain, often on 3rd party websites.

The Web Payments work does not require that products and services be listed in a central location on the Web. Instead, it allows content creators and developers to be in control of their own product descriptions and prices in addition to giving them the option to delegate this responsibility to an App Store or large retail website. The Web Payments work has the following requirements when it comes to listing products and services for sale:

- The products and listings must be machine-readable to gain the most out of automatic price-matching, and transaction speed and correctness.
- The listings must be able to be decentralized, which reduces the possibility of monopolistic behavior among retailers.
- The product being sold must be separable from the terms under which the sale occurs, enabling different prices to be associated with different licenses, affiliate sales, and business models like daily deals.
- The creator of the product must be able to specify restrictions on pricing, resellers, validity periods, and a variety of other properties associated with the sale of the product. This ensures that the product creator is in control of her product at all times.
- It must support decentralized extensibility, which enables applications to add application-specific data to the product description and terms of sale.
- It must be secure, such that the risk of tampering with product descriptions and prices is mitigated.
- It must be non-repudiable, such that the vendor of the listing cannot dispute the fact that they created it.

There are two concepts that are core to understanding how products and services are listed for sale via Web Payments.

The first is the *asset*. An asset is a description of a product or service. Examples of assets include web pages, ebooks, groceries, concert tickets, dog walking services, donations, rights to transmit on a particular radio frequency band, and invoices for work performed. In general, anything of value can be modeled as an asset.

An asset typically describes something to be sold, who created it, a set of restrictions on selling it, and a validity period. Since the asset is expressed using a [Linked Data](#) format, a number of other application-specific properties can be associated with it. For example, a 3D printing store could include the dimensions of the asset when physically printed, the materials to be used to print the asset, and a set of assembly instructions. Upon purchase of the asset, a digital receipt with a description of the asset is generated. This receipt can be given to a local 3D printer service to produce a physical representation of the asset.

The second concept that is key to understanding how products and services are sold via Web Payments is the *listing*. A listing is a description of the specific terms under which an asset is offered for sale. These terms include: the exact asset being sold, the license that will be associated with the purchase, the list of people or organizations to be paid for the asset, and the validity period for the listing. Like an asset, a listing may include other application-specific

properties.

This open technology being created by the Web Payments group should be of particular interest to the US Federal reserve because improving the payment system in the US is not just about improving the speed of transactions, but the accuracy and richness of transactions as well. These assets and listings provide additional information to governments and payment processors that can be used to prevent erroneous transactions, detect illegal activity, more accurately levy taxes, and provide alternative lower-cost mechanisms to perform the purchase. The product information can also be included in digital receipts and virtual wallets to help customers more easily categorize their purchases as well as interact more elegantly with government fiscal instruments of all types, ranging from grants and contributions, to taxes and fee-based services.

Purchase Requests, Contracts, and Receipts

The Web Payments group is also standardizing several concepts such as the *purchase request*, the *contract*, and the *receipt* in order to enable interoperable commerce on the Web. These concepts build upon the decentralized identity and product/services publishing mechanisms previously described.

A *purchase request* is sent to a payment processor when a purchase is requested by the customer. It contains details about the asset and listing that the buyer would like to purchase.

A *contract* is an electronic document that expresses an agreement between all parties involved in a transaction. It contains the asset, digitally signed by the asset provider, and the listing, digitally signed by the vendor.

A *receipt* is the result of a successful purchase. Typically, receipts are provided to a vendor by a payment processor with the minimum amount of information necessary to prove that the sale of an asset to a particular customer was completed successfully. For a more comprehensive review of a purchase, a vendor or customer can request a full contract from their payment processor. A contract is provided to buyers as a proof-of-purchase and for offline storage. It will contain all of the details proving the purchase occurred, even if the payment processor that processed the purchase and/or the vendor go out of business or are shut down for any reason.

These standards should be of particular interest to the US Federal reserve because all of these digital purchase and receipt technologies can be layered on top of the existing ACH-based payment system in the US today. While layering these features on top of the Web and ACH won't improve the banking infrastructure, it will provide a layer of abstraction that many merchants could use while market forces determine the best banking financial backhaul to use, be it ACH, SEPA, Dwolla, or new mechanisms like Bitcoin or Ripple. That is, the front-office can be standardized to the Web while the back-office can be determined by market forces.

The Web as the Global Financial Network

Improving the payment system in the United States must consider the speed of transactions, the richness of the metadata associated with the transaction, the openness of the system, and the pleasantness of the customer and merchant experience. It must also be able to scale to the payments ecosystem that is the size of the Web, extending beyond the United States.

The Web Payments group is creating this future. The World Wide Web Consortium (W3C) has a proven track record of building and deploying open standards for the 2.4 billion people in the world that have access to the Web. We invite the US Federal Reserve to assist in the work that we are doing by participating in the [Web Payments Workshop](#) on March 24th and 25th 2014 in Paris, France to discuss the future path of a universal web payments standard. To this end we invite the US Federal Reserve to be on the program committee for this workshop. To join, please send a statement of interest to the Web Payments Workshop Program Committee
<team-payment-workshop-pc@w3.org>.

Name: Greg Kidd

Organization: Ripple Labs

Industry Segment: Payments Rules and Standards

General

1. Are you in general agreement with the payment system gaps and opportunities identified in the "Payment System Improvement Public Consultation Paper"? Please explain, if desired.

Yes, but the paper ignores the structural issues that stifle the U.S.: - only banks have access to the ACH rails and they operate as a gating mechanism killing participation by others unless permission is granted -- limiting innovation - Money transmission regulation has not been pre-empted by federal oversight. Thus moving money is the fiefdom of small minded state regulators with no overall view or authority - The law lets payors decide how they want to pay (i.e. using checks) rather than allowing payees dictate how they will accept being paid - The U.S. has subsidized legacy systems for years (check clearing). Rather than investing ahead of the curve, the U.S. mis-calculates the costs (i.e. fixed and variable) associated with preserving the status quo

- 1i. What other gaps or opportunities not mentioned in the paper could be addressed to make improvements to the U.S. payment system?

Banks are fearful of supporting innovators because they get beaten up by their regulators when things don't go well. Rather than allow failures and setbacks (and consequent learning) the regulatory environment creates a fearful anti-innovation regime. Just look how hard it is for digital currency companies to interact with mainstream banks Legislating against processing of payments for legal activities (gambling, medical marijuana, etc.) is indicative of a double standard of what's legal versus allowed in the payments industry.

2. Are you in general agreement with the desired outcomes for payment system improvements over the next 10 years? Please explain, if desired.

Yes. But I was at the Fed 10 years ago, and the same tone / attitude was taken then as now. The U.S. was behind the world then, and is more behind now.

- 2i. What other outcomes should be pursued?

IP rails should be allowed as a parallel processing environment to the legacy systems. That means breathing room for digital currencies. The assumption that sovereign governments should have a monopoly on the money supply and payments infrastructure needs to be re-examined. Alternate money systems based around the internet should be given a chance.

3. In what ways should the Federal Reserve Banks help improve the payment system as an operator, leader, and/or catalyst?

The Fed needs to stop making the banks it oversees afraid of making mistakes through allowing innovations. Fraud loss and other risk issues are not as big as the opportunities that are being missed by the Fed and other regulators making banks too nervous to support innovation in the payment space that is already barreling ahead in other countries.

Ubiquitous near-real-time payments

4. In discussions with industry participants, some have stated that implementing a system for near-real-time payments with the features described in the second desired outcome (ubiquitous participation; sender doesn't need to know the bank account number of the recipient; confirmation of good funds is made at the initiation of the payment; sender and receiver receive timely notification that the payment has been made; funds debited from the payer and made available in near real time to the payee) will require coordinated action by a public authority or industry group. Others have stated that current payment services are evolving toward this outcome and no special action by a public authority or industry group is required.

4i. Which of these perspectives is more accurate, and why?

These systems exist (i.e. Ripple). Banks are just afraid to work with them because of compliance concerns and the uncertainty of the regulatory environment. State oversight of money transmission makes the above goals impossible to practically pursue when there are 50 different regimes with 50 different opinions of what's allowable.

4ii. What other perspective(s) should be considered?

Allow a dual set of IP payment rails. Give a hands off like Amazon enjoyed on sales tax for a decade. See what the internet can produce before you choke it with the same strictures on the legacy rails.

5. The second desired outcome articulates features that are desirable for a near-real time payments system. They include:

- a) Ubiquitous participation
- b) Sender doesn't need to know the bank account number of the recipient
- c) Confirmation of good funds is made at the initiation of the payment
- d) Sender and receiver receive timely notification that the payment has been made
- e) Funds debited from the payer and made available in near real time to the payee

5i. Do you agree that these are important features of a U.S. near real-time system? Please explain, if desired.

5ii. What other characteristics or features are important for a U.S. near real-time system?

Yes. It's clear this is already possible in other countries. It's sad that the U.S. is so far behind.

6. Near-real-time payments with the features described in the second desired outcome could be provided several different ways, including but not limited to:

- a) Creating a separate wire transfer-like system for near-real-time payments that leverages the relevant processes, features, and infrastructure already established for existing wire transfer systems. This option may require a new front-end mechanism or new rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions.
- b) Linking together existing limited-participation networks so that a sender in one network could make a payment to a receiver in another network seamlessly. This option may require common standards and rules and a centralized directory for routing payments across networks.
- c) Modifying the ACH to speed up settlement. This option may require a new front-end mechanism or new network rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions. Payments would be settled periodically during the day.
- d) Enhancing the debit card networks to enable ubiquitous near-real-time payments.
- e) Implementing an entirely new payment system with the features described in the second desired outcome above.

6i. What would be the most effective way for the U.S. payment system to deliver ubiquitous near-real-time payments, including options that are not listed above?

Allow IP based protocols that already achieve all this to operate without fear of being shut down.

6ii. What are the likely pros and cons or costs and benefits of each option? What rule or regulation changes are needed to implement faster payments within existing payment processing channels?

