



Observations on payments trends and innovation in Europe

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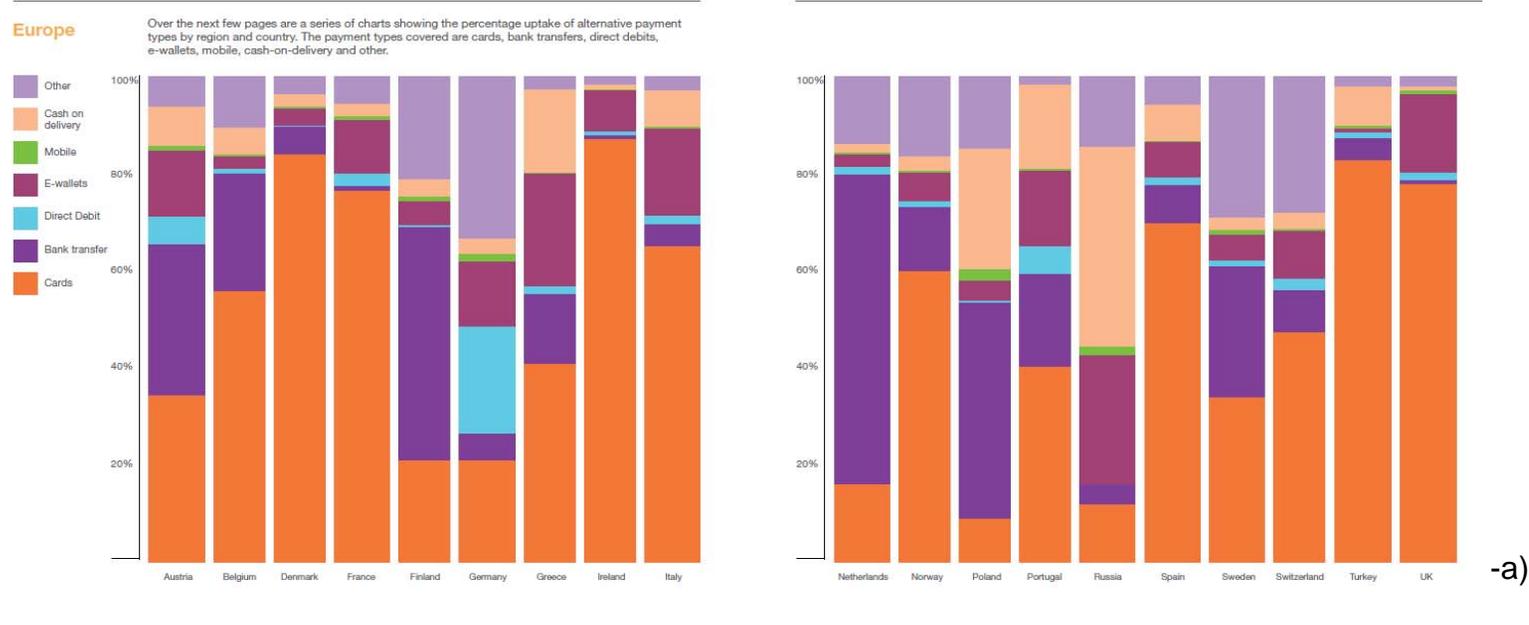
* Views expressed are strictly the author's.



Eric Grover
988 Bella Rosa Drive
Minden, NV 89423
USA
+1 775-392-0559
+1 775-552-9802 (fax)
Eric.Grover@IntrepidVentures.com

- Europe is a patchwork of distinct national payments markets with a slowly-evolving pan-European market(s)
- Payment habits and preferences vary widely by national market. Online, the Irish pay by card, the Dutch by e-wallet.

