# How will traditional credit-card networks fare in an era of Alipay, Google Tez, PSD2 and W3C payments?

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* Views expressed are strictly the author's.

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# Discussion topics

- Retail-payment systems and credit cards state of play
- Growth drivers
- Tectonic shifts and attendant risks and opportunities
- US
- Europe
- China
- India
- Closing thoughts

# Retail-payment systems

- General-purpose retail-payment networks were the greatest payments and retail-banking innovation in the 20th century.
- >300 retail-payment schemes worldwide
- Global traditional payment networks
  - Mastercard
  - Visa
- Tier-two global networks
  - American Express,
  - China UnionPay
  - Discover/Diners Club
  - JCB

# Retail-payment systems

- Alternative networks building claims to critical mass
  - Alipay
    - Rolling up payments assets in Asia
    - Partnering with acquirers to build global acceptance
  - M-Pesa
  - PayPal
    - Trading margin for volume, modus vivendi with Mastercard, Visa and large credit-card issuers
    - Opening up, partnering with African MNOs
  - Paytm
  - WeChat Pay
    - Partnering with acquirers to build overseas acceptance
- National systems – Axept, Pago Bancomat, BCC, Cartes Bancaires, Dankort, Elo, iDeal, Interac, Mir, Rupay, Star, Troy, Euro6000, Redsys, Sistema 4b, et al

# The global payments land grab

- There have been campaigns and retreats by credit-card issuers building multinational businesses, e.g. Citi, Banco Santander, Discover, GE, HSBC, and Capital One.
- Discover's attempts overseas thus far have been unsuccessful
  - UK
  - Diners Club
  - Network reciprocity
- Under Jeff Immelt GE was the worst-performer on the Dow –a) and Synchrony unwound its global franchise
- Amex remains US-centric
- Merchant acquiring and processing imperative to expand internationally.

(a- Erik Holm, "Under Immelt, GE Was the Worst Performer in the Dow," WSJ, June, 12, 2017





“Credit cards” - revolving credit accessible anywhere anytime, convenient and secure payments, cash access, record keeping, and rewards, are highly profitable and have enormous and increasing utility for consumers and merchants worldwide.



# The credit-card model works in many countries

- The world's leading credit-card markets are the US, China, Korea, Japan, Brazil, Canada, Turkey and the UK.

- December, 2016 of the world's top 25 credit-card portfolios, 12 were Chinese, 11 American, 1 British & 1 Japanese

2016 credit-card payments (billions)

| | | |
|---|---|---|
| US | 34.6 | -a) |
| China | 19.5 | -b) |
| Korea | 10.6 | -c) |
| Japan | 6.8 | -d) |
| Brazil | 5.9 | -e) |
| Canada | 4.5 | -f) |
| Turkey | 3.1 | -g) |
| UK | 2.9 | -h) |

- In 2016 of the top 25 bank credit-card issuers by purchase volume, 13 were Chinese, 8 American, 2 Japanese, 1 French & 1 Korean.

(a- Nilson Report 1122, December, 2017, p.10
(b- Nilson Report 1109, May, 2017, p. 9
(c- Statistics on Payments, Clearing & Settlement, BIS, December, 2017, p. 226
(d-Statistics on Payments, Clearing & Settlement, BIS, December, 2017, p. 203. A 2012 estimate by the Bank of Japan.
(e- Statistics on Payments, Clearing & Settlement, BIS, December, 2017, p. 36
(f-Statistics on Payments, Clearing & Settlement, BIS, December, 2017, p. 60
(g- Statistics on Payments, Clearing & Settlement, BIS, December, 2017, p. 367
(h-Statistics on Payments, Clearing & Settlement, BIS, December, 2017, p. 387

# Electronic-payments growth drivers

- Globalization, economic & population growth, and long-term trend of electronic payments displacing cash, checks, and other forms of credit.
- In 2016 global general-purpose card-purchase transactions increased 13.3% yoy. –a)
- Growing affluence and aspirations spur increased propensity of consumers and small businesses to consume credit.

→ Global networks enjoy better economics and more sustainable growth

(a- Nilson Report 1109, May, 2017, p. 9

# Tectonic shifts and attendant risks and opportunities

- While plastic cards with chips & mag stripes and pos-terminal infrastructure aren't going away, alternative account-key media and aliases are proliferating - tokens stored in the cloud, on smart phones, PCs, and watches, and email, mobile-phone # and biometric aliases.
- 2.4 billion smartphones in 2017 –a)
  - Payments and credit anywhere, anytime.
  - Rising e-commerce-and-mobile-commerce tide
  - Omni-channel commerce, credit and consumer engagement
  - Mobile and business-model flexibility have facilitated expanding acceptance to small, casual and nontraditional merchants.
- Reduced payments friction:
  - Open, in-app and proprietary digital wallets.
  - W3C Payments Working Group will be fully implemented. Every browser will de facto be a wallet.
  - Embedded payments

