



The Future of Network Development: What Future for MasterCard and Visa?

Cape Town

November 1, 2007

Lafferty International Cards & Payments Council Conference

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A retrospective

- A quarter century ago every major global, national and regional card payment network except for Amex was owned by banks and not for profit.
- Government involvement in card payment networks minimal.
- From a US platform, bankcard associations MasterCard and Visa were extending global web of bank relationships building out their global networks.
- Access and Barclaycard brands reigned in world's second-largest credit card market
- Visa management, delivery systems and strategy more central and globally coherent than MasterCard's

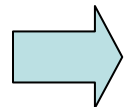
A retrospective

- Debit payment cards (Entrée and Signet) introduced in the mid seventies languished.
- In 1982 debit and prepay card products and use not material.
- In 1982 the *American Banker* cites merchant resistance to accepting debit cards and characterizes consumers as “indifferent” and retail banks as “apathetic” to debit cards*
- Amex average merchant discount ~ 3.5%

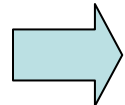
*"Is There a Future for Debit", *American Banker*, December 17, 1982

A retrospective

- 1982 general-purpose card-spend ~ 4.3%* and P/L card spend ~ 6%** of total consumer expenditures in US
- In 1983 there were more than 130 shared regional bank ATM networks in the US.***



Building global consumer, merchant and bank awareness of the power and value of card payment networks.



Open systems (at least within the banking world) proving a potent model

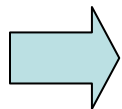
**Nilson Report* June, 1983 Visa \$32.5 billion, MasterCard \$27.9 billion, and Amex \$25.8 billion

***Nilson Report* June, 1983 including oil cards.

***A Guide to the ATM and Debit Card Industry by Fumiko Hayashi, Richard Sullivan and Stuart Weiner, Federal Reserve Bank of Kansas City, 2003

In a quarter century much has changed

- 2006 credit, debit and prepay card-spend ~ 41% of total consumer expenditures in US*
- Debit surpassed credit transaction volume. Pin and signature debit both growing several fold faster than credit.
- Credit crests in UK.
- \$172 billion loaded onto closed-loop prepay cards, up 14% from 2005**. \$27 billion loaded onto open system branded cards, up 83%**.



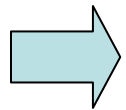
More change brewing in payments than at least any time since the formation of bankcard payment networks.

•*Nilson Report* October, 2007

•**Mercator

Currents influencing the industry

- Commercialization
- Evolution of payment networks into a sector distinct from retail banking
- Regulatory and political influence increasing
 - Interchange
 - Participation
 - Rules
 - A whiff of protectionist sentiment
- Global secular growth



Card payment networks best days should lie ahead.

Commercialization: Debit network landscape transformation

- Fifteen years of debit and ATM network consolidation
- In 1999 payment processor Concord EFS acquired the number three US pin-debit network: MAC. The # 1 network Star and #2 Honor merge, adopting Star brand.
- 2001 Concord EFS acquires Star, the largest US pin-debit network, and adopts Star brand. 2002 acquires credit union network
- 2002 Fiserv acquires CNS from EDS and merges 3 networks creating the #5 US EFT network

Commercialization: Setting the stage

- 2003 MasterCard and Visa serially settle Wal-Mart antitrust suit. As part of settlement signature debit interchange reduced by a third for eight months.
- Judge Barbara Jones 2004 decision in DOJ suit rules MasterCard's and Visa's prohibition of member banks participating in Discover and Amex systems are illegal, paving way for more vigorous full-suite card payment network competition
- Wal-Mart settlements and DOJ suit decision set stage for a slew of 47 interchange and no-surcharge suit initiated against MasterCard, Visa and US banks.
- Plaintiffs' attorneys provide impetus for banks to spin off MasterCard in order to reduce US legal liability going forward.