There needs to be a materiality threshold. Transactions below a certain threshold should not have the complexity of Reg E compliance to worry about. Some things are too small to worry about. Regulation of every transaction does not have to be one size fits all.

6iia. What rule or regulation changes are needed to implement faster payments within existing payment processing channels?

6iii. Is it sufficient for a solution to be limited to near-real-time authorization and confirmation that good funds are on their way, or must end user funds availability and/or interbank settlement take place in near-real time as well?

funds don't have to arrive in real time, but it's actually simpler if they do (i.e. a stateless system). The internet already "gets" this but it's not being given a chance to breath.

6iv. Which payment scenarios are most and least suitable for near real-time payments? (B2B, P2P, P2B, POS, etc.)

all are suitable. This should have occurred 20 years ago

7. Some industry participants have said that efforts to make check payments easier to use, such as by enabling fully electronic payment orders and/or by speeding up electronic check return information, will incrementally benefit the payment system. Others argue the resources needed to implement these efforts will delay a shift to near-real-time payments, which will ultimately be more beneficial to the payment system. Which of these perspectives do you agree with, and why?

Investing in improving checks is a waste of time. I worked for the payments group at the Board overseeing the check clearing system. We don't need to spend more resources on this antiquated system. It should be run well, but there's no need or future for focus on the vestige.

8. How will near-real-time payments affect fraud issues that exist with today's payment systems, if at all?

Real time does create fraud risks, but also reduces fraud risks. There's so much happening in this realm that there are no black and white answers on this front. Real time is not a direct causation agent with fraud

8i. Will near-real-time payments create new fraud risks? If yes, please elaborate on those risks.

No. see above.

9. To what extent would a ubiquitous near-real-time system bring about pivotal change to mobile payments?

It's not a mobile specific thing other than that a stateless (real time) system is consistent with the simplicity, low cost and speed of the internet. Anything else is an inferior legacy throwback.

10. What would be the implication if the industry and/or the Federal Reserve Banks do not take any action to implement faster payments?

2023 will look a lot like 2013 just as 2013 looks a lot like 2003 (when I was at the Fed). The U.S. should lead rather than lag other countries by opening up options rather than sitting on top of the status quo with the current stifling regulatory environment and uncertainty.

10i. What is the cost, including the opportunity cost, of not implementing faster payments in the United States?

The rest of the world out innovates us and has a lower structural cost of business.

11. To what extent will the industry need to modernize core processing and other backend systems to support near-real-time payments?

Not at all unless current thinking and inertia changes. I saw the Fed ACH presentation at Money 2020 - nothing could be more depressing for innovators. The message was loud and clear: "nothing is going to happen"

11i. What is the likely timeframe for any such modernization?

For the legacy system -- possibly never. Too many protected interest and too much fear that change might have negative consequences along the way to finding positive outcomes. Best hope is a parallel track based on IP rails

12. Some industry participants suggest that a new, centralized directory containing account numbers and routing information for businesses and/or consumers, to which every bank and other service providers are linked, will enable more electronic payments. A sender using this directory would not need to know the account or routing information of the receiver.

12i. What are the merits and drawbacks of this suggestion?

Centralized has to be global -- doing this for once country is just more head in the ground thinking. Look to how the internet solved similar problems for domain names, email servers, etc. The solutions are there -- but the description above shows the same tunnel vision as has characterized this discourse for years

12ii. What is the feasibility of this suggestion?

It's easy enough if one has the will. but the challenge is global, not national.

13. Some industry participants say that check use is an enduring part of the U.S. payment system and that moving away from checks more aggressively would be too disruptive for certain end users.

13i. Is accelerated migration from checks to electronic payment methods a high-priority desired outcome for the U.S. payment system? (Accelerated means faster than the current trend of gradual migration.) Please explain, if desired.

Yes. It doesn't matter one way or the other. checks wouldn't be necessary if we had alternatives. One only has to get on an airplane and go to other countries to see that this is so. The problem isn't the old thing; it's the lack of access for the new thing

13ii. Should the Federal Reserve Banks establish a target for the percent of noncash payments to be initiated via electronic means, by a specific date? For example: "By the year 2018, 95% of all noncash payments will be made via electronic means." If Yes, what is the appropriate target lever and date?

No.

14. Business-to-business payments have remained largely paper-based due to difficulties with handling remittance information. Consumer bill payments also are heavily paper-based due to the lack of comfort some consumers have with electronic alternatives. In addition, many small businesses have not adopted ACH for recurring payments due to technical challenges and/or cost constraints. The payment industry has multiple efforts underway to address these issues.

14i. To what extent are these efforts resulting in migration from checks to other payment types?

Gosh, has no one looked to see how well and easily these issues are solved in other countries. This is a lack of will. Let the payees determine how they will be paid (rather than the payees). Biasing law to favor payor rights over payee means we are mired in the past. Check 21 showed just how timid we are/were

14ii. What other barriers need to be addressed to accelerate migration of these payments?

Stop punishing banks who would partner with players offering alternative payment rails. How many bitcoin friendly U.S. banks are there? Zero not because they are not curious, but because they are afraid of their regulators and regulation and law enforcement

14iii. What other tactics, including incentives, will effectively persuade businesses and consumers to migrate to electronic payments?

Reducing the risk of trying alternative systems. Allowing failures to happen rather than having a zero tolerance for failure of financial payment networks. Its ok to have failures in payments systems. We learn from those.

14iv. Which industry bodies should be responsible for developing and/or implementing these tactics?

Federal pre-emption is needed where states meddle. You can't have a national (let alone a global) payments system with the current level of meddling and shakedowns at the state level and the inconsistency of regulation between overlapping regulatory bodies

Cross-border Payments

15. To what extent would the broader adoption of the XML-based ISO 20022 payment message standards in the United States facilitate electronification of business payments and/or cross-border payments?

Ugh, this has been dribbling along for 20 years. Just accept that the internet is more efficient than these incremental half measures

16. What strategies and tactics do you think will help move the industry toward desired outcome four - consumers and businesses have greater choice in making convenient, cost-effective, and timely cross-border payments?

Allowing internet based innovation as a parallel track to legacy channels. Resistance to lobby groups that make digital payments alternatives look too scary to be integrated through gateways to the traditional payment system

Safety

17. Payment security encompasses a broad range of issues including authentication of the parties involved in the transaction, the security of payment databases, the security of software and devices

used by end users to access payment systems, and security of the infrastructure carrying payment messages.

17i. Among the issues listed above, or others, what are the key threats to payment system security today and in the future?

The main risk is the arrogance of the NSA and other Federal bodies that have shown a lack of respect for privacy and have made a mockery of encryption. If the Federal government has no credibility on this front, how can they be seen as an honest broker of future progress in this arena. The Federal Government has to follow the same rules it asks others to live by otherwise all of the above are just speed bumps to bad actors.

17ii. Which of these threats are not adequately being addressed?

The double standard of the national government's own actions and the silence from other authorities on whether such violations of privacy are warranted for national security.

17iii. What operational or technology changes could be implemented to further mitigate cyber threats?

Stop the Federal Government from compromising the very standards that are built to protect us from cyber threats. It is ridiculous to believe that the Feds have a monopoly on managing cyber threat technology. By weakening the internet, they weaken the future system that is best positioned to carry payments of the future.

18. What type of information on threat awareness and incident response activities would be useful for the industry?

I think Twitter already has this well covered.

18i. How should this information be made available?

See above.

19. What future payment standards would materially improve payment security?

Follow (rather than subvert) internet protocols IP as a foundation for real time, free, easy payments (and secure).

19i. What are the obstacles to the adoption of security-related payment standards?

Our own government's double standard for undermining privacy and all security standards by the major internet and communications service providers. Bitcoin and Ripple have shown the way to a more secure standard but the governments are still fearful of these innovations in security.

20. What collaborative actions should the Federal Reserve Banks take with the industry to promote the security of the payment system from end to end?

showing leadership in understanding the benefits of a global rather than parochial money system that is secure by design (and via open source protocols).

21. Please share any additional perspectives on U.S. payment system improvements.

The bank monopoly on many aspects of the money system of the U.S. does not contribute to innovation. The banks fears that they will get on the wrong side of their regulators reinforces a stagnant dynamic that makes the U.S. a terrible laggard relative to the innovation and cost structures being achieved elsewhere in the world. Accepting risks and that there will be payment systems failures needs to be an ok outcome. This requires a fundamental change in thinking from the fear ridden, status-quo oriented perspective that I saw when working at the Fed. It's ok to have payment system failures, just like it's ok to have bank failures. Once you start thinking otherwise, then you've left the objective world of experimentation and are living in a self-referential bubble. The internet shows an alternative that the Fed has done almost zero to open itself to. I watched this during the horrific process of doing something as simple as making it easier to submit an ACH file over the web. What a nightmare and how indicative of Fed reticence. A great place to start would be federal pre-emption of state money transmission licenses. This process is so universally acknowledged as stupidly obtuse by everyone yet nothing ever changes here. It's two years and several million dollars just to get a seat at the table. And when you get there, it's a hodge podge shakedown as PayPal and Square can well relate. The Fed could step up to the plate and show that regulation could/should be rational, fair, and pragmatic. But it never steps up to the plate, and the consequential lag in our country's competitive position continues to stretch. I see it in the figures of money moving through our network via China versus the U.S. We are missing out.

Name: Aaron Greenspan
Organization: Think Computer Corporation
Industry Segment: Emerging Payments Provider

General

1. Are you in general agreement with the payment system gaps and opportunities identified in the "Payment System Improvement Public Consultation Paper"? Please explain, if desired.