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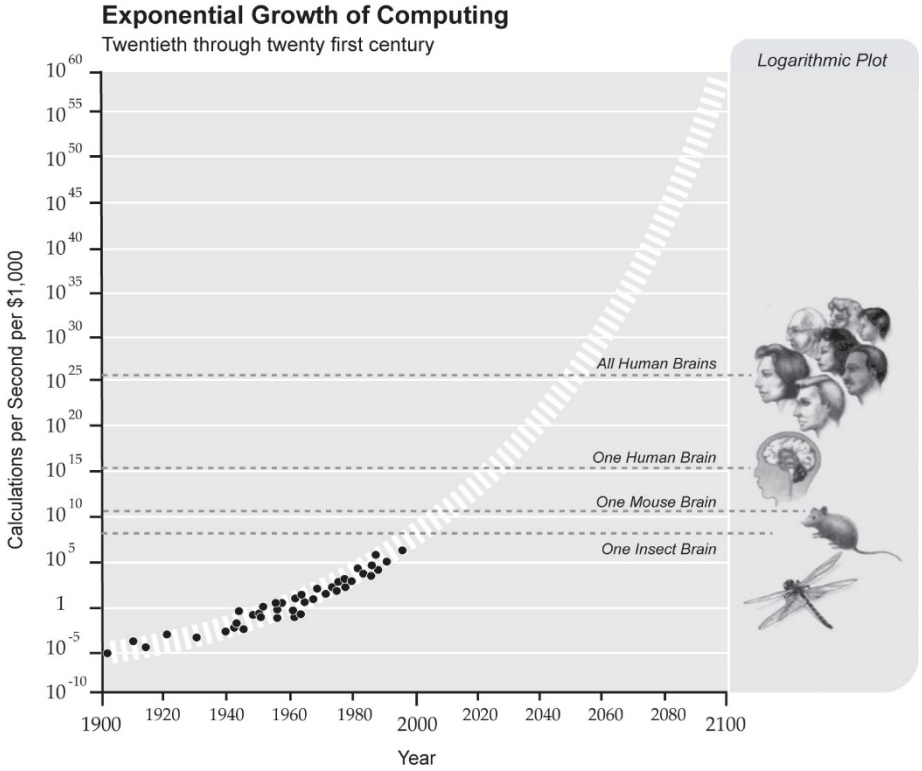
Payments are becoming less visible. Risk for banks and networks is their brands, control and economics are diminished

(a- "2.4 Billion Smartphone Users in 2017, Says Emarketer," Mobile Marketing Magazine, April 28, 2017

# Tectonic shifts and attendant risks and opportunities

- Humongous fintech and tech platforms(Google, Apple, Facebook, Amazon, Alipay & WeChat Pay), potentially changing and diminishing traditional issuer banks', payment networks' and processors' roles.
  - Brand erosion
  - Diminished consumer relationships
  - Tech platforms extract rents
  - Total disintermediation
- Cryptocurrencies
- Realtime ACH
- Transaction-installment credit versus revolving credit coupled with payments? Disintermediation by fast-moving alternative fintech lending models
  - Affirm, Klarna, et al
- Increased regulation of consumer credit and payments in all major markets

# AI will enhance payments businesses




-a)

Ray Kurzweil observes while our intuition about the future is linear, information technology advances on an exponential trajectory, not just hardware, but also algorithms and software.

In 2016 tech giants including Baidu and Google invested between $20 and $30 billion in AI, 90% of which was R&D and deployment, while 10% was on acquisitions. Startups invested between $6 and $9 billion in AI. Total AI investment up 3x since 2013 –b)

(a- Ray Kurzweil, “The Singularity Is Near,” 2005, Penguin Books, p. 70
(b- “Artificial Intelligence: The New Digital Frontier,” McKinsey Global Institute, June, 2017, p. 5

# AI will enhance payments businesses

- Sophisticated AI will undergird better risk management (origination and ongoing C/L management), continuous and real-time promotions and rewards, and fraud optimization. Rewards & promotional campaigns, and competition, will become more intense, continuous and discriminate, enabling full realization of Don Peppers and Martha Rogers' one-on-one-marketing vision.
- Firms work within the constraints of prevailing business models and regulation, but consumers and merchants worldwide respond to incentives

