

**Address of LabCFTC Founding Director and  
FinTech Advisor to the Acting Chairman  
Jeffrey M. Bandman<sup>1</sup>  
to the  
SIFMA FinTech Conference, New York  
“FinTech – Technology, Innovation, Solution”**

**June 5, 2017**

**“Core Principles for the Changing Role of Regulators in  
Digital Financial Markets”**

**Introduction**

Good afternoon ladies and gentlemen. Thank you very much Randy for your kind introduction. I am grateful for the honor of opening this conference with these remarks.

I would like to compliment SIFMA for convening this conference and for hosting this program today and tomorrow. You have brought together experts and thought leaders from a range of disciplines – technology, operations, compliance, legal and the securities business itself – and from a range of organizations. These include banks, brokerage firms, technology firms, FinTech and RegTech innovation firms, consultancies and lawyers – as well as regulators. This type of collaboration and communication is critical in facing the challenges of today’s digital markets.

And I am especially pleased that this conference is taking place at SIFMA’s conference center in New York. We are literally across the street from the CFTC’s New York office – the home of our new LabCFTC. As you may know, Acting Chairman Giancarlo directed that the CFTC’s FinTech initiative be located in New York due to the innovation and entrepreneurship that is taking place here. So, over at 140 Broadway, LabCFTC is the hub for the CFTC’s engagement with FinTech innovation and digital transformation.

---

<sup>1</sup> The remarks in this speech reflect solely the personal views of the author, and do not necessarily represent the views of the Commodity Futures Trading Commission, the individual members of the Commission, or its Staff. This speech is work product prepared by an employee of the U.S. Government as part of his or her official duties, and is therefore in the public domain. Pursuant to 17 U.S.C. § 105, this speech is not eligible for copyright protection and may be used and disseminated in other venues by other parties.

## Digital Transformation

We are in a period of transformational technological change. We see digital transformation in our daily lives, at a personal as well as a professional level. We see transformation in the ways we communicate with friends and family, the ways we consume and experience information and entertainment, and in so many aspects of our business and professional lives. Digitization is transforming financial markets, transportation, manufacturing, music, even farming. No matter what we do, no matter what business we are in, technology plays a central role in underpinning, producing and delivering products and services. As I look around this room, is there anyone here today who feels that he or she does not work for a “technology company”?

We have also seen the transformation of the world’s trading markets from analog to digital. Once upon a time, there were open outcry trading pits in large financial centers like New York, Chicago and London, as well as places like Kansas City, Minneapolis and Winnipeg. These have been replaced by trading taking place electronically through high-speed networks and data centers around the globe, and an increasing amount of activity reflects algorithms trading with other algorithms, themselves increasingly shaped by artificial intelligence assessing new and alternative data sources. Automated trading now constitutes up to 70 percent of regulated futures markets.<sup>2</sup> Similarly, automated trading now makes up approximately 80 percent of cash equities markets and 70 percent of foreign exchange spot markets.<sup>3</sup> Our capital markets, our derivatives and risk transfer markets, our commodity markets are likewise undergoing this digital transformation.

Other digital innovations present regulatory challenges as well as challenges to businesses and business models. We can now clearly see a fundamental transformation of global trading and risk transfer markets. And today, multiple technologies are converging in maturity. This powerful convergence is poised to drive the next wave of innovation. These technologies include:

- biometrics;
- automated, algorithmic trading;

---

<sup>2</sup> A recent internal report by the CFTC’s Chief Economist looked at over 1.5 billion transactions across over 800 products on the Chicago Mercantile Exchange over a two-year period. It found that the percentage of automated trading in financial futures – such as those based on interest rates, currencies or equity indices – was 60 to 80 percent. But even among many physical commodities, there was a high degree of automated trading, such as 40 to 50 percent for many energy and metals products.

<sup>3</sup> McKinsey & Company and Greenwich Associates *reprinted in* Bank for International Settlements, Markets Committee, Electronic Trading in Fixed Income Markets, Jan. 2016, <http://www.bis.org/publ/mktc07.pdf>.

- “big data” capability;
- predictive analytics;
- artificial intelligence and machine learning;
- robotics and automation;
- “smart” contracts;
- blockchain and distributed ledger technologies;
- network cartography analysis;
- quantum computing; and
- the power and flexibility of cloud computing -- amplifying the transformational impacts of all these other technologies.

