

Challenges for Research in Payments

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Four Challenges

- Formulate a better basic model
- Make market-microstructure data publicly available
- Provide sound advice about payment risk
- Understand the relationship between payments and other business processes

First, A Rough-and-Ready Definition

Payment economics comprises the topics common to monetary economics and industrial organization

Monetary Economics

- Limited trading opportunities do not exhaust economy-wide gains to trade
- Institutions link these opportunities to enlarge the feasible gains
- But centralized, command-and-control institutions are infeasible
- Good outcomes require trust based on self-fulfilling expectations

Industrial Organization

- Economic agents are strategic players, not parametric price takers
- Economic activity involves increasing returns and externalities

Economic Modelling

Begin by specifying an environment

- The agents who populate it
- Their technological opportunities and preferences
- The information that they possess and the protocols for communication among them, and so forth

This information makes it clear which institutions are feasible

An equilibrium concept predicts the outcomes of alternative institutions

A welfare criterion ranks the outcomes

Challenge 1: Formulate a Better Basic Model

A good model should

- Exemplify the scientific logic just described
- Explain why stored-value systems and account-based systems are the prevalent types of payment system, and show how they can coexist
- Explain, or at least organize thinking about, some other facts
- Not rely on fragile or ad hoc assumptions
- Make predictions that are as strong as possible, but not oversold (What should we think about indeterminacy of equilibrium?)

Challenge 1: Recent Progress

Overlapping-generations with restricted participation in spot market
(settlement frictions)

- Scott Freeman (1996)

Random matching with some publicly monitored traders
(payment intermediaries as traders)

- Ricardo Cavalcanti, Andres Erosa, and Ted Temzelides (1999)
- Ricardo Cavalcanti and Neil Wallace (1999)

Alternation between random matching and centralized markets
(payment intermediaries as markets)

- Ping He, Lixin Huang, and Randy Wright (2003)

Challenge 2: Make Market Micro-Structure Data Publicly Available

Without such data, payment economics will be empty theory

Collaboration among researchers, payment-system participants, and central banks is required

Confidentiality can be maintained

- Census Data Center approach
- Statistically representative artificial data

Challenge 3: Provide Sound Advice About Payment Risk

RTGS systems provide credit to participants

How should this risk be measured?

What are the costs and benefits of pricing or rationing payment credit?

- Is underpriced payment credit a subsidy?

What are the costs and benefits of collateralizing payment credit?

Should central banks accept illiquid collateral?

Challenge 4: Understand the Relationship Between Payments and Other Business Processes

Advantages from netting and float management have diminished

- Gross settlement is less costly in a fiat-money regime
- Float is less significant when interest rates are low

The business processes associated with making and receiving payments remain costly

Investment and innovation in reducing these costs will mainly drive payment innovation

IO research can contribute to understanding this situation