Discussion of „Changing payment patterns at point-of-sale: their drivers”

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Summary

Uses individual-level survey data from NL from 2004 and 2014 to study

- changes in adoption
- changes in use
- changes in factors driving adoption and use, i.e., socio-demographics and perceived attributes

Main Findings:

- DC adoption remained very high
- Cash use went down
- CC adoption only slight increase
- Drivers:
  - Usual suspects are important (age, income, education, attributes)
  - Surprising: not much differences for DC use (except for age)
  - Differences across point-of-sales
Summary

Very interesting results

• still need more knowledge about how consumers make decisions on payment instruments
• paper gives us the chance to look how payment behavior has changed from 2004 to 2014.

• Also very interesting because of institutional background
  o stimulation of DC payments in NL
  o universal dissemination of DC already in 2004
  o how does market for payment instruments (cash) evolve in such an environment?

Interesting policy questions:

• What factors have brought about the observed changes?
Main Comments

• Some comments on underlying choice model

• Some comments on dependent and explanatory variables

• Policy conclusions: Why has behavior changed? What can be expected to happen?
Choice Model

Adoption and use of PIs $\rightarrow$ economic decision

$\rightarrow$ Recommendation: be more explicit about the choice model you have in mind

Prototypical choice model

• Outcome variable: “good” measure of payment behavior

• All relevant factors that affect outcome
  o Relative costs
  o Pecuniary and non-pecuniary aspects
    o Shoe-leather costs, shadow value of time, costs, risk of theft...
    o Behavioral aspects: habit, comfort-with-technology, social norms, expenditure control, ...

• Account for choice
  o Acceptance
  o Available portfolio of payment instruments
Choice Model

• Change in use of payment instruments could have been caused by changes in any of these factors
  o Change in acceptance, change in relative costs (e.g. density of ATMs), change in non-pecuniary aspects (e.g. comfort-with-technology, ....)

• All these changes might be captured by socio-demographic variables

Possible Extension:

• Hold some factors constant ("pseudo-experiment")
  o Hold acceptance constant and analyze how use has changed → large supermarket

  o Hold relative costs constant and analyze how increase in acceptance has affected payment instrument use → focus on narrow socio-demographic subgroup and their use at specialized food stores
**Dependent variable**

Defined as “the share of POS where a payment instrument is the most often used payment instrument”

→ seems that POS are not weighted by expenditure shares

Example:

<table>
<thead>
<tr>
<th>Survey: most often payment instrument</th>
<th>Expenditure share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket</td>
<td>DC</td>
</tr>
<tr>
<td>Candy &amp; drink machine</td>
<td>Cash</td>
</tr>
<tr>
<td>Cash share</td>
<td>1/2</td>
</tr>
</tbody>
</table>

• How biased are results? Discuss this

• Work-around:
  • use information from diary data (tedious)
  • focus on selected (and important) POS
Perceptions

• Paper emphasizes perceptions: literature has shown that substantial amount of variation can be explained by perceptions of payment instrument attributes

• Very interesting to observe changes over time

Questions/remarks:

  o Seems that absolute perceptions are used → might use relative perceptions → choice
    o e.g. rating from 1 (worst) to 7 (best), speed cash 6, speed card 7 → relative advantage of debit cards
  o Are perceptions endogenous? Change in perceptions when a consumers uses a payment instrument more intensively
  o Are differences between cash & debit card significant?
  o Assessment of “speed” has deteriorated for cash from 2004 to 2014
  o Is information on importance of attributes available?
    o E.g., for some consumers speed might not be important
Socio-demographic variables

• Without explicit choice model, coefficients can reflect various effects
  - E.g. higher income, more debit card use
    - Generic effect (relative costs, different consumption bundles)
    - High income people shop in stores with higher acceptance

• Very interesting results: (almost) no effect of socio-demographics & perceptions for DC use in 2014 (not even user-friendliness)
  - What does this mean?
    - No heterogeneity
    - There is heterogeneity but it is not captured by model (e.g. omitted variables, etc.)
  - Results from NL payment diary suggests some heterogeneity
Socio-demographic variables

Cash share (in value) by income


also difference by education, by transaction values

→ Reconcile these findings with paper’s results
Socio-demographic variables

• Interesting result:
  o Relatively older still use more cash. Why? (habit, more time, lower income, less technology affine, different composition of expenditures, ...)
  o Young → strong shift to debit cards

• Similar finding for Austria

Source: Mooslechner et al. (2012). The figure shows the cash share in value terms derived from four Austrian payment diaries. The first diary was in 1996 and the last in 2011.
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Socio-demographic variables

• Use results from age groups to analyze what can be expected in the near future

• Why not use data from 1983 and 1990 (Boeschoten)?
  o Even descriptive account could be very interesting.
References