### **Powerful Convergences**

And we are seeing a further powerful convergence. The cost of launching new ventures has decreased dramatically; meanwhile the speed and scalability with which innovations can be brought to market have increased dramatically – due to factors like open source software and the cloud. In the early 2000s, a single iteration of the prototype innovation cycle could take 12 to 18 months – develop an idea, test the concept with prospective customers, raise seed or Series A funds for an initial build, buy and configure expensive hardware, develop and implement software and then, finally, show the prototype to potential users. That process can now be achieved in weeks – allowing ideas to be developed, demonstrated, iterated and improved – or fail fast. That same 12-18 month period now supports countless iterations and refinements to improve – or discard -- new initiatives.

The pace of investment in these technologies, and in FinTech and RegTech more broadly, has significantly accelerated in recent years. According to one measure, it has increased at a cumulative annual growth rate of over 45% from 2011 to 2016.<sup>4</sup>

Regulation by the CFTC and other authorities, in the U.S. and around the world, must keep pace with this transformation. The pace is accelerating, due to the powerful convergences that I have just described. Yet how can we avoid finding ourselves an analog regulator of rapidly digitizing global markets?

---

<sup>4</sup> Sources: Venture Scanner April 2017, <https://www.venturescanner.com/blog/2017/financial-technology-startup-market-trends-and-insights-q2-2017>

## **The CFTC’s FinTech Initiative: LabCFTC**

An important step is for the CFTC and other regulators to embrace innovation by direct engagement with innovators. That is why we have launched the CFTC’s FinTech initiative: LabCFTC.

LabCFTC will be the focal point of CFTC FinTech policy consideration and development. It will be the hub for our engagement with FinTech innovators.

LabCFTC has two core objectives. The first is to provide greater regulatory clarity that promotes FinTech innovation and provides an additional new channel for innovators to engage with regulators without engaging armies of lawyers, compliance officers and regulatory affairs specialists. The second is to identify and learn how to utilize emerging technologies that can enable the CFTC to carry out its own mission more effectively and efficiently.

As Acting Chairman Giancarlo has explained, “LabCFTC is intended to help us bridge the gap from where we are today to where we need to be: 21st century regulation for 21st century digital markets. LabCFTC will help the CFTC:

- cultivate a regulatory culture of forward thinking;
- become more accessible to emerging technology innovators;
- discover ways to harness and benefit from FinTech innovation; and
- become more responsive to our rapidly changing markets.”<sup>5</sup>

### **LabCFTC “GuidePoint”**

LabCFTC includes two core components. The first is meant to help innovators engage with the CFTC. The second will help the agency in engaging with them.

We call the first component GuidePoint.

Guidepoint provides a direct point of contact for FinTech innovators to engage with the CFTC, learn about the CFTC’s regulatory framework and obtain feedback on the implementation of innovative technology ideas for the market. GuidePoint is a tool for innovators to efficiently communicate with the CFTC to seek specific regulatory guidance about proposed applications of new technologies. We hope to offer timely, meaningful and useful feedback. This feedback may include information that,

---

<sup>5</sup> Address of Acting Chairman J. Christopher Giancarlo to the New York FinTech Innovation Lab announcing the launch of LabCFTC, May 17, 2017. <http://www.cftc.gov/PressRoom/SpeechesTestimony/opagiancarlo-23>

particularly at an early stage, could help innovators save time and money -- by helping them understand relevant regulations and the CFTC's approach to oversight.

### **“Crowdsourcing” through GuidePoint**

Innovation may present situations that fall within the spirit, but not the letter, of our rules. GuidePoint will thus be a program that helps us as regulators detect “analog rules lost in a digital world”. These may require us to consider offering proportional or flexible relief, using regulatory tools -- such as no-action letters, guidance, interpretations or exemptive orders -- already available to the Commission and its staff.

GuidePoint may also serve as a market-based form of crowd-sourcing in the following sense: how can regulators know and prioritize which rules are most in need of updating in the face of new emerging technology? Left to our own devices, we could likely identify some on our own. But as we meet with more and more innovators, we can expect to see patterns emerge – to see which rules come up time and time again as the most problematic, the least able to adapt to evolving technologies – and the most relevant to real live business initiatives. This will help us focus our limited resources in a targeted way.

### **CFTC 2.0**

The other core component of LabCFTC is called “CFTC 2.0.” CFTC 2.0 is designed to strengthen the agency's understanding of new technologies, and how they could be applied to support our core missions.

We are looking to do this in several ways going forward. We will establish an internal CFTC 2.0 FinTech/RegTech innovation lab to better understand new technologies and to identify potentially useful applications. We will look to explore ways to use FinTech to enhance CFTC functions and duties. Perhaps the CFTC can collaborate with other authorities on establishing best practices for “regulator nodes” on distributed ledgers. This may allow us to see and respond to patterns that emerge in real time – we may even come to need new verbs, instead of “reporting”, to describe the way we will perceive and ingest data. And perhaps we could use data generated from sensors and new technology from the internet of things to better understand emerging risks or suspicious actions in the physical markets that underpin the many different types of commodity derivatives the agency oversees.