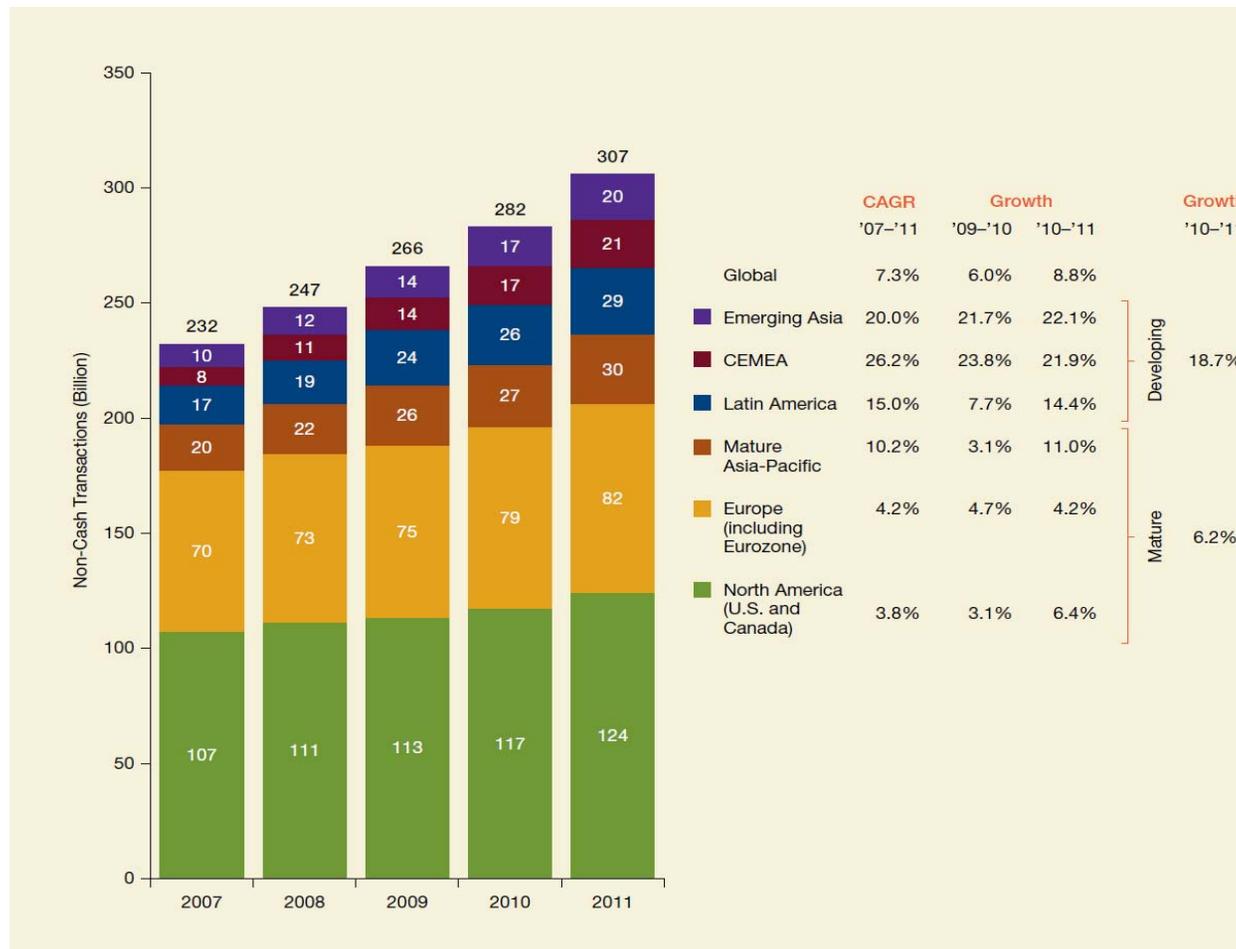
Alternative payment share by country



- Electronic payment utilization highest in mature northern European markets and lower in southern and eastern European markets. Finland has highest noncash payments per capita. 50% of Romania unbanked.
- Non-cash payment transactions in the EU in 2012 grew by 4.24% yoy and in the euro-zone by 3.55% -b)

(a- WorldPay
 (b- ECB

Europe has slowest non-cash transaction growth of any region



-a)

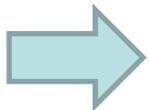
(a- "World Payments Report 2013," Capgemini and RBS

European payments

- Originally credit and debit issuer processing and merchant acquiring and processing businesses across Europe were owned by banks individually and in cooperatives. Starting with Sligos's 1986 IPO and First Data's 1991 Signet acquisition, banks have steadily ceded share to nonbanks, resulting ultimately in a more competitive and innovative payments industry.
- Politicians and regulators create rules of the road and can foster or inhibit payments competition, innovation and value creation
- Europe's regulators have tended toward top-down, centrally engineered and directed model
- The EC bent on regulating payment systems (Cartes Bancaires, MasterCard, Visa EU et al) as public utilities
 - Interchange price caps of 30 basis points for credit and the lesser 20 basis points or 7 eurocents for debit appear likely. Issuers stand to lose ~€6 billion euros annual revenue.
- Relatively low and falling interchange fees, consequently less funds for issuer innovation
- UK establishing a payments systems regulator in 2015 to putatively encourage competition, intended to supplant or work with banks' payments council.
- Less venture capital for payments than in U.S. More room however for copycats taking proven models into national markets.