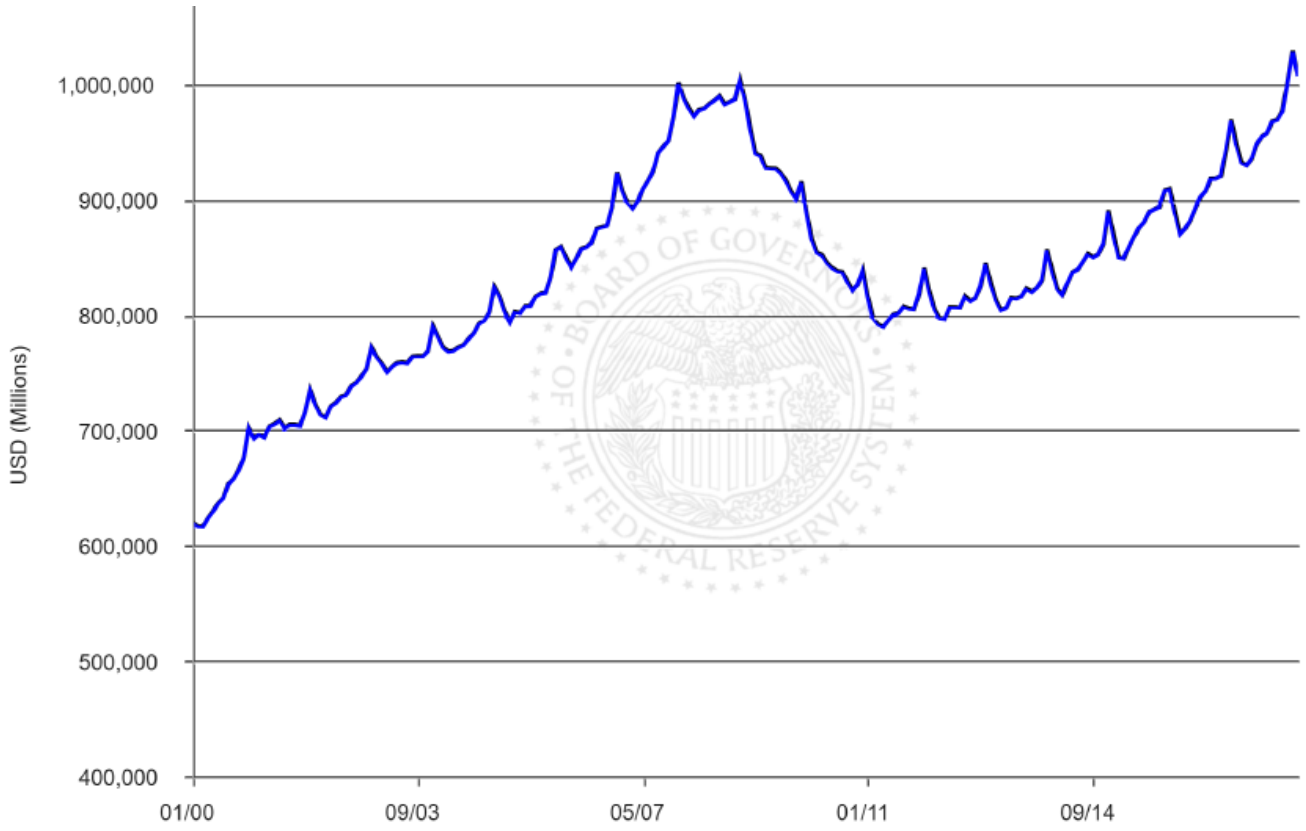
→ AI will improve every stage of the retail-payment experience.

# US

- Visa, Mastercard, Amex and Discover primary general-purpose credit-card networks. Visa, Mastercard, Star, Pulse, NYCE and Accel are primary national debit systems.
- Principal alternative retail-payment system is PayPal
- Card Act and Dodd-Frank made it more difficult to serve near-prime and subprime. CFPB reined in by new acting director, not however legislatively.
- December, 2016 609 million general-purpose credit cards and 432 million proprietary credit cards. –a)
- In January, 2018 revolving credit reached an all-time high of $1.0298 trillion, up 6.2% yoy. –b)

