DISCUSSION:
CASH: A BLESSING OR A CURSE?
BY: AAJL

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CASH DEBATE

- Benefits of going cashless:
  1. Discourage organized crime.
  2. Discourage petty crime.
  3. Discourage tax evasion.
  4. Mitigate effective lower bound on nominal interest rates.
  5. Convenience.

- Costs:
  1. Transition costs.
  2. Convenience.

Note: slide from discussion of Alvarez and Argente, EFG, 2019.
**Transition costs are real**

- **Left panel:** Uber rides in Puebla fall after cash ban (Alvarez, Argent, 2021).

- **Right panel:** districts in India that had larger decline in cash during demonetization had lower nightlight activity (Chodorow-Reich, Gopinath, Mishra, Naryanan, QJE, 2020).

Note: slide from discussion of Alvarez and Argente, EFG, 2019.
SUMMARY OF AAJL

1. Introduction of Progresa electronic debt cards or ATM-sharing:
   - More ATM transactions (⇒ less cash-on-hand).
   - Reduction in theft.
   - No effect on violent crime or informal worker share.
   - No increase in local taxes paid.

2. Cost of cash reduction from payment preference model calibrated to:
   - Cash-versus-credit elasticity of substitution from AA analysis of Uber.
   - Survey evidence of mixed user share and cash share of mixed users.
   - Conservative elasticity of substitution across cash-intensity of goods.


4. Welfare cost: 40% tax ⇒ 6% of GDP, ban ⇒ 10% of GDP.

5. Welfare benefit of ban: 0.5%-1.3% of GDP.
SUMMARY OF COMMENTS

1. This is good science.

2. 10% of GDP is large.

3. Why people like cash and transitory versus permanent phaseout costs:
   ▶ Evidence from Mexico on why people prefer cash.
   ▶ International perspective.
   ▶ Importance of individual heterogeneity.
   ▶ Why this matters.

4. Other benefits and costs.

Magnitude
Magnitude is large

- Indian demonetization:
  - November 8, 2016: 87% of currency removed from circulation.
  - Stated purpose: remove “black” money.
  - New notes gradually introduced but took several months.
  - Large notes removed — different from uniform tax.

- Chodorow-Reich, Gopinath, Mishra, Naryanan, (QJE, 2020): roughly 2% of GDP contraction.

- Temporary policy and we didn’t measure welfare (e.g. costs of switching to electronic payments).

- Still, very far from 10+% of GDP.
Why do (some) people prefer cash?
Most cash-only users don’t want cards

Figure A4: Cash Users That Do Not Own an Account or a Card

(a) Reason Not to Have an Account
   - Pecuniary and time take-up costs (requirements, nearby bank)
   - minority reason.

(b) Reason Not to Have a Card
Mixed users prefer cash

Figure 3: Mixed Users: Why Do You Prefer Cash

(a) Why Don’t You Use It?

(b) Why Do You Prefer Cash?

Note: Panel (a) shows the responses of households to the question “why don’t you use your debit card?”. Panel (b) shows the responses of households to the question “Why do you prefer cash?.” The sample of households report owning a debit or a credit card. The data comes from the 2018 National Survey of Financial Inclusion (ENIF).
Wide heterogeneity around the world in cash payments was between 49% and 55%, while in the Benelux countries, France, Estonia and Finland the share ranged from 27% to 33%.

Chart 3
Share of cash transactions per country at points of sale
(value of transactions)

Sources: ECB, Deutsche Bundesbank and De Nederlandsche Bank.

4.2 Average value of transactions

The different shares of cash in the total number and value of transactions at POS are also reflected in the average value of a cash transaction to some extent. On average in the euro area, the value of a cash transaction was €12.38. In terms of value of transactions, the average value of a cash transaction was the highest in Cyprus, Luxembourg and Austria where it ranged from €18.60 to €17.80 (see Chart 4a). This suggests that consumers in these countries use cash not only to pay low amounts but also relatively higher amounts. In contrast, the average cash transaction value was the lowest (below €10) in Spain, Latvia, France and Portugal where it ranged

21 As described in Chapter 3, also in terms of value the survey results deviate markedly from the card statistics in the SDW for some countries. Using the card data from the SDW instead of the survey results (noting all the caveats described in Chapter 3) would result in the following shares of the value of cash payments in total payments at POS: Ireland 41%, France 23%, Portugal 34% and Finland 23%.

