Partners or strangers? Cooperation, monetary trade, and the choice of scale of interaction

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Money in the Digital Age

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Money

In a market economy, *money* carries purchasing power across

- trades (i.e., serves a medium of exchange), and
- time (i.e., serves a store of value).

The role of money is to

> *... decompose complex interdependent transactions into decentralized, independent simple transactions*

However, incorporating money to the standard theory of value is a challenge.

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The present paper is an experimental study of the role of money in

facilitating the expansion of the scale of economic interactions.

In the experimental setting, in which subjects interact either in *partnerships* or in *groups* (of 12 or 24), pairwise intertemporal trade generates a surplus that is larger in groups than in partnerships (i.e., that increases with the scale of interaction).

Absent money,

intertemporal trade must rely on mutual trust, which weakens with the scale of interaction.

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In this setting, the exchange of tokens with no intrinsic value

> *limits the reliance on mutual trust by mitigating the larger strategic uncertainty present in groups.*

The introduction of tokens:

▷ provides a vehicle for information, and

▷ expands the space of actions,

giving rise to the emergence of a monetary equilibrium in which intertemporal trade (cooperation) requires the exchange of a token.

Main Experimental Results

- Intertemporal trade (*cooperation*) was more frequent in partnerships than in large groups, but surplus generated was similar.
- When tokens were available, the monetary equilibrium emerged over time.
- Subjects voted to interact in large groups more frequently when tokens were available than when tokens were not available.
- Large groups generated more (less) surplus than partnerships when tokens were (were not) available.
- Surplus increased with the intensity of monetary trade.

Comments and Questions

General Comments:

- The paper poses an interesting question, clearly connected with the role of money in market economies.
- The experimental design is clever, and amenable to a simple theoretical analysis.
- The experimental results are rich and lead to some clear conclusions.

Comments and Questions

Questions on the design (asymmetries across treatments):

- The role of tokens as carries of information: Why not suppress information on money holdings?
- Introducing tokens expand the action space. What if the actions *buy help* and *sell help* were suppressed? (Transferring tokens may still help preserving mutual trust.)
- The avoidance of self-selection in group formation.
- The role of subjects experience in a monetary economy.

Comments and Questions

Mild Criticism: The implicit suggestion that (fiat) money creation may have fostered economic development is questionable:

Throughout history commodity money – stones, shells, metals (iron, copper, gold, silver), cattle, salt, tea, rum, tobacco – has been widely used as means of exchange. Fiat money, which has obvious advantages, emerges in more complex organizations.

(Radford (1945): The Economic Organization of a POW Camp.)