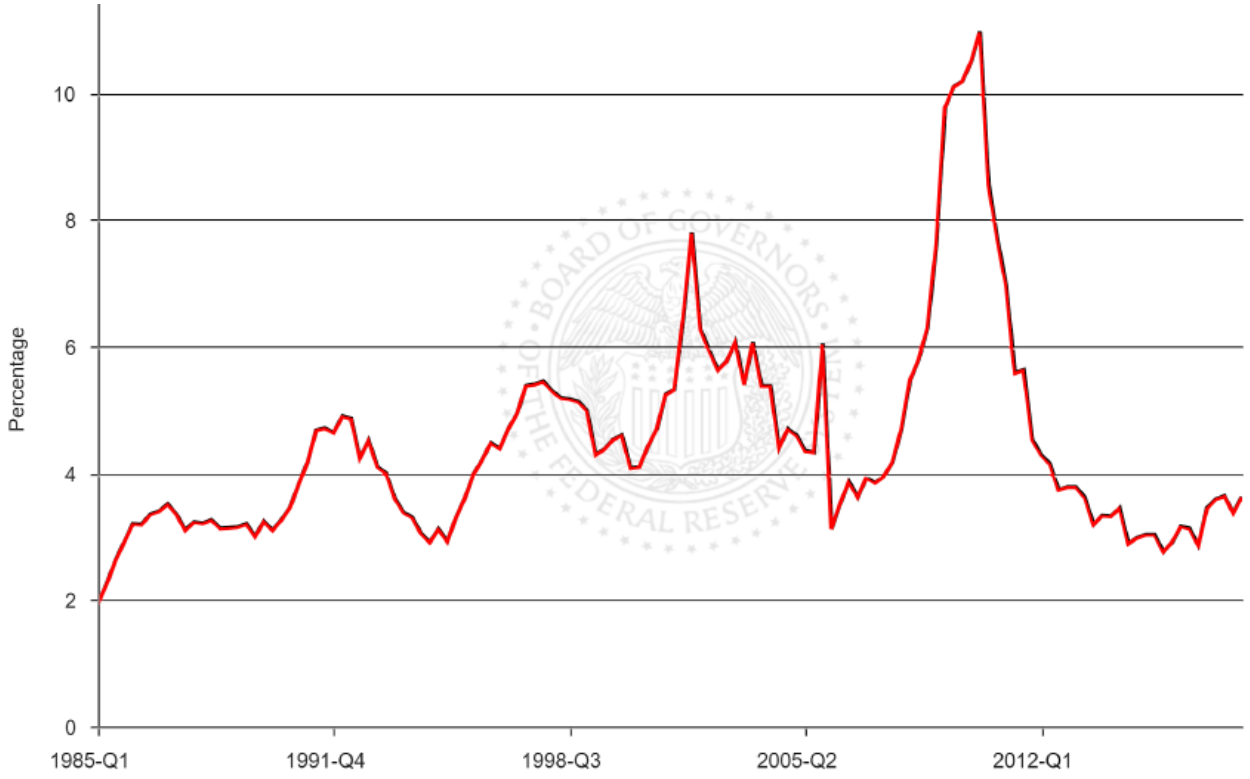
(a- Nilson Report 1119, October, 2017, p. 10
(b- G19, Federal Reserve, January 8, 2018

# Revolving credit outstanding back to pre-Financial-Crisis level, just




Source: Federal Reserve Board 2018

# US bank credit-card charge-offs




Source: Federal Reserve Board 2018

Credit-card credit environment remains relatively benign

# US

- From 2003 thru 2006 debit-card payments increased at a 17.5% CAGR, while credit-card payments increased at a 4.6% rate. From 2012 thru 2015 debit-card payments increased at 7.1% CAGR, while credit card payments increased at an 8.4% rate. -a)
- Relatively strong credit-card growth continues.

## Credit and debit transaction growth

Credit

Sig Debit

PIN Debit

CL Prepaid

Check

Transaction Growth by Payment Type

| | FEB-18 | Q1'17 | Q2'17 | Q3'17 | Q4'17 |
|---|---|---|---|---|---|
| Credit | 5.3% | 6.8% | 7.3% | 4.8% | 6.5% |
| Sig Debit | -1.0% | -1.7% | -3.4% | -4.3% | -1.2% |
| Pin Debit | 3.8% | 3.6% | 4.6% | 5.7% | 5.5% |
| Check | -5.5% | -5.5% | -2.8% | -1.2% | -4.5% |
| CL Prepaid | -1.8% | -7.8% | 6.5% | -2.6% | -2.2% |

-b)

(a- Federal Reserve
(b – First Data SpendTrend Report, February, 2018

# US

- While tech giants use and have further ambitions in payments, they're leveraging existing networks, processors and banks. Danger however that they squeeze payment-system economics.
- Apple co-branded Visa credit card issued by Barclays. Amazon co-branded Visa credit card issued by Chase and P/L credit card issued by Synchrony
- All major merchant acquirers and processors multinational, and to varying degrees, participating in the global payments-processing land rush.

# Europe

- Mastercard and Visa are the primary pan-European retail-payment networks
- A patchwork of legacy national payment systems in Western Europe including Cartes Bancaires, iDeal, Dankort, Axept, Girocard, Multos, Pago Bancomat, et al, and new national champions such as Mir and Troy in the East
- 116.6 card payments per capita within the EU. –a)
- Enormous national differences in credit and payments utilization
- 2015 EU interchange price caps hurt issuer revenue. Following the interchange caps 70% of card-product changes made by 78 EU issuers were unfavorable, in terms of higher fees and/or reduced rewards. –b)
- PSD2 intended to hurt banks' and card networks' profitability and enable competition from new quarters

(a- ECB

(b- Navigator, First Annapolis, March, 2017, p. 5

# Europe

- Banks dominate credit-card issuing
- Continuing multi-decade trend for banks to divest merchant acquiring & processing
- Continued slow evolution of pan-EU processing
- Interesting attempts by mobile P2P systems such as Swish, MobilePay and Jiffy to develop retail payments.