Retail payment schemes

- Pan-European, open schemes MasterCard and Visa Federation (Visa Inc. and Visa EU)
 - Inexorably penetrating national markets.
- Tier-two and aspiring
 - Amex
 - UnionPay
 - Discover/Diners Club
 - Eufiserv
 - JCB
 - PayPal
 - EAPS, flawed strategy, dead in the water
 - Monnet, principally a political rather than an economic venture: stillborn
- National
 - Cartes Bancaires, Bancontact Mister Cash, Pago Bancomat, Acept, Girocard, Sistema 4B, Euro 6000 and Servired, Dankort, et al
 - Absent a rollup(s) and/or relationship with partner(s) with more reach, they're toast.
- Aspiring national
 - Zapp
- Subscale, inferior, bank-owned national retail payment schemes such as Switch, PIN, Laser and Luottokunta, slowly being abandoned.



Branded retail payment networks with critical mass enjoy powerful network effects.

Payment processing state of play

- Increasing merchant acquiring and processing competition in most markets
- Pan-European payment processing land grab underway, from which First Data has taken a time-out
- Banks continue to relinquish acquiring and processing share
 - NETS (Advent and Bain Capital), WorldPay (Advent and Bain Capital), La Caixa (Global Payments), Deutsche Acquiring (EVO Payments), Banco Popolare (EVO Payments), Bank Polski (EVO Payments), HSBC (Global Payments), Euroline (Nordic Capital)
 - With spin-out, Worldline likely to be more acquisitive beyond Belgium, France and Germany
- Channel innovation. PI licensing vehicle and availability of half a dozen plus merchant processing platforms facilitating development of nonbank channel (ISOs and VARs)
- Expect marketing and software/service bundling business models to cross the Atlantic.
- Fount of PSP - Adyen, Paymill (European Stripe) Global Collect, WireCard, Ingenico/Ogone, white-label processor Payon, activity.
- Klarna
 - Venture-capital-backed Swedish e-commerce billing & credit system,
 - Acquired Sofort
 - Launching in the U.K.
- POS terminal suppliers trying to vertically integrate.
 - Ingenico acquired EasyCash, Ogone, ROAM Data, First Data Iberia, Transferto, et al.
 - Verifone acquired Point.

Money transfer networks

- Western Union, MoneyGram and banks have created a pricing umbrella
- A la Xoom, Transferwise (in June raised \$25 million from Richard Branson and Peter Thiel), WorldRemit, TransferGo, Azimo, and Moni Technologies, aim to compete on price and convenience.

ACH-anchored payment systems

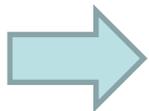
- UK Faster Pay processed by Vocalink enabling new ACH-based payments offers
- Barclays Pingit
- Ideal
 - A majority of e-commerce payments in the Netherlands
 - Lack on online pin-debit in debit-dominated market
 - High bank concentration
- Sofort
- Swish, 500,000 users, real-time P2P, banks charge fees, typical .75 cents per month and .15 cents per transfer

ACH-anchored payment systems

- Zapp retail payment scheme
 - Full-spectrum network
 - Will support NFC, low-energy Bluetooth and QR codes
 - UK Bank-owned Vocalink retail payment system harnessing handsets and ACH, to compete with MasterCard and Visa payment cards.
 - WorldPay (close to 50% UK acceptance), Optimal, Realex, Optimal, Sage Pay, and Elavon (U.S. Bank), collectively reaching > 60% UK merchants.
 - HSBC, First Direct, Nationwide, Santander and Metro Bank will roll out Zapp to UK consumers. Collectively they reach > 35% UK consumers.
 - Charges fixed transaction fee, varying by channel, to acquirers.
 - Shares on the order of 70% of transaction fee with bank issuers.
 - Aims to take 10% of retail transactions by 2017, primarily from debit. To the extent however Zapp takes credit-card-transactor share, for banks it'll be a revenue loser.
- Paym launched in May
 - P2P current-account-to-current-account payment system relying on mobile-phone # aliases
 - Following launch of Barclays Pingit based on Vocalink Faster Pay and Vocalink's Zapp, Bank-owned Vocalink processes.
 - At outset Bank of Scotland, Barclays, Cumberland Building Society, Halifax, HSBC, Lloyds Bank, Santander, TSB and Danske Bank customers can enroll.
 - Revenue model unclear