No. Generally I agree that the issues highlighted in the Fed's paper are worthy of consideration, but the single biggest issue for my company, which doesn't appear in the paper at all, is regulatory complexity for incumbents. Most of the functions that the Fed seeks to encourage are functions that could be provided by new market entrants, such as my company, were new market entrants actually allowed to enter the market. Instead, I've personally been threatened with incarceration in a federal penitentiary for attempting to improve the payment system, while the CEOs of the banks that brought the world economy to its knees have walked away with hundreds of millions of dollars. Furthermore, I've tried to bring these issues to light in prior Federal Reserve requests for comment (see http://www.federalreserve.gov/SECRS/2011/January/20110131/R-1404/R-1404_012211_62816_479290761925_1.pdf). I've e-mailed Federal Reserve officials directly (I have no relation to Alan Greenspan, in case you are wondering). I've called those same officials when they haven't responded to e-mails. And guess what? Nothing changes.

1i. What other gaps or opportunities not mentioned in the paper could be addressed to make improvements to the U.S. payment system?

For more information about money transmission laws see <http://www.thinkcomputer.com/corporate/whitepapers/heldhostage.pdf>,
<http://www.facecash.com/legal/brown.html>, <http://www.plainsite.org/flashlight/case.html?id=716056> and <http://www.plainsite.org/flashlight/case.html?id=2434524>.

2. Are you in general agreement with the desired outcomes for payment system improvements over the next 10 years? Please explain, if desired.

Yes. Yes, the paper sounds great, except that these outcomes should be achieved in less than ten years. Try one or two years. The Fed is moving too slow. And it's great to put things in papers and solicit feedback about papers and write more papers about the feedback to the papers, but the fact of the matter is that while you've been dreaming up "desired outcomes" in Washington, D.C. (or Kansas City or Cleveland or wherever), I've been sitting around in Silicon Valley doing much less than I would like to improve the payment system for 2.5 years because large incumbent financial companies didn't think I should be allowed. How does that match up with the desired outcome of "consumer choice"?

2i. What other outcomes should be pursued?

Regulatory clarity for new market entrants and small banks should be a desired outcome. The elimination and/or federal pre-emption of state-by-state money transmission laws should be a key focus for the Fed.

3. In what ways should the Federal Reserve Banks help improve the payment system as an operator, leader, and/or catalyst?

Eliminate NACHA's authority to do anything and force the banks to use an up-to-date money transfer standard. Ditch FedWire, too. There's no need for multiple protocols. Make a new one that actually makes sense for all use cases. Or, if that is too scary sounding, at least let new market entrants improve things, instead of sitting around with no comment while Congress continues to delegate to state bureaucrats the power to send any entrepreneur working on a market-making or payment-related system to jail.

Ubiquitous near-real-time payments

4. In discussions with industry participants, some have stated that implementing a system for near-real-time payments with the features described in the second desired outcome (ubiquitous participation; sender doesn't need to know the bank account number of the recipient; confirmation of good funds is made at the initiation of the payment; sender and receiver receive timely notification that the payment has been made; funds debited from the payer and made available in near real time to the payee) will require coordinated action by a public authority or industry group. Others have stated that current payment services are evolving toward this outcome and no special action by a public authority or industry group is required.

4i. Which of these perspectives is more accurate, and why?

This is a poorly-thought-out question. Neither perspective is quantifiably "more accurate." It's true that the market is moving toward this outcome, but it's moving too slowly because money transmission laws are killing companies like mine and the Fed has done nothing about it for years.

4ii. What other perspective(s) should be considered?

Were I at the Fed, I would consider the perspective that the large banks dominate decision-making at NACHA (let alone Washington in general) and do not have the public's interest in mind.

5. The second desired outcome articulates features that are desirable for a near-real time payments system. They include:

- a. Ubiquitous participation
- b. Sender doesn't need to know the bank account number of the recipient
- c. Confirmation of good funds is made at the initiation of the payment
- d. Sender and receiver receive timely notification that the payment has been made
- e. Funds debited from the payer and made available in near real time to the payee

5i. Do you agree that these are important features of a U.S. near real-time system? Please explain, if desired.

Yes.

5ii. What other characteristics or features are important for a U.S. near real-time system?

Legal identity confirmation. Right now different states' secretaries of state control corporate identifiers and do not provide public access to their databases. Consequently, for anti-fraud purposes it's often difficult to determine whether some legal entities are real or not, duplicates of others, or related to others. All of this information becomes far more important when payments are happening in real-time and there's less of a buffer period to handle fraud issues. The Fed should encourage adoption of a nationwide standard for identifying corporate entities, whether that means secretaries of state start collecting and publishing TINs, or something else.

6. Near-real-time payments with the features described in the second desired outcome could be provided several different ways, including but not limited to:
- a. Creating a separate wire transfer-like system for near-real-time payments that leverages the relevant processes, features, and infrastructure already established for existing wire transfer systems. This option may require a new front-end mechanism or new rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions.
 - b. Linking together existing limited-participation networks so that a sender in one network could make a payment to a receiver in another network seamlessly. This option may require common standards and rules and a centralized directory for routing payments across networks.
 - c. Modifying the ACH to speed up settlement. This option may require a new front-end mechanism or new network rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions. Payments would be settled periodically during the day.
 - d. Enhancing the debit card networks to enable ubiquitous near-real-time payments.
 - e. Implementing an entirely new payment system with the features described in the second desired outcome above.

6i. What would be the most effective way for the U.S. payment system to deliver ubiquitous near-real-time payments, including options that are not listed above?

Option (a) sounds like option (e) to me, and that would be my first choice, except I'd want real-time. "Near-real-time" is a joke, and I'm not sure why the Fed is wasting its time discussing it. Option (c), modifying ACH, is exactly what the Fed should not do. Let ACH die already. It's horrendous.

6ii. What are the likely pros and cons or costs and benefits of each option? What rule or regulation changes are needed to implement faster payments within existing payment processing channels?

Obviously it's better for the public not to have to wait days for funds to transfers. It's bad for the banks because they have less time to sit on the public's money, but too bad for them. The existing regulatory framework generally seems to work fine independent of payment speed, with the exception of money transmission laws, which are mostly so old that they were written before there was even a commercial internet (one of many reasons why they are unconstitutional; internet regulation is strictly within the federal domain, see *ALA v. Pataki* (1997)).

6iii. Is it sufficient for a solution to be limited to near-real-time authorization and confirmation that good funds are on their way, or must end user funds availability and/or interbank settlement take place in near-real time as well?

No. Near-real-time is dumb. Real-time is what people want and expect.

6iv. Which payment scenarios are most and least suitable for near real-time payments? (B2B, P2P, P2B, POS, etc.)

All payment scenarios are unsuitable for near-real-time payments because we already have the infrastructure necessary (the internet) to provide real-time payments and it makes no sense to half-bake a solution.

7. Some industry participants have said that efforts to make check payments easier to use, such as by enabling fully electronic payment orders and/or by speeding up electronic check return information, will incrementally benefit the payment system. Others argue the resources needed to implement these efforts will delay a shift to near-real-time payments, which will ultimately be more beneficial to the payment system. Which of these perspectives do you agree with, and why?

Neither. Checks are obsolete and near-real-time payments make no sense. I wouldn't put any more effort into either.

8. How will near-real-time payments affect fraud issues that exist with today's payment systems, if at all?

Near-real-time payments will make it harder to catch fraudulent transactions before they go through, but the benefits will still outweigh the costs, and financial institutions will have an incentive to actually pay attention to what's going through their networks.

8i. Will near-real-time payments create new fraud risks? If yes, please elaborate on those risks.

No Same fraud risks, just amplified slightly.

9. To what extent would a ubiquitous near-real-time system bring about pivotal change to mobile payments?

It wouldn't. We need real-time. And we need a way to verify account holder information!

10. What would be the implication if the industry and/or the Federal Reserve Banks do not take any action to implement faster payments?

What's already happening: the market would take care of it instead, except at a snail's pace because of unconstitutional state money transmission laws that inhibit innovation.

10i. What is the cost, including the opportunity cost, of not implementing faster payments in the United States?

Probably a few trillion dollars' worth of aggravation and stupid delays? Who knows. It's quite high.

11. To what extent will the industry need to modernize core processing and other backend systems to support near-real-time payments?

Does this matter? Last time I checked the public bailed out the banks. The public wants real-time payments; the banks can afford the upgrade.

11i. What is the likely timeframe for any such modernization?

Not fast enough.

12. Some industry participants suggest that a new, centralized directory containing account numbers and routing information for businesses and/or consumers, to which every bank and other service providers are linked, will enable more electronic payments. A sender using this directory would not need to know the account or routing information of the receiver.

12i. What are the merits and drawbacks of this suggestion?

The most important merit of the suggestion is that it would greatly reduce fraud by enabling account holder verification API calls. The drawback of course is that there might be a single point of vulnerability security-wide and failure reliability-wise. But it's probably still worth doing.

12ii. What is the feasibility of this suggestion?

My company has basically already built such a system, even though no banks are presently connected to it, so it's certainly feasible.

Electronification

13. Some industry participants say that check use is an enduring part of the U.S. payment system and that moving away from checks more aggressively would be too disruptive for certain end users.

13i. Is accelerated migration from checks to electronic payment methods a high-priority desired outcome for the U.S. payment system? (Accelerated means faster than the current trend of gradual migration.) Please explain, if desired.

Yes. If my great aunt can use an iMac, she can figure out electronic payments. She hates balancing her checkbook anyway.

13ii. Should the Federal Reserve Banks establish a target for the percent of noncash payments to be initiated via electronic means, by a specific date? For example: "By the year 2018, 95% of all noncash payments will be made via electronic means." If Yes, what is the appropriate target lever and date?

Yes. 99% by 2015

14. Business-to-business payments have remained largely paper-based due to difficulties with handling remittance information. Consumer bill payments also are heavily paper-based due to the lack of comfort some consumers have with electronic alternatives. In addition, many small businesses have not adopted ACH for recurring payments due to technical challenges and/or cost constraints. The payment industry has multiple efforts underway to address these issues.

14i. To what extent are these efforts resulting in migration from checks to other payment types?