# China

- PBOC March 21, 2018 with a straight face announced foreign payment systems could apply for licenses and will be treated the same as domestic firms.
- Monopoly domestic credit-card network China UnionPay
- CUP credit-card growth tapering

| | 2015 | 2016 |
|---|---|---|
| Volume | 38.2% | 6.4% |
| Transactions | 44.5% | 26.6% |

-a)

- December, 2016 24.5 million pos terminals and 465 million credit cards –b)
- Major acquirers include China UMS, ICBC, and Bank of China.
- CUP acceptance but not issuance relevant globally
- With 520 and 600 million active users respectively, Alipay and WeChat Pay have ~94% payments share online and are challenging CUP at the physical pos.

(a- Nilson Report 1109, May, 2017, p. 9 and Nilson Report 1085, April, 2016, p. 9
(b- Statistics on Payments, Clearing & Settlement, BIS, December, 2017, p. 79

# China

- Ant Financial has MyBank, as well as supporting third-party consumer credit on its platform, and a credit bureau
- WeChat Pay has WeBank and is building a credit bureau.
- Alipay and WeChat Pay offer credit on their platforms.
- Regulators trying to level playing field
- To combat Alipay and WeChat Pay, banks support:
  - CUP QR codes
  - Apple Pay and Samsung Pay

Notwithstanding the PBOC's latest announcement, China's tantalizingly enormous domestic market is not an accessible or a real opportunity for American Express, Discover/Diner's Club, Mastercard, PayPal or Visa.

# India

The mother of emerging payments markets is an epic battleground between traditional and nontraditional payment systems

- Card networks, U.S. tech titans, Chinese fintech giants, MNOs, digital-wallet-anchored payment networks, e-tailers and the National Payments Corporation of India, are among the major payments players.
- Prime Minister Modi’s ballyhooed 2016 demonetization campaign invalidated the 500 and 1000-rupee notes, accounting for 87% of cash in circulation, and put a spotlight on the Indian payments market
- The demonetization campaign was an inflection point, after which electronic transaction growth accelerated dramatically, though it’s tapering.
- Unlike China, the Indian market is open.
- Unlike the US, regulators have played and continue to play a significant role directing the market.

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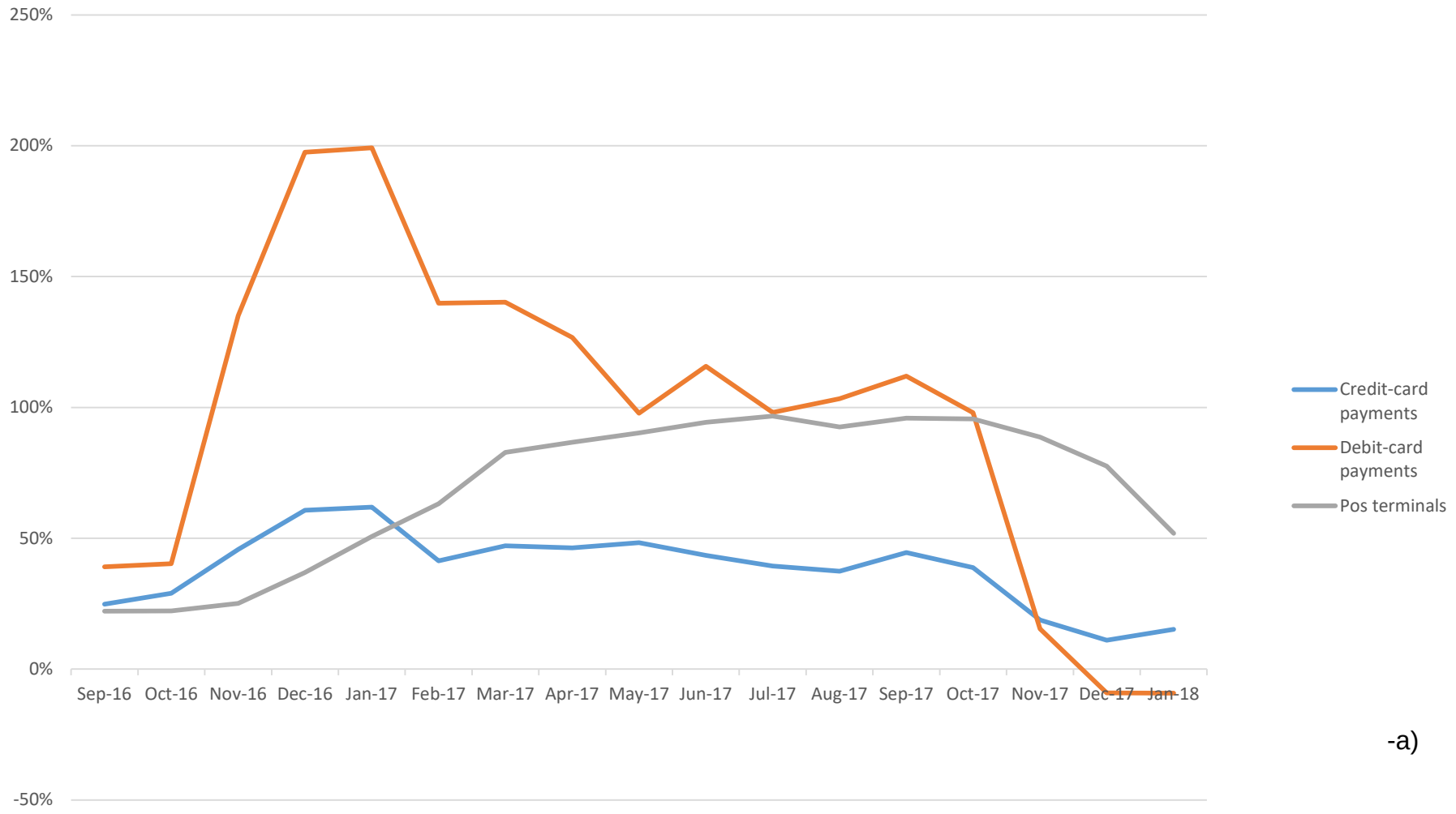
# India