A sea change in the mobile environment

- Mobile phone invented in 1973. In 1990 there were 12 million feature cell phone subscribers. –a)
- 6.8 billion mobile phones in 2013 –b)
- Explosive smartphone growth
 - In 2013 smart-phone shipments surpassed dumb-feature-phone shipments. –c)
 - Smartphones reached 71% US market share in March, 2014
- Pan-mobile-operator operating systems
 - 92% of smart phones use Android or iOS OS –b)
 - Platforms on which payments, marketing, promotional and loyalty program, and inventory management applications can be developed and deployed.



Billions of Internet-connected-processor consumer and merchant endpoints on standardized operating systems massively extends the payments opportunity space.

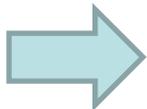
(a- [Worldmapper](#))

(b- International Telecommunications Union)

(c – IDC)

Mobile payments stakeholders

- Banks, traditional card networks, alternative payment networks, MNOs, retailers, processors, card and handset suppliers, pos system providers and uber-networks and brands such as Google, Facebook and Apple, have interests in mobile payments.
- Specialist and full-suite processors
 - Monitise, Vocalink, FIS, Fiserv, ROAM Data (Ingenico), WorldPay, Worldline, First Data et al
- Banks
 - Half a dozen Polish banks launching IKO
- Retailers – Experimenting to enhance loyalty, reward and promotional programs to boost sales.
 - Biedronka “iKasa”
 - Large Polish retailer historically accepting only cash
 - Direct debit partnering with three banks and bypassing MasterCard and Visa
 - Auchon “Flash and Pay”
 - Loyalty, couponing and payments.
 - QR-code based. Subscribe online. Mobile phone is customer access device.
 - Intended to be multi-merchant solution serving non Auchon merchants as well.



Mobile is a powerful channel, enables enhanced security, potentially makes relationships stickier, offers opportunity to generate fees, and exposes banks to new and nontraditional competitive threats.

Mobile payments stakeholders

- Alternative value-add networks
 - Search gorilla Google plunged into payments in 2005 with Checkout.
 - Has had multiple stumbles, but persists.
 - Aims to capture enriched data and facilitate ad-revenue generation.
 - Apple
 - Very profitable payments within its ecosystem
 - Wants to enhance iPhone franchise and payment-related offer to iTunes customers, ~ 800 million of whom have registered payment cards.
 - Facebook generates ~ 15% of its revenue from payments within ecosystem
 - Seeking e-money license in Ireland –a)
 - Reportedly in discussions with three London money-transfer startups: TransferWise, Moni Technologies and Azimo. –a)
 - Hired PayPal president

(a- [The Financial Times](#))

Mobile acceptance

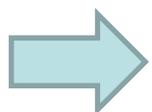
- In 2010 and 2011 ~ 75% of smartphones and tablets used for acceptance were being used by merchants who had not previously accepted payment cards. –a)
- By 2011 4 million mobile devices were being used for acceptance, in 2012 9.5 million and in 2013 ~ 17 million –b)
- By 2017 it's estimated mobile acceptance devices will reach 38 million –b)
- More than 200 mobile-acceptance providers including iZettle, Payleven, Sumup, Intuit, and WorldPay Zinc, employing proven acquirer business model(s), taking credit risk and owning merchant relationships. Monitise, Ingenico (Roam Data) et al process mobile-acceptance
- Intuit GoPayment
 - 2.75% discount rate, and 1.75% for select cards
 - Leverages proprietary channel selling payment acceptance to merchants using its financial software
 - Processing with Global Payments in the UK

