Payment choice and global payments: Discussion

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Start with the Carlos Arango, Yassine Bouhdaoui, David Bounie, Martina Eschelbach and Lola Hernandez paper entitled ”Cash Management and Payment Choices: A simulation model with international comparison”

- Brief summary:
- Cross-country (4) study using diary surveys
- Comparison of usage of payment instruments
- Assessment of cash use rules the ”**Minimun cash holding rule**” and the **“Cash first rule**”
- Transactions size distribution can be explained pretty well
- The Netherlands is some sort of exception

Advertisement first

- In Finland, we had a ”similar” diary survey in 1995 and found a declining tendency in cash usage in large payments, a U-shaped relationship between age and cash holdings, and a strong dependency of cash holding on (proximity of) ATMs. We also had data on different denomination notes which gave us some idea of the hoarding motive
- We also carried out a survey on firms and found quite large cash holdings (something like 15 % of cash outside banks) - especially in the service sector

Milbourne model

- Assumption: consumption occurs randomly in discrete amount of different sized
- This sounds like a Miller-Orr model (of firms’ cash holdings/liquidity).
- Miller, M. & Orr, D. (1966). A model of the demand for money by firms. *The Quarterly Journal of Economics, 81,*413-435
- There transactions are modelled a Poisson process and firms compute a corridor (upper and lower limits) for cash holdings… so that also the variance of transactions has an effect..
- In the case of firms, I understand random consumption shocks but with consumption, I do not know..
- Consumption studies suggest that there is a lot persistence in consumption patterns (habit formation models).

Causality

- This leads us to the causality controversy
- Can we really think that (only) cash holdings are predetermined and consumption exogenous?
- Would it be better assume that we first compute the ”grand plan” for the optimal consumption and payment patterns (depending on the variance (and other moments) of transactions, bank and ATM facilities, financial situation, age, and so on, instead of considering cash in a special way?
- In this setting, optimal payment media would reflect both returns and risks (risk of transaction/payment failure and risk of misbehavior), and we deviate from the optimal payment media only because of some unexpected liquidity and consumption shocks

ATMs are important

In most mega stores, there is an ATM at the door…making causality ambiguous. In remote areas things are certainly different (the role of unexpected shocks is larger because of longer periods between ATM visits). Problems at least to the “cash first rule” …

What about liquidity constraints

- There two types of consumers:
- There are people who do not have cards, and who might also be liquidity constrained. Their share could very from country to country and also over the business cycle.
- Another set of people may not use cards even in large payments because of principal reasons (e.g. anonymity) or other payment technology reasons (bilateral trade between customers). Finnish consumer surveys that have been carried out annually since 2007 confirms that these motives are really important.
- Any estimate for the “**cash only**” consumers?

So what…

- Simulation are informative, but in a strict sense they do not provide a proof for the models/hypotheses
- Payment choice surely depends not only on the availability of cash but on other determinants of payment convenience
- In this respect, we should not only focus on consumers but also retailers; how do they organize things; what are their preferences & cost estimates.
- But the question is: do we have compelling reason to increase the share of noncash instruments; in other words do we get welfare gains by trying to eliminate cash?

Turn to the paper of Zhu Wang and Alexander Wolman entitled " Payment Choice and the future of currency: insights from 2 billion retail transactions"

- A brief summary:
- A **very** detailed study of use of payment media in retail transactions
- Gives a lot of information of the background variables behind the choice of payment media (information other than survey results which always have their defects)
- Gives an idea of the nature of the change in payment media choice over time

Some open issues

- Is there any data (estimates) on scale of the local **ATM** network (distance to nearest ATM) instead of banks?
- Is there any role for **variability** of transactions size? What if everybody makes same purchase or if the purchase values are very different both over customers and time?
- Are robberies (**crime**) really the true exogenous variable, or is crime just a proxy for the whole environment (income, unemployment, ethnic diversity, and on)
- What about **causality** again? Do payment media choice also affect (structure and level of) consumption? Moving from a Cash-In-Advance model to all credit economy certainly has real macro effects.
- What if the payment media is rather predetermined? How does it affect **estimation**?

As for future

- We can see the recent trends in payment media choice but can we really rely on the (linear) trends; do we, for instance, see some strongholds of cash (how do high-cash-user outlets differ from other outlets).
- In this kind technology-oriented changes we often have some sort of ”S” curve; do we have it also here?
- Thus, could there be some saturation levels in the use of cash, for instance?
- On the regional level, do we have clear convergence?
- Can anything be said on the impact of tariffs? Different banks probably have different fees…
- Is the change inevitable, or can it be affects by some instruments?

Nice paper(s)

- Hope that we also some day can have a access to similar (retail transaction) data
- **Thank you!**