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2nd Toronto Fintech Conference, March 15, 2019
- Block space is limited and there is competition to add transactions to each block
- Ransomware attacks represent an exogenous shock to settlement demand
- Do these shocks affect other users? Is there crowding out of legit transactions?
Main Test

\[ Y_t = \beta_1 Vtn_t + \beta_2 VIX_t + \beta_3 \text{PriceBTC}_t + \text{noise}_t \]

where \( Y \) can be

1. Total number of transactions
2. Transactions involving “regular” addresses: Top 100 addresses
3. Transactions involving “ad hoc” addresses: Rest

Main results

- R1: \( \beta_1 > 0 \) in the case of Total Transactions
- R2: \( \beta_1 < 0 \) in the case of Regular Transactions
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1. Would be the alternative hypothesis?
2. “Endogenous” vs “exogenous” demand: perhaps more precise definitions?
   - E.g., liquidity shocks are less exogenous than attack shocks?
   - Voluntary vs attack-related demand seems more appropriate
3. Endogenous demand proxied by top 100 addresses (<5% total by transactions)
   - Intuition: by-and-large these addresses belong to big exchanges. If so, we are capturing the effect of ransomware attack on demand for exchange services (a) Deposits: from BTC to fiat/altcoins (3) withdrawals
   - Can we generalize conclusions to P2P transactions? (e.g., retail, remittances)
- Previous analysis seems to equate number of transactions to congestion
  - Would like to see interaction between Vuln and observable controls related to congestion
- **Good**: paper also consider more direct measures of congestion as dependent variables: transfer fees and congestion time and effect of attacks is positive
- I would expand more on these
  - Percentage of full blocks
  - Mem pool size
- Alternatives to onchain settlement:
  - Paper considers exchange volume from Gemini
- Interesting to further explore more recent alternatives
  - offchain smart contracts (e.g., Lightning)
  - use of forked coins like BCH. Exploit SegWit adoption as experiment?