

## Discussion

“Consumer Surplus of Alternative Payment Methods:  
Paying Uber With Cash”

Alvarez and Argente

Warren Weber

August 2019

- Very Impressive paper for thoroughness of analysis and data
- 3 major parts
  - Effects of introducing an additional means of payment
  - Effects of banning an existing means of payment
  - Measure of loss of consumer surplus from ban on using cash as payment

## Introducing additional means of payment

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- Event study: effects of removing ban on cash in 15 cities
  - Find trips and fare more than double
  - Slightly more than 1/2 due to existing riders making more trips
  - Price roughly unaffected
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- Neighboring regions: Mexico City, cash banned; State of Mexico, cash allowed
  - Share of trips paid in cash negatively related to income
  - Use matching census tracts: Trips and fares double once cash allowed

## Banning an existing means of payment

- Puebla permitted cash payments 3/17 to 12/17; then cash banned
- Two types of evidence
  - “Synthetic Puebla”
  - Coarsened Exact Matching – census blocks in Puebla with comparable in State of Mexico
    - Decrease of  $>50\%$  in number of trips and fares
    - 35-40% of pure cash users ended up adopting credit
    - $\approx 65\%$  pure cash stop using Uber after cash ban
    - Mixed users also decreased number of trips

# Loss of Consumer Surplus

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- Three experiments to provide data for calculation of consumer surplus loss
  - Experiment I: Mixed users given different price incentives
  - Experiment II: Pure cash users given different price incentives
  - Experiment III: Incentives for credit adoption, pure cash users
    - Larger migration for larger incentives
    - Mostly for users already with credit card
    - Increase in adoption rate  $< 5\%$

# Loss of Consumer Surplus

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- Findings:
  - For mixed users, cash and credit far from perfect substitutes  
Elasticity of substitution between trips with cash and credit  $\approx 3$
  - Overall CS loss (%age of yearly expenditure on Uber):  
0.45% pure cash; 25% for mixed
  - Combining: lower bound: CS loss 50% from ban
  - Cost of cash ban falls mostly on poor

## Discussion

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- Really liked paper
- Estimate of consumer surplus is difficult exercise
  - More guidance through sections 7 and 8 would have been very helpful
- So many results: Result summary at end would be useful



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- Such studies particularly relevant now given
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  - Possible launch of Libra in 2020 (Facebook stablecoin)
  - Advancements in digital ledger (blockchain) technology

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  - (Good money drives out bad?)
- Many historical examples – here are two:
  - 1 Stockholms Bank notes 1661 - 1664
    - Deficiency: Sweden on copper standard – coins heavy and large “even the payment of small sums made the use of carriers and horses necessary”
    - Small premium on notes
  - 2 Enskilda banknotes, Sweden 1831 - 1900
    - Deficiency: Limited denomination choices
    - Issued in more convenient denominations than Riksbank notes

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- What about today?
- Current sovereign fiat currencies have deficiencies, examples:
  - Two decimal places could be too large for IoT
  - Buying digitized assets difficult because not on existing digital ledgers
  - Remittances also difficult

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*“It appears . . . highly improbable that any privately-created electronic currency will displace fiat money as a widespread means of payment and exchange.”*

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- Two views of current situation:

*“It appears . . . highly improbable that any privately-created electronic currency will displace fiat money as a widespread means of payment and exchange.”*

*“. . . conventional fiat currencies are staring at a bleak future. In fact, their fate could be sealed in a couple of years from now . . .”*



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  - Thinking about design of CBDCs
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  - Measuring costs of bans on Libra and other cryptos
    - Much of current argument for ban is to prevent money laundering and other criminal activity
    - Disadvantages to consumers in terms of fewer means of payment choice not mentioned much

- Bottom line: Great paper; significant contribution