I am particularly pleased that that Acting Chairman Giancarlo will look to explore how LabCFTC could establish FinTech innovation competitions under the America

Competes Act<sup>6</sup>. Such competitions could provide innovators the opportunity to demonstrate the capabilities of emerging technologies that might apply in areas that relate to our agency's important missions. This would enhance the public's understanding as well as our own.

## **Early Returns**

Since LabCFTC went live last month, we have already started receiving inquiries. We have received dozens of inbound communications from New York, around the country, and around the world. We have rapidly begun the process of meeting and engaging with these innovators, and learning about their offerings. I am pleased to report that the early returns have been positive. The innovators appear excited that a U.S. market regulator is listening and that we have begun this type of initiative. They are keen to help us understand the evolving landscape and show us what they are working on.

## **Lessons Learned – How are regulators engaging with FinTech innovation**

In January, Acting Chairman Giancarlo asked me to advise him on FinTech matters and lead a review of FinTech innovation issues. The review was focused on three issues:

- How can FinTech innovation help identify CFTC rules and regulations that need to be updated for relevance in 21st century digital markets?
- How should the CFTC leverage FinTech innovation to make us a more effective regulator?
- What is the right role of the CFTC in promoting US FinTech innovation in CFTC regulated markets?

To start to answer those questions, we took the opportunity to study the actions of other regulators around the world, as well as close to home. (This process involved not just my own efforts of course but that of my colleagues on the LabCFTC team,<sup>7</sup> and the

---

<sup>6</sup> 15 U.S.C. 3719. The America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education and Science (COMPETES) Reauthorization Act of 2010 added Section 24 of the Stevenson-Wydler Technology Innovation Act of 1980, codified at 15 U.S.C. 3719, which authorizes prize competitions. The American Innovation and Competitiveness Act of 2017 expanded the scope of authorized prize competitions.

<sup>7</sup> In recent months, the LabCFTC team has met with dozens of firms, from the smallest start-ups to the largest market participants, market infrastructure providers, and technology firms. This engagement has also included visiting FinTech incubators, attending FinTech pitch days, meetings with venture capital and private equity investors, strategic investors, and investment bankers focused on FinTech. We have also

FinTech staff working group<sup>8</sup>) and others. Several regulators have already established their own initiatives to promote innovation. It has been enormously helpful to learn from them as we seek to adapt their experiences and insights to our own needs and those of our markets. I am grateful for their willingness to engage in open dialogue, and to share their experiences and challenges.<sup>9</sup>

I have become a great admirer of a number of these programs and their leadership. We drew on their experiences and their successes, as we thought about how to apply it to the CFTC and worked to launch LabCFTC. We also met with innovators themselves, as well as investors in such firms. It was particularly helpful to hear from firms who had been through other regulators' programs.

These efforts have led me to believe it would be useful to suggest for consideration some "Core Principles for Regulators for Engagement with Innovation". I should say at the outset that these are humbly intended to begin a dialogue, with due respect for the wisdom and experience of others, and for all stakeholders.

### **Core Principles for Regulators – for Engagement with Innovation**

1. It's fine to start small. In fact, most regulatory programs have started with two or three people. Further growth has occurred where tangible successes and needs have been shown to justify application of greater resources.
2. One size does not fit all. Regulators are not identical. Although there may be significant overlap, we have different statutory remits, different statutory authority, we oversee different markets and different registrants. For example, market regulators and central banks may have very different degrees of autonomy, different regulatory tools and even different degrees of flexibility in testing or procuring technology. Although innovators often expect us to be able to change these frameworks ourselves, typically they are set by statute by executive

---

reached out to and visited academics researching new developments, in law, technology, business, economics and other fields, often interdisciplinary. We have also met with industry consortia collaborating on some of the newest technologies.

<sup>8</sup> The LabCFTC team built upon the efforts of the CFTC's inter-divisional, interdisciplinary staff FinTech working group originally formed by former Chairman Timothy Massad to review and monitor FinTech developments, including distributed ledger/blockchain and cryptocurrency derivatives initiatives. The FinTech working group has met with various innovators including industry consortia, start-ups, clearinghouses, and exchanges, among others, as they develop prospective uses for these technologies.