Not enough! We still get paid by check most of the time from companies and government agencies. It's absurd.

14ii. What other barriers need to be addressed to accelerate migration of these payments?

Money transmission laws need to be pre-empted to allow for business software that easily integrates with payment systems, such as the exact product that my company built before it was outlawed by the California Money Transmission Act.

14iii. What other tactics, including incentives, will effectively persuade businesses and consumers to migrate to electronic payments?

The fact that integrated electronic payments and accounting would save companies billions of dollars per year should be enough to incentivize people to switch.

14iv. Which industry bodies should be responsible for developing and/or implementing these tactics?

[None?](#)

Cross-border Payments

15. To what extent would the broader adoption of the XML-based ISO 20022 payment message standards in the United States facilitate electronification of business payments and/or cross-border payments?

I'm sure it would help, I don't know how much. Half of the XML standards out there are useless, although this one is probably not in that group. But there are still plenty of other reliable ways to make payments sans XML. That being said, if this standard replaced ACH flat files, I'd be thrilled.

16. What strategies and tactics do you think will help move the industry toward desired outcome four - consumers and businesses have greater choice in making convenient, cost-effective, and timely cross-border payments?

Without a doubt, the most important factor here would be federal pre-emption of state money transmission laws, which grant effective monopolies to the companies that have lobbied for them: Western Union, MoneyGram, Travelex, Sigue Corporation, and RIA Card Services (collectively, The Money Services Round Table).

Safety

17. Payment security encompasses a broad range of issues including authentication of the parties involved in the transaction, the security of payment databases, the security of software and devices used by end users to access payment systems, and security of the infrastructure carrying payment messages.

17i. Among the issues listed above, or others, what are the key threats to payment system security today and in the future?

ACH flat files have no security, the ISO card standard has no security... Basically the only thing between consumers and fraud is each bank's security department.

17ii. Which of these threats are not adequately being addressed?

All of them.

17iii. What operational or technology changes could be implemented to further mitigate cyber threats?

See U.S. Patent No. 8,396,808 B2: Method and system for transferring an electronic payment, the technology underlying FaceCash.

18. What type of information on threat awareness and incident response activities would be useful for the industry?

I'm not sure awareness is really the problem here... Everyone is aware that hackers exist, the problem is that most people in banking have no idea how computers work.

18i. How should this information be made available?

Hire more computer-savvy bankers and regulators.

19. What future payment standards would materially improve payment security?

Perhaps a standard that, unlike ACH, requires a hash to match somewhere for each transaction.

19i. What are the obstacles to the adoption of security-related payment standards?

State-based money transmission laws keep the status quo in place so that large banks can make a fortune, and the status quo is highly insecure.

20. What collaborative actions should the Federal Reserve Banks take with the industry to promote the security of the payment system from end to end?

Frankly, I'm sick of hearing about collaborative actions that government can take with "industry" because "industry" is always a buzzword that really means the top three to five companies in any given sector. If the Fed is serious about security of the payment system, it should be encouraging new voices to enter the industry, and the way to do that is to have Ben Bernanke (or Janet Yellen) make crystal to Congress that they need to do something about money transmission laws--specifically, 18 U.S.C. Â§ 1960, and fast.

21. Please share any additional perspectives on U.S. payment system improvements.



Uniform Law Commission

NATIONAL CONFERENCE OF COMMISSIONERS ON UNIFORM STATE LAWS

111 N. Wabash Ave.
Suite 1010
Chicago, IL 60602
(312) 450-6600 tel
(312) 450-6601 fax
www.uniformlaws.org

November 5, 2013

TO: Federal Reserve Financial Services
FedPaymentsImprovement.org

FROM: Harriet Lansing
President
Uniform Law Commission
111 N. Wabash Ave.
Suite 1010
Chicago, IL 60602

SUBJECT: Payment System Improvements – Public Consultation Paper
Response of the Uniform Law Commission

The Uniform Law Commission (ULC) was established in 1892 to research and prepare model and uniform acts that would bring consistency, clarity, and stability to state statutory law. In furtherance of that purpose the ULC has promulgated more than 300 acts in areas of the law traditionally governed by the states and for which uniformity is important and federal law is not required to achieve that uniformity.

Early in its existence the ULC promulgated the Negotiable Instruments Law. That Law was later incorporated into the Uniform Commercial Code (UCC), which was drafted by the ULC and the American Law Institute (ALI). UCC Articles 3, 4, 4A and 5, versions of which have been widely adopted, set forth uniform state law that currently applies to many payment systems.

Beginning in 1985, the ULC and the ALI undertook to update and modernize the payment-related provisions of the Code, working with Federal Reserve System representatives. The original UCC provisions were designed to address a number of issues that are no longer relevant and were based on a system of paper transactions. Subsequent updates provided many necessary revisions to accommodate electronic transactions and holdings. These revisions to the Code have been enacted by the states, so that state law is in harmony to a significant extent with the changing technologies and practices of the banking system and the rules and regulations of the Federal Reserve System:

Articles 3&4 (Negotiable Instruments) – revised in 1990, enacted in all states but one;

Article 4A (Funds Transfers) -- revised in 1989 and enacted in all states, and also incorporated in Regulation J; and

Article 5 (Letters of Credit) -- revised in 1995 and enacted in all states.

In addition, the ULC and ALI have prepared:

Article 7 (Documents of Title) -- revised in 2003 and enacted in all but five states;

Article 8 (Securities) -- revised in 1994 and enacted in all states; and

Article 9 (Secured Transactions) -- revised in 1999 and enacted in all states. Additional amendments to Article 9 were promulgated in 2010 and have been enacted in all but six states.

Your Consultation Paper asks for input on various matters that would inform and enable opportunities to improve the speed and efficiency of payments and maintain the safety of transactions. Presumably the input may lead to revisions of the applicable rules and regulations.

In that event, ULC is ready and able to continue its past coordination and cooperation with the Federal Reserve System in updating and harmonizing state law with new initiatives for improving the payments systems.

Please keep us advised of the progress in obtaining input and the ways and means by which the ULC can be helpful.

EXHIBIT B

Think Computer Corporation White Paper (2011)

Held Hostage

*How the Banking Sector Has Distorted Financial Regulation and
Destroyed Technological Progress*

Aaron Greenspan

Think Computer Corporation
August 15, 2011



Think

Abstract

In 2008, a global financial crisis second only to the Great Depression shed light on the utterly dysfunctional system of financial regulation governing the United States. A cacophony of laws and agencies, charged with regulating retail and investment banks, ultimately failed to prevent (and ultimately accelerated) an epic economic disaster that required enormous taxpayer bailouts of private enterprise, sunk two investment banks (Lehman Brothers and Bear Stearns), imploded an enormous insurance provider (A.I.G.), leveled the American auto industry (General Motors and Chrysler), and destroyed the student loan and mortgage industries, among many, many others. Drafted quickly amidst the wreckage, the Dodd-Frank Financial Reform Act was supposed to solve many of the problems that had led to the crisis. Today, the reality is that it has solved almost nothing, while introducing significant new problems.

Three years later, business is conducted in the same exact way that it was in 2008. It is more important than ever for consumers to have alternatives to financial products and services offered by the very same banks that only a few years ago brought the global economy to its knees, but such alternatives barely exist. In forty-six states and Washington, D.C., offering stored value and money transmission services is illegal without licenses that are virtually impossible for a single new company to obtain.

Money transmission laws that differ from state to state have completely escaped the notice of policy makers in Washington, but they are the single most important bottleneck preventing positive change from taking hold in America's financial system. With the nation facing yet another recession and already-high unemployment, such change is urgently needed.

This paper examines the present state of money transmission regulation in the United States and the ramifications thereof.

The Problem

With consumer confidence at its lowest levels since 1980,¹ the American consumer is not doing well. There are enormous challenges associated with our current era of unparalleled inequality, in which the middle class is quickly disappearing. When it comes to financial products and services, such as checking and savings accounts, loans, mortgages, and pre-paid plastic cards, it is fair to say that the average consumer is being regularly hammered. Each product and service seems to come with unexpected fees, reams of fine print containing misleading terms and conditions, and the kind of customer service that really requires a redefining the word “service” to mean something akin to “abuse” in order to square the moniker with reality.

Small businesses are not doing particularly well, either. Many feel the need to accept plastic payment cards issued by Visa, MasterCard, American Express and Discover in order to satisfy their customers, some of whom earn valuable financial rewards for using their cards. Acceptance comes with a price, however. It’s hard to say exactly how much that price is, since the fee guides—that is, it actually requires a guide to navigate through so many fees—issued by each card company are typically well in excess of one hundred pages long. Generally, plastic card acceptance involves a fixed per-swipe authorization fee (regardless of whether the card is accepted or declined) of approximately \$0.25; a base discount rate of roughly 2.5% (or sometimes higher than 4.0% for American Express); discount rate surcharges for rewards cards, international cards, and specific industries; a monthly fee; a gateway fee; a fixed setup fee, and occasionally a terminal rental fee. Some companies have business loans that are actually tied to their credit card processing agreements; as long as the loan is outstanding, the business is contractually required to encourage customers to pay with a plastic card in order to keep the fees rolling in. This has the intended side-effect of making it harder to pay back the loan.

With these sub-optimal conditions for consumers and small businesses alike, it would make sense for the market to eventually devise a more reasonable alternative that does not actively exploit the consumers and businesses that the system is supposed to serve. Yet in the sixty years that have elapsed since the current plastic-based infrastructure was devised, none has surfaced. It’s worth asking why.

The History of Money Transmission Law

Money transmission, as it is typically thought of today, almost exclusively involves electronic finan-

¹ See Retail Sales Rise, but Pessimism Drives Consumer Sentiment to a 30-Year Low by Reuters, <http://www.nytimes.com/2011/08/13/business/economy/retail-sales-rise-but-consumer-sentiment-hits-30-year-low.html>.

cial transactions, but this is a relatively recent phenomenon. Throughout the early part of the twentieth century, with only a few (if any) computers scattered throughout the world, travelers checks and money orders dramatically increased in popularity. Though a few states passed laws designed to regulate these forms of payment as early as the 1950s—Delaware passed its Sale of Checks and Transmission of Money Act in 1953—many more passed money transmission laws in the following decade.