(a- Mercator Group
(b- Timetric



Mobile acceptance

- iZettle
 - 1.5% to 2.75%, 3 day settlement
 - Investors include American Express, Banco Santander, Dawn Capital, Intel Capital, MasterCard, Greylock Partners, SEB Private Equity, Index Ventures and Creandum. Raised €40 million expansion capital in May.
- WorldPay Zinc
 - Europe's and the UK's largest merchant acquirer
 - 1.95% to 2.75%, 3 to 4 day funding
- Payleven
 - 2.75% merchant discount rate, 5 to 11 days settlement
 - Focused on Western Europe
- Sumup
 - 1.95% merchant discount rate, 7 to 10 days settlement
 - Backed by American Express, BBVA Ventures, Groupon, b-to-v Ventures and Tengelman Ventures.
- Amazon plans to launch a Kindle-Fire-based checkout and acceptance service for physical merchants later in 2014 -a)



Mobile acceptance is commercially real now and enhances the existing retail payment system. Traditional bank and nonbank merchant acquirers and processors are embracing.

(a- [WSJ](#))

Proximity payments

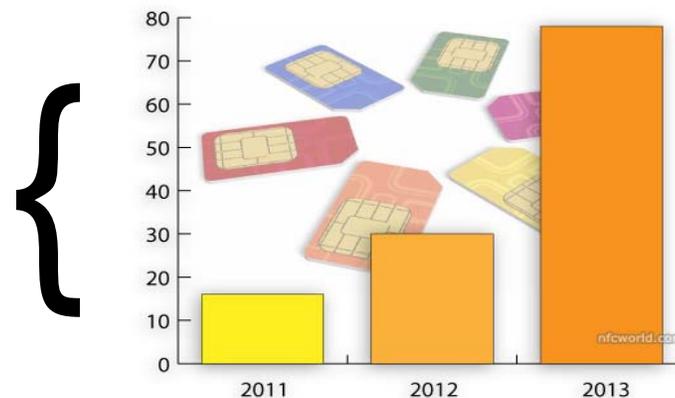
- Payment key(s) stored on or accessed in the cloud from mobile handset, passed to physical pos system. The most widely promoted transmission mechanism is NFC, but could also be via low-energy Bluetooth and/or QR codes. The most successful proximity payments use case is Starbucks proprietary QR code based system accounting for ~ 10% total sales



Proximity payments

- To date proximity payments in general and NFC have disappointed
➔ Need to achieve critical mass of NFC-capable pos terminals, NFC-enabled handsets, and consumers enrolled in digital wallets.
- Only 3.3% of handsets were NFC in 2012 –a) All major handset providers except Apple are shipping NFC phones.

NFC-enabled SIM shipments
By SIMalliance members rose
by 159% in 2013 to 78m units –b)

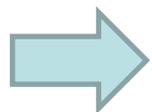


(a- Berg Insight
(b- [NFC World](#))

-b)

Proximity payments

- Heady growth to 2.1 billion NFC handsets globally forecast and that 87% of POS terminals in the EU will be NFC by 2017. –a)
- In Poland greater than half of pos terminals are NFC–b) and more than 10% of retail payments are contactless, albeit primarily from cards not handsets.
- For the most part proximity payments simply shift payments from plastic cards to handsets. Will at least modestly accelerate displacement of small cash transactions.
- Prospective benefit is additional value wrapped around payments. Location and transaction-history-aware promotions.
- Traditional distinctions between e-commerce, m-commerce and physical pos payments, increasingly, will blur.



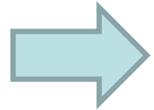
However, in developed markets existing retail payment systems work well. In payments consumers and merchants are conservative. Need to provide compelling benefits for consumers and merchants to spur proximity mobile-payments adoption.

(a- Berg Insight

(b - [Lafferty](#))

The digital wallet maelstrom

- Why the excitement?



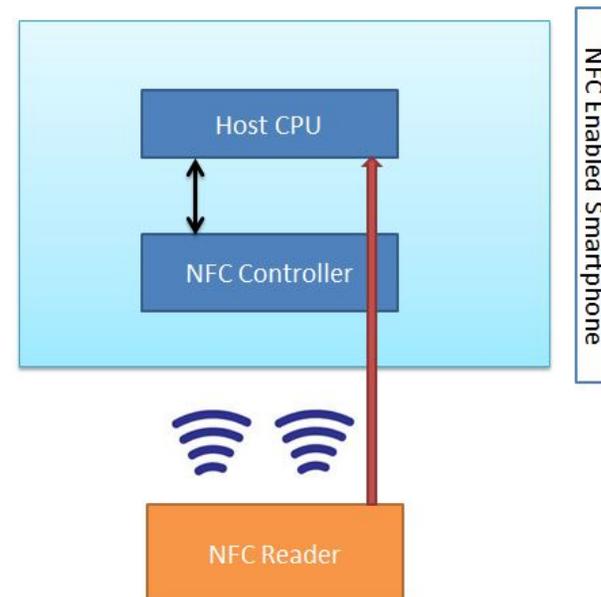
Offers a powerful connected platform for managing payment credentials, proprietary loyalty and reward programs, and customer and merchant preferences. Facilitates proximity and mobile-commerce payments.