<sup>9</sup> Regulators have also made important contributions through preparation of reports through formal groups; these include the CPMI's Distributed ledger technology in payment, clearing and settlement – an analytical framework published in February 2017 <http://www.bis.org/cpmi/publ/d157.pdf> and the IOSCO research report on Financial Technologies (FinTech), also published in February 2017 <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf>

authority, legislative authority or both. Given limited resources, it is logical for regulators to focus on what we are actually authorized to do. Also, very few regulators are linked to sovereign wealth funds, so innovators should not expect investments from us.

3. We don't regulate technology. Our focus must be on the application of technology – applied technology that takes the form of products, services, activities or regulated entities in our markets, or applied technology that can help us do our jobs more effectively and efficiently.
4. Remain technology-neutral. Regulators are not trying to pick winners and losers among innovative technologies – that is for the market to decide. Each technology will bring its own opportunities and risks. Regulators will need to understand these risks, and ensure that their regulatory frameworks and supervisory models are adequately equipped – our mission to ensure the safeguards of customer protection and market integrity, of systemic stability and resilience, remain as vital as ever.
5. Keep an Open Mind. I admit this seems obvious. However, in the process of my own engagement with innovation I have come to recognize deeper skepticism on my own part than I initially understood. Of course it is healthy for regulators to be skeptical, and to focus on risks of new technologies, solutions and processes. An “Aha Moment” for me came when, in Hong Kong earlier this year, I saw customer onboarding technology and processes that struck me as potentially superior to and safer than those widespread today. These innovations also hold the promise of greater financial inclusion, greater access for end users to our own markets, in a safe and secure way.
6. Engagement benefits both sides. We can help innovators navigate our regulatory frameworks -- and engaging with the innovators helps the regulators too. Engaging in a constant and evolving dialogue can help regulators understand the impact of regulations on the potential application of new technologies in the markets we oversee. This is good for markets, innovation, jobs and growth – and it is good for us too. It helps us do our jobs better.
7. It starts from the top. Support for the vision and direction from the leadership of the organization is critical. There will inevitably be hurdles to overcome, choices to be made, and competing priorities to be balanced at both the development and execution stages. Identifying and addressing challenges early on will help ensure that demands on resources and the creative friction introduced by innovation do not come as a surprise (although not all can be anticipated).
8. Widen the circle. To achieve the greatest benefits of engagement with innovation, information and engagement should go beyond the core FinTech team. From what I have learned in my own organization as well as from other authorities, this can be one of the greatest challenges – and can lead to the

greatest rewards. The women and men engaged daily in core mission activities – supervision and examination of registrants, data and risk analysis, developing, monitoring and applying an agency’s rules and policies – they may have the deepest level of understanding of the implications, the risks and rewards of emerging technologies, and their insights are invaluable. They may have the most to tell us and the most to gain. However, their time and attention is necessarily focused on those core mission activities due to resource constraints and established priorities. Leveraging and further developing their in-house expertise can be an important dimension of success.

9. Go where the innovators are. Where possible, try to meet innovators on their own turf rather than make them come to you. This is particularly relevant where the location of government is at a distance from the financial or innovation center.
10. Make the process accessible. Make it easy for innovators to contact you. Once they do, provide one stop shopping through a single point of contact. Provide timely and meaningful feedback. Regulators are unlikely to move at the pace of a start-up, however, and it is unrealistic for innovators to expect a “fail fast” approach on issues with far-reaching implications.

## **Conclusion**

The CFTC has started its journey to promote and engage with responsible FinTech innovation. This is an important step toward keeping pace with the digitization and technological transformations we are all witnessing. This will help the agency leverage emerging technologies to become even more effective and efficient in fulfilling its statutory missions.

Now in closing, I have a personal announcement of my own to make – I will soon be leaving the CFTC to return to the private sector and my home in New York.

I am extremely grateful for the privilege of having worked alongside so many talented women and men at the CFTC, and for having the opportunity to serve the agency and the American people. I am honored to have had the opportunity to assist with some of those achievements, and most recently to have helped launch LabCFTC. I would commend participation in government service, particularly the work of the CFTC in carrying out its important missions, to everyone in this room.

I am also grateful to have served under the dedicated and thoughtful leadership of Chairman Timothy Massad, Acting Chairman J. Christopher Giancarlo, Commissioner Sharon Bowen and former Commissioner Mark Wetjen. I am proud of all the agency has accomplished during my tenure. As for my own future plans, I look forward to

continuing to work on these issues by engaging even more directly with the innovation community, and by bringing to bear my experience in the industry and as a regulator.

I look forward to continuing to support LabCFTC to the best of my ability from outside the CFTC. I leave with confidence that LabCFTC is in good hands and enjoys strong support from the agency and its leadership as well as other stakeholders.

Thank you again for inviting me here today, and I would be happy to take a few questions.