Inherent in the process of sending a money order or cashier’s check is the step of the sender first giving funds to the intermediary business, usually not an FDIC-insured bank, which then might or might not carry through with its obligation to forward the funds along to the intended recipient. It was only a matter of time before one such intermediary business failed to make good on its promise, and so on January 16, 1964, when a Los Angeles-based currency exchange firm went bankrupt, an enormous amount of systemic risk was exposed, to the tune of \$1 million (about \$7 million in 2011 dollars). The firm’s failure made headlines both in California and across the nation, and it apparently caught the attention of numerous state legislators.

In 1965 alone, Pennsylvania passed its money transmission law, Georgia passed its Sale of Checks Act, Nebraska passed its Sale of Checks and Funds Transmission Act, Oklahoma introduced its Banking Code, and Arkansas passed its Sale of Checks Law. All of these laws explicitly forbade the sale of checks without a license, and if they did not also explicitly forbid the operation of a money transmission business as well, then they were later amended to correct the omission. Other states followed along after some delay, with Nevada passing its law in 1977.

On August 1, 1986, Northwest Financial Express, Inc. (NWFX), an Arkansas corporation, filed for voluntary bankruptcy under chapter 11. NWFX sold money orders through grocery stores in several states, including Texas. Soon after, one Houston grocery chain, Pyburn Enterprises, Inc., found itself in litigation with NWFX. In its ruling², the United States Court of Appeals, Eighth Circuit stated, “NWFX’s bankruptcy had a devastating effect on thousands of Texas citizens who purchased NWFX money orders. Most of the money orders were purchased by people with low incomes. The money orders were often purchased to pay bills such as rent and utility expenses. Accordingly, when NWFX money orders were dishonored money order purchasers faced dire consequences.” On August 15, the *Dallas Morning News* ran an article with the headline “New Money-Order Regulations Sought,” stating, “State Rep. Al Granoff, D-Dallas, on Thursday filed a bill calling for the Texas Legislature to impose more stringent regulations on companies selling money orders in Texas

2 See 881 F.2d 530, <http://ftp.resource.org/courts.gov/c/F2/881/881.F2d.530.88-2395.html>.

following the state's largest money order failure earlier this month.”

In 1995, money transmission laws came into focus once again. As part of a comprehensive series of legislative recommendations, the National Alliance for Model State Drug Laws (NAMSDL), a non-profit organization funded by Congress as the successor to the President’s Commission on Model State Drug Laws, published its template for money transmission legislation. Concerned that drug-related funds were being laundered through unmonitored money transmission businesses at a rate of billions of dollars per year, the NAMSDL modeled its template on Arizona’s 1991 money transmission statute, and recommended that other states follow suit with strict penalties for non-compliance. Several did, with Tennessee passing money transmission legislation in 1996 and Maine passing its law in 1997.

In the summer of 2001, recognizing the wide disparity in regulations from state to state, the National Conference of Commissioners on Uniform State Laws completed its work on the Uniform Money Services Act (UMSA).³ The UMSA was “approved and recommended for enactment in all the states,” but only a select few states, such as Alaska, Arkansas, Iowa and Washington, actually adopted it, some taking many years to do so. (Since the UMSA was proposed, two of its eight authors have passed away, perhaps leaving fewer people to advocate for its benefits.)

Just as the ink on the UMSA was drying, the events of September 11, 2001 once again cast a decidedly harsh light on the money transmission industry when activities of *Al Qaeda* terrorists were linked to the *hawala* informal money transfer system frequently used in Islamic nations, such as Saudi Arabia and Somalia. Many government officials feared that despite its predominantly legitimate use dating back centuries, *hawala* could be used to finance another terrorist attack.⁴ Consequently, when the USA PATRIOT Act was passed in 2002, it enhanced 18 U.S.C. § 1960 with severe criminal penalties for operating an unlicensed money transmission business in violation of any state law, effectively turning what had previously been a state enforcement action into a federal crime.

By 2004, Hawaii still did not regulate money transmission and faced the question of whether or not it should. In October of that year, the Auditor of the State of Hawaii prepared a report for the Governor and Legislature in response to Hawaii’s House Bill 2428⁵ in which it stated that it had found “little evidence of harm to consumers or to the public,” that “the proposed regulation provides

³ See <http://www.law.upenn.edu/bll/archives/ulc/moneyserv/UMSA2001final.pdf>.

⁴ See The *hawala* alternative remittance system and its role in money laundering, <http://www.interpol.int/Public/Financial-Crime/MoneyLaundering/hawala/>.

⁵ See Sunrise Analysis: Money Transmitters, <http://www.state.hi.us/auditor/Reports/2004/04-10.pdf>.

few added benefits to consumers while costs to taxpayers and consumers are uncertain,” and finally recommending that “regulation of money transmitters is not warranted.” Hawaii passed the bill into law anyway, and it became effective in 2007.

Most recently in 2010 (effective January 1, 2011), with its Money Transmission Act, California consolidated three financial laws into one and added for the first time statutory requirements for domestic money transmitters, as it had previously only regulated international money transfers.⁶ Not long after, in May, 2011, New York passed legislation requiring all money transmitters doing business in the state to obtain licenses, whereas it had previously only regulated businesses with a physical presence in New York.⁷

Money Transmitters Versus Banks

Banks and money transmitters differ in several crucial ways. The most important distinction is that money transmitters do not make loans. This one difference drastically changes the risk profile for money transmitters relative to banks. While a run on a bank could mean that consumers are left empty-handed, since much of a given bank’s deposits have been loaned out on any given day, a similar run on a money transmitter offering a stored value product would not be a cause for alarm. Unlike banks, money transmitters offering stored value have at minimum of one dollar in cash available for every dollar in deposits.

Another key difference between money transmitters and banks is the way in which each institution is able to take advantage of new technology. Over the years, with certain exceptions for the largest banks in the country, banks have largely outsourced their information technology departments to roughly five systems integrators, with Fidelity National Information Services, Inc. and Fiserv, Inc. responsible for most small banks’ technology infrastructure. Unless one of these companies decides to offer a new product or service in their software, banks have little to no ability to customize their offerings. This model of heavy dependence on a few companies that maintain legacy systems means that the industry barely ever changes. Aside from that, it seldom wants change. According to Fiserv, most financial institutions view themselves not as leaders, but “fast followers.”⁸

6 See ftp://leginfo.public.ca.gov/pub/09-10/bill/asm/ab_2751-2800/ab_2789_gfa_20100628_154447_sen_comm.html.

7 See S5209-2011: Relates to retail instalment contracts and transmitters of money, <http://open.nysenate.gov/legislation/bill/S5209-2011>.

8 See Acceleration in the Mobile Banking and Payments Landscape: Insights and Perspectives from Financial Institutions, http://www.fiserv.com/WP_2011-mobile-payments-white-paper-v1.pdf

Meanwhile, with millions of mobile phones being sold each year across the world, it is clear that the banks are being left behind by the pace of technological change. Given the difficulty of obtaining a charter to start a bank, money transmitters are in the best position to take advantage of new technological developments in the financial services space, as they are completely unhindered by dependence on the systems integrators mentioned above. One aspect of technological change that banks have been either unable or extremely reluctant to take advantage of is the ability to provide greater transparency to consumers about the status of their accounts in real time. For example, while mobile devices are capable of displaying a checking account balance to a consumer at the point of sale, plastic cards are not. This ability alone might reduce the number of Not Sufficient Funds fees assessed by banks by millions of dollars per year.

On the other hand, money transmitters lack Federal Deposit Insurance Corporation (FDIC) coverage,⁹ making them more risky for consumers as primary stores of funds than banks. Banks are aware of this, and have recently begun charging their customers a premium for the security of their deposits. Minimum balance fees, which for years were rare for many consumers, have come back with a vengeance since the implementation of the Dodd-Frank Financial Reform Act. Free checking accounts are disappearing, as well as debit card rewards programs, which are mostly gone already. Most banks do not permit depositors to maintain a bank account with a zero-dollar balance for more than 30 days, and banks will frequently close such accounts without notice, cutting off the customer's access to records indicating prior balances. In contrast, money transmitters routinely allow customers to maintain accounts with zero-dollar balances, and generally do not charge minimum balance fees.

The Impact of Existing Regulations

While each state's money transmission statutes are different, the web site of the National Conference of Commissioners on Uniform State Laws does an excellent job of summarizing what money transmission legislation is actually designed to do.¹⁰

Broadly speaking, the Uniform Money Services Act...provides that a person may not engage in specific regulated activities (money transmission, check cashing, and currency exchange) unless they hold a qualifying license or are an authorized delegate of a person

⁹ Money transmitters can qualify for FDIC pass-through insurance, but this only protects depositors if the bank holding the money transmitter's pooled funds defaults, not if the money transmitter itself defaults. No federal insurance mechanism protecting consumers' deposits with non-bank entities presently exists.

¹⁰ See <http://uniformlaws.org/ActSummary.aspx?title=Money%20Services%20Act>.

holding a qualifying license. Licensing is set up as a three-tiered structure -- if a person is licensed to engage in money transfer services, he or she can also engage in check cashing and currency exchange without having to obtain a separate license for that purpose; if a person is licensed to engage in check cashing, he or she can also engage in currency exchange (but not money transfers); if a person is licensed to engage in currency exchange, he or she may only engage in currency exchange services.