- January, 2018 credit-card payments increased 15.2% yoy but debit card payments declined 9.2%! yoy, and pos-terminal deployment increased 51.9% yoy to 3.062 million. –a) This represents a dramatic deceleration from the immediate post-demonetization boom. September, 2017 credit and debit card transactions increased 45% and 112% yoy respectively and pos terminals at 2.9 million were up 96% yoy. –a)
- January, 2018 there were 35.5 million credit cards & 842 million debit cards issued. –a)
- Mastercard and Visa leading credit-card networks
- In 2017 national champion Rupay launched credit cards. Eight public-sector and two private-sector banks committed –b)
- Top acquirers are State Bank of India, Axis, HDFC and ICICI –c)
- No obvious appetite or path for domestic credit-card issuers, merchant acquirers or Rupay to expand overseas.

(a- RBI
(b- “Rupay credit cards are already operational: NPCI A. P. Hota,” Economic Times, July 12, 2017. Andhra Bank, Canara Bank, Corporation Bank, Central Bank, IDB, Punjab National Bank, Union Bank, Vijaya Bank, HDFC, and Punjab & Maharashtra Cooperative Bank
(c- First Data owns a majority of ICICI Merchant Services

# Indian credit and debit card payments and pos-terminal growth yoy




-a)

(a- RBI

# India

- Debit MDR price controls
- Government covering debit (card & QR-code based) and UPI payments costs for transactions up to 2000 rupees through 2019
- Aadhaar national id database. 99% of adults registered. 12-digit number tied to biometric data including ten fingerprints and two iris scans, photos addresses, and phone numbers. Consumers must link Aadhaar ids to their bank accounts.
- The National Payments Corporation of India has a real-time payment scheme the Unified Payments Interface (UPI) that lowers payment-system entry barriers. PSPs deliver UPI to consumers and merchants.
- Exploding UPI transaction growth is decelerating. March, 2018 there were 178 million UPI payments, up 2790% yoy, but up only 3.9% mom. –a)