Commercialization: MasterCard

- UK banks Lloyds, NatWest, Midland and RBS migrate Access brand to MasterCard
- 2001 MasterCard acquires Mondex from banks
- UK banks convert Switch debit network to MasterCard's Maestro
 - 2002 17 UK banks owning Switch agree to migrate card brand, merchant signage, and processing to Maestro.
 - Switch brand phased out
 - Migrated bilateral processing to MasterCard, principally in 2004.
- 2002 MasterCard acquires EuroPay and moves to consolidate processing and brands

Commercialization: MasterCard IPO

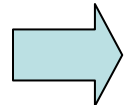
- Watershed MasterCard IPO in 2006 a success
- However, woefully under priced
 - Markets did not understand the power of the global network, no true comparables
 - Investors over worried about US litigation risk
 - Consolidated interchange antitrust suit
 - Amex/Discover suits
 - Management undersold the story
- And there is a blemish: MasterCard's charitable foundation, which is a poster boy of bad corporate governance insulating management from accountability
 - Management established charitable foundation, which is MasterCard's largest voting shareholder
 - MasterCard rather than individual management is subsidizing the charitable foundation

Commercialization: Visa Federation

- Visa splitting into Visa EU, which will remain a not-for-profit bank association and Visa Inc., which will IPO in 2008
- Visa Inc. IPO will be fairly valued
- Market cap will be greater than MasterCard's
- However, valuation multiples are likely to be less than MasterCard's
- Considerations
 - Larger
 - Litigation indemnification by US banks
 - Not a global business
 - Any compelling strategic differentiation Joe Saunders et al bake into the story

Evolution of card payment networks as distinct industry from regulated banks

- 2004 U.S. court characterizes general-purpose-card payment network services as a distinct market
- Metavante acquired NYCE from First Data and banks in 2004
- MasterCard spun off from banks
- Visa Inc. to be spun off by banks
- All major charge, credit, signature & pin debit and prepay card networks in US will be independent of banks.



However banks remain paramount customer set

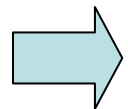
Evolution of card payment networks as distinct industry from regulated banks

- 2007 Morgan Stanley spins off Discover
- PayPal network
 - 164 million accounts of which 37.5 million are active
 - ~\$50 billion annualized payment volume
- Wave of new nonbank payments ventures, most but not all of which are destined to fail.

Evolution of card payment networks as distinct industry from regulated banking

Implications:

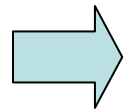
- Networks at the center of payments system. Historically were gate keepers, putting a damper on innovation and competition.
- More innovation inevitable
- Can cultivate and serve nonbank customers
- Provide more enabling services to smaller banks
- Networks will focus on building enterprise value in the network.



Networks can deliver and capture more value.

Evolution of card payment networks as a distinct industry from regulated banking

- Full-suite networks Amex, Discover, MasterCard and Visa all have power and value independent of retail banks.
- In contrast, many of the pure-pin debit networks have let themselves become commoditized. Pin-debit marks for most, but not all, cards have been relegated to the back of the card. Large issuers have started removing pin-debit marks from debit cards entirely.



Have to establish and defend brand and value proposition with consumers and merchants - particularly consumers, independent of direct customer or channel, whether a bank, retailer, mobile-phone operator, insurance carrier, Internet portal or search business.

Global card payment networks

- Two genuine global payment networks:
 - MasterCard Worldwide
 - Visa Federation
- Amex network global, though outside US acceptance network thinner and issuance modest.
- JCB Japan-centric. Global acceptance relatively shallow outside East Asia, e.g. ~ 800,000 merchants in US versus ~ 6.7 million for MasterCard and Visa

Major market areas

- US
 - Will have four, commercial, full-suite card payment networks.
 - The top five national pin debit networks will all be commercial, Visa's Interlink, First Data's Star, Discover's Pulse, Metavante's NYCE and Fiserv's Accel.
 - PayPal
 - Variety of would-be challengers harnessing ACH
- Euroland
 - Fragmented payment network landscape
 - Two pan-European credit, debit and prepay networks
 - MasterCard commercial, though it retains a European banker board supervising pricing, operating rules, development budgets, etc.
 - Visa EU bank controlled and not for profit
 - National debit networks bank controlled and not for profit.
- Japan
 - Three principal competing networks, JCB, MasterCard and Visa.
 - Multiple ATM networks.
 - Debit relatively new. Visa, Maestro and J-Debit

Regulatory tide

- Merchants and “consumer activists” mobilized. Tom toms calling for interchange and increased credit card regulation have been beating louder. Consumers have no voice at the table.
- To date US government card payment network intervention has been minimal involving discrete actions aimed at enhancing competition.
- In contrast, European regulatory mandarins more inclined to intervene, increasingly treating payment networks as public utilities.
- EC Competition Tsarina Neelie Kroes said they will revisit the 5 year antitrust exemption granted Visa in 2002 when it shared cost-recovery analysis supporting interchange and lowered its interchange fees. Though they haven’t said so explicitly, regulators will aim for another reduction. EC has an outstanding anti-trust charge against MasterCard.
- EC Internal Markets commissioner Charlie McGreevy has said if industry does not deliver on SEPA for card payment products and ACH, that the EC will intervene.