In the case of money transmission services, the act specifies the disclosures that must be made in an application for licensure, including information about the licensee (criminal convictions, prior related business history and operations in other states, and material litigation), information about proposed authorized delegates, sample payment instruments, banking information, and any other information reasonably required by the state regulator. Corporate and publicly traded entities are each subject to special, additional disclosures, and state regulators retain the express power to waive, or add to, the disclosure requirements under the act. Money transfer applicants must satisfy certain security requirements (typically by providing bonds in specified amounts), must meet threshold net worth requirements, and are required to pay statutorily-defined license fees. While the act suggests particular amounts for these purposes, enacting states may substitute fees and security requirements appropriate for each jurisdiction. Applicants must also retain security thresholds for 5 years past the date of transaction, and are subject to regular licensure review and renewal (with additional disclosures and fees).

It is important to note that the vast majority of legislation drafted to regulate money transmission on the state level has been reactive, not proactive. Each time another money services calamity has afflicted the nation, the response of legislators has been to crack down accordingly. In contrast, at the federal level, efforts to regulate what the Department of the Treasury refers to as Money Services Businesses (MSBs), though not by any means perfect, have proven to be more thoughtful. The Treasury's primary concern has been the prevention of financial fraud, and so all MSBs are required to register every two years with the Financial Crimes Enforcement Network (FinCEN). Much of the Treasury's authority in this regard stems from the Bank Secrecy Act of 1970 (BSA), which was amended by the USA PATRIOT Act in 2002.

As of year-end 2011, only a few states remain that do not specifically regulate money transmission: Massachusetts, Montana, New Mexico, and South Carolina. Though not a state, Washington, D.C. does regulate money transmission.

Table 1: State money transmission license requirements

State / District	Net Worth Minimum	Surety Bond Minimum	Surety Bond Maximum	Application Fee	License Fee
Alabama	5,000.00	10,000.00	50,000.00	250.00	250.00
Alaska	25,000.00	25,000.00	125,000.00		500.00
Arizona	100,000.00	25,000.00	500,000.00		1,500.00
Arkansas	250,000.00	50,000.00	250,000.00	1,500.00	750.00
California	500,000.00	750,000.00	9,000,000.00		5,000.00
Colorado	250,000.00	1,000,000.00	2,000,000.00	3,750.00	3,750.00
Connecticut	500,000.00	40,000.00			1,875.00
Delaware	100,000.00	10,000.00	2,000,000.00	172.50	0.00
District of Columbia	100,000.00	50,000.00	500,000.00		500.00
Florida	100,000.00		250,000.00		
Georgia		50,000.00	250,000.00	250.00	2,000.00
Hawaii	1,000.00	1,000.00	500,000.00	2,000.00	2,000.00
Idaho	50,000.00	50,000.00			100.00
Illinois		100,000.00	2,000,000.00		100.00
Indiana	100,000.00	200,000.00	300,000.00		
Iowa	100,000.00	50,000.00	300,000.00		1,500.00
Kansas	250,000.00	200,000.00	500,000.00		100.00
Kentucky	500,000.00	500,000.00	5,000,000.00		500.00
Louisiana	100,000.00	25,000.00	1,000,000.00		370.25
Maine	100,000.00	100,000.00			500.00
Maryland		150,000.00	1,000,000.00		4,000.00
Massachusetts	None	None	None	None	None
Michigan	100,000.00	500,000.00	1,500,000.00		
Minnesota	25,000.00	25,000.00	250,000.00		4,150.00
Mississippi	25,000.00	25,000.00	500,000.00	50.00	750.00
Missouri		100,000.00	1,000,000.00		100.00
Montana	None	None	None	None	None
Nebraska	50,000.00	100,000.00	250,000.00		1,000.00
Nevada	100,000.00	10,000.00	250,000.00		675.00
New Hampshire	Lesser of ADTL or 1000000	100,000.00			500.00
New Jersey	100,000.00	100,000.00			
New Mexico	None	None	None	None	None
New York		500,000.00			
North Carolina	100,000.00	150,000.00			1,500.00
North Dakota	100,000.00	150,000.00			850.00
Ohio	25,000.00	300,000.00			6,000.00
Oklahoma	275,000.00	50,000.00	1,000,000.00	3,000.00	2,000.00
Oregon	100,000.00	25,000.00	150,000.00	1,000.00	1,000.00
Pennsylvania	500,000.00	1,000,000.00			2,000.00
Rhode Island	50,000.00	50,000.00	150,000.00		360.00
South Carolina	None	None	None	None	None



State / District (Continued)	Net Worth Minimum	Surety Bond Minimum	Surety Bond Maximum	Application Fee	License Fee
South Dakota	100,000.00	100,000.00		500.00	1,000.00
Tennessee	100,000.00	50,000.00			500.00
Texas	500,000.00	300,000.00		2,500.00	
Utah	1,000,000.00	50,000.00		100.00	
Vermont	100,000.00	100,000.00	2,000,000.00	1,000.00	500.00
Virginia	200,000.00	25,000.00	500,000.00	1,000.00	1,000.00
Washington	10,000.00	10,000.00	550,000.00	500.00	500.00
West Virginia	50,000.00	300,000.00	1,000,000.00	1,000.00	250.00
Wisconsin		300,000.00	300,000.00	300.00	500.00
Wyoming	25,000.00	10,000.00	500,000.00	1,500.00	
TOTAL	7,816,000.00	35,425,000.00		20,372.50	50,430.25

Nationwide licensing is extremely expensive. A new money transmitter hoping to operate across the country faces annual surety bond premiums of approximately \$225,000 dollars per year (assuming a 3.00% premium rate, which requires extremely good credit). Application fees alone cost \$70,000, not including renewal fees, which are approximately equivalent to initial license fees in most states. Some states require a net worth of at least \$1,000,000 dollars. Others, such as Hawaii, require a net worth of \$1,000, but charge \$4,000 in fees.

Despite the enormity of the fees, the tools available to money transmitters to combat fraud are in a word, pathetic, suggesting that the fees are not even being used to further the nominal goal of consumer protection. Though it is never stated, the FinCEN BSA reporting web site¹¹ is incompatible with every web browser except for Microsoft Internet Explorer, which computer security experts widely regard as the least secure web browser available. Even then, it requires the use of unwieldy plug-ins to handle even the most basic of functions. The system cannot handle more than a few lines of text to describe complex money laundering schemes. Another tool that all money transmitters should use is the Social Security Death Master File, a list of every Social Security Number known to be assigned to a deceased individual. Obviously, these numbers should be considered invalid when presented on new applications for financial products, yet access to the Master File costs several thousand dollars in a typical use case.¹² The Master File should be free to all companies registered with FinCEN. In fact, integration with an Application Programming Interface that relies upon the Master File should be mandatory for federal licensure. Similarly, state Departments of Motor Vehicles should work with FinCEN to open a standard API for vehicle registration information to money transmitters, who frequently check photo IDs, but rarely know if the IDs they are checking

11 See <https://bsaefiling1.fincen.treas.gov>.

12 See <http://www.ntis.gov/products/ssa-online.aspx>.

are valid.

In this context, a new technology startup wishing to enter the market to compete with Visa, MasterCard, American Express and Discover faces the prospect of completing and then affording applications for forty-seven separate state licenses, and then building its own tools to combat fraud since the government makes its tools unaffordable. Not obtaining all of the licenses, but operating a nationwide money transmission business anyway, is a federal crime punishable by five years in prison under 18 U.S.C. § 1960. Of course, licensed or not, failure to detect fraud can bankrupt a company.

The typical process of applying for a license in a single state takes anywhere from weeks to months. Information needs to be gathered from a variety of disparate sources. States typically want to see proof that the applicant has registered with FinCEN at the Department of the Treasury; evidence that the company's officers, major shareholders and/or directors are fiscally sound as individuals, which usually means that a personal financial statement needs to be ready for each person; enough information to conduct a criminal background check on each individual, meaning that fingerprints need to be provided on specific custom police cards for each state (not all states accept digital fingerprints, though the facilities to transmit them are widely available); audited financial statements for three years prior to the application date indicating that the applicant meets whatever net worth threshold the state has set; a business plan; pro-forma financial figures (which typically amount to wild guesses as no one can predict the future); proof of an Anti-Money Laundering program that complies with the directives of the BSA; a surety bond or substitute security device underwritten for the amount required by the given statute; a Certificate of Good Standing from the state in which the applicant is incorporated; and depending upon the state, proof that the applicant has registered with the Secretary of State of the particular state in which the applicant intends to do business.

The requirement of audited financial statements is particularly problematic, not just in the context of money transmission, but in general.¹³ Auditors are less concerned with providing accurate financial information than they are with pleasing their clients (who pay for the audits) and earning fees, sometimes as high as \$40,000 per fiscal year included in the audit. A state's requirement for three years of audited financials could therefore easily give an auditor a \$120,000 incentive to get the job done—more than enough to incentivize even an experienced accountant to gloss over important details.

¹³ See Andersen, Meet Aetna: What's the best way to prevent future accounting scandals? Audit insurance. by Daniel Gross. <http://www.slate.com/id/2073848/pagenum/all/>.

Some states have put so little effort into their maintaining their application processes that they appear insulting to those trying to wade through them. No two state's application forms are the same, even in cases where the states have adopted the UMSA. The State of Colorado's application form requests that the applicant submit twelve additional copies of the application along with applicable fees, and yet the hyperlink to the fee schedule is broken. Thus far, no state has implemented a web-based application process, which suggests that regulators are unable to keep up with the increasingly technology-intensive companies that they are supposed to be regulating.

Other states have been underfunded to the point where exams of applicants are not even conducted, making the entire process moot. Hawaii's Department of Commerce and Consumer Affairs reported to the legislature in October, 2008 repeatedly indicating, "there was inadequate funding available to actually implement the supervisory and regulatory provisions of Act 153 - The Money Transmitter Act. There have been, therefore, no money transmitters examined by the Department of Commerce and Consumer Affairs thus far."¹⁴ Indiana has money transmission statutes that appear to apply to all businesses in the state, but it does not enforce them for companies without a physical presence in Indiana. Wisconsin is inexplicably in a similar position: it has clear statutes, but none of the major internet-based payment companies are licensed there. Maryland's license fee is \$4,000.00 in even-numbered years, but \$2,000.00 in odd-numbered years.¹⁵ Kentucky's Department of Financial Institutions web site lists one lone enforcement action dating back to 2007,¹⁶ from which one might draw the conclusion that either Kentucky is nearly perfect, or there's little point in having a licensure process at all.

