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FINTECH
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CONFERENCE SUMMARIES

Alex (Sandy) Pentland
Massachusetts Institute of Technology
Keynote Speaker

Zvi Bodie
Bodie Associates
Fancy Software is Not a Substitute for Trustworthiness and Good Science

Discussant: Will Kinlaw, StateStreet Associates

In the last few years many online programs have appeared to provide low-cost custom advice to retail customers saving and investing for retirement. Indeed, virtually every financial service firm now offers one. This paper addresses the inherent limitations of these robo programs and makes the case for coaching by a trustworthy human, who can guide the client through the decision process and implementation of the resultant decisions.

William Cong
University of Chicago
Tokenomics: Dynamic Adoption and Valuation

Discussant: Phillip Owrutsky, Acadian Asset Management

We provide a dynamic model of cryptocurrencies and tokens that serve as means of payment among (blockchain-based) platform users. Introducing tokens capitalizes future growth because the anticipated technological progress and popularity of the platform render tokens an attractive store of value, inducing further adoption. We derive the unique equilibrium in continuous-time formulation, and characterize, in addition to the contemporaneous complementarity of users' adoption decisions, an inter-temporal feedback loop between user-base dynamics and technology progress mediated by tokens. The token price depends on user base, platform productivity, agents' transaction needs, and their expectation

of token appreciation. We also show that native tokens not only accelerate adoption but also affect user-base and price volatilities. In particular, dormant user adoptions could precede explosive increase in token price and volatility without speculative bubbles. Our model sheds light on the broad issue of asset pricing with user-base externalities.

Sanjiv Das and Dan Ostrov
Santa Clara University
A New Approach to Goals - Based Wealth Management

Discussants: Lisa Huang, Fidelity

We introduce a novel framework for goals-based wealth management (GBWM), where risk is understood as the probability of investors not attaining their goals, not just the standard deviation of investors' portfolios. Our framework is based on a foundation of developments in behavioral economics and finance and is consistent with modern portfolio theory. Using a simple geometric analysis, we determine a specific portfolio that matches each individual investor's stated goals. Our approach requires information from the investor about their goals, elicited in a clear manner that market research shows is superior to common current practices. This new approach can improve the communication between advisors and clients and produce better advice for enabling clients to attain their goals with high probability through the use of efficient portfolios.

Seoyoung Kim
Santa Clara University/Analysis Group & Atulya Sarin, Santa Clara University
Crypto-Assets Unencrypted

Discussant: Edward Woodford, Seed CX Ltd

With the recent surge in crypto-activity, a natural question arises as to what exactly a "cryptocurrency" is and how to value and assess these digital assets. In this paper, we provide an overview of the history and technology underlying cryptocurrencies. We also present information on the volume, size, and volatility of this emerging asset class, which we compare to major fiat currencies and commodities. Finally, we provide a framework for valuing crypto-assets, discuss the still-evolving regulatory environment for this asset class, and discuss the mechanics of investing in cryptocurrencies.

Robert Merton
Massachusetts Institute of Technology
Observations on Financial Innovation and FinTech

Discussant: Deep Srivastav, Franklin Templeton Investments

Digitalization of financial services, "FinTech", offers enormous global opportunities for new and improved services and substantially lower costs, with disproportional improvements accruing to those who are underserved by current standards. There will definitely be financial-service industry "winners" and "losers" from its successful implementation.

Successful realization of these opportunities faces material challenges, especially in "inherently opaque" services and products, which cannot be made transparent.

I will offer observations on four areas of challenge that need to be addressed for the successful and wide-scope adoption of FinTech:

— Trust – fundamental to financial services; technology by itself is not sufficient to create it
— Credit risk – what's worse than being uninsured? Believing you are insured when you're not.
— Innovation risk – implementation of innovation mismatched to the infrastructure to support it

— Regulation – supports trust; government is ultimately responsible for system failures.