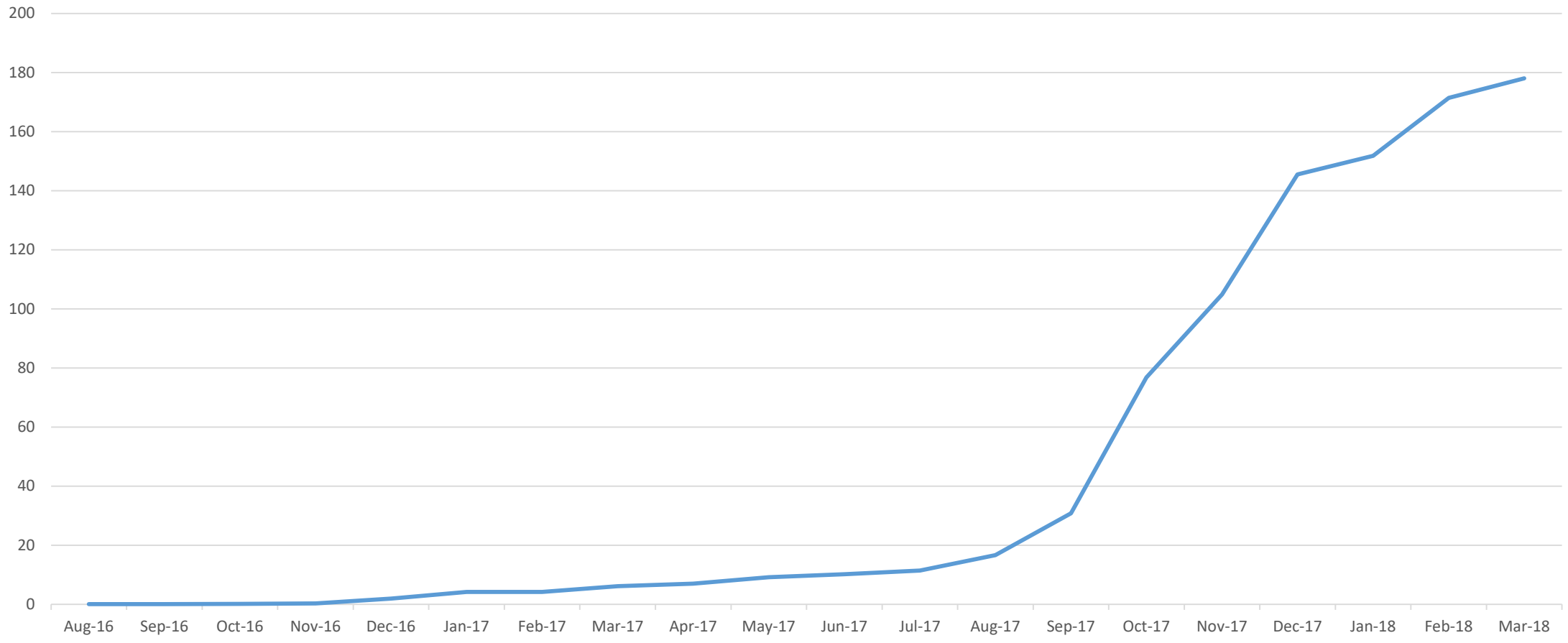
(a- NPCI.

# India

- Google in September, 2017 launched a payment scheme Tez, using UPI. > 14 million users. –a) It's free.
- Whatsapp has more than 200 million users in India. Earlier this year it launched a thus far primarily P2P payment system using UPI.
- Alternative payment system Paytm has 320 million registered users and 7 million merchants –a)
  - 11/2017 announced will offer short-term instant credit with ICICI Bank
- Hike, 100 million chat users. Launched payments in June, 2017
- Mobikwik
- Flipkart's Phonepe has > 21 million active users and 60,000 online & offline merchants –a)
- Amazon Pay
- M-Pesa Pay
- Airtel Money
- Payments land rush with traditional systems Mastercard, Visa and national champion Rupay, tech giants, MNOs, digital-wallet-anchored systems, and e-tailing giants.

(a- Rajiv Singh, "How Paytm is bracing for its biggest battle against deep-pocketed global rival," Economic Times, March 18, 2018

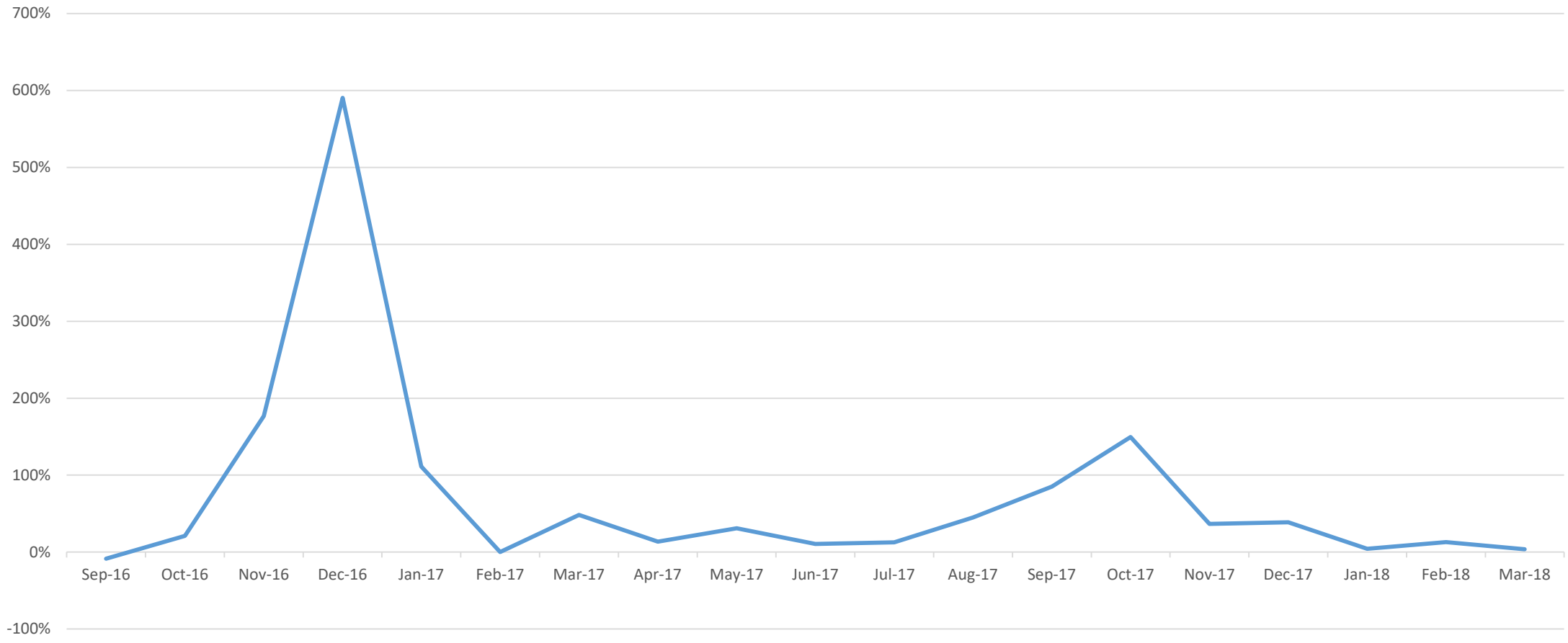
# UPI transactions (in millions)