There also appear to be notable gaps in the multi-state enforcement framework. As of 2011, each of the major telecommunications providers wants to be involved in the mobile payments industry. Some phone carriers already offer consumers the ability to charge purchases to their phone bill. These carriers have not registered as money transmitters in any state. Startup companies that have secured venture capital financing are frequently assumed to have "enough" capital, and so they too have not been consistently required to apply for licenses, while relatively "undercapitalized" companies without venture capital are examined under a microscope. Such a paradigm ignores the enormous volatility and risk that venture capital brings to a company's management structure and policies, all of which affect consumers in the end.

14 See http://hawaii.gov/dcca/dfi/reports/report_to_the_legislature_on_money_transmitters.pdf.

15 See <http://www.dllr.state.md.us/finance/industry/lifees.shtml#moneytran>.

16 See <http://www.kfi.ky.gov/legalresources/enforcementactions/moneytransea.htm>.

The most egregious ongoing violations of money transmission law take place every day when private universities, which cannot be classified as exempt government institutions, allow students to use pre-paid plastic cards to make purchases not just at university-owned dining halls, but at area merchants as well. These programs, with names such as “Crimson Cash” (for Harvard University) and “Cardinal Dollars” (for Stanford University) clearly fall within the scope of money transmission regulation,¹⁷ even if they are managed by third-party administrators, which is frequently the case. In no state are private universities or their program administrators registered as money transmitters. Consequently, the presidents, provosts and trustees of every private university in the nation with such programs (which are exceedingly common) are unknowingly committing federal crimes, and could be incarcerated. To call this state of affairs draconian in the most ridiculous sense is a gross understatement, for these university-sponsored money transmission systems have been designed specifically to give unsuspecting students a safe alternative to high-APR credit cards.

In today’s environment, a new issue with money transmission has emerged as well, which is that the statutes are increasingly being written or amended by financial industry lobbyists, who have come to realize that they are a highly effective way to quash potential competitors. In the case of the California Money Transmission Act, which went into effect for existing money transmitters in California as of July 1, 2011, there were two main supporters according to the California Senate Committee on Banking, Finance and Insurance: the Consumers Union, which publishes *Consumer Reports* and aims to be an objective champion of consumer rights, and The Money Services Roundtable, which was the bill’s sole sponsor. The latter group has no discernible mailing address, web site or official membership roster, so it’s impossible to tell if it is even discrete from the better-known Financial Services Roundtable. What is clear is that The Money Services Roundtable is a lobbying group that counts American Express, Western Union, MoneyGram, and Travelex among its members, and that according to counsel for the Consumers Union, it was primarily responsible for drafting California’s new law (formerly Assembly Bill 2789) with the help of the California Department of Financial Institutions, which not surprisingly gave its Commissioner sweeping new powers under the law, including the ability to make up new unwritten requirements for applicants on a case-by-case basis that do not necessarily have to be communicated to the applicants. The Consumers Union effectively served as a rubber stamp to legitimize the legislation, even though none of the policy recommendations for consumer protections that the Consumers Union outlined in a recent white paper about mobile

17 Although Harvard University is located in Massachusetts, which does not regulate domestic money transmission, Harvard enrolls students who are legal residents of California, and these students are granted a Crimson Cash balance coming from their own tuition funds by default. According to the The California Department of Financial Institutions, the Money Transmission Act applies not just to transactions within California’s physical borders, but all transactions involving legal California residents. Therefore, Harvard’s program violates California state law, which itself is a federal offense under 18 U.S.C. § 1960.

payments¹⁸ were included in the final text of the law.

Moreover, there is mounting evidence that despite the countless barriers to entry that regulators have erected around the money services market (sometimes inspired by the established financial services industry), the laws in place are completely ineffective when it comes to actually protecting consumers. The case of GPal, Inc., a money transmission service designed to handle payments for guns, is illustrative in this regard. Though GPal is a California corporation, the Arkansas Securities Commissioner ordered GPal to cease and desist from further money transmission activity in Arkansas after an Arkansas resident complained about a \$304.46 funds transfer that failed to materialize.¹⁹ This turned out to be one of several similar complaints from individuals across the country, and the company is now widely believed to be a scam.²⁰

Fundamentally, it is foolish to think that companies such as GPal, formed for the exclusive purpose of defrauding the public, are going to go to great lengths and considerable expense to register with government authorities—especially not forty-seven times over. Yet if these fraudulent companies do not register, then there exists no mechanism by which claimants can be reimbursed for their losses, because each money transmitter effectively insures only itself, using the surety bond underwriter (typically an insurance company) as a proxy to lower the cost. Ironically, the bond premiums from other money transmission bonds insure the *bond underwriter* from losses in the event of a default, but not the public! What existing regulations fail to appreciate is the key point of an insurance pool: that the members of the pool must protect *each other* from unknown or unexpected eventualities. Collectively, GPal has cost the members of public untold thousands (or perhaps millions) of dollars, and yet even with forty-seven laws on the books, not a single one of them will lead to the recovery of any public losses.

If money transmission regulations are going to protect consumers, it's important to be clear on what they are being protected from. Is it flight risk, where a money transmitter suddenly takes all of the money in a pooled bank account and disappears to another country? Is it credit risk, where a money transmitter is extending credit but failing to take in enough revenue, causing the company to default on its obligations? Is it fraud risk, where exogenous factors cause the money transmitter to lose substantial amounts of money? Is it the risk that the money transmitter itself will be used to support illegal organizations, such as terrorists or drug cartels? Is it the risk that the money transmitter will

18 See Mobile Pay or Mobile Mess: Closing the Gap Between Mobile Payment Systems and Consumer Protections by Michele Jun, Consumer Reports, <http://www.consumersunion.org/pdf/Mobile-Pay-or-Mobile-Mess.pdf>.

19 See Case No. C-11-0220, http://www.securities.arkansas.gov!/usefiles/Cease_and_Desist_Order_C-11-0220-11-OR01.pdf.

20 See <http://castboolits.gunloads.com/showthread.php?t=89122>.

adopt misleading and abusive practices involving high fees, as banks have on an increasing basis? In each of these cases, the net worth and bonding requirements do a rather poor job of offsetting the risks involved, if they are even effective at all.

In the case of flight risk, having a lot of money and a license doesn't prevent a malicious operator from running a scam²¹ or packing up and leaving²², so the effect is zero. The best way to select for trustworthy operators is to conduct extensive background checks.

In terms of credit risk, on the surface it seems like a good idea to have a high net worth and surety bonds, but if a very large money transmitter such as PayPal suddenly faces a credit crunch, its customers will see pennies on the dollar from its bonds, making both requirements largely ineffective for large organizations and prohibitively expensive for small ones. Not all money transmitters extend credit, though, so many of them (and probably most) do not face this risk at all.

In terms of fraud risk, this is the most likely problem any money transmitter will face. A cushion is definitely necessary, but it should never have to exceed the total amount of deposits on hand (it's impossible to steal more than the amount in the bank), and is probably more than enough at 10% of deposits. A money transmission statute requiring a minimum net worth of \$500,000 in order to manage \$10,000 of deposits makes no sense. Fraud is best offset not by a monetary cushion anyway, but by prevention measures, good record-keeping, and careful system design, meaning that *those* attributes should be the legal requirements before obtaining a license. (This would of course require examiners to be well-versed in technical matters, and not just accounting.)

In terms of supporting illegal organizations, once again, the net worth and bonding requirements do nothing to offset the risk. Rich people can allow the transmission of money to *Al Qaeda* or drug cartels just as easily as poor people, and in fact, supporters or affiliates of drug cartels would have no problem meeting the minimum net worth requirements.

In terms of abusive practices, net worth and bonding requirements prevent nothing at all. The companies known for abusing consumers the most in United States are also some of the wealthiest.

In general, new financial companies—even in Silicon Valley where angel investors and venture capi-

21 See *The Talented Mr. Madoff* by Julie Creswell and Landon Thomas Jr., *The New York Times*, <http://www.nytimes.com/2009/01/25/business/25bernie.html>.

22 See Billionaire R. Allen Stanford accused of \$8-billion investment scam by Carol J. Williams, *The Los Angeles Times*, <http://articles.latimes.com/2009/feb/18/business/fi-stanford18>.

talists are prevalent—will not be able to meet a \$500,000 or even \$100,000 tangible net worth requirement, especially when there are annual bond premiums to pay on top of that. A fairly typical startup today raises \$15,000 once from angel investors for two or three co-founders to build a product. In California, the bond premiums on \$750,000 ($\$250,000 + \$500,000$) at 3.00% are \$22,500 per year. Discussing net worth at this stage is already pointless, because all other things being equal, the bond premiums push it well below zero before product development has even started. This is why a quick glance at the list of licensed money transmitters in any state reveals a list of companies that are mostly decades or centuries old.

Surprisingly, there does exist an association of money transmission regulators called the Money Transmitter Regulators Association (MTRA), with a stated mission, “to advance the efficient and effective regulation of the money transmission industry.”²³ Despite counting members from 43 states plus Washington, D.C., it is unclear what, if anything, this organization has done to promote its goal. At the very least it should be promoting common forms, fingerprinting processes, and financial requirements between the states. The lack of term limits for money transmission examiners, coupled with the small number of applicants and licensees to examine, creates an environment where many government bureaucrats, who comprise the MTRA’s membership, lack any incentive to seek change and see enormous incentives to prevent it.