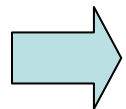
Regulatory tide

- ECB presses EC for tougher stance with networks and uniform interchange across the euro zone.
- Keen for establishment of a viable third pan-European card payment system, ideally “European.” For now EAPS is the principal option on the radar.
- Wants to encourage competition at the scheme, processor and bank levels.
- “..the creation of an additional European debit card scheme that is equivalent to the schemes originated in the United States (Amex, MasterCard, Visa, Discover, Star et al), Japan (JCB) and China (China UnionPay) is a largely political objective, which the Eurosystem invited the banks to share.” *
- 2007 EC bans Cartes Bancaires debit assessment and creates implausible counterfactual to justify fining Visa \$14.4 million for not admitting Morgan Stanley(Discover).

* “Single Euro Payments Area From Concept to Reality Fifth Progress Report European Central Bank July, 2007

Regulatory tide

- In January Polish Competition Authority eliminated interchange.
- Australia – Noteworthy for bold and enthusiastic interventions
 - Reduced interchange 40% in 2003 and 9% in 2006
 - Entertaining eliminating interchange
- New Zealand brought anti-trust complaint against MasterCard and Visa in November, 2006 after MasterCard's IPO.
- In 2004 and again in 2006 the Mexican central bank successfully jaw boned Mexican banks to reduce interchange.



Increased regulation is the signal threat to MasterCard and Visa.

- Building critical mass in two-sided payment markets is enormously difficult in individual national markets.
- Establishing a new regional or global payment network from scratch while not impossible is an even more daunting challenge.
- Existing networks with reach and brand are defensible.

What are the prospects of potential network challengers?

- Amex
- JCB
- PayPal
 - Dominates e-auction payments
 - Solid beachhead in e-commerce
 - Will step up e-commerce and m-payment efforts
 - At some point destined to venture into physical pos.
- EAPS
 - Coalition of the willing
 - Will promote common brand
 - Inherently unwieldy
 - Needs to cobrand with MasterCard or Visa to achieve pan Euro-zone coverage

What are the prospects of potential network challengers?

- **Falkensteiner Runde**
 - A long shot. However, if European retail banks are resolute, willing to invest sufficient capital and resources, it would be doable.
- **First Data.** With KKR acquisition, leveraged up to the gills, First Data unlikely to acquire to cobble together a card payment network in the EU or elsewhere. Greater likelihood of it divesting Star.
- **Discover**
 - In 2006 started strategic exit from merchant acquiring for all but top 100 merchants.
 - Partnering with First Data, Nova, BofA, Global Payments, Transfirst, RBS, Paymentech, et al
 - If Discover executes it will achieve US acceptance parity with MasterCard and Visa in 2 to 3 years.
 - Raising interchange to enhance issuer valuation proposition.

What are the prospects of potential network challengers?

- Range of national European debit networks such as Cartes Bancaires, Electronic Cash et al could try to extend value proposition beyond national borders
 - Extraordinarily difficult. M&A would be more viable approach.
- Interac
 - Improbable
 - Tackling US market would be daunting and with a zero-interchange scheme a nonstarter
- China UnionPay
 - Global aspirations
 - Not however likely to be a factor outside China periphery anytime soon

What are the prospects of potential network challengers?

- Revolution/GratisCard
 - Card using bar code at pos
 - Low interchange
 - Just launched P2P product
 - \$50 million of Steve Case's money is not nearly enough to have a go at it
- Tempo Payments
 - Debit tied to ACH
 - Relies on retailer issuance
 - Heavily hyped Wal-Mart acceptance, but Wal-Mart doesn't issue because fundamental economics don't work and risk management and exception processing weak.
 - Niggardly interchange
 - Minimal issuance and acceptance

What are the prospects of potential network challengers?

- Moneta – harnesses ACH. Aimed at online commerce, targeting airlines.
- NACHA Secure Vault Payments – Aimed at online commerce
- National Payments Company
 - Use driver's license as account key. Gas stations initial acceptance target.
 - Leverages ACH network
- PaymentOne Corporation, Etel, et al
 - Online commerce systems using phone bills.
- Google – Checkout
 - Electronic wallet
- Amazon – First Payment Services
 - 69 million active customers
 - Broad electronic wallet

What does future hold for MasterCard and Visa?