Applying the whole euro area 2015 SDW card data instead of the SUCH results, the share of cash in value of POS transactions would be 50%.
# Heterogeneity Across Groups

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<th>Education</th>
<th>Age</th>
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</tr>
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<td></td>
<td>18-39</td>
<td>40-59</td>
<td>60+</td>
<td>Total</td>
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<tr>
<td>Less than HS</td>
<td>55.7</td>
<td>50.5</td>
<td>59.6</td>
<td>55.2</td>
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<td>HS diploma</td>
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<td>36.1</td>
<td>37.8</td>
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<tr>
<td>Some college</td>
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<td>32.7</td>
<td>34.0</td>
<td>30.9</td>
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<tr>
<td>BA</td>
<td>14.8</td>
<td>18.5</td>
<td>30.0</td>
<td>18.9</td>
</tr>
<tr>
<td>Advanced degree</td>
<td>12.9</td>
<td>18.1</td>
<td>26.0</td>
<td>17.8</td>
</tr>
<tr>
<td>Total</td>
<td>25.2</td>
<td>32.4</td>
<td>35.1</td>
<td>30.6</td>
</tr>
</tbody>
</table>

## Heterogeneity within groups

### IQR of share of payments in cash

<table>
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<tr>
<th>Education</th>
<th>18-39</th>
<th>40-59</th>
<th>60+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than HS</td>
<td>[15.6, 98.4]</td>
<td>[24.2, 76.3]</td>
<td>[20.4, 100.0]</td>
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<tr>
<td>HS diploma</td>
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<td>[10.5, 52.9]</td>
<td>[13.8, 53.8]</td>
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<tr>
<td>Some college</td>
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<td>[9.7, 47.9]</td>
<td>[12.0, 47.5]</td>
<td>[9.1, 45.5]</td>
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<tr>
<td>BA</td>
<td>[4.3, 18.8]</td>
<td>[5.4, 25.0]</td>
<td>[10.1, 44.9]</td>
<td>[5.2, 27.5]</td>
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<tr>
<td>Advanced degree</td>
<td>[1.2, 17.3]</td>
<td>[4.9, 27.3]</td>
<td>[8.3, 36.4]</td>
<td>[2.7, 25.5]</td>
</tr>
<tr>
<td>Total</td>
<td>[4.3, 33.3]</td>
<td>[8.5, 49.1]</td>
<td>[10.7, 50.8]</td>
<td>[7.2, 45.8]</td>
</tr>
</tbody>
</table>

PERCEPTIONS OF CASH VARY AND PREDICT CASH USE

Security of cash

- Risky: Cash share: 28.2
- Neutral: Cash share: 32.9
- Secure: Cash share: 32.6

Quality of payment records

- Poor: Cash share: 26.8
- Neutral: Cash share: 36.1
- Good: Cash share: 37.9


See also Koulayev, Rysman, Schuh, Stavins (RAND 2016), “Explaining Adoption and use of Payment Instruments by US Consumers.”
**Why?**

- Partly explained by education. But not that much.
- Partly explained by age. But not that much.
- True individual preference heterogeneity?
- Immutable preference heterogeneity?
- Matters a lot for interpreting the AAJL welfare exercise:
  - Benefits from crime reduction: 0.5-1.3% of GDP per year.
  - Costs from convenience loss: 10% of GDP per year or one-time?
Other benefits
POTENTIAL BENEFITS NOT CAPTURED BY LOCAL EVENT STUDIES

- Reduce organized crime.

- Reduce evasion of national taxes.

- Remove lower bound on nominal interest rates.

- These are largely achievable with phase-out of large notes only.
Econometrics
**Staggered DiD**

- Empirical specification for impact of Progresa card rollout:
  \[ Y_{mt} = \alpha + \sum_{k=-\infty}^{\infty} \gamma_k 1\{K_{mt} = k\} + \theta_m + \lambda_t + \zeta X_{mt} + \varepsilon_{mt}. \]

- Example of *staggered difference-in-difference*: different areas become treated at different times.


- Issue: areas treated at date \( t + h \) in “control” set for areas treated at \( t \) and vice versa. Heterogeneous treatment effects across time \( \Rightarrow \) DiD coefficient need not lie in convex hull of individual treatments.

- Random assignment of timing not sufficient if treatment effect varies over time, e.g. due to changing macroeconomic conditions.

- Similar issues in simple before/after comparison and in ATM roll out.

- Useful to clarify these issues and what AAJL estimator does. Maybe consider Roth and Sant’anna (2021) as alternative.