The Solution

It should be clear that the manner in which money transmission regulation has evolved has led to serious structural flaws in the financial system. While regulation of the financial industry is clearly necessary, the current framework protects incumbent corporations and bureaucrats, prevents new entrants into the market, and frequently leaves the public high and dry when a true fraud comes to light.

Good regulation should function in a manner similar in many respects to good parenting. Just as a parent should not start off with an assumption that a child is either infallible or evil, a regulator should neither actively believe, nor be forced into a position where it is effectively mandated, that applicants are guilty until proven innocent. Nor should regulators allow any kind of activity to go unchecked.

Regulators should assess the actual risks that money transmitters pose, not based on completely ar-

23 See <http://www.mtraweb.org>.

bitrary dollar amounts, but based on the real activities of any given enterprise. A money transmitter that issues credit is not the same as a money transmitter that requires pre-funded accounts without exception. Nor is a money transmitter that lets customers walk into a physical storefront the same as an internet startup that authenticates new users based on four different electronic factors before allowing an account to be established. Yet no state money transmitter application currently distinguishes between any of these cases. In fact, every state application assumes from the start that new applicants will have locations in the state, and requirements are usually tiered based on the number of locations. Unless we revert back to the practices of a century ago, most new applicants will have zero locations, save for a web site.

A clear system of risk assessment is needed in order to classify money transmitters and monitor their activities according to risk. One proposed structure might involve a system of points based on risk, and work as follows:

Table 2: Example risk point-based categorization system

Qualifying Attributes	Risk Points
Revolving credit-based product offerings	10
International product offerings	10
Indirect physical verification of customer identity	5
No physical verification of customer identity	10

Table 3: Example risk point-based categorization system

Risk Tier	Qualifying Point Range	Audit Frequency	Annual Fee
I	0 - 10 Points	Annual	\$100.00
II	11 - 20 Points	Quarterly	\$400.00
III	21 - 30 Points	Monthly	\$1,200.00

Though the specific numbers provided here are for illustration only, a unified system based on “risk points” as illustrated in Tables 2 and 3 would be far more adept at changing with technology over time, while appropriately hedging risk based on various tiers of risk-taking behavior.

It is clear that the federal government needs to spearhead an effort to bring money transmission regulation, or non-bank regulation more generally, under one (and only one) roof. Whether that roof is the Department of the Treasury’s or the Consumer Financial Protection Bureau’s remains to be seen. At the same time, while money transmitters should only have to report to one regulating agency, the only true way to protect consumers is to make use of existing government infrastructure, such as the pooled insurance system provided by the FDIC. The FDIC’s track record both as a sys-

tem and an agency can only be described as enormously successful, and it is absurdly foolish not to take advantage of its robustness given the similarities between stored value products and traditional bank deposits.

What must be avoided is the present situation, in which regulatory uncertainty at both the state and federal levels means that entrepreneurs do not know whether or not applying for state licenses even makes sense. Worse, investors are reluctant to encourage new innovation, leading to a loop of stagnation. Most entrepreneurs avoid the sector completely, while those foolish enough to charge forward face jail as the next best alternative to licensure. This is perhaps why PayPal co-founder Peter Thiel recently stated, “My general analysis of my PayPal experience is that if I knew then everything I know now about the payments space, I would never have started the company. It would be too intimidating.”²⁴

Therefore, any new federal legislation must clearly supersede each state’s existing law and the draconian punishments mandated by the USA PATRIOT Act. It is a national disgrace that legitimate entrepreneurs should have to worry about threats of incarceration, when the executives of the banks responsible for costing the nation trillions of dollars in aggregate in 2008 have been permitted to walk free.

Furthermore, the incredible variance from state to state in terms of the various prerequisites for licensure borders on being unconstitutional, and harmonization is badly needed. As James Madison wrote in Federalist Paper No. 44:

In addition to these persuasive considerations, it may be observed, that the same reasons which show the necessity of denying to the States the power of regulating coin, prove with equal force that they ought not to be at liberty to substitute a paper medium in the place of coin. Had every State a right to regulate the value of its coin, there might be as many different currencies as States, and thus the intercourse among them would be impeded; retrospective alterations in its value might be made, and thus the citizens of other States be injured, and animosities be kindled among the States themselves. The subjects of foreign powers might suffer from the same cause, and hence the Union be discredited and embroiled by the indiscretion of a single member.

Had the technology existed to transfer funds electronically at the time that Madison wrote these words, he surely would have insisted that as part of the prohibition on states having the “right to regulate the value of its coin,” states should also be prohibited from individually regulating the ability

24 See PayPal Co-Founder Peter Thiel on Facebook, Bubbles, and Innovation, <http://blog.caplinked.com/?p=411>.

to hold and transmit a unified currency. As it currently stands, though there is but one valid currency in the United States of America, there are nearly as many regulations “as States” affecting its legitimate use.

Conclusions

The regulatory framework used to license money transmitters in the United States started as a necessary but ill-designed reaction to money transmission businesses that were poorly managed or committed outright fraud. The past six decades have seen this legal patchwork evolve into a colossal anti-competitive bungle that clearly violates the spirit of the United States Constitution while prohibiting competition with some of the most predatory companies in the world. The net result is fewer choices for consumers, who are forced to use antiquated technology, and pay high fees for the privilege.

Drastically simplified oversight at the federal level would solve many of the problems with the current framework, but implementing change requires Congressional or coordinated state legislative action. If such action fails to materialize, consumers will suffer and jobs will fail to materialize that otherwise might have finally propelled the United States financial system into the next century.

Appendix: Venture Capital Rejection E-Mails

The following actual e-mails (with contact information removed) illustrate the bind that regulators have created for entrepreneurs: licensure requires investment, but investment requires licensure. Few (if any) investors want to put their money to work paying government fees and backing surety bonds. This dynamic makes it impossible for entrepreneurs to succeed unless they are independently extremely wealthy.

Investor X: July 18, 2011

Aaron:

Thank you for coming in to share your vision around FaceCash. We genuinely enjoyed meeting you and learning about the product. As promised, I reviewed the opportunity with our General Partners at our weekly Monday meeting. At this time, we are going to respectfully decline the opportunity to invest in the Series A.

As entrepreneurs ourselves, we always appreciated feedback from people around us so that we could continuously learn and improve. In that spirit, let me share what we discussed at the partner meeting. We see lots of opportunity in the mobile payment space and like how you are taking a unique approach to user verification. On the other hand, we were nervous about the regulatory issues and barriers to obtaining licenses necessary in each state. That process, as you described, is not a quick and easy one and is necessary to get heavy traction in user and merchant adoption. Secondly, while we liked the idea of a new spin on mobile payments, we'd love to see you build out more of your team and have a hiring plan before we invest.

Having said all that, we are impressed with the product you've been able to build with such a small team. Additionally, we think that with your market knowledge on payments you are well equipped to continue innovating on business models and product. We freely admit we are often wrong about these things, and would love nothing more than for you to build a big business with tons of happy users using FaceCash on a wide network of payment terminals. Keep in touch as you grow your business—and especially if you get a bunch of traction and are ready to raise another round in the future, at which time we can take another look. We wish you tons of luck, and thanks very much for considering us!

Best regards,

X

Investor Y: July 20, 2011



Aaron,

Thanks for your time yesterday. I enjoyed our discussion and the demo. I had a chance to discuss Facecash.

Notwithstanding the functioning product and broad vision to disintermediate existing payment rails, we have decided to pass. Our concern was that the vertical integration combined with need for regulatory licensing across the country (and world, in the future) would result in a slow roll-out over a long period of time without significant revenue opportunities. Our fear was that this would result in very high capital requirements for the company over time as well as significant pushback from the existing payments vendors.

Please know that our decision is based on a not extensive interaction with you - we are often wrong.

Best wishes with Facecash!

Regards,

Y

About the Author

Aaron Greenspan is the President & CEO of Think Computer Corporation. While attending Harvard College in September, 2003, Aaron created a web site called “The Universal Face Book,” also referred to as “The Facebook,” inspiring the separate creation of Facebook, Inc. In 2008, he documented the tale in his book *Authoritas: One Student’s Harvard Admissions and the Founding of the Facebook Era*. Aaron holds an A.B. in Economics from Harvard College. He can be reached by e-mail at aarong@thinkcomputer.com.

About Think

Think Computer Corporation was founded in 1998 with the long-term goal of developing simple, useful computer software. From its inception through 2001, the company offered IT consulting services to clients nationwide. Today, Think creates products that make businesses and organizations worldwide more productive, effective and efficient, including the FaceCash mobile payment system. Think is on the web at <http://www.thinkcomputer.com>.

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Think Computer®

Think Computer Corporation
3260 Hillview Avenue
Palo Alto, CA 94304

telephone	+1 415 670 9350
toll free	+1 888 815 8599
fax	+1 415 373 3959
e-mail	think@thinkcomputer.com
web	http://www.thinkcomputer.com

EXHIBIT C

Letter to Think Computer Corporation from the
Louisiana Office of Financial Institutions



STATE OF LOUISIANA
OFFICE OF FINANCIAL INSTITUTIONS
BATON ROUGE, LOUISIANA



June 15, 2012

Aaron Greenspan, CEO
Think Computer Corporation
3260 Hillview Avenue
Palo Alto, CA 94304-1226

Re: Background Request for

Dear Mr. Greenspan:

The State Police/FBI returned the initial set of fingerprints submitted on behalf of [REDACTED]. They were returned marked: not adequate for automated processing and poor quality. In April 2012, we sent Mr. [REDACTED]'s fingerprints to have a name search done. We were recently informed that Mr. [REDACTED]'s information may have been damaged or lost in the LSP system due to power surges caused by lightening that damaged several servers used to process information.

In order to complete the processing of Mr. [REDACTED]'s background investigation in reference to your sale of check license, this Officer should submit 2 additional fingerprint cards which are enclosed for your convenience. If you have any questions regarding this application, please contact Review Examiner Doug Buras at (225) 922-2595.

Sincerely,

John D. Fields
Deputy Chief Examiner

JDF:vaw