Comments on “The Effect of Transaction Pricing on the Adoption of Electronic Payments: A Cross-country Comparison” by Wilko Bolt, David Humphrey and Roland Uittenbogaard.

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Two Goals

Primary goal

- Estimate the effects of explicit pricing on adoption of alternative payment methods.
Two Goals

Primary goal
• Estimate the effects of explicit pricing on adoption of alternative payment methods.

Secondary goal
• Gauge potential resource cost savings.
Methodology

• Compare *relative* take-up rates of payment instruments across two European countries.
• Use countries which differ in their approach to transaction-based pricing, but are otherwise expected to be similar.
  – Norway: has explicit pricing
  – Holland: doesn’t have explicit pricing
Results

• Some evidence for a role for pricing in speeding the shift to electronic payments.
Results

- Some evidence for a role for pricing in speeding the shift to electronic payments.
- Indicative calculations of the potential importance of this finding for policymakers in present value terms.
Econometric Issues

Challenges include:
• Lack of data;
• Non-stationarity issues; and
• Possible omitted non-price attributes.
Lack of Data

Paper studies four payment mechanisms.
• Only 15 years of annual data on each.
• Authors’ response is to estimate their four main equations as a system.
  – Leaves them with 60 data points to estimate 22 parameters.
Lack of Data

One system of four equations, or two systems of two equations?

• If the latter, this strengthens the authors’ giro estimates (30 data points for 8 coefficients); but

• Weakens their debit card/ATM estimates (30 data points for 14 coefficients).
Lack of data

Also raises the questions:

• Why were the particular specifications of Equations 1 and 2 selected?
• How should one interpret the role of each explanator in these equations?
Non-stationarity

Dependent variables *inherently* prone to localised volatility and non-stationarity.

- Issue highlighted by extremely high $R^2$ values for the paper’s main debit card and ATM withdrawal equations.
Non-stationarity

Each dependent variable defined as (log of) the *ratio* of the per capita use of a given instrument in Norway and The Netherlands.

- Take-up of such instruments in a country often follows a logistic or ‘S-curve’.
Effect of a Lag on the Ratio of Two Logistic Curves

- Take-up
- Ratio

- No Lag
- One Period Lag
- Two Period Lag

Period: -7 0 8 15 0 8 15 0 8 15
Possible Omitted Non-price Attributes

How sound is the assumption of similar non-price attributes across Norway and Holland?

• Authors’ own evidence offers support – but also points to some interesting differences.
Possible Omitted Non-price Attributes

How sound is the assumption of similar non-price attributes across Norway and Holland?

• Authors’ own evidence offers support – but also points to some interesting differences.
  – Contrast between Holland’s full catch-up to Norway in per capita ATM availability and its stalled catch-up in per capita EFTPOS terminal availability.
Summary

• Paper grapples with an important empirical issue for policymakers.
• Some reservations about the robustness of the paper’s results – but this largely reflects irreducible problems posed by lack of data.