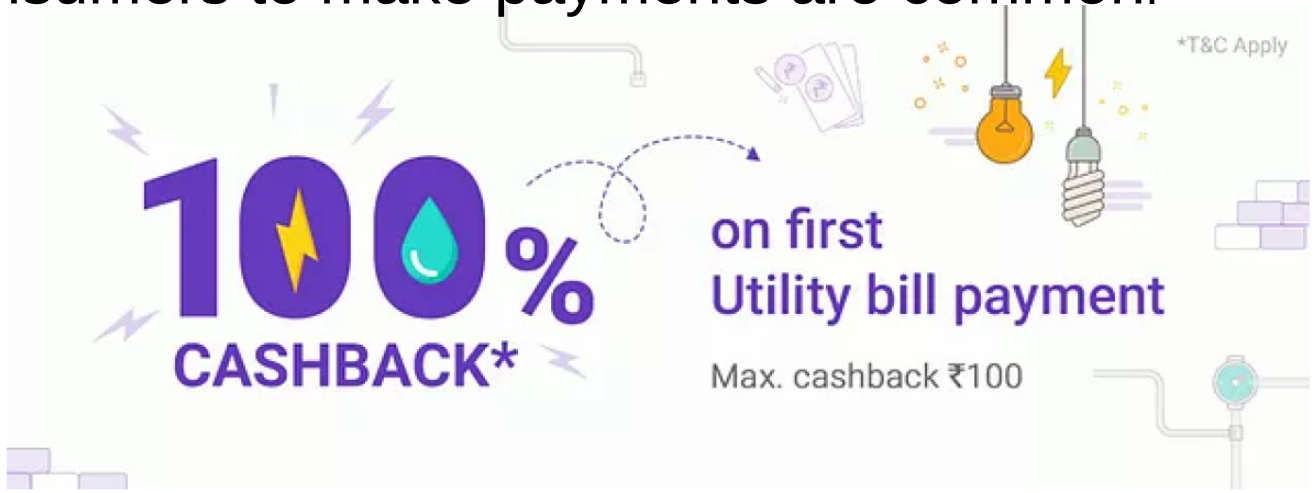

-a)

(a- NPCI

# UPI transaction growth mom



# Free payments for merchants and subsidies for consumers to make payments are common.




How to get 100% Cashback on 1st Utility Bill Pay (Water ,Gas and Electricity)

- First download – PhonePe app
- Install and Open App
- Login or Sign up ur Account and Verify it.
- Select Utility Bill Payment (Water ,Gas and Electricity).
- Complete the payment via phonepe wallet ,UPI and credit or debit card .
- Finally you will get the Free 100% cashback (max Rs 100) in your PhonePe wallet.

Terms & Conditions

- Offers gives 100% cashback(max Rs 100) on 1st time Utility Bill Payment.
- Utility includes Water ,Gas and Electricity only.
- Cashback will be added PhonePe wallet in one working days.
- Offer Valid From 9th September to October 31st .
- Cashback can be used in any type of recharge, Utility bill payment ,merchant transaction (like flipkart ,myntra ) in PhonePe.
- Cashback to a user cannot be withdrawn to any linked bank account.

# Closing thoughts

- In retail-payment systems network effects rule
- If domestic payment schemes aren’t protected and if global schemes aren’t complacent they’re well-positioned to win more national markets than they lose.
- Payments systems that aim to monetize payments elsewhere worrisome.
- Perhaps a dozen – likely fewer - primarily nonbank acquirers will be near-global.