Virtual Seminar Series
on
Central Banking & Digital Currencies

Register for upcoming seminars!

Mar 26, 2021 11AM-12PM EDT

Hyun Song Shin (Bank for International Settlements)

Presenting "Permissioned Distributed Ledgers and the Governance of Money"

With Raphael Auer (Bank for International Settlements) and Cyril Monnet (Gerzensee & University of Bern)

Abstract: We explore the economics and optimal design of "permissioned" distributed ledger technology (DLT) in a credit economy. Designated validators verify transactions and update the ledger at a cost that is derived from a supermajority voting rule, thus giving rise to a public good provision game. Without giving proper incentives to validators, however, their records cannot be trusted because they cannot commit to verifying trades and they can accept bribes to incorrectly validate histories. Both frictions challenge the integrity of the ledger on which credit transactions rely. In this context, we examine the conditions under which the process of permissioned validation supports decentralized exchange as an equilibrium, and analyze the optimal design of the trade and validation mechanisms. We solve for the optimal fees, number of validators, supermajority threshold and transaction size. A stronger consensus mechanism requires higher rents be paid to validators. Our results suggest that a centralized ledger is likely to be superior, unless weaknesses in the rule of law and contract enforcement necessitate a decentralized ledger.

Discussant: Hanna Halaburda (New York University)

Moderator: Jon Frost (Bank for International Settlements)

Apr 30, 2021 11AM-12PM EDT

Martin Schneider (Stanford University)

Presenting "Credit lines, bank deposits or CBDC? Competition & efficiency in modern payment systems"

With Monika Pizzesi (Stanford University)

Abstract: This paper studies the welfare effects of introducing a Central Bank Digital Currency (CBDC). Its premise is that CBDC is a new product in the market for liquidity where it competes with both commercial bank deposits and credit lines used for payments. If the central bank offers CBDC but not credit lines, then it interferes with the complementarity between credit lines and deposits built into modern payment systems. As a result, increasing CBDC may reduce welfare even if the central bank can provide deposits more cheaply than commercial banks.

Discussant: Dirk Niepelt (University of Bern)

Moderator: Katrin Assenmacher (European Central Bank)

May 28, 2021 11AM-12PM EDT

Dirk Niepelt (University of Bern)

Presenting "Monetary Policy with Reserves and CBDC: Optimality, Equivalence, and Politics"

Abstract: We analyze policy in a two-tiered monetary system. Noncompetitive banks issue deposits while the central bank issues reserves and a retail CBDC. Monies differ with respect to operating costs and liquidity. We map the framework into a baseline business cycle model with "pseudo wedges" and derive optimal policy rules: Spreads satisfy modified Friedman rules and deposits must be taxed or subsidized. We generalize the Brunnermeier and Niepelt (2019) result on the macro irrelevance of CBDC but show that a deposit based payment system requires higher taxes. The model implies annual implicit subsidies to U.S. banks of up to 0.8 percent of GDP during the period 1999-2017.

Discussant: David Andolflatto (FRB St Louis)

Moderator: Tommaso Mancini-Griffoli (International Monetary Fund)

June 25, 2021 11AM-12PM EDT

Michael Junho Lee (FRB New York)

Presenting "Monetizing Privacy"

With Rod Garratt (UC Santa Barbara)

Abstract: In a market where consumers choose between payment options, and firms compete with products and prices, we show that payment data drives the formation of a market monopoly. Active intervention can successfully restore and maintain a competitive market, but often at the expense of both efficiency and consumer welfare. The introduction of a low-cost anonymous means of electronic payment, or digital cash, preserves the market structure and improves consumers' welfare by enabling them to monetize their private information. There are, however, challenges to the private provision of digital cash. We discuss the potential role of central banks in providing digital cash.

Discussant: Bruno Biais (Toulouse School of Economics)

Moderator: Antoine Martin (FRB New York)

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