- Likely to remain the dominant global payment networks.
- Within Visa Federation commercial Visa Inc. and bank utility Visa EU will have increasing difficulty staying aligned and therefore be disadvantaged against its more coherent global competitor: MasterCard.
- MasterCard – Gradually becoming more enterprising
- MasterCard and Visa were mirror images of each other in terms of:
 - Owners
 - Customers
 - Business model
 - Payment products
 - Where and how they competed for and provided processing
 - Interchange strategy
 - Response to regulators and public policymakers
 - Culture

What does future hold for MasterCard and Visa?

- Going forward they have an imperative to differentiate.
- One or both will:
 - Broaden customer base beyond banks
 - Deliver more inter-customer processing
 - Differentiate interchange strategy, outside jurisdictions where its regulated

Broadening directly served customer and/or channel beyond banks

- Retailers
 - Wal-Mart
 - Carrefour
 - Amazon
- Mobile-phone operators
 - Largest operators have more reach than retail banks
 - More mobile phones and subscribers than credit cards
 - SimPay lesson

Broadening directly served customer and/or channel beyond banks

- Insurance carriers
 - Bundling tax advantaged prepay healthcare payment products with credit
- Search
 - Google
 - Yahoo
- Intermediary businesses
 - Virtual card operators. Room for new or expanded category owning end-customer relationship, licensing MasterCard and Visa brands, attaching rewards, private labeling credit from banks, perhaps offering decoupled debit, discount phone services, et al.

Product differentiation/innovation, e.g.

- MasterCard's decoupled debit is a game changer.
- Heretofore retail banks could and did take debit card relationship for granted.
- Now debit will become more competitive, with richer value propositions and rewards for consumers.
- Debit interchange revenue will be in play.
- Banks with large current account bases will have to pony up more features and rewards to retain debit customers
- Either MasterCard or Visa could opt to aggressively pursue P2P payments or ACH.

Processing

- Neither MasterCard nor Visa processes domestic interbank card transactions in most Western European national markets, in Europe's second largest credit card market Turkey or in Asia's largest credit card market Korea.
- Among the emerging giants, for now, MasterCard and Visa are shut out of China.
- Indian banks floated idea of launching an interbank processor. Both global payment networks would be well-advised to smother this idea in its crib..
- Either could (and should) invest in delivering more information-based risk management and marketing services to their customers.
- Notwithstanding analyst speculation neither Visa nor MasterCard is likely to compete in a meaningful way in the card-issuer and merchant processing markets.

Interchange

- Absent express regulation or regulatory pressure, interchange rates have been trending upward. More payment network competition, to a point, begets higher interchange.
- Higher interchange:
 - Puts more value in the network, fuels issuer innovation and cardholder benefits, and increases spend and transaction volume.
 - Makes card networks more competitive versus other payment systems.
 - Reduces grey economy.

Interchange

- Multiple national markets suppress interchange.
- Domestic debit interchange is zero in Belgium, Denmark, Finland, Germany* and the Netherlands.
- Different national interchange rates within the euro zone are incompatible with the spirit if not the letter of SEPA. MasterCard announced SEPA fall-back rates, intending to preemptively mollify – appease, the regulators. MasterCard subsequently withdrew SEPA fall-back interchange rates. In practice these would have become MasterCard's euro zone interchange rates.

*Without payment guarantee. However with payment guarantee interchange is .3%.

Business models

- MasterCard and Visa both derive the lion's share of their revenue from license fees and transaction processing. (MasterCard is more processing dependent.)
- MasterCard and Visa both have significant fixed costs associated with (1) supporting and enhancing their brands and (2) the delivery system. Historically neither managed the network with a view to maximizing their inherent operating leverage.
- Currently the card payment networks' licensing fees are only a fraction of interchange. Given the indispensability of their global acceptance networks, they could take a more hawkish view on their own pricing.

Response to regulators and public policymakers

- Historically the global card payment networks strategy in dealing with public policy makers has been almost entirely reactive and defensive.
- Need to make an affirmative case in the public and political arenas.
- The ECB asks that international payment schemes allow competing networks to cobrand.

Culture

- Culture is difficult and slow to change. That said, slowly MasterCard culture is and soon Visa Inc. will be improving

Discussion