- More than 180 digital wallets, most of which will not survive
- O2's wallet RIP
- Buyster throws in the towel
- Skrill, 36 million subscribers
- Deutsche Telecom's Click and Buy, 14 million subscribers
- Wirecard Click and Pay
- PayPal, 148 million subscribers
- MasterCard and Visa EU partnering with banks and MNOs.

The digital wallet maelstrom

- Host card emulation (HCE) enables applications to bypass mobile-phone-operator controlled secure element, to retrieve payment credentials from cloud. Greater flexibility and storage for a raft general purpose and proprietary payment products, reward, loyalty and promotional programs.
- Android Kitkat operating system supports HCE.
- In April Google ended support for secure element for tap and pay.
- In 2014 MasterCard and Visa announced HCE support.
- Isis considering supporting HCE –a)
- Opening up payments on the handset may jump start NFC, and Google wallet.

NFC Card Emulation without Secure Element



Mobile commerce offers greater and more convenient consumer ability to conduct commerce and for merchants to market to and real time engage consumers.

However, huge conversion and abandonment issues. On the mobile web – particularly from handsets, the payments process must be close to frictionless

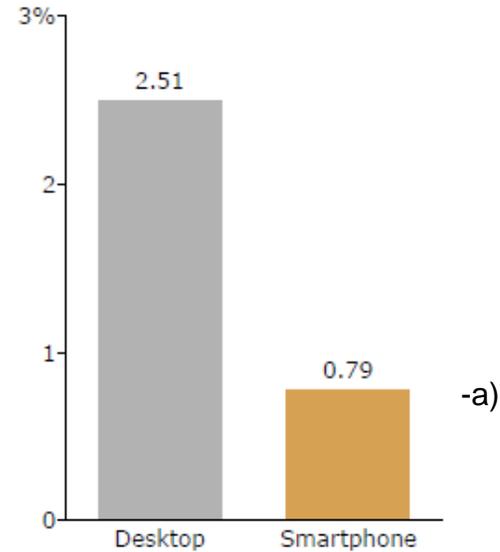


51% “Too hard to enter my credit/debit card information
 41% “Checkout too difficult”
 23% “Transaction didn’t go through”

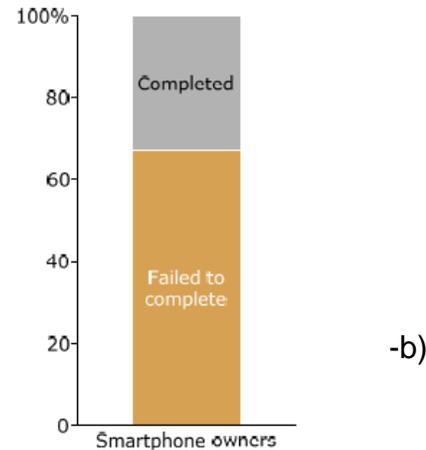


(a- Judo Payments, Monetate 2013 Ecommerce quarterly
 (b- Judo Payments, Harris Interactive, March, 2013

Visit to purchase conversion rate by source



Smartphone owners experiencing at least one failed transaction



What does the future hold?

- Handful of full-suite genuinely pan-European processors
- Acquirers with distribution will buy and partner with innovators wrapping value around payments.
- Still two genuinely pan-European (and global) retail payment schemes: MasterCard and Visa Federation*
- Innovation will flourish in the least regulated domain which for now is in and around acceptance, and will leverage existing networks.
- Consumers will manage and invoke payment keys from pieces of plastic, a variety of aliases, and digital wallets stored in the cloud and/or on Internet-connected mobile handsets

*European banks may well have exercised put option to sell Visa EU to Visa Inc. assuming French banks are no longer blocking it