FinTech innovations will create disruptive challenges for users, providers, advisors and regulators of financial services but also create potentially significant opportunities for them as well. Will today's technology disruptions to current practice of existing financial-service providers lead to their displacement or will it create enhanced opportunities for them?

Roberto Rigobon
Massachusetts Institute of Technology
Aggregate Confusion: The Divergence of CSR Ratings

Discussant: Kathryn Kaminski, Alpha Simplex Group LLC

Corporate social responsibility (CSR) rating providers have become very influential institutions. A large number of academic studies relies on data from CSR rating providers for their empirical analysis. More importantly, CSR ratings inform major investment and management decisions. An increasing number of companies set targets for CSR performance, and an estimated USD 21 trillion of assets are invested based on some form of CSR data 1. Therefore, the services and assessments of CSR rating providers are an important input to investment and management decisions worldwide.

Antoinette Schoar
AlphaSimplex Group/MIT
Trading and Arbitrage in Cryptocurrency Markets

Discussant: Mark Kritzman, Windham Capital Management

This paper studies the efficiency and price formation of bitcoin and other cryptocurrency markets. First, there are large recurrent arbitrage opportunities in cryptocurrency prices relative to at currencies across exchanges that often persist for several days or weeks. These price dispersions exist even in the face of significant trading volumes on many of the exchanges. The total size of arbitrage prots just from December 2017 to February 2018 is above of $1 billion. Second, arbitrage opportunities are much larger across than within the same region; they are particularly large between the US, Japan and Korea, but smaller between the US and Europe. But spreads are much smaller when trading one cryptocurrency against another, suggesting that cross-border controls on at currencies play an important role. Finally, we decompose signed volume on each exchange into a common component and an idiosyncratic, exchange specific one. We show that the common component explains up to 85% of the variation in bitcoin returns and that the idiosyncratic components of order ow play an important role in explaining the size of the arbitrage spreads between exchanges.

Roger Stein
Massachusetts Institute of Technology
FinTech Platforms and Strategy

Discussant: Eric Penahoat, Penanhoat-Consulting, Kamakura Corporation

We present three related frameworks for creating and defending FinTech-related businesses. The first, introduced in Dhar (2016), is useful for identifying which operations and businesses are (or are not) attractive targets for automation as well as for predicting the future trajectory of these targets. The second framework, introduced in Stein (2016), can be used to determine whether a target analytics application of interest is one for which a firm has a competitive edge. Conversely, the framework may be used to identify "killer apps" for specific proprietary data or analytics

tools. The third framework, introduced in Dhar and Stein (2017, 2918) provides a roadmap for the development of defensible FinTech platforms by first defining the necessary conditions for such a platform to be sustainable, and then describing the vectors along which incumbent financial firms and/or new entrant technology firms may create such FinTech platforms. Complete FinTech platforms allow easy participation that often strengthens and extends network effects, while at the same time, the vast amounts of data captured through such participation can increase the value of the platform to participants, creating a virtuous cycle. While initially slow to penetrate the financial services sector, such platforms are now beginning to emerge. The framework provides a taxonomy of such complete and incomplete platforms in finance and FinTech, and identifies the feasible strategies available to incumbents in the industry, innovators, and the major Internet giants.

David Yermack
New York University
Initial Coin Offerings

Discussant: Pooya Nazeran, Moody's

Initial coin offerings (ICOs) are sales of blockchain-based digital tokens that are associated with specific platforms or assets. Since 2014 ICOs have emerged as a new financing instrument, with some parallels to equity IPOs, venture capital, and pre-sale crowdfunding. We analyze 1,100 completed ICOs that collectively raised $8.3 billion, focusing closely on over 500 that were ultimately traded on exchanges. We examine abnormal returns and the importance for success of more than 50 variables. These range from pricing mechanisms to founder characteristics to issuer sector. We also present a transaction-level case study of Filecoin, one of the most successful ICOs. Finally, we discuss regulatory, security, and tax issues facing this nascent market.